

Self-Evaluation Report

FORESTRY, ECOLOGY, AND WILDLIFE PROGRAM

Alabama A&M University

Volume Two of Two

For Accreditation
by the

SOCIETY OF AMERICAN FORESTERS
2018

VOLUME II : Appendices and Exhibits

Appendices

A. General Education Summary.....	A.1
B. Forest Resources Education Summary	B.1
C. Forest Resources Program Faculty Background Summary.....	C.1
D. Forest Resources Program Faculty Academic Summary.....	D.1
E. Curricula Vitae of Forestry and Forestry-Affiliated Faculty.....	E.1
F. Forestry Graduate Employment Summary	F.1
G. Forestry Student Data Summary	G.1

Exhibits

I-1. Record of Accomplishments of Major Goals and Objectives from Standard I of 2008 SAF Self-Evaluation Report	
II-1. University Organizational Chart	
II-2. Center of Excellence (COE) Five-Year Plan (2006-2010) and Evaluation of Accomplishments of two previous 5-year plans.	
II-3. FEWP Coordinator and Assistant Coordinator Job Descriptions	
II-4. Recent Institutional Student Learning Outcomes Assessments Results	
II-5. Example of Student Forest Management Plan Composed in the Capstone Course in 2017.	
III-1. Birmingham Waterworks Board Initiative Description	
III-2. Alumni and Employers of Alumni Surveys from 2008	
V-1. AAMU 2017-2018 Undergraduate Catalogue (Forestry/BES)	
V-2. Recent Syllabi of Forestry Courses	
V-3. Student Course Evaluation Form and Recent Summaries for Forestry Courses	
VI-1. CFEA Description and Highlights of Accomplishments	
VI-2. Faculty Evaluation Form and Faculty Activities Report	

APPENDICES A-G

APPENDIX A

General Education Summary

Document A-1: General Education Summary—Required CoursesInstitution Name: Alabama A&M University Academic Year: 2017-2018Official Degree Program Title: ForestryOfficial Option Title: same G.E. for all options (concentrations)

Required Courses: # & Title	Total Credit Hours		
	Communications	Science and Mathematics	Social Science & Humanities
ORI 101 First Year Experience			1
ORI 102 First Year Experience			1
ENG 101 Composition I	3		
ENG 102 Composition II	3		
ENG 203 Humanities I (Literature)	3		
ENG 205 General Speech	3		
MTH 113 Trigonometry (Pre-calc)		3	
CHE 101 and 101L Chemistry I and Lab		4	
CHE 102 and 102L Chemistry II and Lab		4	
BIO 101 and 101L Biology I and Lab		4	
BIO 102 and 102L Biology II and Lab		4	
HIS 101 World History I			3
HIS 102 World History II			3
HED 101 Personal & Community Health			2
PHL 201 Intro to Philosophy			3
ART 101 Art Appreciation			3
PSY 201 General Psychology			3
NRE 199 Technology in Agriculture		3	
Free Elective	3		
ECO 232 Microeconomics			3
Total Credit Hours	15	22	22

APPENDIX B

Forest Resources Education Summary

Document B-1: Forestry Education Summary—Required Courses (1 of 3)

Institution Name: Alabama A&M University Academic Year: 2017-2018

Official Degree Program Title: Forestry

Official Option Title: Required Courses

[illegible]

Document B-1: Forestry Education Summary—Required Courses (2 of 3)

Institution Name: Alabama A&M University Academic Year: 2017-2018

Official Degree Program Title: Forestry

Official Option Title: _____ Required Courses _____

[illegible]

Document B-1: Forestry Education Summary—Required Courses (3 of 3)

Institution Name: Alabama A&M University Academic Year: 2017-2018

Official Degree Program Title: Forestry

Official Option Title: Required Courses of all 5 Forestry Concentrations)

Required ¹ Courses # & Title	Credit Hours in SAF-Required Areas of Study ²				Course Contains Significant Content in (check all that apply):					Total Credit Hours
	Ecology and Biology	Measurement of Forest Resources	Management of Forest Resources	Policy, Economics, and Administration and Law	Field Work	Ethics	Oral and Written Communications	Integrated Resource Management	Computer Literacy	
NRE 474 Forest Ecological Management		1	1		√	√	√	√	√	2
NRE 480 Natural Resources Policy				3		√	√	√		3
NRE 483 Forest Resource Economics				3	√	√	√	√	√	3
NRE 491 Scientific Writing			1				√	√	√	1
NRE 497 Forest Ecological Management Project		1	3		√	√	√			4
Total Required Credit Hours	0	2	5	6						13
GRAND TOTAL	20.5	18.5	10	7						56

Document B-2: Forestry Education Summary—Restricted Electives

Institution Name: Alabama A&M University Academic Year: 2017-2018

Official Degree Program Title: Forestry

Official Option Title: FOREST SCIENCE (1 of 4)[illegible]

Document B-2: Forestry Education Summary—Restricted Electives

Institution Name: Alabama A&M University Academic Year: 2017-2018

Official Degree Program Title: Forestry

Official Option Title: FOREST SCIENCE (2 of 4)

[illegible]

Document B-2: Forestry Education Summary—Restricted Electives

Institution Name: Alabama A&M University Academic Year: 2017-2018

Official Degree Program Title: Forestry

Official Option Title: FOREST SCIENCE (3 of 4)

[illegible]

Document B-2: Forestry Education Summary—Restricted Electives

Institution Name: Alabama A&M University Academic Year: 2017-2018

Official Degree Program Title: Forestry

Official Option Title: FOREST SCIENCE (4 of 4)[illegible]

Document B-2: Forestry Education Summary—Restricted Electives

Institution Name: Alabama A&M University Academic Year: 2017-2018

Official Degree Program Title: Forestry

Official Option Title: FOREST MANAGEMENT

Restricted Elective ¹ Courses # & Title	Credit Hours in SAF-Required Areas of Study ²				Course Contains Significant Content in (check all that apply):					Total Credit Hours
	Ecology and Biology	Measurement of Forest Resources	Management of Forest Resources	Policy, Economics, and Administration and Law	Field Work	Ethics	Oral and Written Communications	Integrated Resource Management	Computer Literacy	
NRE 372 Forest Fire Ecology & Manage.	1		1		√		√	√		2
NRE 381 Wood Products	2		1				√	√		3
NRE384 Forest Operations			2	1	√	√	√	√		3
NRE 385 Forest Recreation			2	1	√	√	√	√		3
Forestry elective	1		2		√		√	√		3
Free Elective	7									7
Total Available Restricted Elective Credit Hours	11		8	2						21
Minimum Restricted Elective Credit Hours Required	4		8	2						14

Document B-2: Forestry Education Summary—Restricted Electives

Institution Name: Alabama A&M University Academic Year: 2017-2018

Official Degree Program Title: Forestry

Official Option Title: FOREST BUSINESS (1 of 3)

Restricted Elective ¹ Courses # & Title	Credit Hours in SAF-Required Areas of Study ²				Course Contains Significant Content in (check all that apply):					Total Credit Hours
	Ecology and Biology	Measurement of Forest Resources	Management of Forest Resources	Policy, Economics, and Administration and Law	Field Work	Ethics	Oral and Written Communications	Integrated Resource Management	Computer Literacy	
NRE 370 Natural Resources Manage.	1		1	1						3
NRE 381 Wood Products	2		1							3
NRE 384 Forest Operations			2	1						3
NRE 389 Fish Manage& Aquaculture	1		1	1						3
NRE 486 Environmental Policy and Law				3						3
Total Available Restricted Elective Credit Hours	4		5	6						15
Minimum Restricted Elective Credit Hours Required	4		5	6						15

Document B-2: Forestry Education Summary—Restricted Electives

Institution Name: Alabama A&M University Academic Year: 2017-2018

Official Degree Program Title: Forestry

Official Option Title: FOREST BUSINESS (2 of 3)

Restricted Elective ¹ Courses # & Title	Credit Hours in SAF-Required Areas of Study ²				Course Contains Significant Content in (check all that apply):					Total Credit Hours
	Ecology and Biology	Measurement of Forest Resources	Management of Forest Resources	Policy, Economics, and Administration and Law	Field Work	Ethics	Oral and Written Communications	Integrated Resource Management	Computer Literacy	
Must also choose 6 credits from 8 courses: LSM 201 Intro to Logistics & Supply Chain Manage. FIN 315 Principles of Finance MKT 315 Principles of Marketing ECO 414 Managerial Economics MGT 430 Principles of Real Estate				3 3 3 3 3						6
Total Available Restricted Elective Credit Hours				6						6
Minimum Restricted Elective Credit Hours Required				6						21

Document B-2: Forestry Education Summary—Restricted Electives

Institution Name: Alabama A&M University Academic Year: 2017-2018

Official Degree Program Title: Forestry

Official Option Title: FOREST BUSINESS (3 of 3)

Restricted Elective ¹ Courses # & Title	Credit Hours in SAF-Required Areas of Study ²				Course Contains Significant Content in (check all that apply):					Total Credit Hours
	Ecology and Biology	Measurement of Forest Resources	Management of Forest Resources	Policy, Economics, and Administration and Law	Field Work	Ethics	Oral and Written Communications	Integrated Resource Management	Computer Literacy	
Continued List of Choose 6 credits from 8 courses:										6
AGB 422 Agricultural Financing				3		√		√	√	
NRE 360 Cooperative Education			2	1	√	√	√	√	√	
NRE 499 Special Problems in Plant & Soil Science			2	1	√			√	√	
Total Available Restricted Elective Credit Hours			4	2						6
Minimum Restricted Elective Credit Hours Required			4	2						21

Document B-2: Forestry Education Summary—Restricted Electives

Institution Name: Alabama A&M University Academic Year: 2017-2018

Official Degree Program Title: Forestry

Official Option Title: ECOLOGY (1 of 2)

Restricted Elective ¹ Courses # & Title	Credit Hours in SAF-Required Areas of Study ²				Course Contains Significant Content in (check all that apply):					Total Credit Hours
	Ecology and Biology	Measurement of Forest Resources	Management of Forest Resources	Policy, Economics, and Administration and Law	Field Work	Ethics	Oral and Written Communications	Integrated Resource Management	Computer Literacy	
BIO 205 & 205Lab General Ecology and Lab	4				√	√				4
NRE 372 Forest Fire Ecology & Manage.	1		1		√	√	√	√		2
NRE 379 Forest Ecology	3				√	√	√	√	√	3
NRE 471 Aerial Photography & Interpretation	1	2			√		√	√	√	3
NRE 484 Ecological Processes	3				√	√	√	√	√	3
Total Available Restricted Elective Credit Hours	12	2	1							15
Minimum Restricted Elective Credit Hours Required	12	2	1							15

Document B-2: Forestry Education Summary—Restricted Electives

Institution Name: Alabama A&M University Academic Year: 2017-2018

Official Degree Program Title: Forestry

Official Option Title: ECOLOGY (2 of 2)

Restricted Elective ¹ Courses # & Title	Credit Hours in SAF-Required Areas of Study ²				Course Contains Significant Content in (check all that apply):					Total Credit Hours
	Ecology and Biology	Measurement of Forest Resources	Management of Forest Resources	Policy, Economics, and Administration and Law	Field Work	Ethics	Oral and Written Communications	Integrated Resource Management	Computer Literacy	
Also must choose 6 credits from BIO/NRE:										6
BIO 202 Vertebrate Anatomy	3					√				
BIO 311 Principle Genetics	3					√				
NRE 370 Natural Resource Manage.	1		1	1		√	√	√		
NRE 481 Hydrology & Water Manage	2	1					√	√	√	
NRE 499 Special Problems in Plant & Soil Science	3				√		√		√	
Total Available Restricted Elective Credit Hours	4	2								6
Minimum Restricted Elective Credit Hours Required	4	2								21

Document B-2: Forestry Education Summary—Restricted Electives

Institution Name: Alabama A&M University Academic Year: 2017-2018

Official Degree Program Title: Forestry

Official Option Title: FISH & WILDLIFE SCIENCE

Restricted Elective ¹ Courses # & Title	Credit Hours in SAF-Required Areas of Study ²				Course Contains Significant Content in (check all that apply):					Total Credit Hours
	Ecology and Biology	Measurement of Forest Resources	Management of Forest Resources	Policy, Economics, and Administration and Law	Field Work	Ethics	Oral and Written Communications	Integrated Resource Management	Computer Literacy	
NRE 286 Wildlife Biology & Identific.	3				√			√	√	3
NRE 386 Principles of Wildlife Manage.	2			1	√	√	√	√		3
NRE 388 Principles of Fisheries Science	3				√	√	√	√		3
NRE 389 Fish Manage. & Aquaculture	2			1	√		√	√	√	3
NRE 488 Wildlife Techniques	2	1			√	√	√	√	√	3
Free Electives	6									6
Total Available Restricted Elective Credit Hours	18	1		2						21
Minimum Restricted Elective Credit Hours Required	12	1		2						15

APPENDIX C

Faculty Background Summary

Document C-1: Background Summary for Faculty Reporting to the Forestry Program HeadInstitution Name: ALABAMA A&M UNIVERSITY Academic Year: 2017-2018Official Degree Program Title: FORESTRYOfficial Option Titles: All

:

Faculty Member	Academic Rank or Title	Major Field	Highest Degree Held Degree/ Year/Inst.	Experience (years)		
				Current Institution	Other Institution	Non-academic
William Stone	Associate Professor, Program Coordinator	Wildlife Ecology	Ph.D./1995 Utah State University	19	2	
Colmore Christian	Assoc. Professor	Outdoor Recreation/ Nature Tourism	PhD./1996/Clemson University	11		12
Xiongwen Chen	Professor	Forest Ecology	Ph.D./1998/Northeast Forestry University	12		
Luben Dimov	Assoc. Professor.	Silviculture / Management	Ph.D./2005/LSU	12		
Vacant	Asst.Professor	Forest Health				
Troy Bowman	Assistant Professor	Forest Policy/ Economics	Ph.D./2011 Iowa State University	2	3	
Kozma Naka	Associate Professor	Forest Operations / Measurements	Ph.D./1998/Virginia Tech University	17	2	
Heather Howell	Adjunct Professor	Aquatic Ecology	Ph.D./2015/Alabama A&M University	2		
George F. Brown, Jr	Professor emeritus	Biostatistics, Tree Improvement	Univ. Tennessee	42		
Yong Wang	Professor	Biostatistics / Wildlife Ecology	Ph.D./1993/University Southern Mississippi	16	6	

APPENDIX D

Faculty Academic Summary

Document D: Academic Summary for Faculty Reporting to the Forestry Program Head

Institution Name: ALABAMA A&M UNIVERSITY Academic Year: 2017-2018
 Official Degree Program Title: FORESTRY
 Official Option Titles: FOREST MANAGEMENT, FOREST SCIENCE FOREST BUSINESS, ECOLOGY, FISH&WILDLIFE

Faculty Member	Budgeted Time Allocation (%)	Short Title	Course Number	% Taught	Credit Hours	Contact Hours	Total Enrollment Undergrad (Grad)	# of Advisees
Christian, Colmore	Teaching (25%)	Introduction to Forestry	NRE 281	100	3	3	21	15
	Research (25%)	Forest Recreation	NRE 385	100	3	3	8	
	Extension (25%)							
	Other (25%)							
Chen, Xiongwen	Teaching (50%)	Ecological Processes	NRE 484/584	100	3	3	8 (7)	8
	Research (50%)	Forest Fire Ecology and Management	NRE 372	100	2	3	18	
		Forest Ecology	NRE 379	100	3	3	7 (7)	
Dimov, Luben	Teaching (50%)	Forest Ecology	NRE 379	100	3	3	10	18
	Research (50%)	Silviculture	NRE 375	100	4	5	10	
		Forest Ecological Management	NRE 474	100	2	3	14 (5)	
		Forest Ecological Management Project	NRE 497	100	4	7	14	
Bowman, Troy	Teaching (50%)	Forest Resource Economics	NRE 483	100	3	3	10 (5)	8
	Research (50%)	Forest Resource Economics	NRE 583	100	3	3	10 (5)	
		Natural Resource Policy	NRE 480	100	3	3	10 (5)	
		Natural Resource Policy	NRE 580	100	3	3	10 (5)	
Naka, Kozma	Teaching (50%)	Wood Products	NRE 381	100	3	3	5	18
	Research (50%)	Forest Mensuration	NRE 371	100	4	4	10	
		Forestry Field Techniques	NRE 382/383	50	6	6	10	
		Biostatistics	NRE 430	100	3	3	25	
				100	3	3	7	

D.1

FOREST RESOURCES PROGRAM FACULTY ACADEMIC SUMMARY (DOCUMENT D) cont'd

Faculty Member	Budgeted Time Allocation (%)	Short Title	Course Number	% Taught	Credit Hours	Contact Hours	Total Enrollment Undergrad (Grad)	# of Advisees
Stone, William E.	Teaching (50%) Research (50%)	Wildlife-Forestry Relationships	NRE 387	100	3	3	15	14
		Principles of Wildlife Management	NRE 386	100	3	3	8	
		Wildlife Techniques	NRE 488/588	100	3	3	5/3	
		Wildlife Biology and Identification	NRE 286	100	3	3	7	
Howell, Heather (adjunct)	Teaching (50%) Research (25%) Other (25%)	Dendrology	NRE 282	100	3	8	15	0
		Natural Resource Management	NRE 370	100	3	4	3	
		Forest Pest Management	NRE 376	100	3	3	14	
		Fisheries Science	NRE 388	100	3	3	11	
		Fish Management	NRE 389				6	
Wang, Yong	Teaching (75%) Research (25%)	Biostatistics	NRE 430	100	3	3	25	3
		Statistics	NRE 529	100	3	3	(15)	
		Prin. of Experimentation	NRE 530	100	3	3	(15)	
		SAS Programming	NRE 539	100	3	3	(15)	
		Multivariate Analysis	NRE 730	100	3	3	(15)	
		Regression Analysis	NRE 536	100	3	3	(10)	
		Special Problem	NRE499	100	3	3	(1)	
		Thesis	NRE599	100	3	3	(3)	20
		Dissertation	NRE799	100	3	3	(3)	15

FOREST RESOURCES PROGRAM FACULTY ACADEMIC SUMMARY (DOCUMENT D) cont'd

Biological and Environmental Sciences Department Faculty Instructing Courses in Forestry Curricula

Faculty Member	Major Field of Specialization	Short Title	Course Number	% Taught	Credit Hours	Contact Hours	Enrolled
Mbila, Monday	Soil Science	Introduction to Soil Science	NRE 251	100	4	3	25
Chen, Xiongwen	Forestry	Aerial Photography	NRE 471	100	3	3	10
Wubishet, Tadesse	Environmental Science	Geographic Info Systems	NRE 471	100	3	3	25
Mentreddy, Srinivasa	Plant Science	Introduction to Plant Science	NRE 101	100	3	3	10
Senwo, Zachary	Soil Science	Seminar	NRE 491	100	1	1	10

APPENDIX E

Curriculum Vitae for Forestry Faculty

- Primary Faculty listed alphabetically by last name
- Secondary Faculty listed alphabetically by last name

1. **NAME:** Troy Bowman

2 **ACADEMIC RANK, SPECIALIZATION, APPOINTMENT BASIS:**

Assistant Professor, Forest Economics and Policy, 9 months

3. **ACADEMIC EDUCATION:**

2011 Iowa State University, Ames, IA
Degree - Ph.D.
Major – Forestry (Minor: Economics; Grad. Cert. in GIS)

2005 Iowa State University, Ames, IA
Degree - M.S.
Major - Forestry

2002 University of Kentucky, Lexington, KY
Degree - B.S.
Major - Forestry

4. **PROFESSIONAL AND RESEARCH EXPERIENCE:**

2016-present Assistant Professor
Department of Biological and Environmental Sciences
Alabama A & M University, Normal, AL

2013-2016 Postdoctoral Research Associate
Forest Economics
People, Land Use and Society Lab
Iowa State University, Ames, IA

2011-2013 Independent Contractor
Lexington, KY

2002-2011 Graduate Research Assistant
Department of Natural Resource Ecology and Management
Iowa State University

5. **TEACHING EXPERIENCE:**

2016-present Assistant Professor
Department of Biological and Environmental Sciences
Alabama A & M University, Normal, AL

2008-2010, 2015 Instructor (Urban Forestry)
Department of Natural Resource Ecology and Management
Iowa State University, Ames, IA

2009 Instructor (Forest Economics)
Department of Natural Resource Ecology and Management
Iowa State University, Ames, IA

6. DATE OF APPOINTMENT AND PROMOTIONS AT PRESENT INSTITUTION

(See above)

7. LIST OF PUBLICATIONS DURING THE LAST FIVE YEARS:

Hand, A., T. Bowman, and J. Tyndall. 2017. Influences on farmer and rancher interest in supplying woody biomass for energy in the US Northern Great Plains. *Agroforestry Systems*, (online).

Roesch-McNally, G., A. Basche, J. Arbuckle, J. Tyndall, F. Miguez, T. Bowman and R. Clay. 2017. The trouble with cover crops: Farmers' experiences with overcoming barriers to adoption. *Renewable Agriculture and Food Systems* (online).

Bowman, T. and J. Tyndall. 2016. *An Introduction to Ecosystem Services and Their Valuation*. Wisconsin Department of Natural Resources, Madison, WI. 53pp.

Bowman, T. and J. Tyndall. 2016. *Nutrient Reduction Strategy Decision Support Tool* (Excel, PDF and Web-based). Iowa State University, Ames, IA. In association with Iowa State University Extension.

8. OFF-CAMPUS CONSULTING, OR OTHER PROFESSIONAL ACTIVITIES, SPECIAL HONORS, RECONGNITION, DURING THE PAST FIVE YEARS

Faculty Advisor
2016-2017: National Science Foundation Grant Panelist (Economics and Social Sciences)
2015: Panel speaker for ISSRM forum: Ethics (Authorship), Student-Advisor Dynamics
Journal Reviewer: *Journal of Maps*, *Utilities Policy*, *Journal of Environmental Management*, *Landscape and Urban Planning*

9. MEMBERSHIP AND OFFICES HELD IN PROFESSIONAL ORGANIZATIONS:

International Society of Arboriculture

Society of American Foresters (Chair-elect, Mountain Lakes Chapter)
Forest Products Society

10. MAJOR PROFESSIONAL SELF-IMPROVEMENT ACTIVITIES DURING THE PAST 10 YEARS INCLUDING SABBATICAL

2017: Urban FIA workshop (USFS)

2015: Agricultural Conservation Planning Framework training (USDA-ARS)

11. EXTERNAL GRANTS AND OTHER RESEARCH FUNDING DURING THE PAST 5 YEARS

02	2018: McIntire-Stennis (USDA NIFA): Effects of Forest Slash on Native Grasses and
03	Wildlife in Northern Alabama
04	2017: AAMU Seed Grant - \$10000
	05 Increasing community capacity for maintaining and enhancing urban trees
	and forests using municipal gravel beds in Alabama
06	2014: Wisconsin Department of Natural Resources - \$5000
	07 Creating a training publication on ecosystem services valuation for state
	natural resources employees.

1. **NAME:** Xiongwen Chen

2. **ACADEMIC RANK, SPECIALIZATION, APPOINTMENT BASIS:**

Professor, Landscape Ecology and Forest Ecology, 9 months

3. **ACADEMIC EDUCATION:**

1998 Northeast Forestry University, China

Degree - Ph.D.

Major - Ecology

1995 Northeast Forestry University, China

Degree - M.S.

Major – Forest Ecology

1990 Zhejiang A & F University, China

Degree - B.S.

Major - Forestry

2. **PROFESSIONAL AND RESEARCH EXPERIENCE:**

2017-Present Professor

Department of Biological and Environmental Sciences

Alabama A & M University, Normal, AL

2011-2017 Associate Professor

Department of Natural Resource and Environmental Sciences

Alabama A & M University, Normal, AL

2005-2011 Assistant Professor

Department of Plant and Soil Science

Alabama A & M University, Normal, AL

2002-2005 Postdoctoral Fellow

Department of Botany & Plant Science

University of California, Riverside, CA

2000-2002 Associate Professor

Lab of Quantitative Vegetation Ecology

Chinese Academy of Sciences, Beijing, China

1998-2000 Postdoctoral fellow

Lab of Quantitative Vegetation Ecology

Chinese Academy of Sciences, Beijing, China

5. **TEACHING EXPERIENCE:**

2005-now Assistant Professor, Associate Professor and Professor

Department of Plant and Soil Science

Alabama A & M University

6. DATE OF APPOINTMENT AND PROMOTIONS AT PRESENT INSTITUTION

Date of Appointment: March 2005

Promotion: August 2011

Promotion: August 2017

7. LIST OF PUBLICATIONS DURING THE LAST FIVE YEARS:

- Chen X. 2017. Allometric dynamics in branch growth of crape myrtle. *Journal of Plant Studies* 6: 28-37.
- Guo Q, Brockway DG, Chen X. 2017. Temperature-related sex allocation shifts in a recovering keystone species, *Pinus palustris*. *Plant Ecology and Diversity* 10: 303-310.
- Chen X. 2017. Patterns of family-species distribution for organisms in Alabama, USA. *Biodiversity Journal* 8: 833-838.
- Chen X., Brockway DG. 2017. Height-diameter relationships in longleaf pine and four swamp tree species. *Journal of Plant Studies* 6: 94-101
- Chen X. 2017. Will more tree diversity bring back more income from timber? A case study from Alabama of USA. *Forestry Letters* 110: 20-25.
- Chen X. Guo Q., Brockway DG. 2017. Power laws in cone production of longleaf pine across its native range in the United States. *Sustainable Agriculture Research* 4: 64-73.
- Guo Q., Zarnoch SJ, Chen X, Brockway DG. 2016. Life cycle and masting of a recovering keystone indicator species under climate change. *Ecosystem Health and Sustainability* 2(6):e01226.
- Chen X, Niu J. 2016. Does vegetation restoration change regional ecohydrological condition at the Loess Plateau in China? *Environment and Natural Resource Research* 6:116-124.
- Chen X, Brockway GD, Guo Q. 2016. Entropy dynamics in cone production of logleaf pine forests in the southeastern United States. *Mathematical and Computational Forestry & Natural Resource Sciences* 8: 11-15.
- Chen X. 2016. A case study of using remote sensing data to compare biophysical properties of a forest and an urban area in northern Alabama, USA. *Journal of Sustainable Forestry* 35: 261-279.
- Chen X, Feng T. 2016. Patterns of butterfly distribution in Alabama, USA. *Biodiversity Journal* 7: 25-32.
- Chen X, Guo Q, Brockway DG. 2016. Analyzing the complexity of cone production in longleaf pine by multiscale entropy. *Journal of Sustainable Forestry* 35: 172-182.
- Chen X, Roberts KA. 2015. Using Vegetation near CO₂ Mediated Enhanced Oil Recovery (CO₂-EOR) Activities for Monitoring Potential Emissions and Ecological Effects. *C-Journal of Carbon Research* 1: 95-111.
- Chen X, Wu, S. 2014. Examining the patterns of animal-vehicle accidents in Alabama. *Human-Wildlife Interactions* 8: 235-244.
- Chen X. 2014. A Case Study of Monitoring Emission from CO₂ Enhanced Oil Recovery by Remote Sensing Data. *Energy and Environmental Research* 4: 33-42.

8. OFF-CAMPUS CONSULTING, OR ORTHER PROFESSIONAL ACTIVITIES, SPECIAL HONORS, RECONGNITION, DURING THE PAST FIVE YEARS

Invited speaker on the international conference “Effects of global climate change on vegetation”, 2013, Chinese Academy of Sciences, Beijing, China
Invited speaker on Forest Ecology, Department of Landscape & Art, Zhejiang A & F University, China

I served in editorial board of the following journals:
The Open Agriculture Journal
The Open Ecology Journal (Regional Editor)
ISRN Biodiversity
International Journal of Ecology & Development (Associate editor)
The Journal of Ecology and Environmental Sciences (Associate editor)

9. MEMBERSHIP AND OFFICES HELD IN PROFESSIONAL ORGANIZATIONS:

Ecological Society of America
American Geophysical Union
American Society for Photogrammetry and Remote Sensing

10. MAJOR PROFESSIONAL SELF-IMPROVEMENT ACTIVITIES DURING THE PAST 10 YEARS INCLUDING SABBATICAL

I attended numerous conferences, society meetings and workshops.

11. EXTERNAL GRANTS AND OTHER RESEARCH FUNDING DURING THE PAST 5 YEARS

NSF CREST project
USDA International Education Program

1. NAME:

Colmore S. Christian

2. ACADEMIC RANK, SPECIALIZATION, APPOINTMENT BASIS:

Associate Professor, Outdoor Recreation and Outreach, 9 months

3. ACADEMIC EDUCATION:

1996 Clemson University, Clemson, SC
Degree - Ph.D.
Major – Recreation and Natural Resources

1991 Clemson University, Clemson, SC
Degree - MPRT.
Major – Recreation and Natural Resources

1985 University of Michigan, Ann Arbor, MI
Degree - BS
Major – Natural Resources

3. PROFESSIONAL AND RESEARCH EXPERIENCE:

2017-present Associate Professor
& 2013 -2014 Department of Biological and Environmental Sciences
Alabama A & M University, Normal, AL

2015-2016 Interim Associate Provost and Dean of Graduate Studies
Department of Academic Affairs
Alabama A & M University, Normal, AL.

2007-2012 Assistant Professor
Department of Natural Resources and Environmental Sciences
Alabama A & M University, Normal, AL.

1999-2006 Permanent Secretary (*in 3 Ministries at different times during that period*)
Ministry of Agriculture and Environment
Ministry of Tourism and Employment
Ministry of Lands, Telecommunications and Ports
Government of Dominica, Roseau, DOMINICA

1996-1998 Director
Department of Forestry, Wildlife and National Parks
Government of Dominica, Roseau, DOMINICA

- 1992-1995* Superintendent of National Parks
Department of Forestry, Wildlife and National Parks
Government of Dominica, Roseau, DOMINICA
- 1990-1995 Graduate Research and Teaching Assistant
Department of Parks, Recreation and Tourism Management
Clemson University, Clemson, SC.

5. TEACHING EXPERIENCE:

- 2017-present Associate Professor
& 2013 -2014 Department of Biological and Environmental Sciences
Alabama A & M University, Normal, AL.
- 2007-2012 Assistant Professor
Department of Natural Resources and Environmental Sciences
Alabama A & M University, Normal, AL.
- 1990-1995 Graduate Research and Teaching Assistant
Department of Parks, Recreation and Tourism Management
Clemson University, Clemson, SC.

6. DATE OF APPOINTMENT AND PROMOTIONS AT PRESENT INSTITUTION

(See above)

7. LIST OF PUBLICATIONS DURING THE LAST FIVE YEARS:

CHRISTIAN, C.S. and T. T. Lacher, Jr. (*Accepted*). Recreation and Nature Tourism Ecological Impacts Occurring in Dominica's National Park. Journal of Tourism Management.

Herbert, B, **CHRISTIAN, C.S.**, Izeogu and O. Babalola. (2017). Food insecurity and the food store environment in the Southern United States: A Case Study of Alabama counties. African Journal of Agriculture and Food Security ISSN 2375-1177 Vol. 5(4):193-201. Available at: <http://internationalscholarsjournals.org/journal/ajafs/articles>.

CHRISTIAN, C. S., Zhang, Y. and E. Kebede. (2017). The Socio-economic Contribution of Small and Medium-sized Privately Owned Outdoor Recreation Enterprises in Alabama – An Exploratory Investigation. International Journal of Business and Social Science, 8 (1):117-125.

CHRISTIAN, C. S., Ojha, S. K. and B. Herbert. (2016). The Perspectives and Experiences of High School Students towards the Environment – The Case of North Alabama. Journal of Education & Social Policy, **3** (6) 13-26.

CHRISTIAN, C. S.; Herbert, B. (2016). Perceived Socio-economic, Socio-ecological and Socio-cultural Impacts of the Caribbean's Tourism Sector. **Advances in Social Sciences Research Journal**, [S.l.], v. 3, n. 12, dec. 2016. Available at: <http://scholarpublishing.org/index.php/ASSRJ/article/view/2448>. Date accessed: 22 dec. 2016. doi:<http://dx.doi.org/10.14738/assrj.312.2448>.

Karki, U., Idassi, J., Mentreddy, S. R., Gurung, N., Karki, L. Bambo, S and **C. S. CHRISTIAN**. (2016). Agroforestry research and extension education at 1890 universities and its impacts in the Southeast. Agroforestry Systems: <http://link.springer.com/article/10.1007/s10457-016-9934-y>.

Bettis, Sr., J. L., **CHRISTIAN, C. S.** and B. M. Allen. (2015). Forestry Students' Perspectives about Participation in Leadership Development. North American Colleges & Teachers of Agriculture (NACTA) Journal.

CHRISTIAN, C.S. (2015). Ecosystem Services. Pg. 133-143 in U. Karki (Ed.) Handbook for Training Field Extension and Technical Assistance Personnel – Sustainable Agroforestry Practices in Southern United States: Training Handbook. Sustainable Agriculture Research and Education, Georgia/1890 Agroforestry Consortium/Tuskegee University Cooperative Extension.

CHRISTIAN, C.S. (2015). Riparian Buffers. Pg. 107-118 in U. Karki (Ed.) Handbook for Training Field Extension and Technical Assistance Personnel – Sustainable Agroforestry Practices in Southern United States: Training Handbook. Sustainable Agriculture Research and Education, Georgia/1890 Agroforestry Consortium/Tuskegee University Cooperative Extension.

Bettis, Sr., J. L., Allen, B. M., **CHRISTIAN, C. S.** and W. H. McElhenney. (2015). Forestry Students' Global Perspectives and Attitudes toward Cultural Diversity. North American Colleges & Teachers of Agriculture (NACTA) Journal.

Mojica-Howell, M., **CHRISTIAN, C. S.,** and R. Fraser. (2014). Attitudes and Perceptions on Potential Development of Nature-based Enterprises among Landowners in Alabama; Black Belt. Journal of Sustainable Development, **7**(6):182-194. DOI: 10.5539/jsd.v7n6p182; URL: <http://dx.doi.org/10.5539/jsd.v7n6p182> .

Herbert, B. and **C. S. CHRISTIAN**. (2014). Regional Tourism at the Cross-roads: Perspectives of Caribbean Tourism Organization's Stakeholders. Journal of Sustainable Development, **7**(1):17-32. Doi:10.5539/jsd.v7n1p17; URL:<http://dx.doi.org/10.5539/jsd.v7n1p17>.

Gyawali, B. R., Hill, A., Banerjee, S., Chembezi, D., **CHRISTIAN, C.S.**, Bukenya, J. S., and M. Silitonga. (2013). Examining Rural-urban Population Change in the Southeastern United States. Journal of Rural Social Sciences, **28(2)**:1–25.

CHRISTIAN, C.S., Fraser, R.F., Gyawali, B., and C. Scott. (2013). Participation of Minorities in Cost Share Programs - Experience of Small, Underserved Landowners' Group in Alabama. Journal of Sustainable Development **6(4)**:70-85 & Online: <http://dx.doi.org/10.5539/jsd.v6n4p70>.

CHRISTIAN, C.S., Fraser, R. and A. Diop. (2013). African-American Land Loss and Sustainable Forestry in the Southeast: an Analysis of the Issues, Opportunities, and Gaps. Journal of Extension **51 (6)**. Article # 6FEA2.

Gyawali, B., Banerjee, S., Hill, A., Chembezezi, D., Bukenya, J., and **C. S. CHRISTIAN**. (2013). Exploring Variations in Income Growth in Southeastern United States. Journal of Geography and Regional Planning **6(4)**:142-148. DOI:10.5897/JGRP2013.0364.

8. OFF-CAMPUS CONSULTING, OR ORTHER PROFESSIONAL ACTIVITIES, SPECIAL HONORS, RECONGNITION, DURING THE PAST FIVE YEARS

Certificate – completed a 2-day, face-to-face Online Instructor Certification training module. Office of Distance Education and e-Learning, Office of Distance Education and Extended Studies, AAMU, Normal, AL (**August 9-10, 2017**).

Reviewer - Manuscript UECO-D-16-00114 for Urban Ecosystems Journal (**July 2016**).

Participant – Society of Outdoor Recreation Professionals (SORP) Conference, Boise, Idaho (**May 16-20, 2016**).

Certificate – Understanding and Maintaining Your State Budget Training, Alabama A&M University, Normal, Alabama – **October 15, 2015**.

Participant – An Information Training Session on USDA's Farm Service Agency's farm loan programs (Montgomery, Alabama – **April 28, 2015**).

Participant – 2015 National Outdoor Recreation Conference in partnership with the Northeastern Recreation Research Symposium (Annapolis, Maryland – **April 12-16, 2015**).

Resource Person and Presenter – 'Training Women Trainers in Agroforestry for the Sustainability of Small Farms and Woodlands' coordinated by 1890 Agroforestry Consortium. North Carolina A&T University, Greensborough, North Carolina (**held in Raleigh, NC November 19-21, 2014**).

Participant – Sexual Harassment Training. Office of Human Resources, Alabama A&M University, Normal, Alabama. Certificate of Attendance Awarded (**November, 2014**)

Resource Person and Presenter – ‘Trainer’s Training in Agroforestry Practices in the Southeastern Region’ coordinated by 1890 Agroforestry Consortium. Tuskegee University, Tuskegee, Alabama (**October 28-29, 2014**).

Participant – Placing Critical Thinking at the Core of the Curriculum Workshop. AAMU’s QEP, Alabama A&M University, Normal, AL (**October 1-2, 2014**).

Member: 2013-2014 University-wide Promotion and Tenure Committee. Academic Affairs, c/o Provost and VP for Academic Affairs, Office of the Provost, Parton Hall, Alabama A&M University, Normal, Alabama (**October 2013 – March 2014**).

Reviewer – one proposal (**GRANT11338207 / 2013-02663**) reviewed at the request of SBIR National Program Leader, USDA/NIFA (**May 2013**).

Presenter and Participant – Society of Outdoor Recreation Professionals (SORP) Conference and IUFRO Conference on Forests and People, Traverse City, MI (**May 19-23, 2013**).

Local Coordinator and Participant – The Pine Integrated Network: Education, Mitigation, and Adaptation Project (PINEMAP) – 1890 Land Grant Climate Change Workshop. Alabama A&M University, Huntsville, AL (**May 15-17, 2013**).

Presenter, Judge, and Participant – 17th Biennial Research Symposium, Association of Research Directors (ARD) Conference, Jacksonville, FL (**April 7-10, 2013**).

Participant – 28th Annual Career Fair and Conference, MANRRS, Sacramento, CA (**March 21-23, 2013**);

Participant – Southeastern Society of American Foresters (SESAP) Annual Meeting. Mobile, AL (**January 27-29, 2013**).

Presenter and Participant – Southern Leadership Conference and Tour coordinated by Southern Research Station, US Forest Service, Asheville, NC. Huntsville, AL (**January 7-9, 2013**).

9. MEMBERSHIP AND OFFICES HELD IN PROFESSIONAL ORGANIZATIONS:

Professional Member – International Society for Development and Sustainability (**2014 - Present**).

Secretary – 1890 Agroforestry Consortium, c/o Dr. Srinivasa ‘Rao’ Mentreddy, Chair – 1890 Agroforestry Consortium Chair, Department of Biology and Environmental Science, College of Agricultural, Life and Natural Sciences, Alabama A&M University, Normal, Alabama (**Oct. 2014 – Present**);

Member and Assistant Secretary – 1890 Agroforestry Consortium, c/o Dr. Gwendolyn Boyd, Chair – 1890 Agroforestry Consortium Chair, Department of Agriculture, Alcorn State, MS (**2007 – Oct. 2014**);

Member – Society of American Foresters, Bethesda, Maryland, USA (**June 2007 – Present**);

Professional Member (2009 – Present) **and Faculty Advisor** (**2009 - 2015**) – Minorities in Agriculture, Natural Resources and Related Sciences (MANRRS).

Member – Society of Outdoor Recreation Professionals (SORP) formerly (NARRP) (**2010 - Present**).

Member – The International Ecotourism Society (TIES) (**2010 – Present**).

Member – Recreation Ecology Research Network, c/o David Cole, Aldo Leopold Wilderness Research Institute (**June 2007 - Present**).

10. MAJOR PROFESSIONAL SELF-IMPROVEMENT ACTIVITIES DURING THE PAST 10 YEARS INCLUDING SABBATICAL

Conference Planning Committee Member, Judge and Participant – MANRRS 29th Annual Career Fair and Training Conference, Birmingham, AL (**March 27-29, 2014**).

Chair: 2014-2015 University-wide Promotion and Tenure Committee. Academic Affairs, c/o Provost and VP for Academic Affairs, Office of the Provost, Parton Hall, Alabama A&M University, Normal, Alabama (**October 2014 – March 2015**).

Team Leader and Reviewer: coordinated team of three professionals who reviewed **11** proposals at the request of USDA-AMS Farmers Market Promotion Program (FMPP) Grants (**February-March, 2015**).

Superintendent of Graduate and Undergraduate Poster Competitions – 30th Annual Career Fair & Training Conference of Minorities in Agriculture, Natural Resources and Related Sciences [MANRRS] (Houston, Texas – **March 26-28, 2015**).

Superintendent of Undergraduate Poster Competition – 31st Annual Career Fair & Training Conference of Minorities in Agriculture, Natural Resources and Related Sciences [MANRRS] (Jacksonville, FL – **March 30 – April 2, 2016**)

Team Leader and Reviewer (2015): reviewed **12** proposals at the request of USDA-AMS Farmers Market Promotion Program (FMPP) Grants, Washington DC, USA.

11. **EXTERNAL GRANTS AND OTHER RESEARCH FUNDING DURING THE PAST 5 YEARS**

2018-2021: **\$300,000** from USDA-NIFA to support project entitled ‘Enhanced Minority Student Recruitment and Training in Sustainable Agriculture using a Strategic Enrollment Management’ [Herbert, B (PI), **Christian, C (Co-PI)**, Oluwoye, J (Co-PI), Pressley, J (Co-PI), and Kassama, L (Co-PI).

2014-2015: **\$162,887** from USDA-Office of Advocacy and Outreach to support the project entitled ‘Intensive Southeastern Training Expansion Program (InSTEP) in two Southeastern States in the USA (Phase II) [**Christian, C.S (PI)**, Herbert, B (CoPI)].

2013–2018: An estimated **\$288,000** projected under an approved 5-year project being funded under the **USDA’s McIntire/Stennis** initiative to support a study focusing on **Barriers to Minority Participation in Outdoor Recreation Opportunities on Public Lands in Northern Alabama – Case Study of Bankhead National Forest** [**Christian, C.S. (PI)**].

2013: **\$3,000** received from **Dow Foundation** on behalf of AAMU’s Morrison Chapter of MANRRS for support of Chapter development and participation at MANRRS National Conference [**Christian, C.S. (PI)**]

2012-2015; **\$299,680** approved by **USDA-NIFA** for ‘Capacity Building for Sustainable Local Food Systems Planning in North Alabama through Science, Technology, Innovation and Synergistic Partnerships’ project [Herbert, B (PI); **Christian, C.S. (Co-PI)** and C. Izeogu, (Co-PI)].

2013-2015: **\$200,000 SARE** award. Trainers’ Training in Agroforestry Practices in the Southeastern Region: 1890 Agroforestry Initiative. [Karki, U (PI), Boyd, G. (Co-PI), Gyawali, B. (Co-PI), Mentreddy, R., (Co-PI), **Christian, C.S (Co-PI)**, Idassi, J. (Co-PI)].

2010–2015: **\$5M** approved by **NSF** for ‘Center for Forest Ecosystem Assessment – Forest Community Responses and Dynamics’ project [Wang, Y (PI), Tadesse, W. (Co-PI), Senwo, Z (Co-PI), **Christian, C.S (Co-PI)**, et al.]

***Includes a period of approved study leave.**

1. **Name:** Luben Dimov

2. **Academic Rank, specialization, appointment basis:**

Associate Professor, Silviculture and Forest Management, 9-month appointment

3. **Academic education background:**

PhD, Louisiana State University, School of Renewable Natural Resources, Forest Ecology and Silviculture, 9/1999 – 12/2004

MS, University of Forestry, Sofia, Bulgaria. Forest Engineering. 9/1992 – 7/1998. This program was considered a Master of Sciences program for the entire period 1992-1998, and did not include an intermediate awarding of a Bachelor's degree. It did include a year abroad (in the United Kingdom) of work and training experience in plant nursery production

4. **Professional and research experience:**

8/2010 – present - Associate Professor of Silviculture and Forest Ecological Management, Alabama A&M University

5/2005 – 8/2010 – Assistant Professor of Silviculture and Forest Ecological Management, Alabama A&M University

1/2005 – 5/2005 – Postdoctoral Researcher in Forestry, Coastal Wetland Forest Conservation and Use Science Working Group, School of Renewable Natural Resource, Louisiana State University

10/1999 – 12/2004 - Graduate Research Assistant in Forestry, School of Renewable Natural Resource, Louisiana State University

1/1997 – 1/1998 – Plant Nursery Production Work and Training Experience, Darby Nursery Stock Ltd., Thetford, England. This program was a collaborative effort between the University of Forestry in Bulgaria and the International Plant Propagators' Society to provide students with international work and training experience

1/1998 – 8/1998 and 6/1996 – 12/1996 - Graduate Research Assistant in Silviculture, University of Forestry, Sofia, Bulgaria. Research was related to forest stand dynamics, growth, and silvicultural implications of single tree selection in uneven-aged mixed upland forests

3/1996 – 5/1996 - Graduate Research Assistant, oak tissue cultures, Department of Biology, University of Zagreb, Croatia. Organized by and under the auspices of the Central European Exchange Program for University Studies

5. **Teaching experience:**

At Alabama A&M University:

1. Introduction to Forestry, NRE 281, 3 credits
2. Forest Ecology, NRE 389, 4 credits
3. Silviculture NRE 375, 4 credits
4. Forest Ecological Management, NRE 474, 2 credits, pre-capstone course for Forestry majors
5. Forest Ecological Management Project, NRE 497, 4 credits, capstone course for Forestry majors
6. Ecological Restoration of Hardwood Forest Ecosystems, NRE 586, 3 credits
7. Applied Forest Ecology, NRE 701, 3 credits
8. Special Problems in Forestry, NRE 490, 3 credits
9. International Exchange and Study Abroad, NRE 483/593, 3-6 credits
10. Assist with silviculture and mensuration in Forestry Field Camp

Previously taught additional classes that are no longer part of the curriculum:

11. Silvics, NRE 374, 3 credits
12. Forest Ecological Management, NRE 489/589, 3 credits

I also taught (by invitation) a 2-week intensive course in Silviculture in China in the summer of 2016 at the College of Forestry, Northwest Agriculture and Forestry University, Yangling, China. I was invited again in 2017, but could teach then due to prior commitments.

6. Dates of appointment and promotions at present institution

8/2010 – present - Associate Professor of Silviculture and Forest Ecological Management, Alabama A&M University

5/2005 – 8/2010 – Assistant Professor of Silviculture and Forest Ecological Management, Alabama A&M University

7. List in bibliographical style publications during the last five years

Journal articles:

Ojha, S.K., **Dimov**, L.D. 2017. Variation in the diversity-productivity relationship in young forests of the eastern United States. PLOS ONE 12(11): e0187106.
<https://doi.org/10.1371/journal.pone.0187106>

Ojha, S.K., **Dimov**, L.D. 2017. Linking hypothesized causal factors to aboveground biomass growth in forests of Alabama and the eastern US. Forest Systems 26(3), e016.
<https://doi.org/10.5424/fs/2017263-11875>

Ojha, S.K., **Dimov**, L.D. 2017. Relationship between forest aboveground biomass growth and tree species richness, identity, and structure. Forestry Ideas 23(2): 122-144.

Dimov, L.D., Howard, K.J., Leggett, Z.H., Sucre, E.B., Weninegar, L.L. 2015. Removal of organic matter from the forest floor in loblolly pine plantations increased ground-layer richness and diversity 16 years after treatment. Forest Science 61: 554-558.

Published abstracts:

Dimov, L.D., Weninegar, L.L., Ojha, S.K., Briggs, W., Preyear, J., Jones, W. 2017. Differences in vascular richness near soft forest edges with contrasting orientation. Abstract from the 102nd Ecological Society of America Annual Meeting, Portland, OR August 6-11, 2017.

Briggs, W., **Dimov**, L.D., Scott, D.A., Naka, K., Lacouture, D., Ruark, G. 2016. Relative growth of loblolly pine clones planted in different spacing arrangements. Abstract from the 2016 Society of American Foresters Annual Convention, Madison, WI, November 2016.

8. Off-campus consulting, or other professional activities, special honors, recognition, during the past five years

- Chair, Applied Ecology Section of the Ecological Society of America, 10/2017 – present
- Chair, Society of American Foresters Mountain Lakes Chapter, Alabama, three terms: 2006, 2014, and 2015
- Vice-Chair, Applied Ecology Section, Ecological Society of America, August 2012-2017
- Resource Advisory Committee Member, The Land Trust of North Alabama, 2007-present

- Ad hoc reviewer, USDA Small Business Innovation Research (SBIR) program, November 2017-present
- Panelist for the 2017 USDA NIFA Postdoctoral and Predoctoral Fellowship Program, October 2017
- Consulting for Wild South, an environmental group, on forest restoration – Sep 2010 – present
- Faculty Advisor, Ecological Society of America student SEEDS chapter at Alabama A&M University, May 2008 – present
- Chair, Research Station Management Committee of Alabama A&M University, 2013-present
- Earth Day Forestry booth and led a Walk-in-the-Woods hike, Hayes Nature Preserve, Huntsville, AL, annually in April, 2005-2013, 2016

9. Membership and offices held in professional organizations

Membership:

- Society of American Foresters since 2000
- Ecological Society of America since 2004
- Forestry Honor Society (Xi Sigma Pi) (Membership is by invitation) since 2002
- Southern Hardwood Forestry Group since 2000
- Southeastern Hardwood Forestry Group since 2005
- American Association for the Advancement of Science since 2001
- Union of Concerned Scientists since 2005
- Nature Conservancy since 2000
- International Plant Propagator's Society (former member)

Offices held (currently and recently):

- Chair, Applied Ecology Section of the Ecological Society of America, 10/2017 – present
- Chair, Society of American Foresters Mountain Lakes Chapter, Alabama, three terms: 2006, 2014, and 2015
- Vice-Chair, Applied Ecology Section, Ecological Society of America, August 2012-2017
- Resource Advisory Committee Member, The Land Trust of North Alabama, 2007-present
- Chair, Southeastern Hardwood Forestry Group, Dec 1, 2007 – Dec 2009
- Chair, Communications Committee, Society of American Foresters Mountain lakes Chapter, January 2007-2014
- Vice-Chair, Southeastern Hardwood Forestry Group, April 2006-2007

10. Major professional self-improvement activities during past 10 years (including sabbatical)

- Ecological Society of America, Portland, Oregon, August 2017
- Society of American Foresters, Madison, Wisconsin, 2016.
- Society of American Foresters Silviculture Instructors Tour 2002, 2005, 2006, 2007, 2008, 2010 (North Carolina, October 1 - 5, 2002; central Louisiana 2005; State College, PA October 22-25, 2006; Portland, OR, October 20-23, 2007; Quincy and Lake Tahoe region, California, November 3-5, 2008; northern New Mexico, Oct 24-27, 2010)
- Southeastern Hardwood Forestry Group Meetings: Asheville, NC, April 30-May 1, 2009; Aiken, SC, Oct 2-3, 2008; Knoxville, TN, April 24-25, 2008
- PC-Ord workshop – a workshop on multivariate data analysis, Alabama A&M University, Normal, Alabama, Oct 13-15, 2008
- NSF Day, University of Alabama in Huntsville October 9, 2008
- Southeastern Society of American Foresters annual meeting, Pine Mountain, GA September 21-23, 2008

11. External grants and other research funding during the last five years

- **Dimov, L.D.** 2017-2018. Forest restoration and management on TVA land.
\$9,800, Tennessee Valley Authority Contract
- **Dimov, L.D.** 2015-2018. Structure, Restoration, and Management of Mixed Pine-Hardwood Stands.
\$45,000, USDA Forest Service Cooperative Agreement

1. **NAME:** Heather Howell

2. **ACADEMIC RANK, SPECIALIZATION, APPOINTMENT BASIS:**

Research Associate /Adjunct Professor, Forest Protection and Fisheries, 12/9 months

3. **ACADEMIC EDUCATION:**

2015 Alabama A&M University, Huntsville, AL
Degree - Ph.D.
Major – Plant and Soil Science

2004 University of Alabama in Huntsville, Huntsville, AL
Degree - M.S.
Major - Biology

2000 University of Alabama in Huntsville, Huntsville, AL
Degree - B.S.
Major - Biology

4. **PROFESSIONAL AND RESEARCH EXPERIENCE:**

2005-present Research Associate
Wildlife and Fisheries
Department of Biological and Environmental Science
Alabama A & M University, Normal, AL

1984-1988 Graduate Research Assistant
Department of Entomology
Mississippi State University, Mississippi State, MS

5. **TEACHING EXPERIENCE:**

2012-present Adjunct Professor
Department of Biological and Environmental Science
Alabama A & M University, Normal, AL

2001-2004 Graduate Teaching Assistant
Department of Biology
University of Alabama in Huntsville, Huntsville, AL

6. **DATE OF APPOINTMENT AND PROMOTIONS AT PRESENT INSTITUTION**

(See above)

7. LIST OF PUBLICATIONS DURING THE LAST FIVE YEARS:

- H. Howell**, K. Ward, R. Ward, and Z. Felix. *In Process*. Underlying environmental gradients in carabid (Coleoptera: Carabidae) beetle assemblages in an upland hardwood forest habitat in the Cumberland Plateau.
- H. Howell**. 2015. Determining habitat relationships for aquatic communities along an urban-rural gradient (doctoral dissertation). Alabama A&M University, AL.
- H. Howell** and W. Stone. The Salmon of Knowledge: Engaging Students in STEM Through Hands-On Fisheries and Wildlife Activities. American Indian Science and Engineering Society Meeting. November 2014. Orlando, FL.
- H. Howell**, A. Bohlman, H. Czech. Determining habitat relationships for mussel and snail communities along an urban-rural gradient. Freshwater Mollusc Conservation Society Meeting March 2013 Guntersville, AL
- H. Howell**, H. Czech, A. Bohlman Three years of fish surveys in Aldridge Creek, an urban stream in North Alabama. Southeastern Fishes Council Annual Meeting November 8 & 9, 2012 New Orleans, LA.
- H. Czech, **H. Howell**, A. Bohlman Assessing fish community structure in the Flint River watershed of North Alabama Southeastern Fishes Council Annual Meeting November 8 & 9, 2012 New Orleans, LA.
- H. Howell**, A. Bohlman, H. Czech Response of Aquatic Community Structure to Urbanization and Drought Recovery in the Flint River, Alabama. 2012 National Water Conference, Portland, OR.
- H. Howell**, R. Ward, A. Bohlman, and H. Czech, Relationship of water quality and bioassessments to different forest management practices and land cover in the W. B. Bankhead National Forest, Alabama, Alabama Water Resources Association Meeting September 2012 Orange Beach, AL.

8. OFF-CAMPUS CONSULTING, OR ORTHER PROFESSIONAL ACTIVITIES, SPECIAL HONORS, RECONGNITION, DURING THE PAST FIVE YEARS

Faculty advisor

Graduate Student Organization of the Department of Plant and Soil Science, Alabama A&M University

Invited speaker on garden/orNAMENTal pest management, Master Gardener Series

Invited speaker on the Southern Pine Beetle, Northern Alabama Treasure Forest Association

Invited speaker on honey bees as pollinators of cotton, Alabama Beekeepers Association
Madison County Farmers' Association, Mississippi Beekeepers' Association, Escaroa Beekeepers' Association (FL)

Invited speaker on fire ants, Kiwanis Club

Chair, Curriculum Committee, Department of Plant and Soil Science, Alabama A&M University

Faculty Senate Representative for Department of Plant and Soil Science, Alabama A&M University

9. MEMBERSHIP AND OFFICES HELD IN PROFESSIONAL ORGANIZATIONS:

10. MAJOR PROFESSIONAL SELF-IMPROVEMENT ACTIVITIES DURING THE PAST 10 YEARS INCLUDING SABBATICAL

11. EXTERNAL GRANTS AND OTHER RESEARCH FUNDING DURING THE PAST 5 YEARS

\$400,000 McIntire-Stennis grant to study bioindicators and feral swine in the Bankhead National Forest (2016)

two \$225,000 Evans Allen grants (2015) to study the food safety of aquaponics products and develop fish feed from canola meal

\$400,000 HBCU-UP for mentoring students in research and course enhancement (2014)

\$300,000 NIFA capacity building grant for mentoring students in research and course development (2012)

1. **NAME: Kozma Naka**

Office address

Alabama A&M University
Normal, AL 35762
USA
+1-256-372-4235
E-mail: kozma.naka@aamu.edu

Home address

11020 Jean Rd, SE
Huntsville, AL 35803
USA
+1-256-880-9240
Mobile: +1-256-603-8357

2. **ACADEMIC RANK, SPECIALIZATION**

Associate Professor of Forest Operations/Measurements, Forestry, Ecology and Wildlife Program; Department of Biological and Environmental Sciences; College of Agricultural, Life and Natural Sciences; Alabama A&M University, Normal, Alabama, USA

3. **ACADEMIC EDUCATION**

Doctor of Philosophy in Forestry and Forest Products, August 1998
Department of Forestry, Virginia Polytechnic Institute and State University (Virginia Tech), Blacksburg, August 1993-January 1998

Programmer-Analyst (graduate studies), July 1986
Department of Computer Science, University of Tirana, Albania
September 1985-July 1986

Forest Engineer (undergraduate studies), January 1984
Department of Forestry, Agricultural University of Tirana, September 1979-January 1984

4. **PROFESSIONAL AND RESEARCH EXPERIENCE**

Associate Professor, Forestry, Ecology and Wildlife Program, Alabama A&M University, Normal, AL

May 2000 – present

Teach undergraduate courses (Forest Operations Systems and Management, Forest Mensuration, Forestry Field Techniques, Biometry, Wood Products, and graduate courses (Forest Resource Management, Forest Ecological Management)
Other undergraduate courses taught: Silviculture, Forest Economics, Environmental Policy and Law, Natural Resource Policy, Forest Recreation.

Research (up to 50% of release time)

Projects:

1. Evaluation of goat grazed loblolly pine silvopasture systems with hybrid poplars
2. Forest Slash Removal, Retention and Use in Forest Harvesting Operations in Northern Alabama
3. Processing Tree Biomass for Energy and Pulp

4. Evaluating the Performance of Silvopasture Agroforestry Systems with Loblolly Pine Clonal Varieties
5. Sprout Management to Improve Productivity in Hardwood Forests of Southern Appalachians: Singling in North Alabama
6. Tree Planting for Profit in Zone 2 of Riparian Areas: An Important Agroforestry Opportunity for the Southeast
7. Markets, Specifications and Values for Small Diameter Hardwoods and Softwoods Timber in the South Central Region

Researcher, Department of Wood Science and Forest Products, Virginia Tech, Blacksburg,

November 1998 – May 2000

Projects:

1. Appalachian hardwood lumber exporter practices.
2. Development potentials for non-timber forest products (NTFPs) in the Asia-Pacific region.

Senior Program Support Technician/Departmental Computer Consultant, University Computing Support, Virginia Tech, Blacksburg

August - September 1998, May - September 1999

Supervised six computer technicians.

Installed and maintained hardware and software.

Graduate Research Assistant, Industrial Forestry Operations, Department of Forestry, Virginia Tech, Blacksburg

August 1993 - July 1998

Developed forest policies and prioritized methods of policy implementation.

Determined factors/issues crucial to forest industry corporate policy and operating guidelines.

Visiting Faculty, Department of Forestry, Virginia Tech, Blacksburg

September 1992 - May 1993

Project: Optimal Timber Harvest Using Computer Modeling

Applied linear programming models and growth and yield models in shelterwood harvest scheduling.

Department Head, Department of Medicinal Plants, ALIMPEKS/AGROEKSPORT Foreign Trade Enterprise, Tirana

September 1990 - May 1992

Negotiated contracts for the export of \$5 million annually of medicinal plants.

Coordinated, organized, and supervised contracts fulfillment, shipments, and payments.

Department Head, Department of Management, Rangeland Research Central Station, Fushë-Krujë, Albania

October 1989 - September 1990

Supervised seven specialists.

Directed the *National Project for Rangeland Management*, conducted preliminary investigation, built multidisciplinary teams and managed the project.

Adjunct Professor, Department of Computer Science, University of Tirana

January 1986 - May 1992

Taught several introductory computer programming courses at the Higher Agricultural Institute of Tirana and at the University of Tirana.

Programmer-Analyst, Computer Programming Team, Higher Agricultural Institute of Tirana

October 1987 - October 1989

Project: Introducing Computerization in the Agricultural Sector

Developed computer applications in COBOL for agricultural and forest enterprises.

Analyzed and designed the information system of “17 Nëntori” Agricultural Enterprise, Tirana using Revelation Database Management System.

Researcher, Department of Pastures, Institute of Forage and Pasture Research, Fushë-Krujë

January 1984 – September 1985, July 1986 - October 1987

Developed sustainable management practices for rangeland and pastures.

Collaborated as a principal investigator in several projects for rangeland restoration, fertilization, sediment control, and improvement of silvo-pastoral management.

5. SELECTED PUBLICATIONS

Naka, K. and S. Cela. 2018. Timber price, species, diameter and sale methods in Mississippi, Alabama, and Georgia. *Forest Science*. Submitted for publication.

Kennedy, M., K. Naka and Y.B Wu. 2017. Establishment of a Riparian Buffer Strip for Alleviating Lake Eutrophication in Eastern China. *Agricultural Water Management*. Submitted for publication.

Leite-Browning, Maria, Ermson Nyakatawa, James Bukenya, David Mays, Kozma Naka. May 2014. Silvopasture Agroforestry Practices for Sustainable Forage, Meat Goat, and Timber Production. 2014. Alabama Cooperative Extension System (Alabama A&M and Auburn Universities) in cooperation with the U.S. Department of Agriculture. UNP-2056.

Ermson Z. Nyakatawa, David A. Mays, Kozma Naka and James O. Bukenya. 2011. Carbon, nitrogen, and phosphorus dynamics in a loblolly pine-goat silvopasture system in the Southeast USA. *Agroforestry Systems*, Online First™, 30 August 2011.

Kolka R., M. Powers, J. Bradford, B. Palik, M. Jurgensen, D. Abbas, T. Gallagher, S. Ambagis, F. Antony, L. Jordan, R. Daniels, L. Schimleck, Sh. Botard, F. Aguilar, J. Dwyer, H. Stelzer, A. Ek, H. Hogans, A. D'Amato, A. David, M. Kilgore, J. Wu, J. Wang, J. McNeel, G. Ice, J. Light, V. Hale, T. Garland, J. McDonnell, J. Mount, F. Cuff, K. Stumpf, T. Rogers, E. Schilling, J. Salwasser, N. Zegre, L. Kellogg, M. Goerndt, P. Miles, S. Shifley, N. Song, J. Bakker, M. Petrova, K. Ceder, E. Turnblom, K. Naka, R. Sivanpillai, C. Dicus, J. Large, C. Isbell, D. Weise, R. Keefe, A. Davis, R. Parajuli, S. Chang, J. Roise, C. Hopkins, D. Duncan. 2011. Forest Management, Engineering, and Operations. *Journal of Forestry*, Volume 109, Number 8, December 2011, pp. 538-544(7)

Hammett, A. L., K. Naka and B. Parsons. 2009. Changes in Appalachian hardwood lumber exporter practices, 1989-2002. *Forest Products Journal* 59(3):47-52.

- Naka K, B. Parsons and A. L. Hammett. 2009. Hardwood lumber industry in the Appalachian region: focus on exports. *The Forestry Chronicle* 85 (1):75-81.
- Naka, K. and B. Musabelliu. 2006. The development of the medicinal plant sector for increasing income in rural areas-in Albanian. *ANASH-Approaching Science* Nr. 2 (November): 27-34.
- Naka, K. and P. Cannon. 2004. Sprout singling in North Alabama in Connor, Kristina F., ed. 2004. *Proceedings of the 12th biennial southern silvicultural research conference. Gen. Tech. Rep. SRS-71*. pp 509-512. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 594 p.
- Naka, K., W. B. Stuart, and A. L. Hammett. 2002. Approaches to reforestation in Albania. A contribution to the debate. *Forestry* (UK). Vol. 75 (3).
- Naka, K., W. B. Stuart, and A. L. Hammett. 2000. Forest certification policy: stakeholders, markets, and effects. *Local Environment* 5(4): 475-482.
- Naka, K., W. B. Stuart, and A. L. Hammett. 2000. Constraint and opportunities to forest policy implementation in Albania. *Forest Policy and Economics* 1(2000):153-163.
- Naka, K., W. B. Stuart, and A. L. Hammett. 2000. Making forest-based policies work: institutional reform in Albania. *Journal of Forestry* 98(4):38-43.

6. OFF-CAMPUS CONSULTING AND OTHER PROFESSIONAL ACTIVITIES DURING THE PAST 10 YEARS.

Presentations

- Naka, K. 2015 . Sustainable Sheep and Goat Production in Silvopasture Systems for Small Farmers. 8th Small Ruminant Conference. Eufala, AL.
- Isabelle, J., K. Naka and G.B. Wang. July 2015. Effect of light intensity on primary and secondary metabolism, phytohormones and enzyme activities in *Camptotheca acuminata*. REU China paper and presentation. Nanjing Forestry University, Nanjing, China
- Fleurimond, J., Q. Zhuge, W.B. Sun and K. Naka. July 2015. . Isolation and identification of cry- genes (cry1ah1) of poplar hybrid female lones (*Populus deltoides* x *P. euramericana* 'nanlin895'). REU China paper, and presentation. Nanjing Forestry University, Nanjing, China
- Lawhorn, A., K. Naka and Y.L. Ding. July 2014. Development of bamboo rhizome system in Jiangsu Province, China. REU China paper, presentation, poster, and website. Nanjing Forestry University, Nanjing, China
- Kennedy, M., K. Naka, Y.B. Wu. July 2014. Establishment of a Riparian Buffer Strip for Alleviating Lake Eutrophication. REU China paper, presentation, poster, and website. Nanjing Forestry University, Nanjing, China

- Naka, K. July 07, 2014. Forest operations research at Alabama A&M University. College of Forestry and Environmental Sciences, Nanjing Forestry University, Nanjing, China
- Naka, K. July 07, 2014. Hardwood growth response to liberating stump sprouts. College of Forestry and Environmental Sciences, Nanjing Forestry University, Nanjing, China
- Naka, G. and K. Naka. March 24-27, 2014. Effects of Water on Rhizopus Oryzae Whole Cell-Catalyzed Transesterification of Bean Oil for Biodiesel Production, Poster presentation. International Biomass conference and Expo. Orlando, FL
- Naka, K. and Christian, C. September 30, 2011. Environmental and aesthetic impacts of outdoor recreation and biomass harvesting on forests ecosystems. CFEA (Center for Forest Ecosystems Assessment) External Advisory Board Meeting, Normal, AL
- Naka, K. November 4, 2011. Environmental Impact of Two Logging Methods in Bankhead National Forest. SAF (Society of American Foresters) 91st National Convention, Honolulu, HI.
- Naka, K. November 5, 2009. Growth Response to Singling of Upland Hardwood Sprouts. SAF 91st National Convention, Honolulu, HI
- Naka, K. October 3, 2009 Timber Price and Sale Methods in Mississippi, Alabama, and Georgia. SAF 89th National Convention. Orlando, FL
- Naka, K. April 23, 2009. Services Available to Forest Landowners in Alabama. 28th Annual Meeting of the Alabama Forest Owners' Association, Inc. Cheaha State Park, Alabama
- Naka, K. November 15, 2008. *Understanding Bioenergy Resources*. Bioenergy Production and Carbon Credit Workshop. Federation of Southern Cooperatives Land Assistance Fund. Epes, AL
- Naka, K. September 29, 2008. *State of the Forest Products Industry and Biomass Potential in Alabama*. Woody Biomass for Energy Workshop. Hartselle, AL.
- Naka, K. September 20, 2008. *Using Biomass for Energy*. Alabama Loggers Council Vulcan district Conference, Dodge City, AL.
- Tenyah T. and K. Naka. 2007 Impact of Different Logging Methods in the Bankhead National Forest, Alabama: A Comparative Analysis (poster presentation). CFEA conference. June 7-8. Normal, AL
- Naka, K. April 23, 2007. Timber prices and sale methods in the South: a hedonic approach. Southern Illinois University. Carbondale, IL
- Naka, K. January 17, 2007. Factors affecting timber prices Mississippi, Alabama, and Georgia. US Forest Service Center of Excellence meeting. Alabama A&M University, Normal, AL

- Tenyah T. and K. Naka. 2006. Productivity and the Impact of Different Logging Methods in the Bankhead National Forest, Alabama: A Comparative Analysis (poster presentation). SAF 2006 National Convention. Pittsburgh, PA.
- Naka, K. and T. Tenyah. 2006. Assessing Impact of Forest Harvesting Using Precision Forestry Technology. SAF 2006 National Convention (poster presentation). Pittsburgh, PA.
- Naka, K. and T. Tenyah. September 25, 2006. Comparing the Ecological Consequences of Tree-Length and Cut-to-length harvesting Systems in the Upland Hardwood Forest Ecosystems of the Southern Cumberland Plateau (Poster Presentation). SESAF (Southeastern Society of American Foresters) Annual Meeting. Auburn, AL
- Tenyah, T. and K. Naka. April 27, 2006. Comparing Soil Disturbance of Tree-Length and Cut-to-length Harvesting Systems in the Bankhead National Forest. Presented at the Bankhead National Forest Liaison Panel meeting. Moulton, AL
- Naka, K. and T. Tenyah. 2006. Comparing the Ecological Consequences of Tree-Length and Cut-to-length harvesting Systems in the Upland Hardwood Forest Ecosystems of the Southern Cumberland Plateau. ARD symposium. Atlanta, Georgia
- Naka, K. 2006. January 24, 2006. Ecosystem dynamics in the William B. Bankhead National Forest. Alabama Forestry Council. Auburn, AL
- Naka, K. and T. Tenyah. 2006. Comparing the Ecological Consequences of Tree-Length and Cut-to-length harvesting Systems in the Upland Hardwood Forest Ecosystems of the Southern Cumberland Plateau. ARD symposium. Atlanta, Georgia
- Naka, K. April 14, 2005. Overview of the Tropical Forest. Alabama A&M University, Normal, AL
- Naka, K. October 5-8, 2003. Singling in North Alabama (Poster presentation). 2003 SESAF (Southeastern Society of American Foresters) conference. Mobile, AL.
- Naka, K. October 5-8, 2003. Alabama A&M University Forestry Program Accreditation by the Society of American Foresters (Poster presentation). 2003 SESAF (Southeastern Society of American Foresters) conference. Mobile, AL.

Consulting

- Naka, K. and B. Musabelliu. 2003. Social and economic relevance of NTFPs in Albania. ANFI (Albania National Forestry Inventory) special study. World Bank Project. Agrotec SpA., Rome, Italy.
- Identified the social, economic and political factors leading to the decline of Albania's NTFP resources.
 - Assessed the social and economic relevance of NTFPs to the harvesters through socioeconomic analysis.

- Included recommendations to manage the NTFP resources forests sustainability and increase the benefits to all stakeholders.

7. CREATIVE PRODUCTS

Naka, K. and W. B. Stuart. 1995. Issues in Production Forestry. Ten binders prepared for Cavenham Forest Industries Division, Fernwood, MS exploring technical and political dimensions of forest policy issues impacting forestry in the South. The selected issues were: biodiversity, clearcutting, ecosystem management, endangered species, forest aesthetics, forested wetlands, forestry certification initiatives, intensive forest management, private property rights, and sustainable forestry.

Habili, D., K. Naka, and R. Bregu. 1990. Udhëzues për mbarështimin e kullotave (Guide for rangeland management). Directorate General of Forests and Pastures, Rangeland Research and Projects Central Station. Fushë-Krujë, Albania.

Naka, K. and D. Budri. 1986. Udhëzues për ndërtimin e lerave (Guide for construction of livestock ponds). Ministry of Agriculture, Institute of Forage and Pasture Research, Fushë-Krujë, Albania.

Naka, K. and Sh. Çela, 1985. Udhëzues për hartimin e projekteve për përmirësimin dhe krijimin e kullotave (Guide for the compilation of projects for improvement and creation of pastures). Ministry of Agriculture, Institute of Forage and Pasture Research, Fushë-Krujë, Albania.

8. MEMBERSHIP, OFFICES HELD IN PROFESSIONAL ORGANIZATIONS

Society of American Foresters (Alabama Mountain Lakes Chapter Chair)
Alabama Forestry Council
Alabama Forestry Association
Forest Products Society
Alb-Shkenca (International Forum of Albanian Scientists)

9. PROFESSIONAL SELF-IMPROVING ACTIVITIES

Woody Biomass Outreach Training, Southern Forestry Research Partnership, September 2007, Atlanta, GA

Real Time Forest Inventory Workshop, Mississippi State University and Jones County Junior College, July 2005, Gulf Shores, AL

Biomass for Energy Workshop, Department of Energy, August 2004 Golden, CO

Wildland firefighter training. Alabama Fire Academy, May 2004, Pelham, AL

Firewise Workshop, Alabama Forestry Commission, November 2003, Huntsville, AL

Introduction to GIS (Geographic Information Systems) summer course, May-July 1999
Department of Geography. Virginia Tech, Blacksburg

Forest Policy in Countries with Economies in Transition, August 1997
International forest policy seminar, Czech University of Agriculture, Prague

Multiple Use and Environmental Values in Forest Planning, June 1995
International researcher's course, EFI (European Forest Institute), Joensuu, Finland

International Environmental Summer Program, June-August 1992
Central European University, Budapest

10. LANGUAGES

English and Albanian - fluent

French - reading, speaking, and writing knowledge

Italian - reading, speaking, and writing knowledge

Spanish - reading and speaking knowledge

1. **NAME:** William E. Stone, CWB

2. **ACADEMIC RANK, SPECIALIZATION:**

Associate Professor, Forest Wildlife, 9 months

3. **ACADEMIC EDUCATION:**

1995 Utah State University, Logan, Utah
Degree - Ph.D.
Major - Wildlife Ecology

1988 Utah State University, Logan, Utah
Degree - M.S.
Major - Fisheries & Wildlife Management

1984 University of Florida, Gainesville, Florida
Degree - B.S. Forest Resources & Conservation
Major - Wildlife Ecology

1981 Santa Fe Community College, Gainesville, Florida
Degree - A.A.
Major - General Education

4. **PROFESSIONAL AND RESEARCH EXPERIENCE:**

(See below)

5. **TEACHING EXPERIENCE:**

2004- present Associate Professor
Forestry, Ecology and Wildlife Program
Alabama A&M University, Normal, Alabama

1998-2004 Assistant Professor
Center for Forestry and Ecology
Alabama A&M University, Normal, Alabama

1996-1998 Postdoctoral Fellow - Cooperative Wildlife Research Lab,
Southern Illinois University, Carbondale, Illinois

1994-95 Instructor-Uintah Basin Campus, Utah State University, Vernal, Utah

1994 Instructor - College of Natural Resources, Utah State University,
Logan, Utah

- 1989-1993 Instructor - Fisheries & Wildlife Department, Utah State University, Logan, Utah
- 1985-1995 Graduate Teaching Assistant - Fisheries & Wildlife Department/ College of Natural resources, Utah State University, Logan, Utah

Courses taught:
Currently:

NRE 286 - Wildlife Biology and Identification
NRE 386 - Principles of Wildlife Management
NRE 387 Wildlife-Forestry Relationships
NRE 488/588 Wildlife Techniques

Past: (AAMU, SIU-C, USU)

Introduction to Forestry	Introduction to Environmental Science
Natural Resources Policy	Forest Resource Economics
Wildlife Policy and Administration	Wildlife Biology Principles
Wildlife Graduate Seminar	Wildlife Diversity
Principles of Forestry	World Wildlife
Natural Resources and the Future	Wildlife Habitat Management
Game Birds & Mammals	Wildlife Techniques
Principles of Fish and Wildlife Management	Freshman Orientation

6. DATE OF APPOINTMENT AND PROMOTION AT PRESENT INSTITUTION:

Appointment: 1998, Promotion: 2004 (see above)

7. LIST OF PUBLICATIONS DURING THE LAST FIVE YEARS:

Stone, William E. 2017. Eastern Small-Footed Bat: <i>Myotis leibii</i> . Pages 333-334 In: Alabama Wildlife: Conservation Status and Life Histories of Rare, Threatened and Endangered Nongame Wildlife in Alabama 2004-2014 Volume 5. (Edited by Ericha Shelton-Nix). ALDCNR Alabama Wildlife and Freshwater Fisheries Division. Montgomery, Alabama. University of Alabama Press Tuscaloosa.
McGinnis, Jazmin A., William E. Stone and Helen A. Czech. 2017. Diets of River Otters (<i>Lontra candaensis</i>) in northern Alabama determined from Stomach Contents Analysis. Poster Presentation. AAMU STEM Annual Conference, Alabama A&M University, Normal, AL April 19, 2017.
Billings Jessica. B., Helen Czech, Dr. William Stone. 2017. Surveys for the Appalachian Cottontail, the American Pygmy Shrew, and other uncommon small mammals in North Alabama and the Bankhead National Forest. Poster Presentation. AAMU STEM Annual Conference, Alabama A&M University, Normal, AL April 19, 2017. 2 nd place poster prize.
Stone, William E. 2016. Bat Community Responses to Upstream Forest Thinning and Burning. Southeast Bat Diversity Network and Colloquium of Southeastern Mammalogists Annual Conference. Guntersville, AL Feb. 18, 2016.

Stone, William E. 2016. Population Responses of Small and Medium-sized Mammals in Streamside Forest Buffers to Forest Thinning and Burning Treatments Conducted in Upstream Watersheds. Alabama Chapter of The Wildlife Society, Annual Conference. Andalusia, AL April. 14-15, 2016.
Stone, W.E., D. Lawson, J. Finklea, J. Isabelle, and C. Tucker. 2015. Alabama A&M University FireDawgs: a Wildland Fire Fighting Team based at a Historically Black University. Poster Presentation at the Society of American Foresters National Convention, Baton Rouge, LA, Nov. 3-6, 2015.
Lawhorn, A., H.A. Czech, A.B. Bohlman, and W.E. Stone. 2015. The Effects of Prescribed Burning on Water Quality in Ephemeral Streams at Lake Guntersville State Park, AL. Poster Presentation at the Society of American Foresters National Convention, Baton Rouge, LA, Nov. 3-6, 2015.
<i>Burns, Kris, William E. Stone, and Jeanette Jones. 2016. IDENTIFICATION, ISOLATION, AND CONTROL AGENTS OF PSEUDOGYMNOSCUS DESTRUCTANS: PRELIMINARY RESULTS. The Wildlife Society, Raleigh, NC, Sept. 2016.</i>
<i>Burns, Kris, William E. Stone, and Jeanette Jones. 2016. IDENTIFICATION, ISOLATION, AND CONTROL AGENTS OF PSEUDOGYMNOSCUS DESTRUCTANS: PRELIMINARY RESULTS. Southeast Bat Diversity Network and Colloquium of Southeastern Mammalogists Annual Conference. Guntersville, AL Feb. 18, 2016.</i>
<i>Burns, Kris, William E. Stone, and Jeanette Jones. 2016. IDENTIFICATION, ISOLATION, AND CONTROL AGENTS OF PSEUDOGYMNOSCUS DESTRUCTANS: PRELIMINARY RESULTS. STEM Day, Alabama A&M University. Normal, AL Apr. 14, 2016. 2nd place prize</i>
Knight, Patience, H.A. Czech, and W.E. Stone. 2017. Changes in Feral Swine Activity in Response to Prescribed Burning in the William B. Bankhead National Forest. The Wildlife Society, 24 th Annual Conference, Albuquerque, NM, Sept. 14-15, 2017.
Knight, Patience, H.A. Czech, and W.E. Stone. 2016. Changes in Feral Swine Activity in Response to Prescribed Burning in the William B. Bankhead National Forest, Alabama: Preliminary results. Alabama Chapter of The Wildlife Society, Annual Conference. Andalusia, AL April 14-15, 2016.
Czech, H. A., A. A. Bohlman, W. B. Sutton, W. E. Stone SURVEYS IN NORTH ALABAMA FOR THE AMERICAN PYGMY SHREW WITH NEW RECORDS FROM LAWRENCE COUNTY, ALABAMA. Southeast Bat Diversity Network and Colloquium of Southeastern Mammalogists Annual Conference. Guntersville, AL Feb. 18, 2016.
Czech, H. A., A. A. Bohlman, W. B. Sutton, W. E. Stone New American Pygmy Shrew Records on the Bankhead National Forest, Lawrence County, Alabama. Alabama Chapter of The Wildlife Society, Annual Conference. Andalusia, AL, April 14-15, 2016.

Stone, William E. 2014. Bat Community Responses to Upstream Forest Thinning and Burning. Alabama Bat Working Group Fall Conference. Oct. 29. 2014. Tanner, AL
Long, Rosie and William E. Stone. 2015. Foraging Ecology of Bats in China. NSF-REU-AAMU conference on China Research. Jan. 27, 2015. AAMU Campus
Stone, William E. 2015. Bat Community Responses to Upstream Forest Thinning and Burning on Bankhead National Forest. NSF-CREST-CFEA conference. March 18, 2015. AAMU Campus
Stone, William E. 2015. Targeted Infusion to Invert the Fish & Wildlife Classroom at Alabama A&M University. Poster presentation. NSF Project Directors Meeting, Washington DC. Feb. 19, 2015.
Stone, William E. 2015. Flipping the Wildlife Classroom at Alabama A&M University. Poster presentation. Alabama Chapter of The Wildlife Society, Guntersville S.P., Alabama. March 24, 2015.
Stone, William E. and Sarah Springthorpe. 2013. Bats in China, ABWG meeting Bat Blitz” Oct. 7-11, 2013,
Stone, William E. and M. Marowski, 2013. WNS Website Surveys. ABWG meeting Bat Blitz” Oct. 7-11, 2013,
Stone, William E and David Morrill. 2014. Diet Composition of Wild Hogs using Stomach Contents Analysis in northern Alabama. Poster submitted to International Wild Hog Conference, Montgomery, AL 2014.
Knight, Patience, and William E. Stone. 2014. Wild Hog Sign Poster submitted to International Wild Hog Conference, Montgomery, AL 2014.
Stone, W.E. 2012. Lessons Learned from Modifying a Course-Level Outcomes Assessment Matrix in Wildlife for Application in an Accredited Forestry Program. Invited presentation at University Education Symposium at The Wildlife Society National Conference, Fall 2012.
Knight, Patience, and William E. Stone. 2012. Population Responses of Small and Medium-sized Mammals in Streamside Forest Buffers to Forest Thinning and Burning Treatments Conducted in Upstream Watersheds. Alabama Chapter of The Wildlife Society Annual Conference, Decatur, AL. Feb. 27-28, 2012. AND submitted abstract to National TWS meeting for Fall 2012.
Morrill, David, and William E. Stone. 2012. Diet Composition of Wild Hogs using Stomach Contents Analysis in northern Alabama. Abstract submitted to TWS National Conference Fall 2012.
Stone, W.E. 2013. Discovery of White Nose Syndrome in Alabama. 17th Annual meeting of Southeast Bat Diversity Network and 21 st Colloquium of SE Mammalogists, Pikeville, TN. poster presentation
Stone, W.E. 2013. Discovery of White Nose Syndrome during a State-Wide Survey in Alabama. Alabama Chapter of The Wildlife Society, Annual Meeting. Auburn, AL. March 13-14.

8. OFF-CAMPUS CONSULTING, OR OTHER PROFESSIONAL ACTIVITIES, SPECIAL HONORS, RECOGNITION, DURING THE PAST FIVE YEARS:

Professional Certification as a Certified Wildlife Biologist with The Wildlife Society, 2006 - present

9. MEMBERSHIP AND OFFICES HELD IN PROFESSIONAL ORGANIZATION:

The Wildlife Society, Alabama Chapter Chair (2016-17)

The Society of American Foresters

NAUFRP and NAUFWP representative for AAMU

Alabama Bat Working Group, SE Bat Diversity Network, NABCP

Phi Kappa Phi Honor Society

Faculty Advisor, AAMU student chapter of The Wildlife Society

Faculty Co-Advisor, AAMU student chapter of Society American Foresters

10. SELF-IMPROVEMENT ACTIVITIES IN PAST 10 YEARS

Professional Certification as a Certified Wildlife Biologist with The Wildlife Society, 2006 – present *Advanced Certification (2014-2019)*

Bat netting workshops, wing punch training, Acoustic monitoring workshops, Caving and White-nose syndrome training. 2010-2018. Alabama Bat Working Group, SE Bat Diversity Network. NABCP

Participated in Grantsmanship Information Session, National Science Foundation, Biology and Environmental Science Division, Auburn University May 6, 2016

RCR training – Responsible Research Conduct Compliance training Nov-Dec. 2015 online, AAMU University

Participated in numerous forestry and wildlife scientific conferences 2008-2018 as presenter and conferee.

11. GRANTS IN THE PAST 5 YEARS

List contracts or grants presently active or completed				
Exact Project Title (as submitted on proposal)	Role (PI or CoPI)	% Time	Start/End Date	Agency
Environmental Biology at Alabama A&M University (EB@aamu) David Morrill, Andrew Lawhorn, and Breanna Fields	Co-PI	5%	Jan 2010-2016	NSF-URM
The Relationship of Forest Management Practice in the Bankhead National Forest	PI	16%	April 2009-2015	USDA McIntire Stennis
The Relationship of Forest Management	PI	16%	April	USDA McIntire

Practices to the Distribution of Wildlife Bioindicator Species and Feral Swine in the Bankhead National Forest			2015-2020	Stennis
USDA Forest Service Center of Excellence grant	PI	25%	2015-2018	USDA Forest Service, SRS
Mentoring Future 21st Century Scientists in Environmental and Natural Resource Sciences -China	Co-PI	1%	Aug., 2010-2016	NSF-REU
Strengthening the Education Pipeline for Minority Wildlife Students using Experiential Learning, Mentoring, and Assessment of Student Learning Outcomes	PI	16%	March 2012-2015	USDA-CBP 1890's Teaching
Cahaba River Joint Venture Phase V and Phase VI	PI	1%	Sep 2015 - 2019	USDA Forest Service, SRS
Fish Gardening: Sustainable Aquaculture to Promote Food Production, Food Safety, Water Conservation and Water Quality on Small Farms and Limited-Resource Households	PI	10%	August 2011-2015	USDA- NIFA- Evans-Allen
AAMU-FEWP Budget Administration Teaching, advisement, administration	PI	50%	Aug 2015-18	AAMU
Targeted Infusion to Invert the Fish & Wildlife Classroom	P.I.	16%	Jan 1 2014-Aug 2017	USDA-HBCU-UP
Forest Research Apprenticeship	PI	0%	March 2015 Aug 2020	USDA Forest Service
Distribution, life history, and status of <i>Sorex hoyi</i> (Pygmy Shrew) on the Southwestern Appalachian Escarpment	P.I.	1%	Oct. 2014-Sep 2015	ALDCNR-USFWS

1. **NAME:** Yong Wang

2. **ACADEMIC RANK, SPECIALIZATION, APPOINTMENT BASIS:**

Professor, Biometry and Wildlife Ecology, 9 months.

3. **ACADEMIC EDUCATION:**

Degree: Ph.D.
Institution: University of Southern Mississippi, Hattiesburg, MS
Major Field of Study: Biology
Dates Attended: September 1987 – December 1993
Date Degree Earned/Expected: May, 1993

Degree: M.S.
Institution: University of Rhode Island, Kingston, RI
Major Field of Study: Accounting
Dates Attended: August 1997 – May 1999
Date Degree Earned/Expected: May, 1999

Degree: B.S.
Institution: Shanghai Normal University, Shanghai, China
Major Field of Study: Biology
Dates Attended: January 1978 – December 1981
Date Degree Earned/Expected: December 1981

4. **PROFESSIONAL AND RESEARCH EXPERIENCE:**

Employer: Department of Biological and Environmental Sciences
Alabama A&M University, Normal, AL
Nature of Work: Teaching, research, and outreach
Title: Associate Professor/Professor of Biometry and Wildlife
Dates: June 2001 – August 2006 (Associate Professor)/September 2006 –
Current (Professor).
Total Years: 16 years

Employer: Department of Natural Resource Science
University of Rhode Island, Kingston, RI
Nature of Work: Conduct wildlife and wetland research
Title: Research Associate and Adjunct Assistant Professor
Dates: January 1997 – June 2001
Total Years: 4.5 years

Employer: Rocky Mountain Research Station
USDA Forest Service

Nature of Work: Wildlife research
Title: Post Doctoral Wildlife Biologist
Dates: January 1994 – December 1996
Total Years: 3 years

Employer: Department of Biological Science
University of Southern Mississippi, Hattiesburg, MS
Nature of Work: Teaching and research
Title: Research Assistant/Teaching Assistant
Dates: January 1987 – May 1993
Total Years: 6.5 years

Other Professional and Research Experience:

Guest Professor of Ornithology/Ecology
2012 ~ present, College of Forest Resources and Environment, Nanjing, China;
2005 ~ present, College of Life Science, Beijing Normal University, Beijing, China;
2005 ~ 2008, Institute of Biodiversity Science, Fudan University, China.

5. TEACHING EXPERIENCE:

Institution: Department of Biological and Environmental Sciences
Alabama A&M University, Normal, Alabama
Rank: Professor
Specialization: Biometry and Wildlife Ecology
Dates: August 2006 - Present
Total Academic Years: 11 year

Institution: Center for Forestry, Ecology, Wildlife
Alabama A&M University, Normal, Alabama
Rank: Associate Professor
Specialization: Biometry and Wildlife Ecology
Dates: July 2001 – August 2006
Total Academic Years: 6 years

Institution: Department of Natural Resource Science
University of Rhode Island, Kingston, RI
Rank: Assistant Professor (Adjunct)
Specialization: Quantitative Ecology
Dates: January 1997 – June 2001
Total Academic Years: 4.5 years

Institution: College of Life Science
Beijing, Normal University, Beijing, China
Rank: Professor (Visiting)
Specialization: Ornithology
Dates: August 2005 – Present
Total Academic Years: 12 years

Institution: Institute of Biodiversity Science
School of Life Sciences,
Fudan University, China
Rank: Professor (Visiting)
Specialization: Ornithology
Dates: January 2006 – 2008
Total Academic Years: 2 years

Institution: Department of Biology
Shanghai, Normal University, Shanghai, China
Rank: Lecturer
Specialization: Zoology
Dates: January 1982 – July 1986
Total Academic Years: 4.5 years

Institution: Duhang High School
Shanghai, China
Rank: Teacher
Specialization: Math, English, and Physical Education
Dates: January 1975 – December 1977
Total Academic Years: 3 years

6. DATES OF APPOINTMENT AND PROMOTIONS AT PRESENT INSTITUTION:

Professor - August 2006 - present
Associate Professor - July 2001 – August 2006

7. LIST OF PUBLICATIONS DURING THE LAST FIVE YEARS

- Carpenter, J. P. and **Y. Wang**. 2018. Diurnal Home Range Estimates and Roost Site Selection of Male Cerulean Warblers During the Breeding Season. Journal of Field Ornithology. In press.
- Schweitzer, C. J., Y. Wang, and Dey, D. 2018. Overstory tree mortality and wounding after thinning and prescribed fire in mixedwood stands. Proceeding of the 19th Biannual Silvicultural Research Conference. General Technical Report SRS-XXX. Ashville, NC. USDA Forest Service, Southern Research Station. In press.
- Chen, Y., S. Zhang, D. Huang, B. Li, J. Liu, W. Liu, J. Ma, F. Wang, **Y. Wang**, S. Wu, Y. Wui, J. Yan, C. Guo, W. Xin, H. Wang. 2017; The development of China's Yangtze River Economic Belt: How to make it in a green way? Science Bulletin
<http://dx.doi.org/10.1016/j.scib.2017.04.009>
- Jaja, N., M. Mbila, and **Y. Wang**. 2017. Trace metal distribution and mobility in soils after silvicultural thinning and burning. Journal of Agricultural Science; Vol. 9, No. 5. DOI: <https://doi.org/10.5539/jas.v9n5p83>
- Gross, I. P., C. M. Ewers, **Y. Wang**, and C. J. Schweitzer. 2017. Natural history note: *Agkistrodon*

- contortrix* (Copperhead). Tunnel-blocking behavior. *Herpetological Review*. Accepted.
- Yao, H. G. Davison, N. Wang, C. Ding and **Y. Wang**. 2017. Post-breeding habitat association and occurrence of the Snow Partridge (*Lerwa lerwa*) on the Qinghai-Tibetan Plateau, west central China. *Avian Research* 8: DOI 10.1186/s40657-017-0066-5.
- Sutton, W. B., **Y. Wang**, C. J. Schweitzer, C. J. W. McClure. 2017. Spatial ecology and multi-scale habitat selection of the Copperhead (*Agkistrodon contortrix*) in a managed forest landscape. *Forest Ecology and Management* 391: 469–481.
- Wang, Y.**, and G. M. Zheng. 2017. Editorial: *Avian Research*: a valuable addition to the portfolio of ornithological journals. *Avian Research* 8: DOI: 10.1186/s40657-017-0062-9
- Schweitzer, C. J., D. C. Dey, and **Y. Wang**. 2016. Hardwood-pine mixedwoods stand dynamics following thinning and prescribed burning. *Fire Ecology* 12: 85-103. DOI: 10.4996/fireecology.1202085.
- Li, J., Z. Zhang, **Y. Wang**, L. Lv, Z. Zhang. 2016. No facultative manipulation of offspring sex ratio in relation to parental genetic characteristics in a bird with sex-specific heterozygosity-fitness correlation. *Behavioral Ecology and Sociobiology* 70: 963-973.
- Yu, J., P. Wang, L. Lu, Z. Zang, **Y. Wang**, J. Xu., J. Li., B. Xi, J. Zhu, Z. Du. 2016. Diurnal brooding behavior of long-tailed tits (*Aegithalos caudatus glaucogularis*). *Zoological Research* 37: 84-89. DOI: 10.13918/j.issn.2095-8137.2016.2.84.
- Cantrell, A., L. Lv, **Y. Wang**, J. Li, and Z. Zhang. 2016. Evaluation of nest site preferences of a nest dismantler, the Hair-crested Drongo (*Dicrurus hottentottus*) in Dongzhai National Nature Reserve of central China. *Avian Research* 7: DOI: 10.1186/s40657-016-0042-5.
- Zhang, F., K. R. Messenger, and Y. Wang. 2015. Relationship between nest defense behaviours and reproductive benefits in Chinese alligators. *Amphibia-Reptilia* 36(2): 141-147.
- Zhang, F., J. Zhao, Y. Zhang, K. R. Messenger, and Y. Wang. 2015. Antipredator behavioral responses of native and exotic tadpoles to novel predator. *Asian Herpetological Research* 6(1):51-58.
- Borthwick, R., and Y. Wang. 2015. Bird species' responses to post mine reclamation in Alabama – a preliminary analysis. *Journal American Society of Mining and Reclamation* 4: 1-19.
- Li, J., Z. Zhang, **Y. Wang**, C. Gao, J. Xu, B. Xi, J. Zhu., and Z. Du. 2015. The sex ratio of orange-flanked bush-robins from a winter population in central China. *Natural History*: DOI:10.1080/00222933.2015.1105318.
- Wen, L. Y., Y. Wang, Y. Q. Fu, and B. Dai. 2015. The complete mitochondrial genome of the white-browed laughingthrush *Garrulax sannio* (Passeriformes: Leiothrichidae). *Mitochondrial DNA*. DOI:10.3109/19401736.2015.1106525.
- Messenger, K. R. and Y. Wang. 2015. Notes on the natural history and morphology of the Ningshan Lined Snake (*Stichophanes ningshaanensis* Yuen, 1983; Ophidia: Colubridae) and its distribution in the Shennongjia National Nature Reserve, China. *Amphibian & Reptile Conservation* 9(2) [General Section]: 111–119 (e103).
- Li, J., Z. Zhang, L. Lv, **Y. Wang**. 2015. Roles of phenotypic and genetic characteristics in the social mating pattern of Silver-Throated Tits (*Aegithalos glaucogularis*). *Journal of Ornithology* 156: 687-697.
- Wen, L., H. He, **Y. Wang**, J. Gorimar, and M. Liu. 2014. Potential effects of climate change on the Chinese Bulbul (*Pycnonotus sinensis*) in China. *Biologia* 69(11): 1625-1630.
- Sutton, W., H. A. Czech, **Y. Wang**, and C. J. Schweitzer 2014. New records of amphibians and reptiles from Alabama, USA. *Herpetological Review* 45(2): 293-294.
- Wang, Y.**, and G. M. Zheng. 2014. Editorial: *Avian Research*. *Journal of Avian Research*. 5:1. <http://www.avianres.com/content/5/1/1>

- Wang, Y.**, E. Moss, and L. Gardner. 2014. Proceedings of the student research and trip reports. Published by the Center of Forest Ecosystem Assessment, Alabama A&M University. 266p.
- Cantrell, A., L. Lei, **Y. Wang**, Z. W. Zhang, and J. Q. Li. 2014. Ectoparasites and other invertebrates in the nests of the Hair-crested Drongo (*Dicrurus hottentottus*). *Chinese Birds* 4 : 314-318.
- Choi, C., X. Gan, N. Hua, **Y. Wang**, Z. Ma. 2014. The habitat use and home range analysis of Dunlin (*Calidris alpina*) in Chongming Dongtan, China and their conservation implications. *Wetlands* 34: 255-266.
- Li, J., Y. Liu, **Y. Wang**, Z. Zhang. 2014. Extra-pair paternity in two sympatric Aegithalos tits: patterns and implications. *Journal of Ornithology* 155: 83-90.
- Li, J., Y. Liu, **Y. Wang**, Z. Zhang. 2014. Do parents and helpers discriminate between related and unrelated nestlings in the cooperative breeding silver-throated tit? *Ethology*, *Ethology* 120: 159–168.
- Zeng, Y., J. Xu, **Y. Wang**, C. Zhou. 2013. Habitat Association and Conservation Implications of Endangered Francois' langur (*Trachypithecus francoisi*). *PlosOne*. DOI: 10.1371/journal.pone.0075661.
- Lemke, D., C. J. Schweitzer, W. Tadesse, Y. Wang, and J. A. Brown. 2013. Geospatial Assessment of Invasive Plants on Reclaimed Mines in Alabama. *Invasive Plant Science and Management* 6: 401-410. (doi: 10.1614/IPSM-D-12-00045.1)
- Sutton, W., **Y. Wang**, C. J. Schweitzer, and D. A. Steen. 2013. Lizard microhabitat and microclimate relationships in south-eastern pine-hardwood forests managed with prescribed burning and thinning. *Forest Science* 60(1), <http://dx.doi.org/10.5849/forsci.11-076>.
- Sutton, W., **Y. Wang**, and C. J. Schweitzer. 2013. Amphibian and reptile responses to thinning and prescribed burning in mixed pine-hardwood forests of northwestern Alabama, USA. *Forest Ecology and Management* 295: 213–227.
- Cantrell, A., **Y. Wang**, C. J. Schweitzer, C.H. Greenberg. 2013. Short-term response of herpetofauna to oak regeneration treatments on the Mid-Cumberland Plateau of southern Tennessee. *Journal of Forest Ecology and Management* 295: 239–247.
- Schweitzer, C. and **Y. Wang**. 2013. Overstory tree status following thinning and burning treatments in mixed pine-hardwood stands on the William B. Bankhead National Forest, Alabama. In: Guldin, J. M., ed. Proceedings of the 15th biennial southern silvicultural research conference. e-Gen. Tech. Rep. SRS-GTR-175. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 57-63.
- Wick, J. M., **Y. Wang**, and C. J. Schweitzer. 2013. Short-term effects of silviculture on breeding birds in William B. Bankhead National Forest. Guldin, J. M., ed. Proceedings of the 15th biennial southern silvicultural research conference. e-Gen. Tech. Rep. SRS-GTR-175. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 33-37.
- Stringer, B. K., **Y. Wang**, and C. J. Schweitzer. 2013 Forest canopy reduction and breeding bird responses: treatment and temporal dependent patterns. Proceedings of 17th Biennial Southern Silvicultural Research Conference. USDA Forest Service Technical Report.
- Conner, P., **Y. Wang**, and C. J. Schweitzer. 2013. Influence of three management prescriptions to above-ground carbon storage and subsequent impacts to herpetofaunal and small mammal habitat and populations in an upland hardwood forest on the Cumberland Plateau. Proceedings of 17th Biennial Southern Silvicultural Research Conference. USDA Forest Service Technical Report.

8. OFF-CAMPUS CONSULTING, OR OTHER PROFESSIONAL ACTIVITIES, SPECIAL HONORS, RECOGNITION, DURING THE PAST FIVE YEARS.

Advisor for Research: Chinese Ornithological Society

Peer Review for following professional journals and organizations:

Auk, Condor, PLoS ONE, Animal Biology, Wilson Bulletin, Ecological Applications, Field Ornithology, Southwest Naturalist, Southeast Naturalist, Northeast Naturalist, Acta Zoologica Sinica, Ornithologia Neotropical, Studies in Avian Biology, Ecological Application, Environmental Management, American Midland Naturalist, Asiatic Herpetological Research, New Mexico Ornithological Bulletin, Journal of the American Society for Horticultural Science, Publications of Rhode Island Natural History Survey Conference Proceedings, Pakistan Journal of Zoology, Avian Research.

Proposal review panel:

US Environmental Protection Agency
US Department of Human and Urban Development
US National Science Foundation
US Department of Agriculture
US Department of Defence
China National Science Foundation

Member of Editorial Board:

Deputy Editors-in-Chief: Journal of Avian Research
Editorial Board: Chinese Birds, Acta Zoologica Sinica, Frontiers of Biology in China, Biodiversity Science, Guest Editor of Southeastern Naturalist, World

Board Member of Huntsville City Air Pollution Control

Executive Board Member (Treasurer) of International Service Council of Alabama

9. MEMBERSHIP AND OFFICES HELD IN PROFESSIONAL ORGANIZATIONS:

Professional Certifications:

Fellow of American Ornithologists' Union (AOU)

Certified Senior Ecologist of Ecological Society of America (ESA)

Elected Member of China Ornithology Society (COS)

Federally Licensed Bird Bander (U.S. Geological Survey of U.S. Department of the Interior)

Professional Memberships:

Member of Chinese Ornithological Society (COS) – Research Consultant

Conference Committee of Alabama Academy of Science

Science Committee of Alabama Academy of Science

Member of American Ornithological Society (AOU)

Member of Association of Field Ornithology (AFO)

Member of The Wildlife Society (TWA)

Member of Alabama Ornithological Society
Member

10. MAJOR PROFESSIONAL SELF-IMPROVEMENT ACTIVITIES DURING PAST 10 YEARS

Attending and presentation at various national and international professional meetings. My students and I made > 200 poster and oral presentations during past 10 years.

Attend workshops hosted by NSF USDA and other organizations.

Published extensively in professional journals (> 50 publications in last 10 years).

Extensive international partnerships with scientists from other countries.

11 EXTERNAL GRANTS AND OTHER RESEARCH FUNDING DURING THE LAST FIVE YEARS

Environmental Biology at Alabama A&M University (EB@aamu): Undergraduate Research Mentoring (URM). National Science Foundation. 2010-2014. \$1,000,000. CoPI.

CREST/Center for Forestry Ecosystem Assessment (CFEA). Fire and pine canopy reduction disturbance effects on the macroinvertebrate and vertebrate communities in pine-hardwood ecosystems of the Cumberland Plateau. National Science Foundation. 2011-2017. \$5,000,000. PI.

Strengthening Faculty and Students' Global Competence and Experiential Learning in Agriculture, Natural Resource Management and Conservation. 2010-2013. USDA. \$300,000. CoPI.

Oak Forest under Changing Climate and Management Practices and Conservation Wildlife Biodiversity in Northern Alabama. USDA. 2009-2013. \$210,000. PI.

REU-China Site for Ecological and Environmental Sciences in Urbanizing Landscape. National Science Foundation. 2011-2116 \$380,000. PI.

Strengthening Faculty And Student Global Competence And Experiential Learning In agriculture, Natural Resource Management And Conservation. USDA. 2011-2014. \$300,000. CoPI.

Research and Education in Tropical Ecology in the Amazon Rainforest of Brazil. USDA. 2012-2015. \$300,000. CoPI.

Dan C. Holliman Research Fund (Alabama Ornithological Society) – 2013 - 2014. \$2,800 PI

Walter F. Coxe Research Fund (Birmingham Audubon Society) – 2013 - 17 \$10,000. PI

Building Global Competence and Collaborations through Student Experimental Learning and Faculty Exchange in China. 2013-2016. \$250,000. PI

CVs of Secondary Faculty Listed Alphabetically by Last Name

1. Name: Dawn Lemke

2. Academic Rank, specialization, appointment basis (9- or 12-month, etc.): Assistant Professor, GIS, 9-months

3. Academic education background:
 Degrees, institution, major field of study, dates attended, date degree earned or expected.
 Open Polytechnic (NZ), School of Science & Tech, Water Science, NZCS, 1998
 Lincoln University (NZ), Interdisciplinary, Resource Studies, P.G.Dip., 2000
Thesis: Environmental monitoring and assessment of the water quality of Lake Rotoiti's tributaries
 Massey University (NZ), Institute of Ag & Environment, Ecology, M.Phil. 2002
Thesis: The influence of hydrology and landscape on stream invertebrate communities of the Whanganui Catchment, New Zealand
 Canterbury University (NZ) School of Math & Environmental Science Environmental Science Ph.D. 2013
Thesis: Alien plants and their invasion of the forested landscape of the southern United States

4. Professional and research experience:

 2014+ Assistant Professor (appointment 50/50 research/teaching), BES, AAMU, Normal, AL.
 2012-2014 Adjunct Lecturer, BES, AAMU, Normal, AL.
 2005-2014 Research Associate, Center for Forest Ecosystem Assessment, BES, AAMU, Normal, AL.
 2004-2005 Online Communication Manager, Southeast Watershed Forum, Nashville, TN.
 2003-2004 Outdoor Education Teacher, Natures Classroom, Mentone, AL.
 2002-2003 Research Assistant, Smithsonian Institution, Front Royal, VA.
 1999-2002 Hydrologist, Self-employed, New Zealand.
 1995-1998 Water Resource Cadet, Tasman District Council, New Zealand.

5. Teaching experience:
 Institutions, rank, specialization, dates, total academic years

 NRE 199 Technology in Agriculture and Biological Sciences
 NRE 365 Intro to GIS
 NRE 450 Earth Science
 NRE 366 Climate and Global Change

6. Dates of appointment and promotions at present institution
 2014+ Assistant Professor (appointment 50/50 research/teaching), BES, AAMU, Normal, AL.
 2012-2014 Adjunct Lecturer, BES, AAMU, Normal, AL.

7. List in bibliographical style publications during the last five years

- Schweitzer, C., D. Lemke, W. Tadesse, & Y. Wang. 2015. Assessment of forest management influences on total live aboveground tree biomass in William B Bankhead National Forest, Alabama. In Proceedings of the 17th biennial southern silvicultural research conference. e-Gen. Tech. Rep. SRS-203. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 8 p.
- Lemke, D., C.J. Schweitzer, W. Tadesse, Y. Wang & J.A. Brown. 2013. Geospatial assessment of non-native vegetation on reclaimed mines in Alabama. *Invasive Plant Science and Management*. 6, 401-410.
- Miller, J. H., D. Lemke & J. Coulston. 2013. The invasion of southern forests by nonnative plants: current and future occupation with impacts, management strategies, and mitigation approaches. The Southern forest futures project: Technical report, 397-456.

8. Off-campus consulting, or other professional activities, special honors, recognition, during the past five years

Collaboration: Focus on interdisciplinary science and teaching with experts in the fields of hydrology, soils science, ecology, applied statistics, forestry, geospatial analysis and remote sensing. I am currently working on a number of projects with colleagues at AAMU, USDA Forest Service, USDA Natural Resource Conservation Service, US Geological Survey, Tennessee Valley Authority, Alabama Department of Environmental Management, Canterbury University (NZ), Landcare Research (NZ), Lincoln University (NZ) and Nanjing Forestry University (China), Beijing Forestry University (China).

Reviewer: Active reviewer for a number of peer reviewed journals including Journal of Environmental Management, the International Journal of Geographical Information Science and Journal of Applied Ecology.

9. Membership and offices held in professional organizations

10. Major professional self-improvement activities during past 10 years (including sabbatical)

11. External grants and other research funding during the last five years

Impact of land management and climate on instream health of Limestone Bay Watershed, AL. (PI) 2015-2017, \$300,000, USDA-NIFA / Evans-Allen.

Geospatial education and research center (GERC) to strengthen environmental and natural resources sciences programs. Agriculture and Food Research Initiative Competitive Grants Program. (Co-PI) 2013-2017 (currently on an extension), \$600,000, USDA Capacity Building Grant.

Long-Term Effect of Anthropogenic and Climatic Forces on Agricultural Nonpoint Source Pollution Loads. (PI on sub contract with Middle Tennessee State University), 2017-2019, \$283,072, Capacity Building Grants for Non-Land-Grant Colleges of Agriculture.

1. Name:
Monday O. Mbila, PhD

2. Academic Rank, specialization, appointment basis (9-month)
 - 2007- present, Associate Professor of Soil Science, Department of Biological and Environmental Sciences, Alabama A&M University, Normal, AL.
 - 2002- 2007, Assistant Professor of Soil Science, Department of Biological and Environmental Sciences, Alabama A&M University, Normal, AL.
 - 2000-2002, Postdoctoral Research Associate, College of Environmental Science and Forestry, State University of New York, Syracuse, NY.
 - 1999-2000, Research Associate, Iowa State University, Ames, IA.
 - 1994-1999, Graduate Research Assistant, Iowa State University, Ames, IA.

3. Academic education background:
Degrees, institution, major field of study, dates attended, date degree earned or expected.

• The University of Nigeria	Soil	B.S.	B.S.	1988
• The University of Twente (ITC)	Geo-Information Science		P.G.D	1991
• The University of Gent, Belgium	Soil Phy. and Chem.		M.S.	1994
• Iowa State University, Ames, IA	Soil	Ph.D.Ph.D.		2000
• The State Univ. of New York-ESF	Soil	Postdoc.	Postdoc.	2000-2002

4. Professional and research experience:
Employer, nature of work, title, dates, total years
 - 2007- present, Associate Professor of Soil Science, Department of Biological and Environmental Sciences, Alabama A&M University, Normal. AL.
 - 2002- 2007, Assistant Professor of Soil Science, Department of Biological and Environmental Sciences, Alabama A&M University, Normal, AL.
 - 2000-2002, Postdoctoral Research Associate, College of Environmental Science and Forestry, State University of New York, Syracuse, NY.
 - 1999-2000, Research Associate, Iowa State University, Ames, IA.
 - 1994-1999, Graduate Research Assistant, Iowa State University, Ames, IA.

5. Teaching experience:
Institutions, rank, specialization, dates, total academic years:
 - 2007- present, Associate Professor of Soil Science, Department of Biological and Environmental Sciences, Alabama A&M University, Normal. AL.
 - 2002- 2007, Assistant Professor of Soil Science, Department of Biological and Environmental Sciences, Alabama A&M University, Normal, AL.

6. Dates of appointment and promotions at present institution:
2007- present, Associate Professor of Soil Science, Department of Biological and Environmental Sciences, Alabama A&M University, Normal. AL.
2002- 2007, Assistant Professor of Soil Science, Department of Biological and Environmental Sciences, Alabama A&M University, Normal, AL.

7. List in bibliographical style publications during the last five years:
Eric C. Brevik, Karen L. Vaughan, Sanjai J. Parikh, Holly Dolliver, David Lindbo, Joshua J. Steffan, David C. Weindorf, Paul McDaniel, **Monday Mbila**, Susan Edinger-Marshall. Trends in American Undergraduate Soil Science Education – the 2004-2005 to 2013-2014 Academic Years. Soil Science Society of America Journal. *In Press*. Soil Sci. Soc. Am. J.

Monday Mbila, Sampson Hopkinson, and Srinivasa Mentreddy. 2017. Effects of Alabama Soil Types on the Plant Biomass and Elements in Holy Basil. *International Journal of Agriculture, Environment and BioResearch*. Vol. 2, No. 03; 2017; pp414-433.

Ngowari Jaja, **Monday Mbila**, Yong Wang. 2017. Trace Metal Distribution and Mobility in Soils after Silvicultural Thinning and Burning. *Journal of Agricultural Science*, Vol. 9, No. 5, 2017.

Monday O. Mbila, and Jeffrey A. Homburg. 2016. Mineralogy and Micromorphology of Cultural and Natural Deposits in the Ballona. *Archaeological Sites and Chronology: People in a Changing Land: The Archaeology and History of the Ballona in Los Angeles, California, Volume 2*. Edited by Benjamin R. Vargas, John G. Douglass, and Seetha N. Reddy. Statistical Research, Inc. Tucson, AR. Technical Series 94 Volume 2. 510 pp.

Mbila, M. 2014. Soil Minerals, Organisms, and Human Health: Medicinal Uses of Soils and Soil Materials. In Brevik et al (ed.) *Soils and Human Health*. Taylor & Francis. pp 199-214.

Eric C. Brevik, S. Abit, D. Brown, H. Dolliver, D. Hopkins, D. Lindbo, A. Manu, **M. Mbila**, S. Parikh, D. Schulze, J. Shaw, R. Weil, and D. Weindorf. 2014. Soil Science Education in the United States: History and Current Enrollment Trends. *Journal of the Indian Society of Soil Science*, 62: 299-306.

Yinusa Omidiran, **Monday Mbila**, and Maheteme Gebremedhin. 2014. Net ecosystem exchange of CO₂ and C-sequestration potential of a North Alabama forest during different seasons. (Poster #132-4). In *Proceedings of CSA/ASA/SSSA 2014 International Annual Meetings*, Long Beach, CA., November 2-5.

Indumathi Kamma, **Monday Mbila**, Karen E. Steege Gall, and B. Rami Reddy. 2013. Spectroscopic characterization of erbium doped glass ceramic. *Optical Materials Express*, Vol. 3, Issue 6, pp. 884-892. <http://dx.doi.org/10.1364/OME.3.000884>.

Ngowari Jaja, **Mbila, M.O**, Codling E.E, Reddy S.R and Reddy, C.K. 2013. Trace Metal Enrichment and Distribution in a Poultry Litter-amended Soil under different Tillage Practices. *The Open Agriculture Journal*, 2013, 7, 88-95.

8. Off-campus consulting, or other professional activities, special honors, recognition, during the past five years:

Program Chair, Soil Science Society of America Soil Education Division (2014);

President, Alabama Soil and Water Conservation Society (2015);

Monday Mbila. Eddy covariance studies at the Bankhead National Forest. Center for Forest Ecosystem Assessment-USDA Forest Service - Invited Presentation, Bankhead National Forest Research Update, Wednesday 18 March 2015.

Soil Science Society of America Soil Science Accreditation (2009-Present);

Editorial Review Board – Scientific Journals International (2007-Present).

9. Membership and offices held in professional organizations:

Program Chair, Soil Science Society of America Soil Education Division (2014);

President, Alabama Soil and Water Conservation Society (2015);

Soil Science Society of America Soil Science Accreditation (2009-Present);

Editorial Review Board – Scientific Journals International (2007-Present).

10. Major professional self-improvement activities during past 10 years (including sabbatical):

Xiao, X., X. Kuang, D. Davis, and **M. Mbila**. 2017 Alabama Mesonet Based Site-specific Soil Water Deficit Index. 1890 Association of Research Directors (ARD) Research Symposium 2017. April. 1-4, Atlanta, GA.

Xiao, X., X. Kuang, D. Davis, and **M. Mbila**. 2016. Drought monitoring in Alabama with available soil moisture and plant water use based on ALMNet. ASA-CSA-SSSA Annual Meeting. Nov. 6-9, Phoenix, AZ.

Xiao, X., X. Kuang, D. Davis, and **M. Mbila**. 2016. Alabama Mesonet based plant available water, plant water use and soil water deficit index. The 2016 Workshop at MOISST: The Growing Science of Soil Moisture Sensing. May 17-18, Oklahoma State University. Stillwater, OK.

Jayachander Gangasani, **Monday Mbila**, Yinshu Wu, Jian Fu. 2017. Soil moisture modelling using artificial neural network. The 19th International Conference on Artificial Intelligence. World Congress in Computer Science Computer Engineering & Applied Computing. July 17-20, 2017, Las Vegas, Nevada, USA.

Developing a network of meteorological stations for environmental monitoring of weather and climate for agricultural and environmental applications in Alabama.

Carrying out Greenhouse gases evaluation of different ecosystems by using eddy covariance techniques.

11. External grants and other research funding during the last five years:

- Expansion of the Alabama Mesonet (ALMNet) for minimizing the impacts of extreme weather in agriculture (PI); Funded; USDA-NIFA, Capacity Funded Grant, \$300,000.00; FY 2018-2021.
- Soil climate and morphology of temporarily-saturated soils in N. Alabama and South Tennessee (PI); Funded; USDA-CSREES, \$300,000. 00; FY 10/1/2012-9/30/2015.
- Cyclone Research Partnership Grants Proposal, Iowa State University (PI); Funded; \$9,000.00, FY 2014-2015.
- Biological and Environmental Science Scholars at AAMU: Demonstrating Excellence and Strengthening Training in Agricultural Sciences (Co-PI); Funded; USDA-NIFA, Capacity Funded Grant, \$149,000.00; FY 2013-2016.
- Fulbright Scholar-in-Residence Program (PI); Funded, Fulbright Scholar Program, \$40,000.00, FY 2018-2019.

1. NAME: Srinivasa Rao S. Mentreddy

2 ACADEMIC RANK, SPECIALIZATION, APPOINTMENT BASIS:
Professor, Crop Science, 9 months

3. ACADEMIC EDUCATION:

1989	University of Tasmania, Australia Degree - Ph.D. Major – Agricultural Science
1981	Andhra Pradesh Agricultural University, India Degree - M.S. Major - Agronomy
1979	Andhra Pradesh Agricultural University, India Degree - B.S. Major - Agricultural Science

4. PROFESSIONAL AND RESEARCH EXPERIENCE:

Since 2008: Professor of Crop Science,
Alabama A&M University, AL

Since 2014: Coordinator of Plant Biotechnology Program
Alabama A&M University, Normal, AL

2008 -2014 Program Coordinator, Plant Science and Molecular Genetics
Alabama A&M University, Normal, AL

2003-2008 Associate Professor of Crop Science
Alabama A&M University, Normal, AL

1993-2003: Research Associate (Agronomy)
Fort Valley State University, GA

1989-1990: Research Scientist,
International Crops Research Institute for the Semi-Arid Tropics
(ICRISAT), Hyderabad, India

1983-1988: Research Assistant,
University of Tasmania, Australia

5. TEACHING EXPERIENCE:

Since 2008: Professor of Crop Science,
Alabama A&M University, AL

2003-2008 Associate Professor of Crop Science
Alabama A&M University, Normal, AL

6. DATE OF APPOINTMENT AND PROMOTIONS AT PRESENT INSTITUTION

2003-2008 Associate Professor of Crop Science
Alabama A&M University, Normal, AL

Since 2008: Professor of Crop Science,
Alabama A&M University, AL

7. LIST OF PUBLICATIONS DURING THE LAST FIVE YEARS:

Mentreddy, S.R., Ali Mohamad, and D. Ebodaghe. 2017. Small Farms, Sustainability, and Environment: Current and Future Outlook. Pp. 215-220. Proceedings of the 7th National Small Farm Conference. Sept 20-22, 2016, Virginia Beach, VA. (Refereed)

Rao Mentreddy, T. Ranatunga, K. Bhat, B. Thomas, & K. Hunter. 2017. Interspecific Variation for Yield, Curcumin, and Elemental Content of Turmeric (*Curcuma longa*) Grown in Alabama. HortScience Supplement 52(9): S243.

U. Karki, J. Idassi, **S. R. Mentreddy**, N. Gurung, L. Karki, S. Bambo & C. Christian. 2016. Agroforestry research and extension education at 1890 universities and its impact in the Southeast. Agroforest Syst 90:715-722. DOI 10.1007/s10457-016-9934-y.

Mentreddy, S.R., D. Shannon, K. Bhat, and T. Ranatunga. 2016. Establishment of Turmeric (*Curcuma Longa* L.) as a High Value Medicinal Crop to Sustain Small Farms in Alabama. NIFA-AFRI PDs Conference, Virginia Beach, VA.

Mahbub Hasan, Aschalew Kassu, and **Srinivasa Rao Mentreddy**. 2018. Determination of Evapotranspiration for Cotton in Alabama by the Penman Method. Int. J. of Hydrology Science and Technology. (In Press).

Harjinder Kaur, Leopold Nyochembeng, Pratik Banerjee, Ernst Cebert, and **S.R. Mentreddy**. 2017. Optimization of fermentation conditions for different shiitake mushroom (*Lentinula edodes* (Berk.) Pegler) strains for least oxalic acid production while maintaining the antibacterial activity as a potential biopesticide. Journal of Integrative Agriculture. (In review)

Sarah M. Reynolds, Carl E. Montsenbocker, Girish K. Panicker, Srinivasa Rao Mentreddy, William B. Evans. 2017. Influences of Summer Cover Crops and Composted Broiler Litter on Fall Organic Broccoli Production. Journal of Hort Technology. (Submitted- In Review)

Harjinder Kaur, Leopold M. Nyochembeng, **Srinivasa R. Mentreddy**, Pratik Banerjee, Ernst Cebert. 2016. Assessment of the antimicrobial activity of *Lentinula edodes* against *Xanthomonas campestris* pv. *Vesicatoria*. Crop Protection 89 (2016) 284-288.

Leopold M. Nyochembeng, Regine N. Mankolo, **Srinivasa R. Mentreddy** & Guru Mayalagu. 2014. Cover crop, reflective polyethylene mulch and biofungicide effects on yield and management of diseases in field-grown organic tomato. *Journal of Agric. Sci.*, 6(12):265-275.

Sims, Cedric A., H. Rodolfo Juliani, S.R. Mentreddy, James E. Simon. 2013. "Essential Oils in Holy Basil (*Ocimum tenuiflorum* L.) as Influenced by Planting Dates and Harvest Times in North Alabama" *Journal of Medicinally Active Plants* 2 (3):33-41.

8. OFF-CAMPUS CONSULTING, OR ORTHER PROFESSIONAL ACTIVITIES, SPECIAL HONORS, RECONGNITION, DURING THE PAST FIVE YEARS

Advisor, Education and Research, and Member of Board of Directors: Alabama Medicinal Plants Growers Association.

Secretary, Board of Directors, 2014-2015: American Council for Medicinally Active Plants

Editor: SciFed Biotech. and Bioengineering Journal; *J. Agron. & Agric. Sci*; *J. Food, Agriculture and Environment*.

Guest Editor: Special Issue on Sustainable Crop Production. *Journal of Sustainability*. MDPI AG, Bissel, Switzerland.

Associate Editor, Crop Production, *Journal of Medicinally Active Plants*, ACMAP. 2014-Present: Chairman, 1890 Agroforestry Consortium, sponsored by US Forest Services, NIFA

Chairman, 2013, Cross Commodity Publications Awards Committee, American Society for Horticultural Science.

Member, 2014-2015: Education Advisory Committee, American Society for Horticultural Science. (ASHS).

Member, 2013-2015, Research Fellow Awards Committee, ASHS

President: Association of Agricultural Scientists of Indian Origin, Affiliated to the ASA.

Member of the Advisory Board, Global Ecology Corporation

Member of the Advisory Board, Progressive Growers an initiative of the Interface Agricultural Technologies. www.professionalgrowers.in

USAID-CRS- F2F: 3-week assignment to train farmers, extension service professionals, and Administrators in Sanitary and Phytosanitary Measures along Oilseed Supply Chain. July 10-Aug 5, 2017.

9. MEMBERSHIP AND OFFICES HELD IN PROFESSIONAL ORGANIZATIONS:

Chairman 2014-Present: 1890 Agroforestry Consortium, sponsored by US Forest Services, NIFA

Secretary 2010-2014: 1890 Agroforestry Consortium, sponsored by US Forest Services, NIFA

President, 2016- Present: Board of Directors, American Council for Medicinally Active Plants.

10. MAJOR PROFESSIONAL SELF-IMPROVEMENT ACTIVITIES DURING THE PAST 10 YEARS INCLUDING SABBATICAL

11. EXTERNAL GRANTS AND OTHER RESEARCH FUNDING DURING THE PAST 5 YEARS

PD: Interspecific variation for mode of action of antidiabetic activity, bioactive compound, and growth and yield in genus *Ocimum*. Grant Amount: \$494,000/3 years; Funding Source: NIFA-1890 Capacity Building Grants Program.

PD: Establishment of turmeric (*Curcuma longa*) as a high cash value medicinal crop to sustain small farms in Alabama. \$480,000; NIFA-AFRI-Small and Medium-Sized farms Sustainability.

PD: Establishing mungbean (*Vigna radiate*) as a health food crop in Alabama. \$25,000; Specialty Crops Block Grant, Alabama Department of Agriculture and Industry.

Co-PD: Sustainable agroforestry practices to sustain small farms in Alabama. \$480,000 (\$156,000-AAMU share); NIFA-AFRI-Small and Medium-Sized farms Sustainability.

Co-PD: Urban Agriculture Initiative: A Nexus for Academic Enhancement, Student Recruitment and Community Engagement. \$150,000 (\$12,000); NIFA-1890 Capacity Building Grants Program.

Co-PD: Developing a sustainable stevia industry in the United States. Total Grant: \$3.2M. AAMU Share \$326K. Funding Agency: NIFA-SCRI. Cooperating Institutions: MSU (Lead), AAMU, NCSU, and FVSU.

Co-PD: CPU2AL: Connecting the Plasma Universe to Plasma Technology in AL: the Science and Technology of Low-Temperature Plasma. UAH (Lead), AAMU, AU, et.al. Grant: \$20 M; AAMU share \$626K; Funding Agency: NSF EPSCoR Track 2. Cooperating Institutions: 12 Alabama Universities.

1. Zachary Senwo
2. Professor (nine-month), Soil Biochemistry
3. Academic education background:
PhD, 1995, Soil Chemistry, Iowa State University, Ames, IA
MS, 1991, Soil Microbiology, Kentucky State University, Frankfort, KY
BS, 1989, Soil Chemistry, Alabama A&M University, Normal, AL
4. Professional and research experience:
Alabama A&M University, Normal, AL:
Director of Research & Sponsored Programs (Interim) – 03/2012 – 09/30/2012: managed sponsored programs office (budget, planning, processes)
Research Director, College of Agricultural, Life & Natural Sciences– 08/07 – 08/2011: managed research planning and budget allocation
Center & Title III Director - Department of Natural Resources & Environmental Sciences - 01/06 – 07/07: coordinated research activities and finances
Department Chair (Interim) - Department of Natural Resources & Environmental Sciences – 06/06 – 07/07: organized and directed departmental work

Iowa State University, Ames, IA:

Graduate Research & Teaching Assistant - 08/91 – 12/95: researched amino acid composition of soil

Kentucky State University, Frankfort, KY:

Research Associate/Soil Microbiology - 09/89 – 08/91: researched soil microbe inhibitory effects

5. Teaching experience:
Alabama A&M University, Normal, AL: 1996 - Present
6. Dates of appointment and promotions at present institution
Professor: 2006
Associate Professor: 2003
Assistant Professor: 1996
7. List in bibliographical style publications during the last five years

Owiti, D., I Tazisong, **Z Senwo. 2017.** Microbial and organic matter patterns in a prescribed burned and thinned managed forest ecosystem. **Ecosphere**:-8:12

Tazisong, IA., **ZN Senwo, Z He. 2015.** Phosphatase hydrolysis of organic phosphorus compounds. **Advances in Enzyme Research**:-3:39-51.

He, Z., IA Tazisong, **ZN Senwo. 2015.** *Forms and Lability of phosphorus in humic and fulvic acids.* In In Zhongqi He and Fengchang Wu, [eds.]. **Labile Organic Matter—Chemical Compositions, Function, and Significance in Soil and the Environment.** SSSA Special Publication 62. **In Press**

Melo, V.F., SCP Uchôa, **ZN Senwo, RJP Amorim. 2015.** Phosphorus adsorption of some Brazilian soils in relations to selected soil properties. **Open J. of Soil Science**:-5:101-109.

Tazisong, IA., **ZN Senwo**, BJ Cade-Menun, Z He. **2015**. *Elemental Composition and Functional Groups in Soil Labile Organic Matter Fractions*. In Zhongqi He and Fengchang Wu, [eds.]. **Labile Organic Matter—Chemical Compositions, Function, and Significance in Soil and the Environment**. SSSA Special Publication 62.

Isikhuemhen, OS., NA Mikiashvili, **ZN Senwo**, E Ohimain. **2014**. Biodegradation and sugar release from Canola plant biomass by selected white rot fungi. *Adv. in Biol. Chemistry*, 4:395-406.

Nyaku, ST., VR Sripathi, RV Kantety, SB Cseke, **Z Senwo**, P Sripathi, P George, GC Sharma. **2014**. Characterization of the reniform nematode genome by shotgun sequencing. *Genome* 57: 209–221.

Senwo, Z. 2014. Agricultural advances: An organic revolution. www.researchmedia.eu *International Innovation*. Issue 135:68-70.

He, Z., **ZN Senwo**, H Zou, IA Tazisong, DA Martens. **2014**. Amino acids and sugars in poultry litter, litter-amended pasture soil and grass shoots. *Pedosphere*. 24(2):178-185.

Tazisong, IA., Z He, **ZN Senwo**. **2013**. Inorganic and enzymatically hydrolyzable organic phosphorus of Alabama Decatur silt loam soils cropped with upland cotton. *Soil Sci*. 178(5):213-239.

Mfombep, PM., **ZN Senwo**, OS Isikhuemhen. **2013**. Enzymatic activities and kinetic properties of β -glucosidase from white rot fungi. *Adv. in Biol. Chemistry*. 3:198-207.

8. Off-campus consulting, or other professional activities, special honors, recognition, during the past five years

Invited speaker International Conference on Biotechnology & Biodiversity (Dubai, UAE, **2015**)

9. Membership and offices held in professional organizations

Soil Science Society of America
American Society of Microbiology
Society for Industrial Microbiology
Association for International Agriculture and Rural Development
International Society of Environmental Epidemiology

10. Major professional self-improvement activities during past 10 years (including sabbatical)

2009 - Present: worked with Nanjing Forestry University, China in conducting agriculture, environmental and forestry research, education and extension to strengthen students' global perspectives.

2010 - Present: developed education partnerships with EARTH University, Costa Rica to prepare students to address critical national issues relating to global food security, climate change, human health and nutrition, bioenergy, food safety, water quality and quantity, rural communities and economy, sustainable agriculture.

2011 - Present: developed research and education partnerships with Brazilian institutions in agriculture and bioenergy.

2014 - Present: developed partnerships with Honduras institutions to strengthen faculty and students' agricultural research, education, and cultural experiences.

2014 - Present: developed partnerships with the Center for Tropical Research and Education [CATIE] – Costa Rica to engage students and faculty in Latin American agriculture as a model for global involvement and career development.

2015 – Present: developed partnerships with VERITAS University in Costa Rica to engage in Tropical agriculture, ecology, environmental sustainability and renewable energy research and education.

11. Grants

2013: Co-PI/US-China:-Building global competence and collaborations through student experimental learning and faculty exchange programs in China [\$300,000]

2014: PI/US-Honduras:-Partnerships to strengthen faculty and students' global agricultural research, education, and cultural experiences [\$100,000]

PI/US-Costa Rica:-Engage students and faculty in Latin American agriculture as a model for global involvement and career development [\$75,000]

PI/Cultivating 21st century workforce diversity in agricultural and natural resource conservation [\$100,000]

2015: PI/A Multidisciplinary approach to train under-represented minority students in the agriculture and natural resource sciences [\$80,000]

PI/Tropical agriculture, ecology, environmental sustainability and renewable energy research and education in Costa Rica [\$100,000]

2017: PI/Borlaug award to host a Fellow/scholar from Peru – [\$40,000]

PI/Borlaug award to host a Fellow/scholar from Malawi – [\$40,000]

1. Name: Wubishet Tadesse

2. Academic Rank, specialization, appointment basis (9- or 12-month, etc.)
Professor, GIS and Remote Sensing, 9-month

3. Academic education background:
Degrees, institution, major field of study, dates attended, date degree earned or expected.
Ph.D. 2001- Alabama A & M University
M.S 1982 - Alabama A & M University

4. Professional and research experience:
Employer, nature of work, title, dates, total years
 8/2017 – Present Interim Chair, Department of Biological and Environmental Sciences
 8/2016 – Present Professor – Alabama A&M University - Department of Biological and Environmental Sciences
 8/2015 – Present Director, NGA/USGS Center of Academic Excellence in Geospatial Sciences, Alabama A&M University
 10/2013 – Present Director of Geospatial Research and Education Center, Funded by USDA-NIFA
 9/2013 – 2016 Director of US-EPA Center of Excellence for Watershed Management
 9/2011 – Present Budget Manager for Natural Resources Environmental Sciences/Department of Biological and Environmental Sciences
 1/2008 – Present Program Coordinator for Environmental, Soil and Water Sciences in the Department of Biological & Environmental Sciences
 7/2006 – 8/2016 Associate Professor - Alabama A&M University, Department of Biological and Environmental Sciences
 1/2001 – 7/2006 Assistant Professor - Alabama A&M University, Center for Hydrology, Soil, Climatology, and Remote Sensing
 1990 – 2000 Research Associate - Alabama A&M University, Center for Hydrology, Soil, Climatology, and Remote Sensing
 1982 - 1990 Research Associate - Alabama A&M University, Department of Plant and Soil Science

5. Teaching experience:
Institutions, rank, specialization, dates, total academic years
 8/2016 – Present Professor – Alabama A&M University - Department of Biological and Environmental Sciences
 7/2006 – 8/2016 Associate Professor - Alabama A&M University, Department of Biological and Environmental Sciences
 1/2001 – 7/2006 Assistant Professor - Alabama A&M University, Center for Hydrology, Soil, Climatology, and Remote Sensing

6. Dates of appointment and promotions at present institution
January 2001, July 2006, August 2016

7. List in bibliographical style publications during the last five years
 Schweitzer, C., D. Lemke, W. Tadesse, and Y. Wang. 2015. Assessment of forest management influences on total live aboveground tree biomass in William B Bankhead National Forest, Alabama. In Proceedings of the 17th biennial southern silvicultural research conference. E-Gen. Tech. Rep. SRS–203. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 8 p

 Tadesse, W; S. Whitaker, W. Crosson, and C. Wilson. 2014. Assessing the impact of land-use land-cover change on stream water and sediment yields at a watershed level using SWAT. Open Journal of Modern Hydrology, 2015, 5, 68-85

Tadesse, W; S. Whitaker, W. Crosson, and C. Wilson. 2015. Future Land-use Land-cover scenarios for the Flint River Watershed in Northern 1 Alabama using the Prescott Spatial Growth Model (PSGM). Journal of Geographic Information System, 2015, 7, 319-327

8. Off-campus consulting, or other professional activities, special honors, recognition, during the past five years
 - Council Person for Mid-south Region of American Society of Photogrammetry and Remote Sensing 2009 - Present
 - Council member of Alabama Water Resources Research Institute (AWRRI)
 - Interdisciplinary Capacity Building Team Leader for the Global Sustainable Soundscapes Network (GSSN) - The Global Sustainable Soundscapes Network (GSSN) is a project funded by the U.S. National Science Foundation with the overarching objective of bringing together ecologists (landscape ecologists and conservation biologists), acoustic ecologists (from the creative arts) and acousticians and psychoacousticians (scientists that study sound and how people perceive sound) to coordinate studies in diverse soundscapes around the world.
 - Contact person for AlabamaView - AlabamaView is a newly formed statewide consortium affiliated with the nationwide AmericaView program. The goal of the AlabamaView program is to advance the availability, timely distribution, and widespread use of remote sensing data and technology through education, research, outreach and sustainable technology transfer to the public and private sectors.
 - GEO Huntsville – Founding member and Education Working Group Leader - GEO Huntsville is one of three economic development and jobs initiatives sponsored by Mayor Tommy Battle
9. Membership and offices held in professional organizations
 - American Society for Photogrammetry and Remote Sensing (ASPRS)
 - Urban and Regional Information Systems Association (URISA)
 - Association of American Geographers
10. Major professional self-improvement activities during past 10 years (including sabbatical)
11. External grants and other research funding during the last five years

Educational and Research Capacity Building Through the Investigation of Long-Term Anthropogenic and Climatic Effects on Water Quality in Agricultural Watersheds	Co-PI	08/2017	USDA-NIFA Capacity Building Grants for Non Land Grant Colleges of Agriculture, \$249,000

APPENDIX F AND G

FORESTRY GRADUATE EMPLOYMENT SUMMARY AND STUDENT DATA SUMMARY

Document F: Forestry Graduate Employment SummaryInstitution Name: Alabama A&M University Academic Year: 2017-2018Official Degree Program Title: Forestry (B.S.)Official Option Title: All

Post Graduation Status	NUMBER OF GRADUATES FOR PAST FIVE YEARS										
	Yr: <u>2013</u>		Yr: <u>2014</u>		Yr: <u>2015</u>		Yr: <u>2016</u>		Yr: <u>2017</u>		Total Graduates
	#	%	#	%	#	%	#	%	#	%	
<i>Employed permanent: Forestry</i>	10	91	4	80	3	75	3	60	12	86	32
<i>Forestry-related</i>											0
<i>Other employed</i>					1	25	1	20			2
<i>Employed temporary: Forestry</i>											0
<i>Forestry-related</i>											0
<i>Other employed</i>	1	9									1
<i>Graduate Study:</i>							1	20	2	14	3
<i>Unemployed:</i>											0
<i>Unknown:</i>			1	20							5
Total Number and Percentage of Graduates	11	100	5	100	4	100	5	100	14	100	39

Document G: Student Data SummaryInstitution Name: Alabama A&M University Academic Year: 2017-2018Official Degree Program Title: ForestryOfficial Option Title: All 5 concentrations

STUDENTS ENROLLED	Freshman		Sophomore		Junior		Senior		Total Students	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Current Enrollment	3	13	2	11	2	8	3	18	10	50
Last Year	1	18	2	9	1	11	4	19	8	59
Two Years Ago	1	15	3	10	5	11	3	19	10	58
Three Years Ago	4	22	0	12	6	16	2	13	12	63

STUDENTS ENROLLED	TOTAL NUMBER OF STUDENTS					
	African Amer	Asian	Caucasian	Hispanic	Native Amer.	Other
Current Enrollment	44	0	16	0	0	0
Last Year	49	1	17	0	0	0
Two Years Ago	57	1	9	0	0	0
Three Years Ago	57	2	16	0	0	0

Projected Total Enrollment for Next Three Years	Year <u>2018-2019</u>	Year: <u>2019-2020</u>	Year: <u>2020-2021</u>
	70	72	75

GRADUATING CLASS	TOTAL NUMBER OF GRADUATING STUDENTS							
	Female	Male	African American	Asian	Caucasian	Hispanic	Native American	Other
Current Graduating Class	2	15	9	0	8	0	0	0
Last Year	11	3	9	0	5	1	0	0
Two Years Ago	0	4	4	0	0	0	0	0
Three Years Ago	0	4	2	0	2	0	0	0

Projected Total Graduates for Next Three Years	Year <u>2018</u>	Year: <u>2019</u>	Year: <u>2020</u>
	12	10	10

EXHIBITS I-1. – VI-2.

Exhibits are numbered sequentially by first citation in the Standard they are Associated with (Example, II-3 is the third Exhibit cited in Standard II)

Exhibit I-1.

Details on some of the accomplished
major goals and objectives from
Standard I of the 2008 Self-Evaluation
Report

Goal 1: Become recognized as the center for forestry education, research and extension in northern Alabama

- Maintained SAF accreditation standards
- Participated in the National Association of Professional Forestry Schools and Colleges
- Gained Alabama Board of Registrants approval for graduates to become licensed foresters in Alabama

Goal 2: Provide excellence in the academic program through a curriculum that will train students for the job duties required of professional foresters

- Conformed to SAF standards for forestry education

We have been able to acquire and retain the required eight faculty members in forestry and make curriculum changes suggested by the SAF review team in 2002 and 2008. We have significantly developed parts of our curriculum, especially the fish and wildlife program and graduate course offerings. We have successfully competed for external funding to improve our education, research, and outreach programs. The NSF-CREST center and McIntire-Stennis forestry research programs have supported many of our efforts to develop as a fledgling program. Recruitment, retention, enrollment, and graduation rates of students have not changed appreciably since 2002, although we have increased our efforts to increase our total enrollment from 65 to 80 undergraduates through numerous recruitment activities. Graduate student numbers have increased dramatically (from 3 to 15) in the past 15 years due to our increased efforts and success in obtaining external grants.

- Seek funds to improve academic materials, including specimen and library collections, laboratories, and vehicles for transportation to outdoor study sites

The forestry program has grown significantly in the past 15 years due to SAF accreditation and the success of faculty in attracting millions of dollars in extramural funding from the National Science Foundation, USDA-NIFA, USDA McIntire Stennis, USDI, Alabama Dept. of Natural Resources, EPA, and other funding agencies. The NSF-CREST and USDA Capacity Building grants that we have received have led to improved academic instructional materials, specimen collections, library holdings, laboratory supplies, field vehicles, and work-study opportunities for our students.

- Use a diverse learning environment, including experiences in the classroom, field, laboratory, library, distance education network, and professional societies

Following SAF accreditation, we have reinvigorated the Forestry Club, now the AAMU student chapter of SAF, chartered it as a SEEDS campus ecology chapter of the Ecological Society of America and also joined the Association of Southern Forestry Clubs. Further development of student programs includes the initiation of the

FIREDAWGS forest fire-fighting training club in 2009 and Student Chapter of The Wildlife Society in 2012. This has led to increased participation of the student body in professional meetings and activities (such as forestry conclave and quiz bowls that offer a diverse learning environment). Also the increase in research funding and development in the past 15 years has led to significantly more undergraduate students (from 2 to 12-15 at a time) being employed in campus work-study positions to assist with field and laboratory research, build or maintain computer databases, and conduct literature searches. The one unmet objective is to develop a distance education network, but this is currently a focus of our Department and College.

- Incorporate new instructional technology into course subject matter presentations

Without exception, the forestry faculty have incorporated new instructional technology into their teaching methods, especially the use of MS-PowerPoint projections to incorporate pictures, graphs and other visual aids into their lectures. Many of the faculty use Blackboard to monitor student assignments or provide additional reading material or handouts on-line. Our computer lab allows students to conduct a variety of analyses including ArcGIS for use in crafting the Forest Plan required in the Capstone course.

- Further develop the wildlife minor

The wildlife biology minor was approved in 2005 by the AAMU Academic Standards committee, and since then we have added an additional course for graduate students and undergraduates (NRE 488/588), Wildlife Techniques. Similarly, the Fisheries minor developed from USDA capacity building funds in 2007. The fish and wildlife education program at Alabama A&M University was profiled in a special issue on workforce diversity in the Wildlife Professional journal. In 2017, we combined what were the Fisheries concentration and wildlife biology concentration into the Fish and Wildlife Science concentration that is a 21-credit curriculum totally within the Forestry major. The minors still exist for students seeking other Majors at the University. The interest in water quality and aquatic resources should sustain this program area and lead to further growth in the Biological and Environmental Sciences Department because of collaboration with hydrologists and other faculty with interests in water quality research. A GIS minor is now available to interested Forestry students

- Continually review and revise courses based on need, relevance, and student participation

The previous SAF accreditation reviews provided us an opportunity to evaluate our curriculum and its relevance to students and employers. We received feedback and suggestion from SAF shortly after their visit and convened our curriculum advisory committee composed of forestry employers and stakeholders to review the curriculum and receive their feedback and comments. A list of eleven suggested changes from these meetings was discussed and approved by the AAMU Academic Standards Committee in the past decade. Many of these changes are already incorporated into

the current undergraduate catalog. We have been discussing revisions for our curricula with some stakeholders and forestry employers with whom we routinely meet to evaluate our program (The USDA Center of Excellence in Forestry).

- Continue to work with on-campus staffing specialists with the USDA Forest Service to provide individualized guidance to forestry students

We have been fortunate to have on-campus liaison's with some of our forestry employers. We routinely meet with the USDA Forest Service liaison and the USDA liaison to discuss student recruitment, retention, and placement as well as other issues related to students. In 2008, a long-time liaison with the USDA Forest Service retired, but we have been working closely with her replacement, an alumna of our program, to make the transition seamless for our students.

- Continue to develop relationships with other agencies and industries that employ foresters to provide a variety of job experience opportunities to students

Following SAF accreditation, we made great strides in attracting new forestry partners, but the restructuring of the forest industry in the last 15 years has led to decreased participation with our program in the last couple of years. However, we continue to seek their support and participation in the future through discussions with them to adapt our forestry curricula to the new industry environment. One recent example of this was the approval of the Forestry Business Concentration in 2017. We have already sought external funding for these efforts and discussed new curriculum directions with key stakeholders. Our relationships with state and federal agencies have developed further in the past few years with the signing or re-signing of Memoranda of Understanding to cooperate with these agencies to achieve common goals. New MOUs with the Alabama Forestry Commission, Tennessee Valley Authority, and the USDA National Forests in Alabama have provided new opportunities for us and, more importantly, our students and graduates.

- Continue to support, and make students aware of, campus career placement programs and especially visits by employers to campus

We have hosted a number (usually 10 visits/year) of forest industries, state forestry agencies and federal land management agencies on our campus during the past 15 years to recruit students for seasonal and permanent employment. Additionally, we maintain a current jobs board in our academic building and alert students to career opportunities in their areas. We are in the enviable position of having more job opportunities than students to fill them, so everyone finds a job in forestry. We participate in the Youth Motivation Task Force program, Career Fair, High School Senior Day and other on-campus opportunities to expose students to forestry employers. We also travel to professional conferences with our students where job opportunities are abundant.

- Continue to encourage select students to pursue advanced graduate training in forestry or related fields

In forestry, we have a track record of sending about 15% of our graduates to graduate school. A few select AAMU, but many choose other land grant institutions out of state including Iowa State, NC State, and University of Georgia. Like forestry employers, we routinely have representatives of other Universities visit our campus to recruit graduate students from our undergraduate student body.

- Identify and solicit additional scholarships for attracting outstanding students

We have worked diligently with our forestry stakeholders to create new scholarships or internship opportunities for our current and potential students. International Paper provided capital and student support to our program from 2004-2008 before they went through restructuring that led to divesting of their forest land base.. We are currently seeking similar support from the Alabama Forestry Commission and other state forestry commissions to allow them to participate in our success in training qualified minority foresters. More needs to be done in this area, especially as we broaden the curriculum to include other natural resources professionals. We have been successful in obtaining capacity building grants that allow us to provide some of these opportunities to our students.

- Strengthen existing faculty-student mentor program

We have made progress toward this goal over the past 10 years. The establishment of a program for Research Experience for Undergraduates and Undergraduate Research Mentoring funded by the National Science Foundation in 2008 allowed forestry faculty and other faculty members in the BES Department to participate more formally in the mentoring process. Perhaps the greatest achievements in mentoring forestry students has been through the greater number of forestry club activities that provide students with more contact with faculty outside of the classroom. Also, more contact in our summer apprenticeship/recruitment programs and our summer forestry field techniques course has led to more mentoring relationships than existed a decade ago.

GOAL 3: Excellence in Research and Graduate Education

- Focus on forest resources (timber, wildlife, water, etc.) of upland hardwood forests, agroforestry, forest protection, and socio-political issues affecting minority forest-landowners

Our research program in forestry was a focus of academic program development during the past 15 years. Faculty dedicated themselves to building capacity to conduct forest ecosystem research and expand the graduate student training program. With the success of the NSF-CREST Center for Forest Ecosystem Assessment at Alabama A&M University in 2004, the investment has increased our graduate course offerings in the BES Department, graduate student enrollment in forestry, and ability to leverage additional research funds, including the NSF Research Experience for Undergraduates and Undergraduate Research Mentoring programs mentioned above. Additional research development in the areas of fisheries, wildlife, agroforestry, and

forestry outreach to minority landowners has been achieved the past 10 years. Currently, the forestry program looks forward to expanding forest business management courses in the near future to meet the needs of our industry partners.

- Collaborate with staff of the USDA Forest Service, Southern Research Station's research unit on campus to develop, implement, and publish results from forest research projects

Collaboration with the campus sub-unit of the USDA Forest Service research work unit in upland hardwood forestry has decreased in the past 5 years.. Unfortunately, the USDA Forest Service has made some cuts in their budget that affected the SRS personnel that were stationed here, or they have been re-assigned/promoted to other positions. Seek extramural support funds to further develop the main research focus areas

During the past 15 years, the forestry program budget has more than tripled through growth of external funding. Faculty members have actively sought and acquired funds to initiate or further develop their research areas while maintaining capacity building funds with the USDA Forest Service and USDA NIFA, and McIntire-Stennis.. University support to expand the curriculum in key areas, especially graduate course development has been fundamental to this growth, but faculty have also played a role in acquiring funds to offer competitive graduate assistantships to attract high quality students to AAMU. In 2017, the University waived out-of state tuition for graduate student on a research assistantship. This will allow more out-of-state undergraduates students that have shown interest in AAMU to afford to seek an advanced degree here.

- Seek funds set aside for minority institutions (e.g., USDA capacity building grants, USDE Minority Science Improvement Program) to enhance research, teaching, and service

Faculty members in forestry have acquired millions dollars in the past 15 years from capacity building funds for minority serving institutions. These funds from NSF and USDA are an important part of our growth, but we have also developed proposals for MSEIP,USDE, TVA, and other federal and state agencies to enhance our teaching, research and outreach components of the forestry program. We hope to become less dependent on formula funds in the future and seek research collaborations with other institutions to compete for competitive grants.

- Acquire additional state matching funds to leverage federal grants

We have made some progress on this goal in the past 10 years. The Dean of CALNS has made some state matching funds available for forestry faculty that have applied for the USDE Higher Education Challenge grant and USDA grants that require 25-100% matching funds. The lack of these in the past have hampered our ability to compete for large federal grants, especially for new faculty members. The CALNS research office has assisted us with research proposal matching requirements and

proposal editing on some federal grant applications that successful principle investigator have received during the last decade.

- Expand faculty development opportunities

More progress has been made towards this goal in the past 10 years than the previous decade. The University has increased its offering of on-campus faculty development opportunities through CETL, but most faculty members in forestry have to rely on their research grants to fund their own faculty development opportunities in forestry and science-related training areas.

- Publish research results in peer-reviewed journals and trade organization periodicals

An obvious area for improvement has been our publication record. Forestry faculty members have improved in this area during the past 10 years, but some still have much room for improvement. This may be partly due to the different roles that faculty have in our program with some having greater responsibilities in teaching and service than others. However, scholarly output is an expectation of all faculty, and we expect to continue the increased publication performance trajectory that has been the trend for the past 15 years.

GOAL 4: Excellence in Public Outreach, especially to minority stakeholders

- Expand our relationships with minority forest landowners and communities

Several faculty members in forestry have participated in funded research and outreach efforts to serve the minority forest landowner community of our state and the southeastern region of the US. Dr. Fraser formerly has served in a leadership role in these efforts coordinating research and workshop development in the Black Belt region and beyond. Dr. Colmore Christian has taken over this role of partnering with Tuskegee, Auburn and other state and federal institutions has been an important part of our success to reach out and serve the community better. Dr. Fraser had also played a critical role in interacting with the Alabama Forestry Commission to increase representation of minority forest landowners in the services offered by this important forestry partner. Also, several other faculty have joined him in working with the USDA Agroforestry center to expand outreach opportunities to minority forest landowners in the state. Drs. Naka and Christian are still involved in this effort.

- Hold workshops, demonstrations, seminars, and similar outreach activities on issues of interest to the minority, forest-landowner community

The hallmark of our outreach efforts to minority forest landowners has been the development of forest management and agroforestry workshops throughout the southeastern region. Hundreds of participants have received information and training by forestry faculty in their communities to improve their land management and forest-farm enterprises. This continued through the Summer of 2017.

- Offer workshops and training sessions for other public and private forestry professionals in resource management areas

We made progress towards this goal through the NSF-CREST Center for Forest Ecosystem Assessment seminars, conferences and workshops to forestry and natural resource professionals. More of these opportunities are planned in the near future.

GOAL 5: Excellence in Capacity Building and Infrastructure to Provide a Professional Curriculum

- Diversify funding for research, teaching and outreach programs that enhance the forestry program and attract additional faculty

As previously mentioned, the forestry program has grown in the past 15 years through diversifying our funding opportunities and attracting more faculty and research staff. We have added two additional faculty positions and four research staff members in the past 5 years. These folks have helped us secure more funds and opportunities for undergraduate students in STEM fields. In 2015 and 2016, undergraduate students presented research posters at the SAF national convention for the first time. Many undergraduates are being inspired and assisted by the research conducted by graduate students.

- Actively participate in identifying additional space to centrally locate forestry offices, classrooms and laboratories

In 2004, the forestry program relocated to the new Agricultural Research Center (ARC) building and acquired 8100 ft² of on-campus laboratory space and approximately 1560 ft² of office space in our new building. This has been a great asset to our research and teaching programs because many of our forestry courses have a significant laboratory component. Also, we are now centrally located which facilitates communication and student interaction. FEWP also uses space in the Greenhouse building and recently, the FIREDAWGS have expanded to the point where their operation moved to the vacant Alabama Forestry Commission office 7 miles from campus to obtain space to acquire more fire-fighting vehicles in the future.

- Solicit allocations and donations from federal and state agencies and from forest industries and organizations to contribute to the expansion of physical facilities for the forestry program
- Progress on further expansion of physical facilities for our expanding program is a priority item that has received recent attention on campus, in Montgomery and in Washington DC. Although the FEWP conducts agroforestry and other projects on the WTARS, our research sites include the Bankhead National Forest, sites in Jackson County and TN, Guntersville State Park and the Black belt Region of southwestern Alabama. The Bankhead NF is a nearby resource where multiple forestry, ecology and wildlife projects are being conducted on this 72-ha forest. The FEWP coordinator and Dean of CALNS recently visited Senators and Congressmen in Washington DC

to discuss funds for a research station for AAMU's forestry program on some property belonging to The Nature Conservancy that is adjacent to the Bankhead NF. Also, the FEWP coordinator and Asst. Coordinator are pursuing a long-term lease or fee-simple transfer of 20-30 ha of their 60 ha property to construct such a forestry education and research center for future expansion of the program. Employ a coordinator with a focus on student recruitment in the forestry program

We have made progress on this goal with the efforts of Dr. Christian as our recruitment coordinator. The CALNS has recently acquired a college recruitment coordinator to assist our own recruitment efforts. Currently, our forestry academic program and BES Department participate with our College to coordinate recruitment activities. Also, we work closely with our USDA Forest Service liaison to recruit and place students in career positions. We dedicate resources to support the efforts of such a FEWP recruitment Coordinator.

Exhibit II-1

University Organizational Chart

Alabama A&M University Organizational Chart

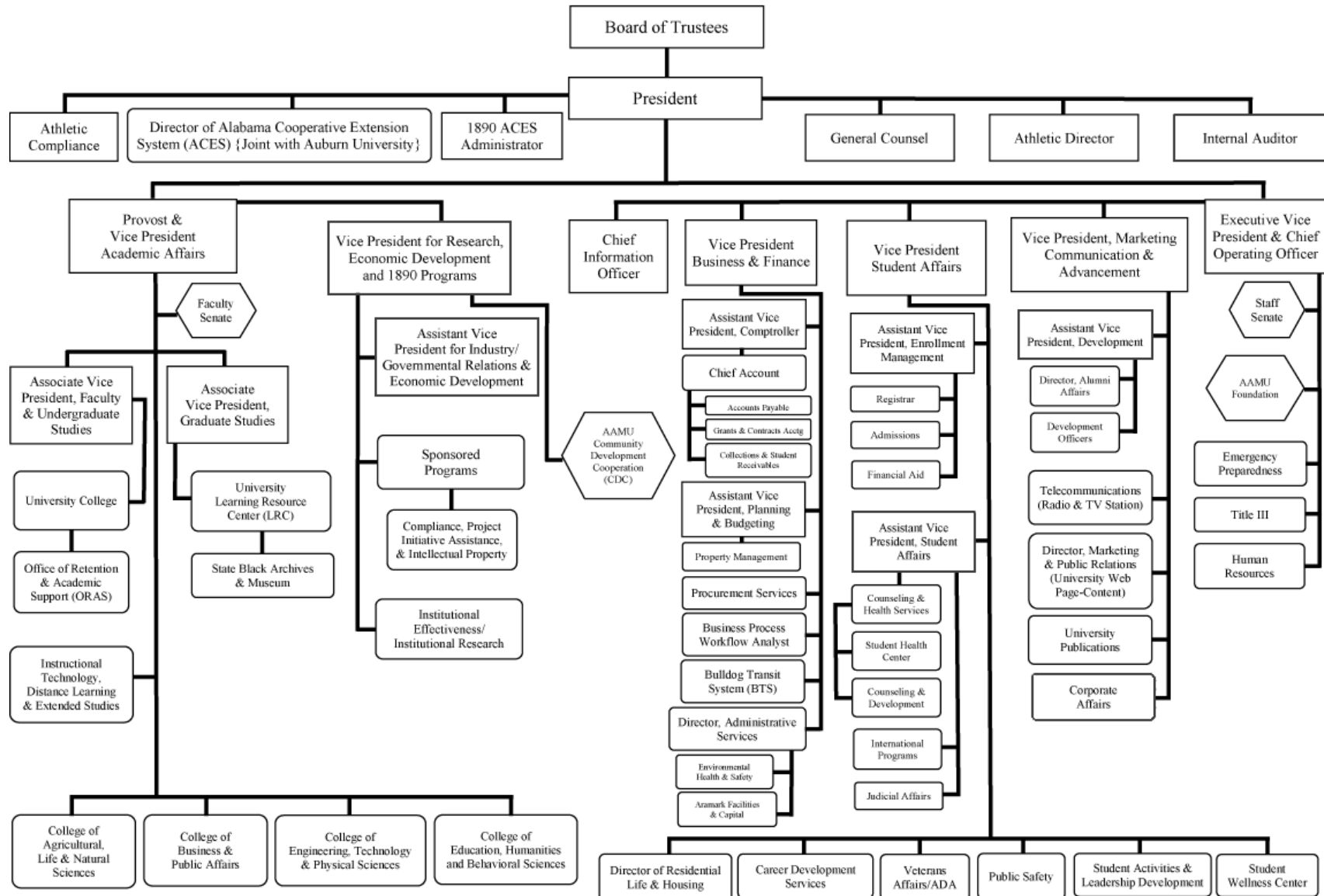


EXHIBIT II-2.

Center of Excellence in Forestry & Ecology

Five-Year Plan

2016-2020

&

**Evaluation of Accomplishments on Goals &
Objectives of Two Previous 5-year Plans**

**FIVE-YEAR PLAN
FY 2016 – FY 2020**

**FORESTRY, ECOLOGY
AND WILDLIFE PROGRAM**

**ALABAMA A&M UNIVERSITY
NORMAL, ALABAMA**

**A
USDA FOREST SERVICE
CENTER OF EXCELLENCE
IN FORESTRY**

Table of Contents

Introduction and Background	Error! Bookmark not defined.
Timeline and Important Milestones	Error! Bookmark not defined.
Plans for the future of COE	Error! Bookmark not defined.
Organization of Strategic Plan	Error! Bookmark not defined.
Objectives for Alabama A&M/Forest Stakeholder Partnerships for the Next Five Years	Error! Bookmark not defined.
Bookmark not defined.	
A. Capacity Building (CR in USDA-FS).....	Error! Bookmark not defined.
B. Multicultural Workforce Strategic Initiative (HR in USDA-FS).....	Error! Bookmark not defined.
defined.	
Component A: CAPACITY BUILDING.....	Error! Bookmark not defined.
Objective 1. Build Capacity in the Center of Excellence in Forestry and Ecology.....	Error! Bookmark not defined.
Bookmark not defined.	
Objective 2 Strengthen Academic Programs	Error! Bookmark not defined.
Objective 3. Conduct Research.....	Error! Bookmark not defined.
Objective 4. Provide Student Work Experience.	Error! Bookmark not defined.
Objective 5. Conduct Public Outreach and Stakeholder Engagement.....	Error! Bookmark not defined.
defined.	
Component B: Multicultural Workforce Strategic Initiative	Error! Bookmark not defined.
Appendix A: Proposed 2016-2020 USDA Forest Service Budget for Center of Excellence in Forestry and Ecology at Alabama A&M University	Error! Bookmark not defined.
A. Capacity Building.....	Error! Bookmark not defined.
B. Multicultural Workforce Strategic Initiative.....	Error! Bookmark not defined.
Appendix B: Forest Service Performance Measures	Error! Bookmark not defined.
Appendix C: Proposed FY 2016-2020 Student Enrollments for the AAMU Multicultural Workforce Strategic Initiative.....	Error! Bookmark not defined.
Appendix D: MWSI Communication Strategy post Pathways.....	Error! Bookmark not defined.

Introduction and Background

- The USDA Forest Service Center of Excellence in Forestry and Ecology (COE), at Alabama A&M University (AAMU), was established in 1993 when then Chief Dale Robertson of the Forest Service (FS) and the Deputy Secretary of Agriculture signed a proclamation at Alabama A&M University (AAMU) to work together to train young people, many of whom are African Americans, for future careers in the USDA Forest Service.
- The University actively supports this effort through offering a rigorous B.S. in forestry and M.S. and Ph.D. programs in Plant and Soil Science (soon to be renamed to MS in Agricultural & Environmental Sciences, Biology / Biological Science, and Biomedical Science, and PhD in Agricultural & Environmental Sciences, with concentrations in Forestry / Forest Science, Wildlife & Fisheries, Renewable Natural Resources, Geospatial Science, Land Use & Ecology), as well as by a distinct in-kind match to ensure its full participation and long-term sustainability. These efforts, linkages and partnerships are all made possible by the USDA/FS leadership and participation in, and funding of, the COE.
- The COE has been active in seeking partnerships and linkages with other federal/state agencies and with private industries interested in diversifying their workforce. The Alabama Forestry Commission was a major supporter of our student enhancement activities related to hosting the Southern Forestry Conclave in 2009 and developing a student fire crew: the FireDawgs. The USDOJ Bureau of Land Management supported student participation in professional development by funding students to participate and compete at several national conventions of the Society of American Foresters. International Paper and Weyerhaeuser have been key industrial partners that have provided intern positions and other student support. Additionally, the Center for Forest Ecosystem Assessment (a National Science Foundation Center for Excellence in Research and Education in Science and Technology (CREST), funded twice for 5 years each time), along with our participation in the USDA-NIFA McIntire-Stennis Program has further strengthened our research program during the recent years, in particular the graduate education component. Some linkages may be finite in scope and duration; however, such cumulative efforts broaden the scope of the COE and set the stage for the accomplishments that will be achieved during the next 5 years.
- The AAMU COE is one of the largest FS student recruitment initiative programs for African-Americans. As a result of this program and other partner support, AAMU has trained more than 200 natural resource professionals (foresters, biological/environmental, and soil scientists) and others in administrative specialist fields.

Timeline and Important Milestones

- Beginning in 2001, the Southern Research Station located a FS work unit (one scientist and two technicians) on the AAMU campus to work in partnership with faculty and others on research projects focused on the ecology and management of upland hardwoods on the Cumberland Plateau. The unit relocated off-campus in 2014.
- In 2002, the AAMU forestry program (then known as the Center for Forestry & Ecology, or CFE) was granted professional accreditation by the Society of American Foresters (SAF) for its forestry curricula in Forest Management and Forest Science. As a result it became the first

and remains the only 1890 or HBCU institution to merit this distinction. The Forest Service's contributions-- both monetary and in helping to plan and shape the program-- were pivotal in attaining this accreditation. In 2008, the academic forestry degree options were re-accredited through 2018. Since then the program has grown further with concentrations in fish and wildlife, GIS, forest ecology and forest business.

- In 2003, the development and approval of a Wildlife Biology minor in Forestry at AAMU accomplished a specific goal of the previous COE five-year plan and illustrates how USDA Forest Service capacity enhancement has broadened the forestry curriculum. In 2007, a related minor in Fisheries was also adopted.
- In 2004, the CFE moved to a new building, the Agricultural Research Center, a substantial commitment of resources from the University to the CFE, to the COE partnership, and to the AAMU's other forestry and natural resource management activities.
- In 2005, the Southern Research Station moved the headquarters of the USDA National Agroforestry Center (NAC) and its Program Manager onto the AAMU campus to work in partnership with faculty to provide leadership in agroforestry teaching, research, and landowner outreach throughout the South. AAMU also provides leadership for the "1890 Agroforestry Consortium" that coordinates agroforestry efforts among the 1890 institutions.
- In 2009, the research program became eligible for and received its first allocation of USDA-NIFA McIntire-Stennis formula funding. The amount of funding received under this program increased through 2013, when its share of the state allocation reached 30%, amounting to \$500,000-600,000 annually in federal and state funding. The State's portion of the funding was partly in-kind match, but has grown to a complete cash match by FY 2015.
- Through an MOU with the Alabama Forestry Commission in 2009, a student fire crew, the FireDawgs, was established. It has helped provide our students with experience in prescribed burning and fighting wildfires.
- In 2010, CFEA was approved for an additional 5 years. CFEA was initiated in 2004 by AAMU faculty and Forest Service personnel as a long-term study of the interaction of fire frequency and stand density on plant and animal community dynamics. This research project examines a wide array of ecological impacts of managing the upland hardwood forests of the nearby Bankhead National Forest to achieve the desired future condition for these stands. This and other activities are possible because of the support of the National Forests in Alabama, another valuable FS partner that has supported our efforts with field housing for faculty, staff and students on the Bankhead NF.
- In 2010, the Southern Research Station located a Research Soil Scientist from the Ecology and Management of Southern Pines research unit on campus to expand the cooperative research capability of the SRS with AAMU and continue linkages with agroforestry.
- The undergraduate Forestry program is accredited by the Society of American Foresters until 2018. The program has grown and therefore changed, but remains strong in terms of student enrollment and external research funding.
- In 2013, Alabama A&M University hosted the Southern Leadership Tour of distinguished forestry professionals. In addition to presentations on forestry management and

administrative topics, attendees also were treated to a tour of forestry research on the Bankhead National Forest.

- From 2010 to present, continual progress has been made with the Graham Farm Nature Center and the Bankhead Research and Education Center to plan and conduct forestry education and research projects with these partners in a forest environment with incoming students, summer students, seniors, and graduate students in our program. The dedication of the Graham Farm in 2014 was an event that the A&M Forestry program helped to conduct with demonstration activities in forestry, wildlife and fisheries to local high school students.
- In 2012, a student chapter of The Wildlife Society was formed and fish and wildlife students have conducted several activities in tandem with the A&M Forestry Club.
- In 2014, the Alabama A&M Confucius Institute was formally dedicated and celebrated in 2015 with numerous activities conducted by Dr. Yong Wang and others in the forestry program. Dr. Wang and dozens of AAMU faculty have travelled to China from 2010 to 2015 to conduct research as part of a National Science Foundation program to enhance international science cooperation.
- In 2014, the USDA Forest Service Forest Fire Training Academy formally moved to Alabama A&M University to conduct forest fire training workshops to over 30 college students annually. The AAMU FireDawgs participate and help coordinate the workshop. They celebrated their first 5 years with a presentation at the 2015 SAF National Convention.
- In 2014, the Summer Research Apprenticeship Program was re-established with Forest Service support and incoming forestry students received early training in forestry, fire, and research techniques. This program has boosted our recruitment efforts and provided hands-on learning experiences that freshmen students can claim as they apply for their first summer job through Pathways.

Plans for the future of COE

The COE has capitalized on the capacity it has built since 1993. Nevertheless, it is essential that the Forest Service investment in the AAMU COE remain strong into the future. This will enable faculty to continue to strengthen teaching, research, and outreach efforts and will facilitate the recruitment of quality undergraduate and graduate students with diverse backgrounds. Continued capacity building in the future will continue to be directed at strengthening the success of the undergraduate academic program. During the next five years, all graduating students of Alabama A&M University's accredited Forestry, Ecology and Wildlife Program (FEWP) will continue to have to demonstrate specific core competencies in communication skills, science and math, social science, computer literacy, forest ecology, forest measurement, forest management and forest economics and policy. In addition to an excellent academic preparation, all FEWP graduates will possess forestry work experience gained as part of their coursework or from working for the Forest Service or other forest management organization during the summer. Select undergraduate students will continue to be encouraged and supported to present research findings at scientific conferences.

The continued co-location of a FS research scientist at AAMU will directly contribute to the success of this important partnership. The research support provided by the COE has allowed faculty to compete for, and acquire, additional funding to conduct research and build capacity in the graduate education program. During the next five years, the growth of graduate research will be aided by additional partners and directed toward various aspects of forest ecology, management, and restoration. During the previous five years, we substantially increased the availability of hands-on experience for all our undergraduate students through research, work, coursework, the National Science Foundation (NSF) funded programs Research Experience for Undergraduates (REU), Undergraduate Research and Mentoring (URM), and the Historically Black College and University Undergraduate Program (HBCU-UP), and through attendance and presentations at professional scientific meetings. We also intend to support more undergraduate students as teaching assistants, tutors, research assistants, webpage maintainers, and for various activities that support the forestry program, while at the same time provide them with meaningful work experience that allows them to grow, mature, and be responsible leaders. We will also provide leadership training and continue to provide prescribed forest fire experience.

This five year plan continues to give high level of priority to two critical objectives: recruiting more COE partners and acquisition of a “school forest” that is owned by AAMU for use in research, education, and for demonstrations. Some tasks towards fulfillment of these objectives have already been accomplished. However, accomplishing the objectives has been difficult in the economic environment after 2008, the period of the worst recession since the Great Depression, and as forest industry restructured by around 2007 to real estate investment trusts (REITs) or sold most timberland to institutional investors, who use timberland investment management organizations (TIMOs) to manage their forests. Nevertheless, we are still committed to bringing more partners to the Center and replicate the mutually beneficial partnerships with various organizations in the past.

In the next five years, we will continue to build upon what the program has achieved since it was established in 1993. We will also focus on the following strategic objectives:

1. Increase the number of qualified students in the program by attracting academically strong high-school graduates, but also transfer students from community colleges and other programs on campus. Students from underrepresented groups, including minorities, women, and veterans will be especially sought after and encouraged to apply.
2. Improve student retention and involvement in the program by hiring undergraduate students to work as teaching assistants in forestry courses, tutors, research assistants, webpage maintainers (including FEWP program accounts on social network platforms), and for various activities that support the forestry program. At the same time, this experience will provide them with meaningful work experience that helps them improve their understanding of forestry and connect with the younger students, allows them to grow, mature, and become responsible leaders. We will also provide leadership training as well as prescribed burning experience through the highly successful Fire Dawgs program. Activities of the student SAF Forestry Chapter can be used help integrate all students to the program, but freshmen and new transfer students in particular. Additional funding for the enhanced student involvement will be necessary. Sources for such support have not yet been identified.
3. We will increase and sustain our efforts to bring COE partners, such as REITs, TIMOs, county Conservation Districts, TVA, county Conservation Districts, the National

Association of Resource Conservation and Development Councils, other federal land management agencies (e.g., Department of the Interior), and other relevant organizations in a mutually supported and mutually beneficial partnership.

4. Publish the findings of the many research projects supported by the USDA and other funding agencies in refereed journals, but also in proceedings, Forest Service technical reports, and on the platform provided by the AAMU J.F. Drake Memorial Learning Resources Center (the AAMU library). This will provide visibility to the numerous research projects of the FEWP faculty.

Organization of Strategic Plan

Forest Service funding for Alabama A&M University's Center of Excellence in Forestry and Ecology seeks to support two major program areas: Civil Rights (CR) capacity building and Human Resources (HR) multicultural workforce recruitment. We present the objectives for our partnership over the next five years in ways that demonstrate how they will contribute to the performance measures in these two areas: CR and HR. See [Appendix B](#) for details of FS Performance Objectives in these areas.

Objectives for Alabama A&M/Forest Stakeholder Partnerships for the Next Five Years

A. Capacity Building (CR in USDA-FS)

2. Build Capacity in the Center of Excellence in Forestry and Ecology.

- Objective 1a. Attract additional sponsoring partners to the AAMU Center of Excellence in Forestry. Strengthen existing partnerships to further develop the forestry program and achieve excellence in education, research and community engagement.
- Objective 1b. Enhance opportunities to strengthen students' professional skills outside of the classroom.
- Objective 1c. Maintain and enhance collections with emphasis on electronic full-text journals and enhance support for faculty and students in research and teaching.
- Objective 1d. Improve timeliness and accuracy of budgetary management of grants and agreements between the Forest Service and AAMU.
- Objective 1e. Pursue the establishment of an Education/Research/Outreach Center, with accompanying "school forest" managed by AAMU FEWP personnel and partners, where forestry, ecological and wildlife-oriented research, educational and outreach activities can be conducted.
- Objective 1f. Increase recruitment rate of qualified minorities, veterans, and other candidates into the forestry program

3. Strengthen the Academic Programs

- Objective 2a. Continue to offer and improve the professional curricula in forestry that qualifies graduates for employment or graduate degree programs in fields such as forestry, ecology, and wildlife biology. Seek input from additional partners to enhance the education programs and make our graduates even more competitive.
- Objective 2b. Meet and exceed all SAF (Society of American Foresters) standards for professional accreditation of the Bachelor's Degree in Forestry.
- Objective 2c. Replace retired faculty as soon as possible to maintain SAF accreditation requirements. Provide opportunities for faculty development.
- Objective 2d. Further strengthen the graduate education program to attract high quality graduate students, especially minorities, women, and veterans, in forestry and related natural resource fields.
- Objective 2e. Improve on the currently provided classroom, laboratory, and field exercises that promote hands-on work in teams and expose the students to the rigors of field work.

4. Conduct Research.

- Objective 3a. Strengthen existing collaborations and promote new collaborations between AAMU faculty and students with Forest Service scientists located on campus, other FS scientists, and additional outside partners in solving pertinent forestry and other natural resources issues.
- Objective 3b. Provide support during the fall and spring semesters to the FEWP faculty to seek external funding to support new, and maintain existing, research programs.
- Objective 3c. Increase exposure of undergraduate, and graduate, students to scientific research careers. Increase student awareness of career opportunities in the Research and Development branch of the USDA Forest Service and to other agencies that

conduct research.

- Objective 3d. Expand opportunities for graduate education in forestry, ecology, wildlife and related natural resources sciences.

4. Provide opportunities for experiential learning and student work experience.

- Objective 4a. Expand opportunities for students to receive paid hands-on training in forestry, wildland firefighting, or related disciplines while in school.
- Objective 4b. Ensure favorable training and career development experiences for student employees outside the classroom.
- Objective 4c. Coordinate with the USDA Forest Service campus liaison to improve student summer work experiences. Liaison with other agencies to coordinate student summer intern opportunities.
- Objective 4d. Use more students as teaching assistants, research assistants, tutors, webpage maintainers (presence on social network platforms). Provide them with leadership training and prescribed burning experience through the highly successful Fire Dawgs program.

5. Conduct public engagement.

- Objective 5a. Build community capacity through improved University and Forest Service public engagement to provide technical assistance and transfer the latest technology to promote sustainable communities.
- Objective 5b. Use students to conduct public engagement to enhance communication with future citizens and attract more students to the undergraduate education programs in the fields of forestry, wildlife biology, and ecology.
- Objective 5c. Increase public relations and marketing of the forestry program activities that engage the public, such as FireDawgs, Bankhead NF and Cahaba River/Lake Purdy projects.

B. Multicultural Workforce Strategic Initiative (HR in USDA-FS)

6. Attract and develop a highly-skilled and diverse workforce

- Objective 6a. Increase awareness of career opportunities available in natural resource fields, particularly forestry, for those individuals who traditionally have been underrepresented in these occupations.
- Objective 6b. Participate in national efforts to diversify the workforce in forestry and other natural resource professions.
- Objective 6c. Develop new marketing approaches to recruit for students in forestry and related natural resources.
- Objective 6d. Develop a joint recruitment effort to recruit nationwide for students in forestry and related natural resources.
- Objective 6e. Increase the diversity of students from underrepresented groups in undergraduate and graduate programs at AAMU related to forestry and related natural resource fields.
- Objective 6f. Recruit more transfer students into the undergraduate program.
- Objective 6g. Retain AAMU students in the Pathways program.
- Objective 6h. Host Pathways workshops and other associated seminars to help prepare students to successfully apply to Pathways positions.
- Objective 6i. Use information provided by the FS as to future workforce needs by discipline and encourage students to gain skills in those professional areas.
- Objective 6j. Prepare students for a successful and smooth transition from Pathways student to FS employee.

Each of the above-mentioned objectives is interrelated and integral to a fully functioning and productive COE. Recognizing these interrelationships, the objectives are discussed separately, with background information, current efforts, and future plans for strengthening each objective provided below.

Component A: CAPACITY BUILDING

Background: Since the early 1990s, the U.S. Department of Agriculture and the USDA Forest Service have used Capacity Building grants to strengthen the linkages among 1890 institutions, other colleges and universities, USDA, and private industry, while improving the quality of academic and research programs at the 1890 institutions. These Capacity Building grants focus on advancing cultural diversity in the scientific and professional workforce by attracting and educating more students from underrepresented groups. Alabama A&M University developed and has been maintaining a professionally-accredited academic program in forestry with the most recent full accreditation valid through 2018. This success is in large part due to the capacity building program of the USDA Forest Service.

Future Plans – Objective-Associated Tasks

Objective 1. Build Capacity in the Center of Excellence in Forestry and Ecology.

- **Objective 1a.** Attract additional sponsors and partners to the AAMU Center of Excellence in Forestry.
 - ✓ Continue to take advantage of the existing partnership with the Birmingham Water Works Board for training and outreach possibilities, and pursue additional opportunities.
 - ✓ Increase efforts and maintain persistence in our efforts to bring more COE partners such as REITs, TIMOs, the Tennessee Valley Authority (TVA), the Department of the Interior, Region 8 fire program, county Conservation Districts, the National Association of Resource Conservation and Development Councils, and other relevant organizations in a mutually supported and mutually beneficial partnership. Inform potential partners about opportunities to support and benefit from our student training program.
 - ✓ Pursue opportunities to partner with not-for-profit organizations such as The Nature Conservancy, land trusts, etc.
 - ✓ Work with other federal and State agencies to find a way for them to play a more active role in COE development through scholarships, employment opportunities, research partnerships, and capacity building.
 - ✓ Pursue a more active role, e.g., through the successful Fire Dawgs program, of the Alabama Cooperative Extension System.
- **Objective 1b.** Enhance professional development of students outside of the classroom.
 - ✓ Provide additional support for extracurricular student activities such as quiz bowl team and research presentation competitions at professional forestry meetings as well as technical and field competitions at the Southern Forestry Conclave.
 - ✓ Encourage students to design and conduct professional development workshops on campus as required of registered student organizations by AAMU Student Affairs.
 - ✓ Provide more hands-on learning opportunities in the field

- Objective 1c. Maintain and increase library collections with emphasis on electronic full-text journals and relevant books to enhance support for faculty and students in research and teaching.
 - ✓ LRC will provide access to books and journals through inter-library loans and new purchases and subscriptions. In addition, the library should seek to engage COE faculty and graduate students in bibliographic training to use these resources.
 - ✓
- Objective 1d. Improve timeliness and accuracy of budgetary management of grants and agreements between the Forest Service and AAMU.
 - ✓ AAMU Division of Business and Finance and FEWP Coordinator/COE Liaison will work closely together to monitor the expenditures made against FS Cooperative Agreements and Grants and will ensure timely (within 90 days) submission of invoices. The FEWP Coordinator and Budget Assistant will work with FS cooperators to meet quarterly deadlines for accrual reporting.

Objective 1e. Education/Research/Outreach Center and School Forest

- ✓ Continue to work with administrators to seek funds and other resources to establish a forest education and research center in northern Alabama operated by AAMU that would benefit students in the undergraduate and graduate academic programs, the public and research programs in upland hardwood silviculture. Graham Farm Nature Center has provided some opportunities to improve forestry education by using their property for the Forest Plan in the Capstone course. Bankhead Research and Education Center made some progress in land acquisition, but has stalled out in facility development. Now that the land has been purchased by the TNC, we are now eligible to apply for a Facilities grant from the NSF. AAMU campus forest land has been a research and education resource that has been more useful in the past 5 years than at any time. AAMU Ag. Research Station (WTARS) is showing more potential in the future as a research site for forestry.

Objective 1f. Increase recruitment rate. Additional funding for this objective would need to be identified and acquired.

- ✓ Continue to partially fund a forestry faculty member to conduct and coordinate student recruitment activities for the undergraduate forestry program, particularly to attract qualified minorities.
- ✓ Boost recruitment to at least 20 new well-qualified students (including transfer students) each year and graduate at least 10 students annually in Forestry by 2015.
- ✓ Strengthen coordination of recruitment activities with USDA Forest Service MWSI campus liaison.

Objective 2 Strengthen Academic Programs

- Objective 2a. Continue to offer and improve the professional curricula in forestry that qualifies graduates for employment or graduate degree programs in professional fields such as forestry, wildlife biology, and ecology.

- ✓ The undergraduate program in forestry needs additional refinements in the curricula. These include:
 - communication skills, including reading, writing and oral presentation skills;
 - further integration of GIS technology into the curricula;
 - integration of agroforestry, forestry consulting, forest business, urban forestry into the curricula;
 - exposure to issues related to public land management (e.g., developing an ecosystem-based management plan, managing at watershed level);
 - professional development including the ability to effectively work in teams; and further strengthening the capstone course series to provide hands-on experience in forest management planning.
 - ✓ Future curricular enhancements will need to focus both on academic quality enhancement (e.g., student learning outcomes assessment) and on interdisciplinary training. Development of specialty discipline “tracks” in the Forest Science major is planned for the next 5 years in areas such as GIS, Fish & Wildlife, Forest Business and Ecology.
 - ✓ The FS will provide information to AAMU on expected workforce changes in the next five years, including information on which professional series will be the focus of future hires. This could be used by AAMU faculty advisors as they advise students on coursework that will not only lead to an undergraduate degree, but also meet the X-118 standards for future careers in the Forest Service. One such area for potential development is Fisheries and Aquatic Biology.
- Objective 2b. Support a recruiter to focus on recruiting students for the forestry program at AAMU.
 - Objective 2c. Retain sufficient capable faculty and strengthen curricula to meet standards required for sustaining professional accreditation by the Society of American Foresters.
 - ✓ Maintain a minimum of eight capable faculty members in FEWP for training of future natural resource professionals.
 - Objective 2d. Strengthen the graduate education program to attract high quality graduate students in forestry and related natural resource fields, especially minorities and women.
 - ✓ Improvement of the graduate program in the FEWP and related fields is essential at AAMU. The curricula for graduate students should be interdisciplinary and integrative. In the next five years, the COE should enhance its efforts to provide high quality graduate training to students for placement in FS Research & Development career tracks. New courses in forest ecology need to be developed and offered, particularly at the doctoral level.
 - ✓ Objective 2e. Provide more opportunities for laboratory or field exercises that promote work in teams and expose the students to the rigors of field work.

Objective 3. Conduct Research.

- Objective 3a. Strengthen existing collaborations and promote new collaborations between AAMU faculty and students with Forest Service scientists and other outside partners in solving pertinent forestry and other natural resources issues.

- ✓ Cooperative research should continue to be multidisciplinary, wherever possible.
- ✓ The focus of this cooperative research should be upland hardwood silviculture, particularly in the Cumberland Plateau region; biodiversity conservation and wildlife ecology; agroforestry; and human dimensions of private forest landownership in the South, especially underserved communities.
- ✓ Future research programs should build on our successes in cooperative research in the past, but include a greater role for GIS and other integrative technologies, landscape ecology, and agroforestry.
- Objective 3b. Provide support to AAMU faculty outside of their regular teaching assignments to seek external funding to support new and maintain existing research programs and projects.
- Objective 3c. Increase exposure of undergraduate, and graduate, students to scientific research careers. Increase student awareness of career opportunities in the Research and Development branch of the USDA Forest Service and to other agencies that conduct research.
 - ✓ Provide information to students on opportunities such as professional seminars, conferences, and research work assignments.
 - ✓ Encourage student involvement in the scientific reading group developed in conjunction with FS scientists at AAMU.
 - ✓ Continue participation of FS scientists (those located at AAMU and those outside AAMU) on graduate committees.
 - ✓ Persist in encouraging students to partner with FS scientists to increase the scope and impact of their research.
- Objective 3d. Expand opportunities for graduate education in forestry, ecology, wildlife and related natural resources sciences.
 - ✓ AAMU/FS will encourage students to pursue graduate level training and research support opportunities in fields of science where the FS expects to have future workforce needs by increasing the opportunities for undergraduate students to directly participate research activities led by faculty mentors.
 - ✓ AAMU faculty will strive to identify opportunities for employment for graduate students upon completion of their degree requirements, including post-doctoral appointments as well as recruitment into permanent positions throughout the agency (all branches of the FS).
 - ✓ Continue to identify and develop pertinent undergraduate and graduate courses
- Objective 3e. Publish the findings of the many research projects supported by the USDA and other funding agencies in refereed journals, proceedings, Forest Service technical reports, and on the platform provided by the AAMU J.F. Drake Memorial Learning Resources Center (the AAMU library). This will provide visibility to the numerous research projects of the FEWP faculty, especially the projects that may not normally appear in the peer-reviewed literature. Update faculty websites to list such publications and links to them.

Objective 4. Provide Student Work Experience.

- Objective 4a. Continue to provide opportunities to strengthen students' professional skills and provide meaningful work experiences while in school.

- ✓ Plan and develop forestry work opportunities for students that are designed to match student interest in specific professional areas in the natural resource fields.
- ✓ Continue to integrate student bi-weekly employment and internships into faculty research projects in the field or in the lab that will enhance the education they are receiving in the classroom.
- ✓ Pursue collaborative work with the Birmingham Water Works and Sewage Board (BWVB) to assist in managing their 13,000-acre pine/hardwood forest, providing an opportunity for recruiting and training students in forest and natural resource management. Working with the BWVB will also provide the opportunity for recruiting inner city minority students from Birmingham to the AAMU Forestry, Ecology and Wildlife Program.
- Objective 4b. Ensure favorable training and career development experiences for student employees outside the classroom.
 - ✓ Help as many of the students as possible obtain certification as wildland firefighters (red carded) before graduation
 - ✓ Summer employment opportunities
 - ✓ Forestry Field Techniques course
 - ✓ Integrate field and lab exercises in existing courses in forestry and related sciences

Special assignments or projects that allow students to pursue more advanced training in specialty areas through experiential learning.
- Objective 4c. Coordinate with USDA Forest Service campus liaison to better prepare students for specific summer work assignments.

Faculty advisors will contact students, and their work supervisors, during the summer that are placed by the USDA Forest Service and other employers.

Use information on areas of future FS workforce needs to target student work experiences in key areas.
- 5. Objective 4d. Use more students as teaching assistants, research assistants, tutors, webpage maintainers (presence on social network platforms). Provide them with leadership training and prescribed burning experience through the highly successful Fire Dawgs program. Additional funding for this endeavor will be necessary. Sources for such support have not yet been identified.

In 2015 we employed a teaching assistant (TA) in Dendrology with success. The TA assisted primarily with labs. With available funding, this can be done in many of the forestry core courses, which is expected to improve retention, student engagement, and student support.

Objective 5. Conduct Public Outreach and Stakeholder Engagement.

Additional funding for this objective would need to be identified and acquired.

- Objective 5a. Build community capacity through improved University and Forest Service public outreach to provide technical assistance and transfer the latest technology to promote sustainable communities
 - ✓ Integrate research and extension in the Center of Excellence, especially in ways that promote outreach to minority and female farm and woodland owners and underserved patrons of our public forests. The current Land Management Training for Underserved Landowners is a good example of what can be done in this area.

- ✓ Continue to support the field tours, short courses and related technology transfer activities at the research site in Jackson County that have occurred in conjunction with the FS work unit on campus and the SAF local chapter.
- ✓ Coordinate with the Forestry Extension Specialist on campus to promote public outreach in the areas of upland hardwood silviculture and agroforestry opportunities.
- ✓ Maintain and update COE/FEWP website and presence of the program on social networking sites.

Objective 5b. Increase student involvement in public outreach events using new and existing forestry program activities including:

- ✓ Participating in the annual Earth Day festivals
 - ✓ Conducting an annual Forestry Fair on AAMU campus
 - ✓ Engaging with nearby public schools to involve students in creating outdoor classrooms and other nature studies
 - ✓ Conduct student outreach to attract more students to the undergraduate education programs in the fields of wildlife biology, ecology, and soil science.
 - ✓ At every opportunity, highlight that forest management is broader than just managing trees; it includes soil science, watershed management, recreation, wildlife management, opportunities for GIS and remote-sensing tools, and the preservation of cultural and archaeological sites.
- Objective 5c. Increase public relations and marketing of the forestry program activities that engage the public, such as FireDawgs, Bankhead NF and Cahaba River/Lake Purdy projects.
 - Coordinate with AAMU Public Relations and Marketing office to highlight program activities and accomplishments in University publications and on the AAMU website.
 - Continually update our departmental and forestry webpages with students activities and accomplishments
 - Coordinate with USDA Forest Service Southern Research Station to provide information about program activities and accomplishments for SRS publications and on the SRS and other Forest Service websites.
 - Contact local media outlets with press releases regarding significant program events for dissemination of program activities and accomplishments to the Huntsville and Birmingham communities and members of the public across Alabama.

Component B: Multicultural Workforce Strategic Initiative

Also see [Appendix D: MWSI Communication Strategy post Pathways](#)

Background: The USDA Forest Service is committed to ensuring that its future work force reflects our nation's increasingly diverse population. Thus, the national Multicultural Workforce Strategic Initiative program at Alabama A & M University is a unique strategy the Forest Service is utilizing to realize that goal. The primary purpose of the Initiative program is to attract students who traditionally have been underrepresented in the fields of forestry and other natural resource disciplines (e.g. agroforestry, botany, environmental, plant and soil sciences). Future success of the program depends upon strengthening the existing partnership of the Forest Service with the University and the University's commitment to the program as evidenced by a proactive role in recruitment of students. The MWSI partners with Alabama A&M as an integral part of the outreach, recruitment & retention effort for the USFS as well as the university programs that develop the quality employees that USFS is accustomed to converting from Alabama A&M.

Future Plans

Objective 6. Attract and Develop a Highly-Skilled and Diverse Workforce.

- **Outreach** to young people (K-12) who may not have considered forestry and the natural resource sciences as a viable career option.
 - **Objective 6a.** Increase awareness of career opportunities available in natural resource fields, particularly forestry, for those individuals who traditionally have been underrepresented in these occupations.
 - ✓ Continue to expose high school juniors and seniors to the type of work that is involved in careers in forestry and natural resources via the partnership programs with NACEE, etc.
 - ✓ Continue to provide exciting ways for young people to explore the field of forestry, encourage children to enjoy, appreciate, and embrace their responsibility to the world around them via the Junior Ranger Program, Smoky Bear Program, the Annual Forestry Fair.
 - ✓ Explore opportunities to build programs where college students mentor middle & high school mentees. The objective would be to have college students share their summer work experiences and to inspire the students to excel in school and consider careers in natural resources.
 - ✓ Provide Forest Service employees nationwide (especially AAMU alumni) with outreach materials to increase youth awareness of careers available within the Forest Service (PowerPoint programs, photos of minority students engaged in forestry and natural resources activities, photos of the Forestry Club in their AAMU t-shirts having fun, etc.).
 - ✓ Highlight that forest management includes disciplines such as soil science, wildlife management, GIS and remote sensing, watershed management, recreation, and socioeconomics.
 - ✓ Continue to partner with local schools to host Natural Resources Science Fairs and Conservation Education Outreach site visits, in which the expertise of the faculty and students can be shared.

- Objective 6b. Participate in national efforts to diversify the workforce in forestry and other natural resource professions.
 - ✓ Continue to assist SAF and NAUFRP in developing and implementing a national diversity plan for the natural resource professions. AAMU has a key role to play in these efforts.
 - ✓ Based on the partnership between AAMU and USFS, write the Communication Plan that will become part of the guidance as to how to operate within the new Pathways environment.
- **Recruitment** of potential students to maintain a viable and vigorous undergraduate program at AAMU. (Also see Appendix C.)
 - Objective 6c. Develop new marketing approaches to recruit for students in forestry and related natural resources.
 - ✓ Partner to develop and fund summer recruitment & development program, especially in coordination with their summer high school student hiring program.
 - ✓ Emphasize through workshops & seminars that natural resource jobs offer long-term careers and do not tend to be outsourced to other countries.
 - ✓ Utilize new technologies to reach the greatest number of potential students in a manner that captures their attention. Examples include:
 - Internet websites and links,
 - An interactive and animated web-page,
 - New brochures that include description of careers in urban forestry, law enforcement, agroforestry, and fire ecology,
 - CD with video of FS career and the AAMU forestry program,
 - Direct e-mails to select high school graduates, and
 - Attend large recruitment fairs organized by AAMU alumni.
 - Social networking sites such as Facebook
 - Objective 6d. Develop a joint effort to recruit nationwide for students in forestry and related natural resources.
 - ✓ Conduct recruitment at specific high schools throughout the country that are known for their science programs, especially the natural resources.
 - ✓ Expand the Summer Apprenticeship program to include high school students outside of Alabama. Additional funding for this objective would need to be identified and acquired.
 - ✓ Work with the AAMU Admissions Office to recruit students into FEWP
 - Objective 6e. Increase the diversity of students from underrepresented groups in undergraduate and graduate programs at AAMU related to forestry and related natural resource fields.
 - ✓ Meet and establish partnerships with middle and high school principals and counselors and enlist their help in recruitment.
 - Objective 6f. Recruit more transfer students into the undergraduate program.
 - ✓ Partner with local community and technical colleges to increase outreach efforts.
 - ✓ Develop articulation agreements with junior colleges in the South that have high minority enrollment (e.g., African American, Hispanic) to identify potential forestry majors from among their students and facilitate the transfer of credits into AAMU as these students enter the bachelor's degree program. But when possible,

utilize instead the Alabama Articulation and General Studies Committee's Statewide Transfer and Articulation Reporting System (AGSC-STARS).

- ✓ Use the "Fair for Undeclared Majors" at AAMU to attract sophomores from other schools and departments on campus.

➤ **Retention** of initiative students.

- Objective 6g. Retain AAMU students in the Pathways program.
 - ✓ Assist students on summer placements in finding suitable housing and transportation (including reimbursement for these expenses).
 - ✓ Ensure the availability of mentors for students (e.g., NFs in AL mentor program).
 - ✓ Take steps to pursue consideration the student stipend for Pathways Intern Indefinite students.

➤ **Placement** of AAMU Pathways graduates in career-conditional appointments in the USDA Forest Service that is likely to provide positive experiences for both the student and the employer.

- Objective 6h. Host Pathways workshops and other associated seminars to help prepare students to successfully apply to Pathways positions.
 - ✓ Workshops
 - ✓ Mock Interviews
 - ✓ Resume review and guidance
- Objective 6i. Use information provided by the FS as to future workforce needs by discipline and encourage students to gain skills in those professional areas.
 - ✓ Review Regional and Station staffing plans to facilitate appropriate placements for students based on their major in college and any particular skills and abilities they learned along the way.
- Objective 6j. Prepare students for a successful and smooth transition from Pathways student to FS employee.
 - ✓ Arrange short-term work assignments for orientation during Semester and Spring breaks.
 - ✓ Contact AAMU alumni to build a support system for newly placed employees.
 - ✓ Make students aware of their personal responsibility for accepting job assignments upon graduation and in working to make them successful.
 - ✓ Facilitate continued networking among former AAMU graduates (not just the new graduates). AAMU alumni office, FEWP faculty, and MWSI staff could share in this responsibility.
- Objective 6k. Prepare FS hiring officials to facilitate a smooth transition of Pathways students to their new role as FS employees.
 - ✓ Work closely with hiring officials to explain the Pathways program policies, the advantages of supporting students selected from AAMU, and the key role they play in making this transition to working for the FS successful.
 - ✓ Encourage FS managers to consider filling vacancies at the entry level rather than at the full performance level to give students a wider array of job opportunities.
 - ✓ Encourage FS managers to:
 - Assist Pathways graduates in finding suitable housing and transportation,
 - Develop career-enhancing work assignments, and
 - Carefully select compatible mentors for these new employees.

- ✓ Whenever possible, convert AAMU Pathways graduates to permanent FS employees at the highest grade level for which the student is eligible. [Note: Students with a GPA $\geq$ 3.0 may be hired at the GS-7 level.]
- **Development of AAMU students.**
 - Objective 6l. Partner to host student development, training, experiential, and certification opportunities that expose participants to forest science and tools used in achieving forest health; enhance student preparation and development of marketable job skills & experience; increase competitiveness for employment opportunities, particularly Pathways Internships.
 - ✓ Partner to host residential training programs like the AAMU Summer Apprenticeship Program & onsite training opportunities.
 - ✓ Serve as a duty station for grant funded positions such as Greening Youth Foundation positions.
 - ✓ Develop student “Toolkits for Success” that will include fact sheets on government resumes, general resume writing tips, presentation tips, public speaking tips, interview guide, personal time management guide, personal goal setting.

Summary

The next five years will be a critical time for the growth and strengthening of Center of Excellence in Forestry at AAMU. The USDA Forest Service and Alabama A&M University will work together to build a program of education, research, and outreach that meets the needs of both institutions and attracts others. We will strive to strengthen our partnership and expand the partnership to include other governmental and industry partners. The COE at AAMU will actively pursue our goals to improve the accredited undergraduate forestry degree programs; recruit minority students into the forestry and other natural resource and environmental fields; further develop the forestry and wildlife graduate programs; integrate agroforestry research and technology transfer, conduct cutting-edge forestry and biodiversity research, especially in upland hardwood systems; and provide outreach services to landowners, particularly the underserved communities or groups. The COE will continue to play a critical role for diversifying the workforce of the FS and other governmental and private entities.

Assessment of Accomplishments
FIVE-YEAR PLAN
FY 2006 – FY 2010
and
FIVE-YEAR PLAN
FY 2011 – FY 2015

FORESTRY, ECOLOGY
AND WILDLIFE PROGRAM

ALABAMA A&M UNIVERSITY
NORMAL, ALABAMA

Performed by Dr. William Stone, Asst. Coordinator FEWP

July 27, 2010

Performed by Dr. William Stone, Coordinator FEWP

July 22, 2015

U.S.D.A. FOREST SERVICE
CENTER OF EXCELLENCE
IN FORESTRY AND ECOLOGY

USDA COE: CAPACITY BUILDING

Background: Since the early 1990s, the U.S. Department of Agriculture and the USDA Forest Service have used Capacity Building grants to strengthen the linkages among 1890 institutions, other colleges and universities, USDA, and private industry, while improving the quality of academic and research programs at the 1890 institutions. These Capacity Building grants focus on advancing cultural diversity in the scientific and professional workforce by attracting and educating more students from underrepresented groups. Over the past 15 years, Alabama A&M University has developed a professionally-accredited academic program in forestry; part of this success is due to the capacity building program of the USDA Forest Service.

2006-2010 Assessment – Objective-Associated Tasks

Academics

1. Improve and diversify curricula in FEWP: “A”
 - More writing and speaking assignments, student outcomes plan
 - GIS course, incorporation into Capstone
 - Agroforestry expertise present, no formal integration into courses
 - Public land management issues exposure increased via new capstone, policy and NR Management courses
 - Focus on soil science not pursued
 - Additional professional development via meetings, conclave, Fire dawgs capstone, service projects, etc.
 - Quality enhancement, integration of disciplines via capstone
 - Information on workforce changes
2. Retain sufficient capable faculty and strengthen curricula to meet accreditation standards: “A”
 - 8 faculty maintained, program re-accredited in 2008
 -
3. Conduct student outreach to attract more students to the undergraduate education programs in fields of wildlife biology, ecology and soil science: “B”
 - Outreach/recruiting for wildlife biology, ecology and soil science
 - Highlighting disciplines involved in forest management
 - Faculty person hired with heavy recruitment responsibilities
 - Still few prospects for inclusion of AAMU soil science students in MWSI
4. Strengthen graduate education program to attract high quality graduate students in forestry and related natural resource fields: “B”
 - Graduate student numbers and quality enhanced via FS, CFEA, McIntire-Stennis
 - Graduate level online forestry course developed
 - Graduate curriculum expanded in forestry and ecology via CFEA
 - Few graduate students have chosen career paths in research &

development in FS (exceptions included Tim Baldwin, Nevia Brown, Thomas Tenyah)

–
5. Maintain library collections with emphasis on electronic full-text journals and enhance support for faculty and students in research teaching: “B”

- Access and quality of collections have greatly improved
- Bibliographic training available but faculty and students have not taken full advantage of it

6. Attract additional partners and sponsors to the COE: “B-“

- Additional partners in industry and federal/state agencies have been attracted or are re-engaging, at least recently (Weyhaeuser, International Paper, BLM, AFC),
- Fire Dawg MOU with AFC
- Recruitment initiative with BLM
- Employment/internship opportunities with IP
- Little additional scholarship/tuition support attracted

–
7. Improve timeliness and accuracy of budgetary management of grants and agreements between FS and AAMU – “D-“

- University does not request reimbursement in a timely fashion
- Major delays in budget setups
- Inefficient financial management system at AAMU causes an array of problems
- Promising meeting with USFS on these issues last fall
- Some excellent staff people in the management stream (understaffed?)

Research

1. Strengthen existing collaborations and promote new collaborations between AAMU faculty and students and Forest Service scientists on campus: “B-“

- Major partnership with FS/AAMU on NSF-CFEA, now re-funded; some synergy problems
- Additional research collaborations with Drs. Schweitzer, Clark, Ruark and Scott
- More limited opportunities in recent years

2. Identify and address the information and tech transfer needs of underserved landowners in the South: “A”

- Workshops and related research (including graduate student training) conducted to benefit underserved communities, with FS/COE support and other external funding (Christian is PI on large new grant, Fraser Co-PI)

–
3. Provide support to AAMU faculty outside regular teaching assignments to seek external funding to support new and maintain existing research program and projects: “C”

Student Work Experience

1. Continue providing opportunities to strengthen students' professional skills and provide meaningful work experiences: "B+"
 - Work experience opportunities, especially with faculty, grew dramatically due to additional funding from NSF CFEA; COE funding remained stable
 - Professional skill development via fire dawgs, conclave, outreach, field/lab work experiences, especially with faculty, with exposure to research
 - Fisheries minor added to target student work experience to future FS workforce needs, few other examples
 - Work with BWWB has benefitted student training/outreach, but few of these students have been recruited into the program
 -
2. Ensure favorable training and career development experiences for student employees outside classroom: "A"
 - Many more quality opportunities now available

Research/Academic Opportunities for Faculty Students

1. Strengthen faculty capabilities and opportunities for graduate education in forestry, agroforestry, ecology and related sciences: "B"
 - Level COE funding, but funding from NSF and other sources increased capacity overall
 - Opportunities to gain research experiences is increasing (NSF REU and URM programs, workstudy with faculty, CFEA/COE funding, etc.
 - Few difficulties placing graduate students
2. Continue providing classroom, laboratory or field experiences that promote work in teams and expose the students to rigors of field work: "A-"
 - See earlier; many opportunities for teamwork exercises in the field, including Fire Dawgs, research experiences with faculty (CFEA, McIntire-Stennis, COE), forestry field techniques course and other core courses,
3. Continue to expose undergraduate and graduate students to research and development branch of FS and other research programs: "B"
 - Student work experiences with FS scientists; undergraduate experiences could be increased

Public Outreach

1. Build community capacity through the improved university and Forest Service public outreach to provide technical assistance and transfer the latest technology to promote sustainable communities: "B"
 - Quality workshops and demonstration projects

- Less success in reaching people via websites
- Not much interaction with forest extension (but this is changing)
- Some outreach through CFEA

Stay the Course or New Directions?

- Funding is inadequate not stable
- Increasing size of MWSI? Yes, if funds available
- Collaborative NRES degree in Natural Resource -Management/Environmental Biology?? Could expand in new disciplines
- Departmental Status? Not at this time
- Faculty professional development at FS facilities?
- More proactive working relationship with forest extension? Yes, if possible with new agent
- Build soil science component? Not at this time
- Add partners? Yes, perhaps our biggest need is to expand into private sector

2011-2015 Assessment – Objective-Associated Tasks

Objective 1. Build Capacity in the Center of Excellence in Forestry and Ecology. C+

- **Objective 1a.** Attract additional sponsors and partners to the AAMU Center of Excellence in Forestry. B-
 - ✓ Pursue additional opportunities for partnering with the Birmingham Water Works and Sewage Board for training and outreach possibilities. YES!
 - ✓ Contact other forest industries in the South (e.g., Weyerhaeuser) about joining the COE. YES, but industries still not participating
 - ✓ Pursue opportunities to partner with Nonprofits through COE, such as The Nature Conservancy YES!
 - ✓ Encourage other federal and State agencies to play a more active role in COE development through scholarships, employment opportunities, research partnerships, and capacity building. YES, but not a lot of active support realized
 - ✓ Pursue a more active role for the Alabama Cooperative Extension System as a partner in COE relative to its activities in nature resource management, education and outreach YES! FIREDAGS
 - ✓ Provide potential partners with opportunities to support and benefit from our student training program. YES! But little \$ support from additional partners acquired
- **Objective 1b.** Enhance professional development of students outside of the classroom. B+
 - ✓ Provide additional support for extracurricular student activities such as quiz bowl team and research presentation competitions at professional forestry meetings as well as technical and field competitions at the Southern Forestry Conclave. This has not occurred consistently, but there has been a marked improvement since 2011. Encourage students to design and conduct professional development workshops

on campus as required of registered student organizations by AAMU Student Affairs.
This has not really occurred

✓ PROVIDE MORE HANDS-ON LEARNING OPPORTUNITIES IN THE FIELD

- Objective 1c. Maintain and increase library collections with emphasis on electronic full-text journals and enhance support for faculty and students in research and teaching. A-
 - ✓ LRC will provide access to books and journals through inter-library loans, and will offer literature search capability. In addition, the library should seek to engage COE faculty and graduate students in bibliographic training to use these resources. YES to the first part, but as much to the bibliographic training
 - ✓ ENHANCED ACQUISITION OF RESEARCH DATABASES AND “APPS”

Objective 1d. Improve timeliness and accuracy of budgetary management of grants and agreements between the Forest Service and AAMU. D-AAMU Division of Business and Finance and FEWP Coordinator/COE Liaison will work closely together to monitor the expenditures made against FS Cooperative Agreements and Grants and will ensure timely (within 90 days) submission of invoices. The FEWP Coordinator and Budget Assistant will work with FS cooperators to meet quarterly deadlines for accrual reporting. The battle to achieve timely billing on cooperative agreements and other contracts and grants continues, but seems to be a war that can not be won, despite repeated efforts by FEWP and USDA Forest Service.

Objective 1e. Education/Research/Outreach Center and School Forest B-

- ✓ Continue to work with administrators to seek funds and other resources to establish a forest education and research center in northern Alabama operated by AAMU that would benefit students in the undergraduate and graduate academic programs, the public and research programs in upland hardwood silviculture. Graham Farm Nature Center has provided some opportunities to improve forestry education by using their property for the Forest Plan in the Capstone course. Bankhead Research and Education Center made some progress in land acquisition, but has stalled out in facility development. AAMU campus forest land has been a research and education resource that has been more useful in the past 5 years than at any time. AAMU Ag. Research Station (WTARS) showing more potential in the future as a research site for forestry.

Objective 1f. Increase recruitment rate C

Continue to partially fund a forestry faculty member to conduct and coordinate student recruitment activities for the undergraduate forestry program, particularly to attract qualified minorities. YES! Boost recruitment to at least 20 new students (including transfer students) each year and graduate at least 10 students annually in Forestry by 2015. 20+ Students being recruited yearly, but the quality or financial support has not been sufficient to graduate them since the loss of MWSI student employment program. Graduation rate in 2014 poorest on record!

- ✓ Strengthen coordination of recruitment activities with USDA Forest Service MWSI campus liaison. YES!

Objective 2 Strengthen Academic Programs A-

- Objective 2a. Continue to offer and improve the professional curricula in forestry that qualifies graduates for employment or graduate degree programs in professional fields such as forestry, wildlife biology, and ecology. A
 - ✓ The undergraduate program in forestry needs additional refinements in the curricula. These include:
 - communication skills, including reading, writing and oral presentation skills;
 - further integration of GIS technology into the curricula;
 - integration of agroforestry or forest business into the curricula;
 - exposure to issues related to public land management (e.g., developing an ecosystem-based management plan, managing at watershed level);
 - professional development including the ability to effectively work in teams; and further strengthening the capstone course series to provide hands-on experience in forest management planning. YES!
 - ✓ Future curricular enhancements will need to focus both on academic quality enhancement (e.g., student learning outcomes assessment) and on interdisciplinary training. Development of specialty discipline “tracks” in the Forest Science major is planned for the next 5 years in areas such as GIS, Fish & Wildlife, Forest Business and Ecology. YES!
 - ✓ The FS will provide information to AAMU on expected workforce changes in the next five years, including information on which professional series will be the focus of future hires. NO! This could be used by AAMU faculty advisors as they advise students on coursework that will not only lead to an undergraduate degree, but also meet the X-118 standards for future careers in the Forest Service. One such area for potential development is Fisheries and Aquatic Biology.
- Objective 2b. Support a recruiter to focus on recruiting students for the forestry program at AAMU. YES! A+
- Objective 2c. Retain sufficient capable faculty and strengthen curricula to meet standards required for sustaining professional accreditation by the Society of American Foresters.
 - ✓ Maintain a minimum of eight capable faculty members in FEWP for training of future natural resource professionals. A+
 - ✓ Yes, although 2 vacancies currently exist among tenured faculty
- Objective 2d. Strengthen the graduate education program to attract high quality graduate students in forestry and related natural resource fields, especially minorities and women. A-
 - ✓ Improvement of the graduate program in the FEWP and related fields is essential at AAMU. The curricula for graduate students should be interdisciplinary and

- integrative. In the next five years, the COE should enhance its efforts to provide high quality graduate training to students for placement in FS Research & Development career tracks. New courses in forest ecology need to be developed and offered, particularly at the doctoral level. Yes!, but need some program organization (tracks)
- ✓ Objective 2e. Provide more opportunities for laboratory or field exercises that promote work in teams and expose the students to the rigors of field work. YES

Objective 3. Conduct Research. B

- Objective 3a. Strengthen existing collaborations and promote new collaborations between AAMU faculty and students with Forest Service scientists located on campus and other outside partners in solving pertinent forestry and other natural resources issues. B
 - ✓ Cooperative research should continue to be multidisciplinary, wherever possible. Yes
 - ✓ The focus of this cooperative research should be upland hardwood silviculture, particularly in the Cumberland Plateau region; biodiversity conservation and wildlife ecology; agroforestry; and human dimensions of private forest landownership in the South, especially underserved communities. Yes!
 - ✓ Future research programs should build on our successes in cooperative research in the past, but include a greater role for GIS and other integrative technologies, landscape ecology, and agroforestry. Yes! Although Agroforestry research has declined
 - ✓
- Objective 3b. Identify and address the information and technology transfer needs of underserved forest landowners in the South. Yes! B
- Objective 3c. Provide support to AAMU faculty outside of their regular teaching assignments to seek external funding to support new and maintain existing research programs and projects. Yes! A-
- Objective 3d. Increase exposure of undergraduate, and graduate, students to scientific research careers. Increase student awareness of career opportunities in the Research and Development branch of the USDA Forest Service and to other agencies that conduct research. B+
 - ✓ Provide information to students on opportunities such as professional seminars, conferences, and research work assignments. Yes!
 - ✓ Encourage student involvement in the scientific reading group developed in conjunction with FS scientists at AAMU. Yes!, but not even across curriculum
 - ✓ Continue participation of FS scientists (those located at AAMU and those outside AAMU) on graduate committees. Yes!
 - ✓ Persist in encouraging students to partner with FS scientists to increase the scope and impact of their research. Yes!
- Objective 3e. Expand opportunities for graduate education in forestry, ecology, wildlife and related natural resources sciences. B

- ✓ AAMU/FS will encourage students to pursue graduate level training and research support opportunities in fields of science where the FS expects to have future workforce needs by increasing the opportunities for undergraduate students to directly participate research activities led by faculty mentors. Yes!
- ✓ AAMU faculty will strive to identify opportunities for employment for graduate students upon completion of their degree requirements, including post-doctoral appointments as well as recruitment into permanent positions throughout the agency (all branches of the FS). Yes, some success at this recently
- ✓ Continue to identify and develop pertinent undergraduate and graduate courses

Yes, but not always possible to teach because of low enrollment issues. Need to organize tracks and have more students taking common core courses.

Objective 4. Provide Student Work Experience. A+

- Objective 4a. Continue to provide opportunities to strengthen students' professional skills and provide meaningful work experiences while in school. A+
 - ✓ Plan and develop forestry work opportunities for students that are designed to match student interest in specific professional areas in the natural resource fields. Yes
 - ✓ Integrate student bi-weekly employment into faculty research projects in the field or in the lab that will enhance the education they are receiving in the classroom. Yes, and research internships also
 - ✓ Pursue collaborative work with the Birmingham Water Works and Sewage Board (BWVB) to assist in managing their 13,000-acre pine/hardwood forest, providing an opportunity for recruiting and training students in forest and natural resource management. Working with the BWVB will also provide the opportunity for recruiting inner city minority students from Birmingham to the AAMU Forestry, Ecology and Wildlife Program. Yes!!!!!!!!!!
- Objective 4b. Ensure favorable training and career development experiences for student employees outside the classroom. A
 - ✓ Summer employment opportunities Yes
 - ✓ Forestry Field Techniques course Yes, recent changes to scheduling this course(s) may help with this objective
 - ✓ Integrate field and lab exercises in existing courses in forestry and related sciences Special assignments or projects that allow students to pursue more advanced training in specialty areas through experiential learning. Yes!, but not even across the curriculum
- Objective 4c. Coordinate with USDA Forest Service campus liaison to better prepare students for specific summer work assignments. C+

Faculty advisors will contact students, and their work supervisors, during the summer that are placed by the USDA Forest Service and other employers. No Use information on areas of future FS workforce needs to target student work experiences in key areas.

Objective 5. Conduct Public Outreach and Stakeholder Engagement. B-

- Objective 5a. Build community capacity through improved University and Forest Service public outreach to provide technical assistance and transfer the latest technology to promote sustainable communities D+
 - ✓ Integrate research and extension in the Center of Excellence, especially in ways that promote outreach to minority and female farm and woodland owners and underserved patrons of our public forests. The current Land Management Training for Underserved Landowners is a good example of what can be done in this area. Poor
 - ✓ Continue to support the field tours, short courses and related technology transfer activities at the research site in Jackson County that have occurred in conjunction with the FS work unit on campus and the SAF local chapter. Poor
 - ✓ Coordinate with the Forestry Extension Specialist on campus to promote public outreach in the areas of upland hardwood silviculture and agroforestry opportunities. Poor
 - ✓ Maintain and update COE/FEWP website. Poor

Objective 5b. Increase student involvement in public outreach events using new and existing forestry program activities including: A

- ✓ Participating in Earth Day festivals Yes
 - ✓ Conducting an annual Forestry Fair on AAMU campus Yes
 - ✓ Engaging with nearby public schools to involve students in creating outdoor classrooms and other nature studies Yes
 - ✓ Conduct student outreach to attract more students to the undergraduate education programs in the fields of wildlife biology, ecology, and soil science. Yes
 - ✓ At every opportunity, highlight that forest management is broader than just managing trees; it includes soil science, watershed management, recreation, wildlife management, opportunities for GIS and remote-sensing tools, and the preservation of cultural and archaeological sites. Yes
- Objective 5c. Dedicate a substantial portion of Capacity Building funds and other resources to accomplish public engagement activities through faculty support, travel or materials acquisition. C+

Summary

The next five years will be a critical time for the growth and strengthening of Center of Excellence in Forestry at AAMU. The USDA Forest Service and Alabama A&M University will work together to build a program of education, research, and outreach that meets the needs of both institutions and attracts others. We will strive to strengthen our partnership and expand the partnership to include other governmental and industry partners. The COE at AAMU will actively pursue our goals to improve the accredited undergraduate forestry degree programs; recruit minority students into the forestry and other natural resource and environmental fields; further develop the forestry and wildlife graduate programs; integrate agroforestry research and

technology transfer, conduct cutting-edge forestry and biodiversity research, especially in upland hardwood systems; and provide outreach services to landowners, particularly the underserved communities or groups. The COE will continue to play a critical role for diversifying the workforce of the FS and other governmental and private entities.

Staying the Course and New Directions for COE in 2011-2015: What are the Priorities?

- Increase Funding for Public Engagement, Research Training and Recruitment/Retention
- Rebuilding MWSI using COE funding, Internships/Apprenticeships and Mentoring
- Collaborative NRES degree in Natural Resource -Management/Environmental Biology?
- Departmental Status? Perhaps in the next 10 years
- Faculty professional development at FS facilities
- More proactive working relationship with forest extension in CALNS
- Build concentrations in forest business, ecology, agroforestry or urban forestry
- Add more partners! Some success, but still not attracting the Private Sector (except to hire our graduates)

Exhibit II-3.

FEWP Coordinator and Assistant Coordinator Job Descriptions

Position Title: Program Coordinator
Position Title: Assistant Program Coordinator
Forestry, Ecology & Wildlife Program
Department of Natural Resources and Environmental Sciences
School of Agricultural and Environmental Sciences
Alabama A&M University

Background:

The Forestry, Ecology & Wildlife Program (FEWP) was established in 1993 through a Memorandum from the Chair of the Department of Plant and Soil Sciences (SPS) and the Dean of the School of Agricultural and Environmental Sciences (SAES). This document describing the roles and functioning of the FEWP Coordinator and Assistant Coordinator was presented to the Interim President of Alabama A&M University requesting action on departmental reorganization in 2007 and was approved by the faculty members in FEWP. Both options for the Bachelor of Science degree in Forestry were accredited by the Society of American Foresters in 2002. FEWP became a semi-autonomous, degree-granting academic unit with a separate budget from the Department of Biological and Environmental Sciences (BES). In addition to teaching and related activities, faculty members in FEWP conduct research, supervise graduate students, conduct community outreach activities, and serve numerous professional societies. FEWP receives substantial financial support through a partnership with the USDA Forest Service as a Center of Excellence in Forestry and Ecology (COE). The Coordinator of FEWP also serves as the Coordinator of COE. In 2007, FEWP reviewed its administrative structure during its self-evaluation process for professional accreditation. A new position, Assistant Program Coordinator, was created to respond to needs related to growth and development of the academic, outreach, and research programs in forestry.

Functions:

The Coordinator reports to the Chair of BES and, through him, to the Dean of the College of Agricultural Life, and Natural Sciences (CALNS). The Director coordinates the undergraduate forestry program and interacts most intensively with the USDA Forest Service and Research Work Unit located within BES. The Coordinator takes a leadership role in expanding teaching, research and public service activities in forestry, ecology, wildlife biology, and natural resource management. The Coordinator is recommended by FEWP faculty to the Chair and Dean, and serves for five years. His or her position may be renewed for an additional two years upon the recommendation of FEWP faculty, the re-appointment by the Chair and Dean, and the willingness of the Coordinator to serve. The FEWP Coordinator may not serve more than seven consecutive years.

The Assistant Program Coordinator is recommended by FEWP faculty and appointed by the Chair and Dean to serve for two years with a possible extension of two additional years with the approval of FEWP faculty, BES Chair, and CALNS Dean. The Assistant Program Coordinator primarily coordinates activities that affect undergraduate students in the forestry program. He or she also assists the Coordinator with administrative responsibilities listed below. The Assistant Program Coordinator may be considered for the Coordinator position upon its vacancy, but is not entitled or required to serve in this capacity.

Duties and Responsibilities:

Coordinator of FEWP:

The Coordinator performs a diverse array of administrative tasks in addition to his/her regular faculty duties and responsibilities. These include, but are not limited to:

- Coordinating faculty, administrative staff, students and consultant activities
- Preparing and submitting program progress reports to program sponsors
- Preparing and submitting personnel action forms for faculty, staff and students
- Preparing, submitting and justifying the program budget
- Facilitating outreach activities to the community, state, region and nation.
- Updating and implementing a strategic plan for the program
- Developing proposals to fund faculty, staff, and student wages and acquire resources
- Developing relations with external agencies who support program activities
- Developing relations with internal and external partners to provide program opportunities for faculty and students
- Representing the forestry program in local, state, regional and national meetings
- Providing budget reports to FEWP Principal Investigators
- Facilitating discussion and agreements on curricula, budget, and other administrative matters
- Promoting scholarship – proposal writing, grant management, presentations and publications

Assistant Program Coordinator:

- Facilitating employer visits for student job interviews
- Coordinating and implementing student recruiting strategy – Summer Apprenticeship, Articulation Agreements, School visits, etc.
- Facilitating maintenance of program resources (equipment, vehicles, labs etc.)
- Preparing reports on student enrollment, advising and graduation
- Providing orientation/training for new faculty, staff and students
- Collaborating with other AAMU entities on student recruitment and retention efforts
- Coordinating work/study students
- Alumni relations
- Also Assists the Coordinator in his responsibilities to:
 - Prepare and submit program progress reports to program sponsors
 - Update and implement a strategic plan for the program in areas of student involvement

Required Knowledge, Skills and Abilities:

The Coordinator must be a tenured faculty member within FEWP who has an earned Ph.D. in Forestry, Ecology, Wildlife or a related natural science from an accredited University or College. He or she must demonstrate ability to perform the duties and responsibilities listed above.

The Assistant Program Coordinator is not required to be tenured, but must hold a tenure-track position in FEWP. He or she must demonstrate ability to perform the duties and responsibilities listed above.

Both the Coordinator and Assistant Coordinator will be evaluated annually by the faculty in FEWP following consultation with students, staff, and Center stakeholders

Compensation:

The Coordinator receives 25% release time from faculty duties to coordinate administrative duties for the FEWP from the University and up to 25% from COE..

The Assistant Program Coordinator of Student Affairs receives up to 25% release time from COE.

A student recruitment coordinator may also receive up to 25% release time from COE.

Exhibit II-4.

Recent Institutional Student Learning Outcomes Assessment Results for FEWP

Annual Assessment Report

Assessment Cycle: 2016 – 2017

Program Name: Forestry Ecology and Wildlife (BS in Forestry), BES Dept/CALNS,
Dr. William E. Stone, Coordinator

University Mission: Alabama Agricultural and Mechanical University is a public, comprehensive 1890 Land-Grant institution, committed to access and opportunity, and dedicated to intellectual inquiry. The application of knowledge and excellence in teaching, research and service is responsive to the needs of a diverse student population and the social and economic needs of the state and region. The University offers contemporary baccalaureate, master's, educational specialist and doctoral level degrees to prepare students for careers in the arts, sciences, business, engineering, education, agriculture and technology. As a center of excellence, the University is dedicated to providing a student-centered educational environment for the emergence of scholars, scientists, leaders and critical thinkers, who are equipped to excel through their contributions and leadership in a 21st century national and global society.

Program Purpose: The *Forestry, Ecology, and Wildlife Program* (FEWP), as the part of the total university, seeks to reflect the mission of the traditional land-grant institution, combining education, research, and service to the public and the forestry profession. Alabama A&M University remains committed to being the nation's premier institution for preparing professionally trained African-American foresters. The undergraduate degree program is designed to educate broad based, ecologically sensitive resource managers. Such a background will enable graduates to succeed as professional land managers and practice conservation of forest and other natural resources. Faculty and students in the FEWP conduct basic and applied research of forest ecosystems and resources to provide needed information to land managers, resource planners, scientists, and society. As part of a historically black college or university, the FEWP addresses the needs of capable students who as a group are underrepresented in the forestry profession, as well as the needs of minority landowners that have historically been underserved by the forestry profession.

IMPACT Statement:

The Forestry B.S. degree is currently accredited by the Society of American Foresters through 2018. It is the first, and still the only, professionally accredited forestry degree at a historically black college or university. Most of the nation's black foresters were trained at Alabama A&M University. The program is a vital education program at Alabama A&M University that contributes to the University's tri-fold mission of education, research, and public service. The program has performed assessment of student learning outcomes through detailed surveys of alumni and their employers for a decade. Current students are assessed through performance in core courses and a capstone course series that integrates and synthesizes all program student learning outcomes from previous courses. The capstone experience (two courses totaling 6 credit hours) requires the students to produce and defend a comprehensive forest plan to the faculty and landowners. The development of this more demanding capstone experience has occurred in the last four years in response to review and recommendations of the SAF accreditation committee. The program assessment focuses on the capstone course and the SAF "core competencies" demonstrated in core courses required in the major. The focal assessment is aided by, among other things, student performance in professional competitions with forestry students from other Universities, student job/intern evaluations, and career placement data. Principle findings of student learning outcomes assessment are that students have benefitted from recent measures to strengthen their written and verbal communication skills and forest ecology competency which have previously been identified as weaknesses.

Student Learning Outcomes	Assessment Methods	Performance Targets	Assessment Results	Improvement Plans	Improvements Implemented
FOR-1. Sound Judgment in Use of Forest Ecology SAF Core Competency A. Ecology and Biology: Competencies must be documented as an: 1. Understanding of taxonomy and ability to identify forest and other tree species, their distribution, and associated vegetation and wildlife. 2. Understanding of soil properties and processes, hydrology, water quality, and watershed	1. Forest Plan in Forestry Capstone Course (NRE 497) 2. Dendrology Course Summary (NRE 282) 3. Aggregate course performance in Ecology SLO in Wildlife-Forestry course (NRE 387)	We intend to achieve a proficiency of 80% or higher in Forest Ecology SLOs in the Capstone Course using a rubric for the forest plan that in scored by a panel of forestry experts. We intend to score a 70% proficiency or higher using a rubric for Forest Ecology SLOs in Dendrology We intend to	The forest plans in our capstone course (NRE 497) were rated by the faculty in the low 80's score range for demonstrated knowledge and skills in forest ecology. Students are still struggling with the application of forest ecology to management decisions, but performing at an acceptable level. The adjunct instructor in Dendrology (NRE 282) did not perform the	The Forest Ecology lab has been used for extra lecture material in past years, but has recently incorporated more hands-on lab exercises. Similarly, replacing a term paper with hands-on lab exercises and written reports last year improved performance from the mid 70's to mid 80's. Students also scored better on Final exam as a result of more experiential learning. We will continue to implement more data collecting exercises, especially in the multi-class field trip in the junior core courses. Continue instruction with a single instructor in the course, and evaluate which of two instructors has the better overall performance.	See improvements in the column on the left.

functions. 3. Understanding of ecological concepts and principles including the structure and function of ecosystems, plant and animal communities, competition, diversity, population dynamics, succession, disturbance, and nutrient cycling. 4. Ability to make ecosystem, forest, and stand assessments. 5. Understanding of tree physiology and the effects of climate, fire, pollutants, moisture, nutrients, genetics, insects and		achieve a 75% proficiency on Forest Ecology SLOS in the Wildlife Forestry Relationships course using the assignment-SLO contingency Table developed for the course.	forest ecology assessment in 2015-16. Students in NRE 387 improved their proficiency in forest ecology learning objectives from 75% to nearly 85% as a result of more hands-on lab exercises that were conducted for the first time this year. Assessment of course-level student-learning outcomes in our Forest Ecology course (NRE 379) revealed that students performed better on SLOs with		

diseases on tree and forest health and productivity.			the single instructor model of course instruction that was tried for the first time this year.		
FOR-2. Capability of Measuring Forest Resources SAF Core competency : B. Measurement of Forest Resources: Competencies must be documented as an: 1. Ability to identify and measure land areas and conduct spatial analysis. 2. Ability to design and implement comprehensive inventories that meet	1. Forest Plan in Forestry Capstone Course (NRE 497) 2. Mensuration Course Summary (NRE 371) 3. Student Performance in Competition with students from other SE Forestry Universities in 4 technical events that are forest measurement events.	We intend to achieve a proficiency of 90% on Forest Measurement SLO in the Capstone course using a rubric on the Forest Plan scored by a panel of forestry experts. We intend to achieve a proficiency of 80% in a summary of forest measurement assignments in the Forest Mensuration course. We plan to score near or above the average scores in Pole Classification, DBH	Student performance in forest measurement SLOs on the forest plans in the NRE 497 capstone course met the 90% target (barely) with remaining deficiencies in land area measurements. Progress on land measurements was noted in the Mensuration course (NRE371) where more time on the subject increased the average	We expect to see more progress on land measurements in the capstone course next year since these will be the seniors that did better on this SLO as juniors in the Mensuration course. Forest measurement competitions at the Southern conclave in 2016 were better, but still less than the average score among all 15 competing Universities. Instructor is looking to overhaul the Photogrammetry course with more modern GIS/GPS information and land surveying skills.	Improvements in mensuration course already implemented. Evaluation of the land measuring skills in the Capstone forest plan will be performed in 2016-2017 (Spring 17)

specific objectives using appropriate sampling methods and units of measurement. 3. Ability to analyze inventory data and project future forest, stand, and tree conditions.		Estimation, Timber Estimation and Compass and Pacing at the 2016 ASF Southern Forestry Conclave.	score from 66 to 75% in the past year. Student performance in forest measurement competitions was higher in 2016 than in previous years with the exception of aerial photogrammetry. This may be the result of language barriers for the competitor in this event that was a foreign national. However, we have historically finished last place in this event and need to overhaul the Photogrammetry course.		
FOR-3.	1. Forest	We intend to achieve a	The Forest	We have	Plans

Capability to Plan Forest Resources Management SAF Core Competency C. Management of Forest Resources: Competencies must be documented as an: 1. Ability to develop and apply silvicultural prescriptions appropriate to management objectives, including methods of establishing and influencing the composition, growth, and quality of forests, and understand the impacts of those prescriptions. 2. Ability to	Plan in Forestry Capstone Course (NRE 497) 2. Pre-capstone Course Final Report (NRE 474) 3. Silviculture course Summary (NRE 375)	proficiency of 90% on Forest Management SLO in the Capstone course using a rubric on the Forest Plan scored by a panel of forestry experts. We intend to achieve a proficiency of 70% on Forest Management SLO in the Pre-Capstone course using a rubric on the Forest Plan scored by the course instructor. We intend to achieve a proficiency of 80% in a summary of forest management assignments in the Silviculture course.	Management SLO on the Forest Plans in our capstone course series (NRE 474 and NRE 497) did not meet the desired targets. While some students were able to perform well, others only displayed an average level of forest management proficiency and decreased the aggregate performance to below an 80% last year. However, the junior class performed better than expected on this SLO in	implemented instruction changes in Silviculture, a pre-requisite course, to apply information to forest management strategies and will assess in the capstone forest plan in Spring of 2017.	implemented, awaiting full assessment.

analyze the economic, environmental, and social consequences of forest resource management strategies and decisions. 3. Ability to develop management plans with specific multiple objectives and constraints. 4. Understanding of the valuation procedures, market forces, processing systems, transportation and harvesting activities that translate human demands for timber-based and other consumable forest products			Silviculture (NRE 375), scoring 85% proficiency overall.		

into the availability of those products. 5. Understanding of the valuation procedures, market, and non-market forces that avail humans the opportunities to enjoy non-consumptive products and services of forests. 6. Understanding of the administration, ownership, and organization of forest management enterprises.					
FOR-4. Appraise Forest Economics, Policies and Administration	1. Final Project in Forest Resource Economics Course (NRE 483) 2. Natural	We intend to achieve a proficiency of 80% in Economics competencies	Final projects in NRE 483 and NRE 480 failed to meet our 80% target overall. Appraisals of forest	We expect improvement in these performance levels next year because we were able to hire a faculty member in Forestry Economics and Policy over the summer of 2016 that	New Economics and Policy instructor added to faculty in Fall of 2016.

SAF Core Competency D. Forest Resource Policy, Economics, and Administration: Competencies must be documented as an 1. Understanding of forest policy and the processes by which it is developed. 2. Understanding of how federal, state, and local laws and regulations govern the practice of forestry. 3. Understanding of professional ethics, including the SAF Code, and recognition of the responsibility	Resource Policy Course Summary (NRE 480)	(scored on the Timber Sale final project) and 85% in policy related competencies in the policy case study analysis paper in these two senior-level courses. Students are not exhibiting an adequate understanding of environmental laws and their application in the forest plan. Also, benefit cost analyses and other assessments of present net value of forests	resource values in the final project were variable with a 72% overall proficiency rating. Likewise, the aggregate class performance on a written policy analysis assignment was disappointing (76% score).	has training in these areas. The forest plans in the capstone should reflect better performance in 2016-2017 and especially in 2017-18.	

y to adhere to ethical standards in forestry decision making on behalf of clients and the public. 4. Ability to understand the integration of technical, financial, human resources, and legal aspects of public and private enterprises.		in the forest plans continue to be insufficient.			
Program Outcomes	Assessment Methods	Performance Targets	Assessment Results	Improvement Plans	Improvements Implemented
1. To increase and retain the number of quality students in FEWP, stabilize graduation rate, and help students and graduates find employment in line with their career goals.	a. Provide scholarship opportunities and organized mentoring programs for students. b. Recruitment into program c. Retain more than half of freshmen, most sophomores and upper division students. d. Assist FEWP graduates in finding forestry related employment or graduate education opportunities	Provide scholarship opportunities and organized mentoring programs for all students. Recruit twenty-five freshmen and ten transfer students per year. Retain at least 60% of freshmen, 70% of sophomores and 90% of the upper classes. Assist 100% of FEWP graduates in finding forestry	More scholarship and internship opportunities were provided to forestry students, but this is still not making up for drastic changes in federal hiring	Seek additional funds for scholarships for freshman to improve their quality and offer work-study opportunities to them to boost retention. Freshman retention remains our biggest challenge.	We submitted a proposal to USDA Forest Service to continue and expand our summer apprenticeship program

	e. Provide students with opportunities for internships or employment with federal, state and industry partners.	related employment or graduate education opportunities Provide all students with opportunities for internships or employment with federal, state and industry partners.	practices that ended federal employment opportunities for students in the Forest Service and other federal agencies that hire foresters. Recruitment into the program was high for fall of 2015, but most of these students failed to pass the Intro to Forestry course. Some were successful in the Spring of 2016, but the freshman class had less than 50% retention. However, it appears that a new instructor		for incoming freshman and other students.

			in our sophomore Dendrology course has broken the logjam in this part of the program. Most sophomores were retained in the program. Junior-college transfers increased and all juniors and seniors were retained (except for those that graduated). All graduates except one found permanent employment in forestry during the year. The one that did not was employed on campus by a professor, but is now interviewing		

			g for a permanent position with the Forest Service.		
2. To develop a nationally recognized research program in the forestry, ecological and wildlife disciplines and contribute substantially to the number of new scientists entering the workforce in academia, industry and federal/state agencies, especially from underrepresented groups.	a. Production of technical or refereed publications and professional presentations. b. Secure extramural research and capacity building funds.	Achieve an annual productivity of at least 6 technical or refereed publications and 20 professional presentations. Secure extramural research and capacity building funds of \$1million annually.	As a program, we published 6 scientific articles this year with 4 additional ones submitted and under review. Our faculty made 17 presentations at professional meetings.	To improve in this area, we need administrative support to increase efficiency of the fiscal management system so that faculty don't spend so much time tracking their paperwork for budget management. Also, filling all faculty positions in the coming year will help with the teaching/recruitment/retention overload that most of us have had to cope with during 2015-2016.	Putting up faculty job announcement on the H.R. website this week. Also, faculty members pursuing additional research grants for more research productivity.

Exhibit II-5.

Example of Forest Plan Written by Senior Forestry Students in the Capstone Course in 2017



Graham Farm Management Plan
Graham Farm & Nature Center in Jackson County, Alabama
By: Michael Roderick Brown
Wilford Briggs
Brandon Eubanks
Kyle Lybarger
Xavier King

Name, address and phone number of landowner(s). Include legal title as recorded on property deed.

AUBURN UNIVERSITY REAL ESTATE FOUNDATION
C O OFFICE OF PLANNED GIVING 317 SOUTH COLLEGE ST, AUBURN, AL
36849

Legal description of property covered by plan.

S17 T2 R4 S1 2 OF NE1 4 & N1 2 OF SE1 4 & SE1 4 OF NW1 4 &
NE1 4 OF SW1 4 & S 520 OF NW1 4 OF NE1 4
and
S16 T2 R4 ALL W1 2 OF SE1 4 LYING N OF RIVER & S OF HWY 65
ALL OF NW1 4 OF SE1 4 N OF HWY #65 & W OF LARKIN FORK CRK
N1 2 OF SW1 4 S1 2 NW1 4 S 330 OF N1 2 NW1 4 LESS RD ROW

For Forest Ag: include the parcel id number and respective acres

PPIN: 5706 and 5779

Total acres and forested acres

486 total acres, and 354 forested acres

County

Jackson County

Preparing resource professional's name, address and phone number.

Xavier King, Kyle Lybarger, Michael Brown, Brandon Eubanks, Wilford Briggs

Date plan was prepared

4/14/2017

The following Management Plan acceptance statement signed

Table of contents

Goals

- Landowner Goals

- Hypothetical Goals

Property Description

- Map

- History

- Forest Vegetation

 - Composition

 - Invasive Species

- Wildlife

 - Endangered and Threatened Species

- Soil and Geology

 - Soil

 - Geology

- Inventory

 - Forest Vegetation

 - Sampling Method

 - Timber

 - Stands

 - Wildlife

 - Desired Wildlife and Preferred Habitat

Projections

- Forest Vegetation

 - Growth Rate

- Wildlife

 - Desired Wildlife and Preferred Habitat

Recommendation

- Invasive Species Control

- Bottomland Restoration

- Recreation

 - Trails

- Hypothetical Stand Objectives

 - Roads

 - Cedar-Hickory Stand

 - Oak-Hickory Stand

Alternatives

Monitoring

Literature Cited

Goals

Landowner Goals

A model educational farm and nature center

- Stable agriculture (small scale)
- Visitor's center
- Upland field/mountain pasture
- Hiking trails
 - Educational and non-invasive
 - Information kiosk, tree ID, or herbaceous plant ID
 - From the bottomland to the top of the mountain
 - Avoid sensitive areas
- Forest preservation
 - Improve where necessary
- Bottomland/wetland restoration
 - Nature conservancy and NRCS
 - Wetlands Protection Program
 - Bottomland trees, native grasses
 - Expand riparian corridor
 - Removal of invasive species (privet, etc)
 - Reforestation or use of upland field/mountain pasture
 - Removal of invasive species (honeysuckle, privet, honey locust)
 - Burning (an option)
 - Powerline
 - Burning (if approved by power company)
 - Wildlife (possible)
 - Rotational burning (swainson's warbler, quail)
 - Cedar harvesting/thinning
 - Erosion control
 - Reduce overgrazing

Hypothetical Goals

- Cedar-Hickory stand - Shelterwood cut
- Oak-Hickory stand - Seed-tree cut

Property Description

Map

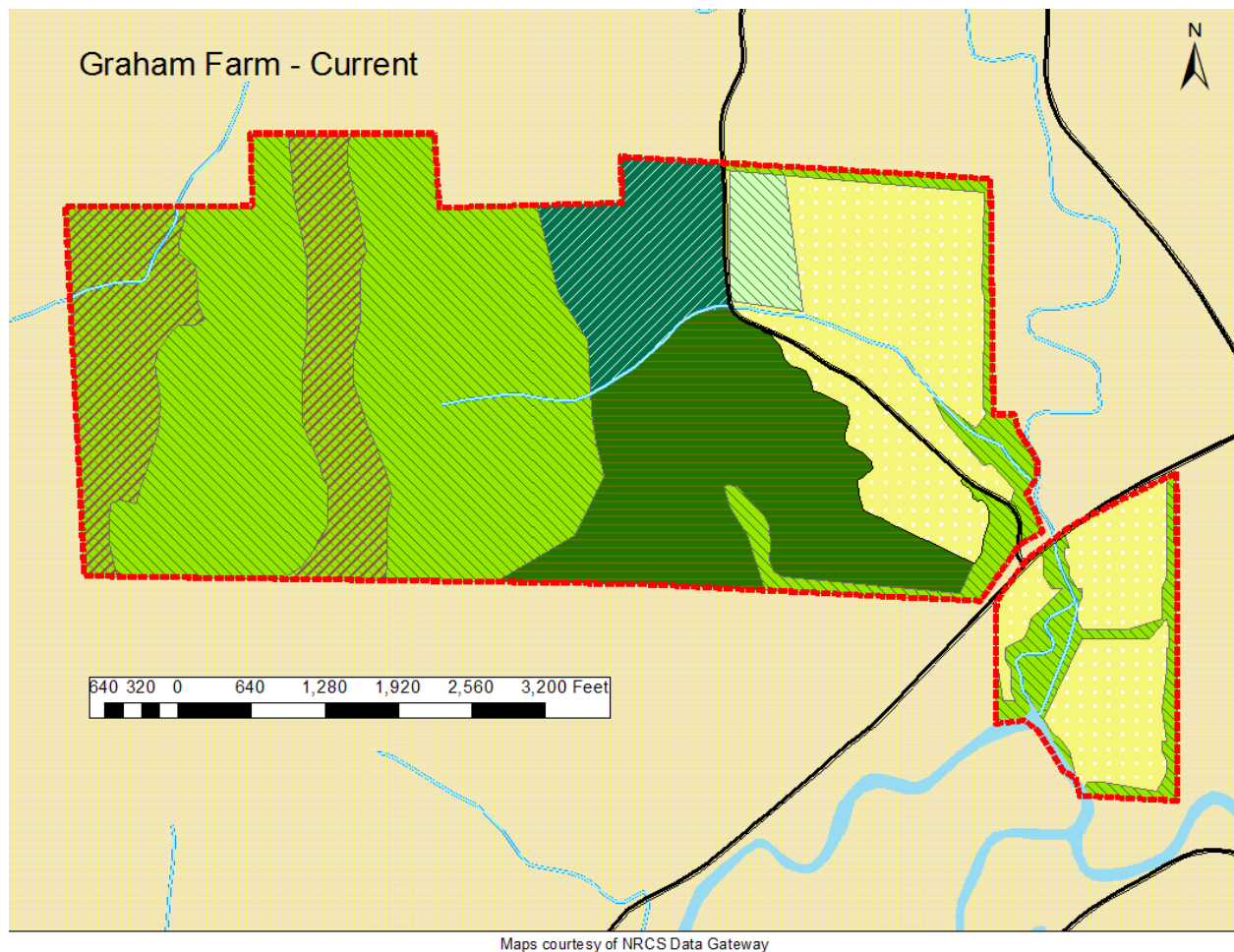


Figure 1: Map of the Graham Farm. Includes forest stands, fields, switchgrass, riparian zones, and windbreaks.

History

During the 1800s, American chestnuts was thriving on the property. It also was ran with mules and horses. 1930s-1940s, there was regular burning by the native americans on the mountain. In 1974, the last fallen American chestnut was noted. In more recent years, blue-winged warbler project was started. This project was under the nature conservancy. This project the nature conservancy did was on the north side of highway 65 south end of the lower pasture on the property. The nature conservancy also worked the Geolift project and was also collaborated with the following agencies: Alabama forestry commission, and the Tennessee valley authority. The project consisted of cutting the bank back at an angle putting some rip-rap at the lower water level, mainly the summer months. Graham Farm donated to the Alabama Cooperative Extension System. Since the interview; native grasses have been established via broadcast spraying. Kayaking and camping with local 4H group. Next year (2018) in the works: Construction of a pavilion and a few miles of trails.

Forest Vegetation

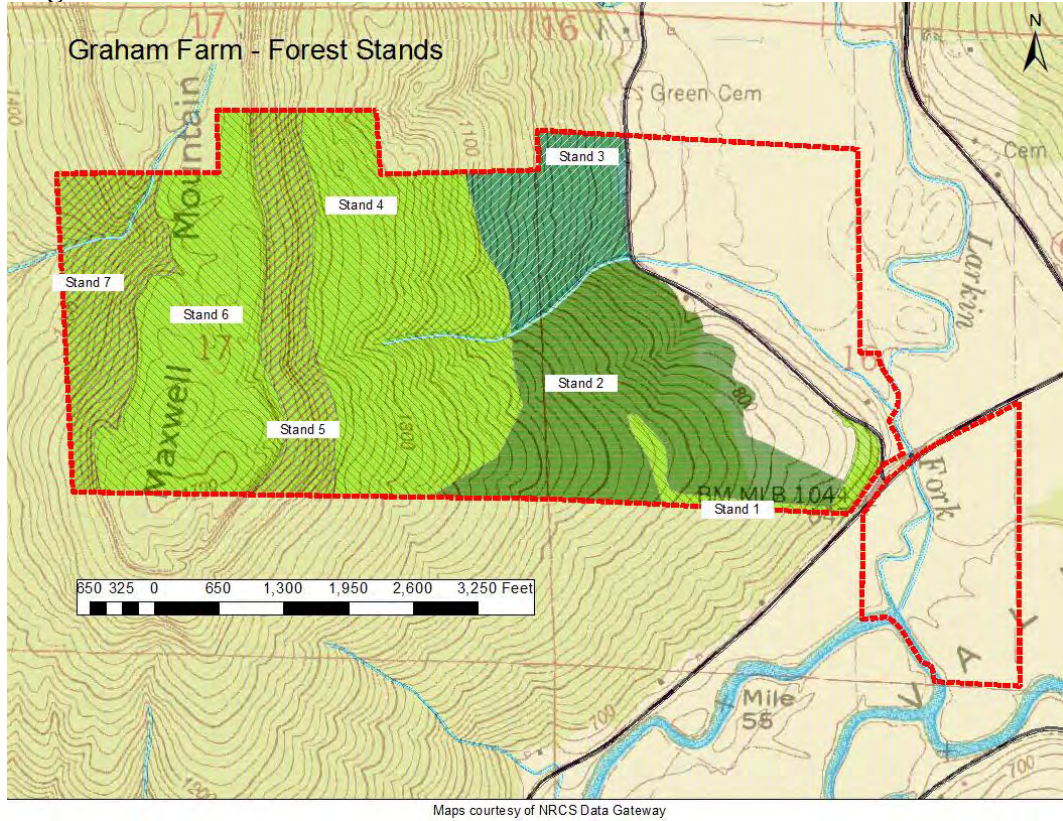


Figure 2: Map of the forest stands on Graham Farm. Stands were determined by composition and topography. The topographical delineation can be seen in this map.

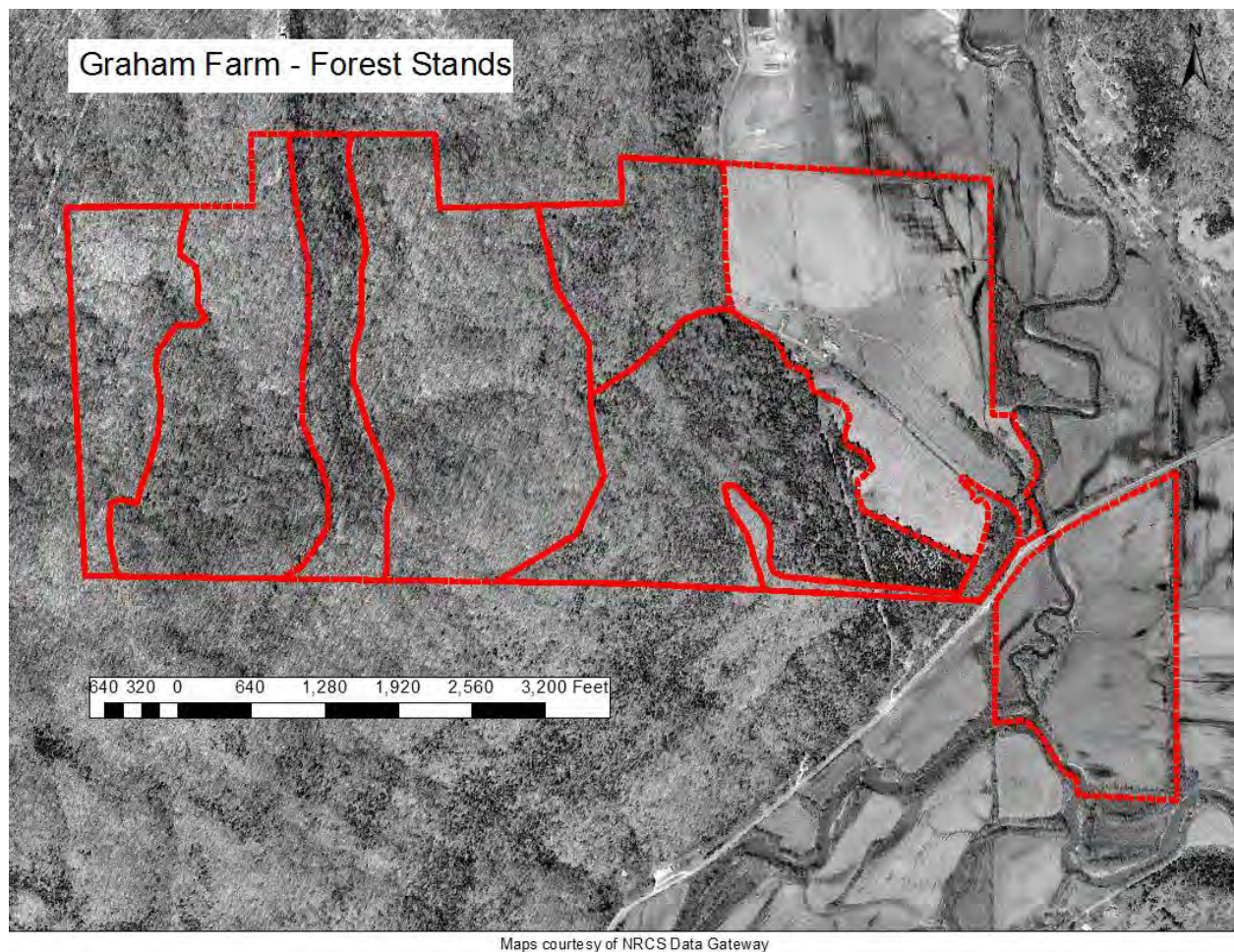


Figure 3: Map of the forest stands on Graham Farm. Stands were determined by composition and topography. The composition delineation can be seen in this map with mixed evergreen and deciduous stands.

Composition

Largely Oak-Hickory with a mixed Cedar-Hickory stand

Table 1: Forest composition as determined by dominant and codominant trees.

Species	BA (ft ² /ac)	TPA (#/ac)
Oak	21.92	13.90
Hickory	13.21	13.13
Ash	5.51	7.02
Cedar	4.87	5.92
Poplar	3.72	2.01
Maple	1.92	1.87
Buckeye	1.03	0.86
Sweetgum	1.03	1.29
Beech	0.90	0.42
Elm	0.64	1.02
Walnut	0.38	0.67
Sugarberry	0.26	0.13
Black Cherry	0.13	0.08
Black Locust	0.13	0.10
Magnolia	0.13	0.07
Persimmon	0.13	0.16

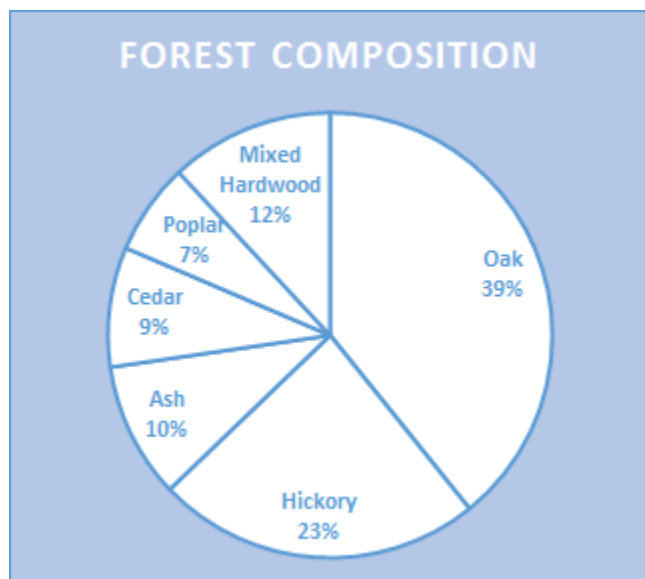


Figure 4: Forest composition as determined by dominant and codominant trees.

Invasive Species

Japanese Honeysuckle

Native to eastern Asia and introduced into North America in the early 1800's it is planted nationwide and frequently escapes cultivation. It is located throughout the property but, is focused mainly in bottomland areas near the pastures and close to riparian area.

Chinese Privet

Chinese Privet (*Ligustrum sinense*) was imported to the United States from China in 1852, as a ornamental plant. After it escaped cultivation, it spread throughout the southeastern states. It is located throughout the property but, densely covers the bottomland areas near the pastures and close to riparian area.

Wildlife

Endangered and Threatened Species

Obtained from U.S. Fish & Wildlife Service - Environmental Conservation Online System (n.d.).

Clams:

- **Alabama lampmussel (*Lampsilis virescens*) - Endangered
- *Pale lilliput (*Toxolasma cylindrellus*) - Endangered
- **Shiny pigtoe (*Fusconaia cor*) - Endangered
- *Slabside Pearlymussel (*Pleuroaia dolabelloides*) - Endangered
- Snuffbox mussel (*Epioblasma triquetra*) - Endangered
- Rabbitsfoot (*Quadrula cylindrica* spp. *cylindrica*) - Threatened

*Have been sighted on or near the property (Heather Howell, personal communication)

**Very likely to be on the property (Heather Howell, personal communication)

Fish:

- Spotfin Chub (*Erimonax monachus*) - Threatened
- Palezone shiner (*Notropis albizonatus*) - Endangered

Flowering Plants:

- Price's potato-bean (*Apios priceana*) - Threatened
- White Fringeless orchid (*Platanthera integrilabia*) - Threatened
- Morefield's leather flower (*Clematis morefieldii*) - Endangered

Mammals:

- Indiana bat (*Myotis sodalis*) - Endangered
- Gray bat (*Myotis grisescens*) - Endangered
- Northern long-eared bat (*Myotis septentrionalis*) - Threatened

Aquatic (Clams and Fish)

The aquatic species in Jackson County that are on the endangered species list are generally threatened by the same things habitat loss and sedimentation in the creeks. Reclaiming habitat for these species would be very difficult so focusing on water quality is the only solution. Farming, cutting on steep slopes and forest road building is known to be a cause for sedimentation and there is plenty of room for improvement on the Graham Farm. Letting native grasses and vegetation grow up near creeks, runoffs, and low areas would help greatly with filtering out sediment and stabilizing the soil.

Flowering Plants

The flower species on the endangered species list of Jackson County all require distinct habitats. Price's potato-bean requires field edges while White fringeless orchid requires areas with moist soils so maintaining habitat diversity throughout the property should be considered.

Mammals

Mammals on the endangered species list in Jackson County include the gray bat and the Indiana bat. The greatest risk to these bats is the white-nose syndrome, however habitat loss does play a factor in the decline of their populations. Maintaining the largely forested areas of the property and ensuring the health of this forest could provide roosting habitat for these bats. Both species of bats require certain living conditions inside of the caves they roost in so any activity near caves should be minimized. Reforestation in riparian areas and floodplains should be considered if benefiting these species is desired.

(Godwin et al. 2003)

Soil and Geology

Soil and geology information was retrieved from USDA-NRCS. Soil Classification - NRCS Soils. (n.d.).

Soil

Entisols

Soils of unstable environment, such as floodplain, sand dunes, or those found on steep slopes. Little profile development, newly formed.

Inceptisols

Slightly developed soils, the beginnings of soil profile development. Are more developed than Entisols. Found on wet sites.

Mollisols

Soils of the grassland ecosystems, they are characterized by a dark A horizon. They can also be found in wet environments where organic matter is high from vegetation, but the decomposition is slowed from the high water tables. Very fertile.

Ultisols

Highly weathered leached red or yellow-red soil with clay- rich B horizon (subsoil) often occurring in warm climates. Low fertility and relatively high acidity.

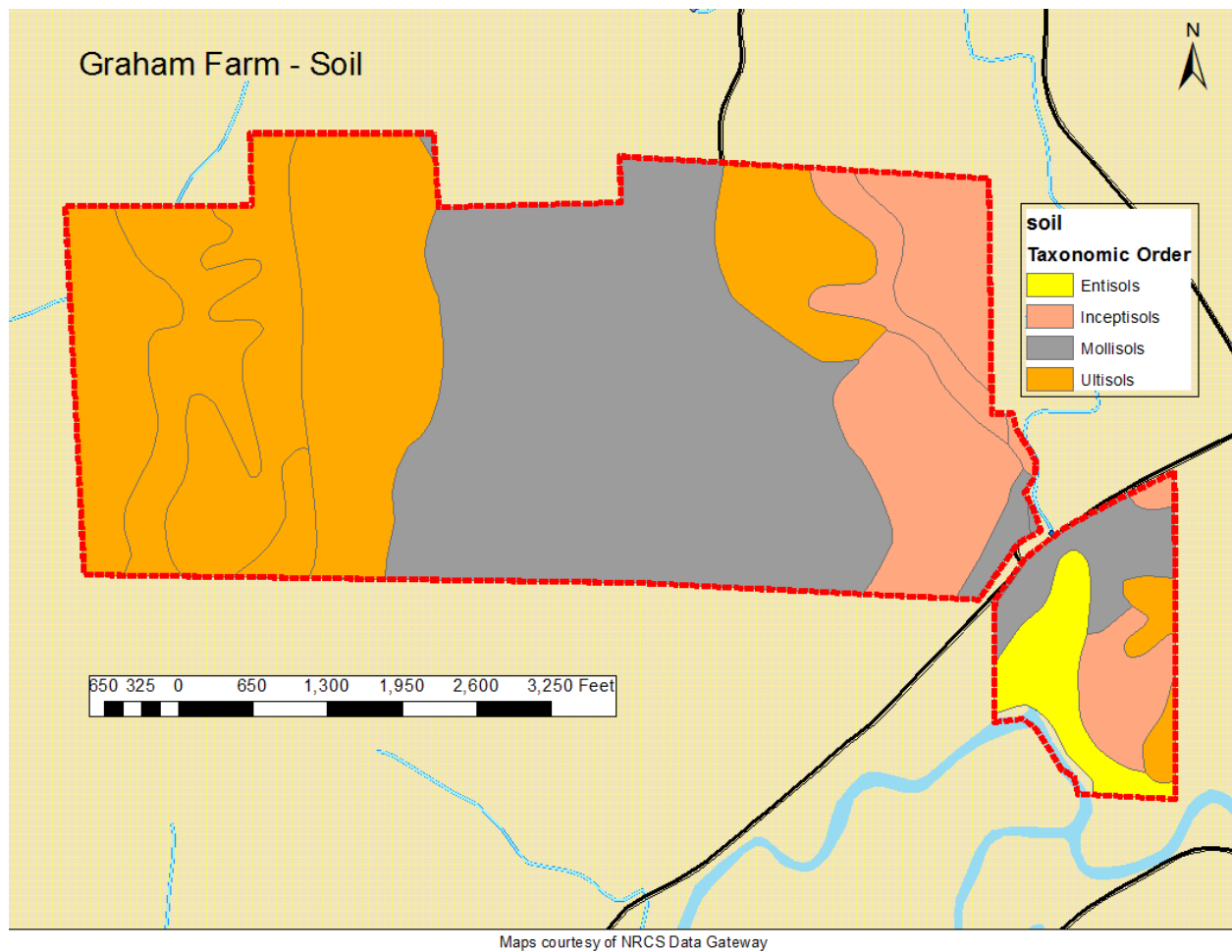


Figure 5: Map of the soil taxonomic orders on the Graham Farm.

Geology

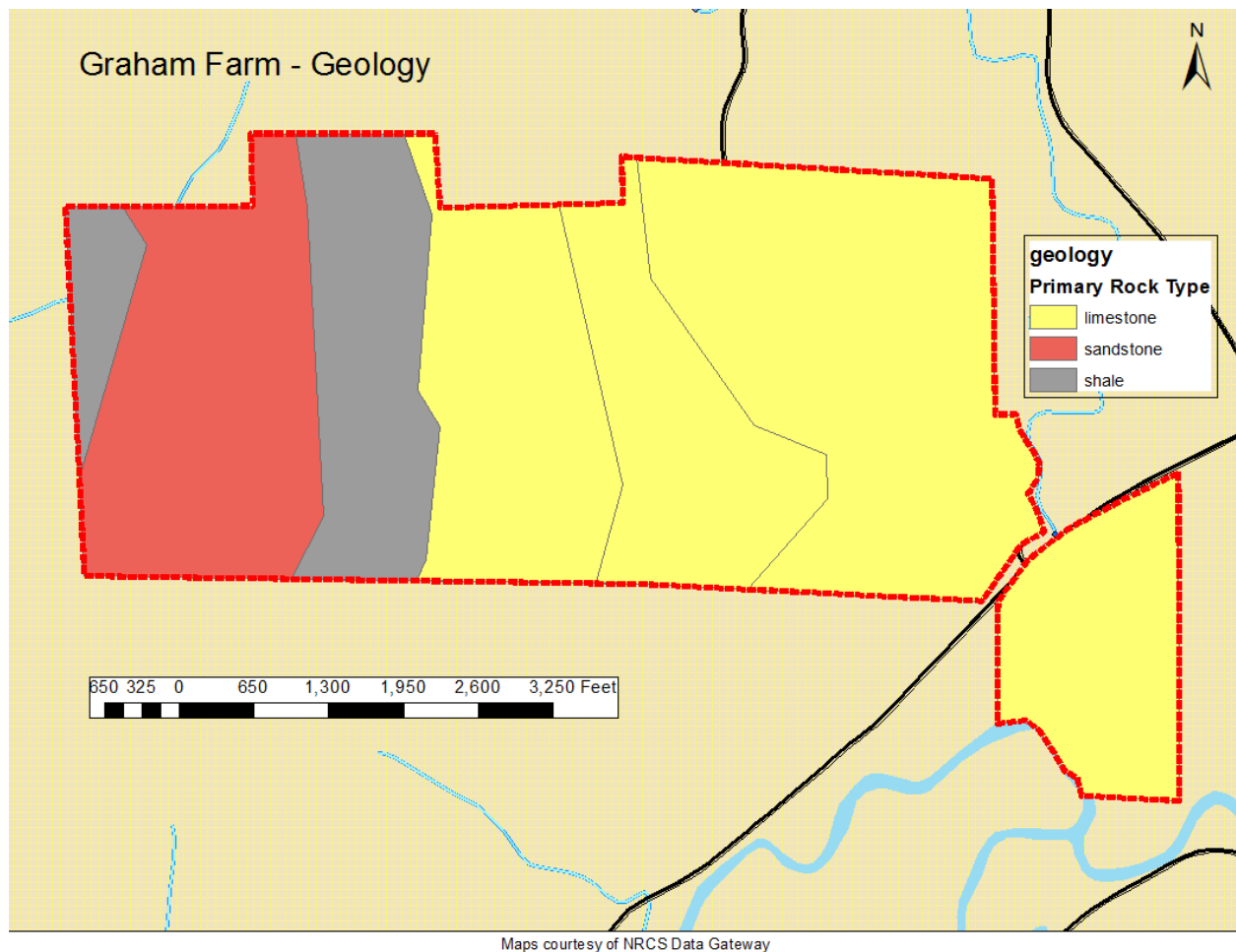


Figure 6: Map of the primary rock type on the Graham Farm.

Sandstone

Also known as arenite, is a clastic sedimentary rock made of mainly sand-sized grains and minerals. Usually low fertility and high permeability.

Shale

A soft, stratified sedimentary rock that formed from mud or clay and can be split into fragile slabs. Provides more nutrients than sandstone, but less than limestone.

Limestone

A sedimentary rock composed of calcium carbonate in the form of the mineral calcite. Provides the soil with a lot of nutrients.

Inventory

Forest Vegetation

Sampling Method

We used systematically located, variable plot sampling with a 10 BAF being used throughout 78 plots over 354 acres.

Hardwood:

We measured all the trees that were 8 DBH and above with the minimum top diameter for determining merchantable height was 4 inches. Merchantable and total height were measured for pulpwood while for sawtimber we recorded the number of 16-ft logs in each tree..

Cedar:

We measured trees with a minimum top of 4 inches and the number of 16-ft logs to a 4 inch top.

Snags:

We measured all the snags that were 5 DBH and above.

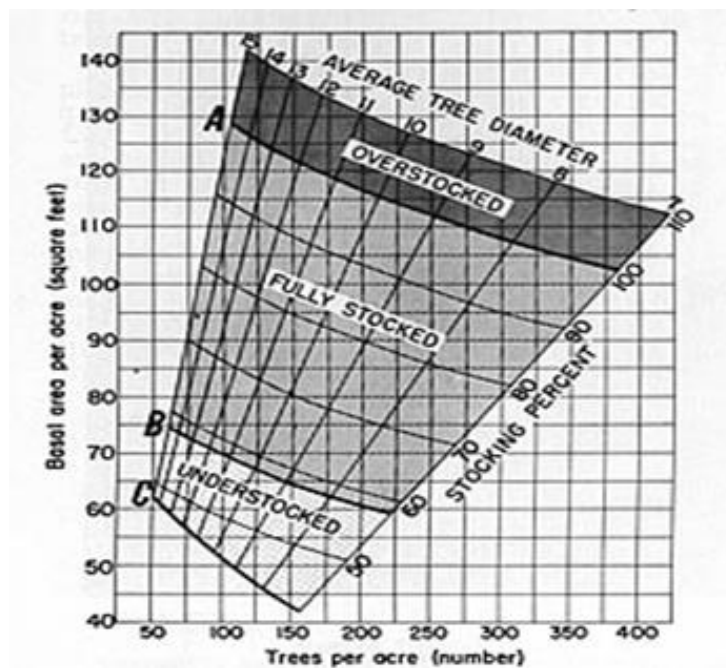


Figure 7: Stocking chart for upland central hardwoods (Gingrich 1967)

Stocking was determined using a stocking chart for upland central hardwoods (Fig. 7).

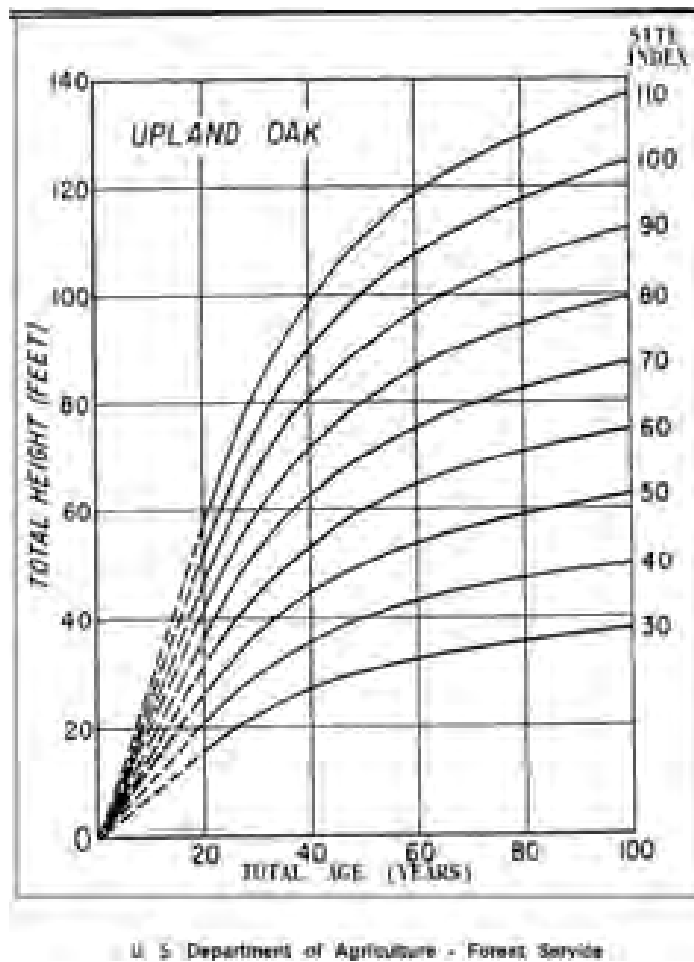


Figure 8: Site index curve for upland oak in the southeast (Olson 1959)

Timber

Volume was determined by using volume charts (International 1/4" Board Foot Volume by Number of Merchantable Logs, and Tree Cordwood Volume Table by Charles O. Minor Merchantable Rouch Cord Volume Using total Tree Height) to find the volume in cords and board feet and then converted into tons using a conversion factor (Board-feet to tons (water) n.d.).

Mixed Hardwood Sawtimber Prices: \$32.68/ton

Mixed Hardwood Pulpwood Prices: \$8.53/ton

*Hardwood prices from Timber Mart-South 4Q 16 (South-wide Average Prices 2017)

Cedar Prices: \$85.00/ton at the mill

\$60.95/ton stumpage

**Cedar prices from Grant Cedar Mill (Grant Cedar Mill n.d.)

Moss Lumber - 22.0 miles from the property

Hardwood

Grant Cedar Mill - 116 miles from the property

Cedar

Stands

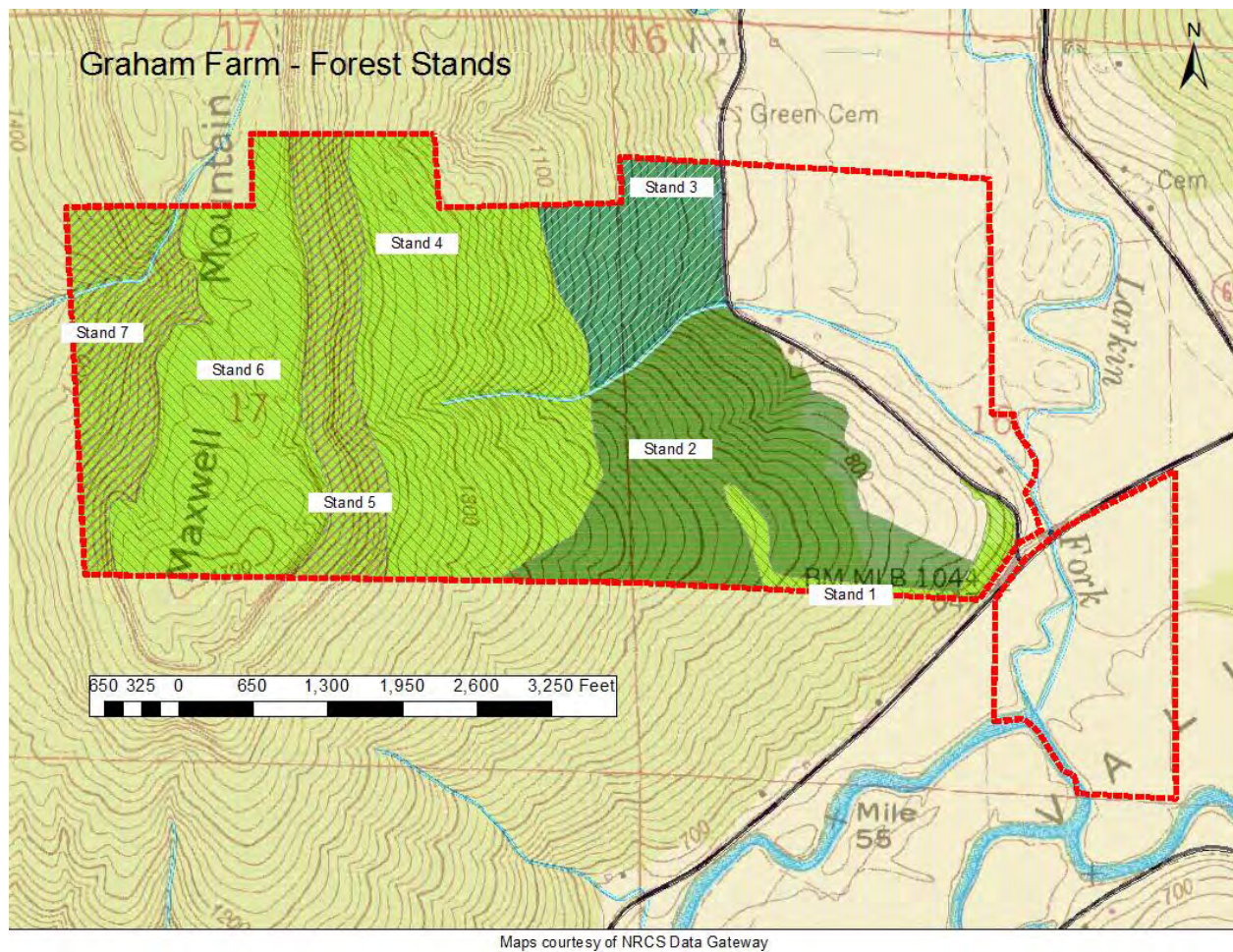
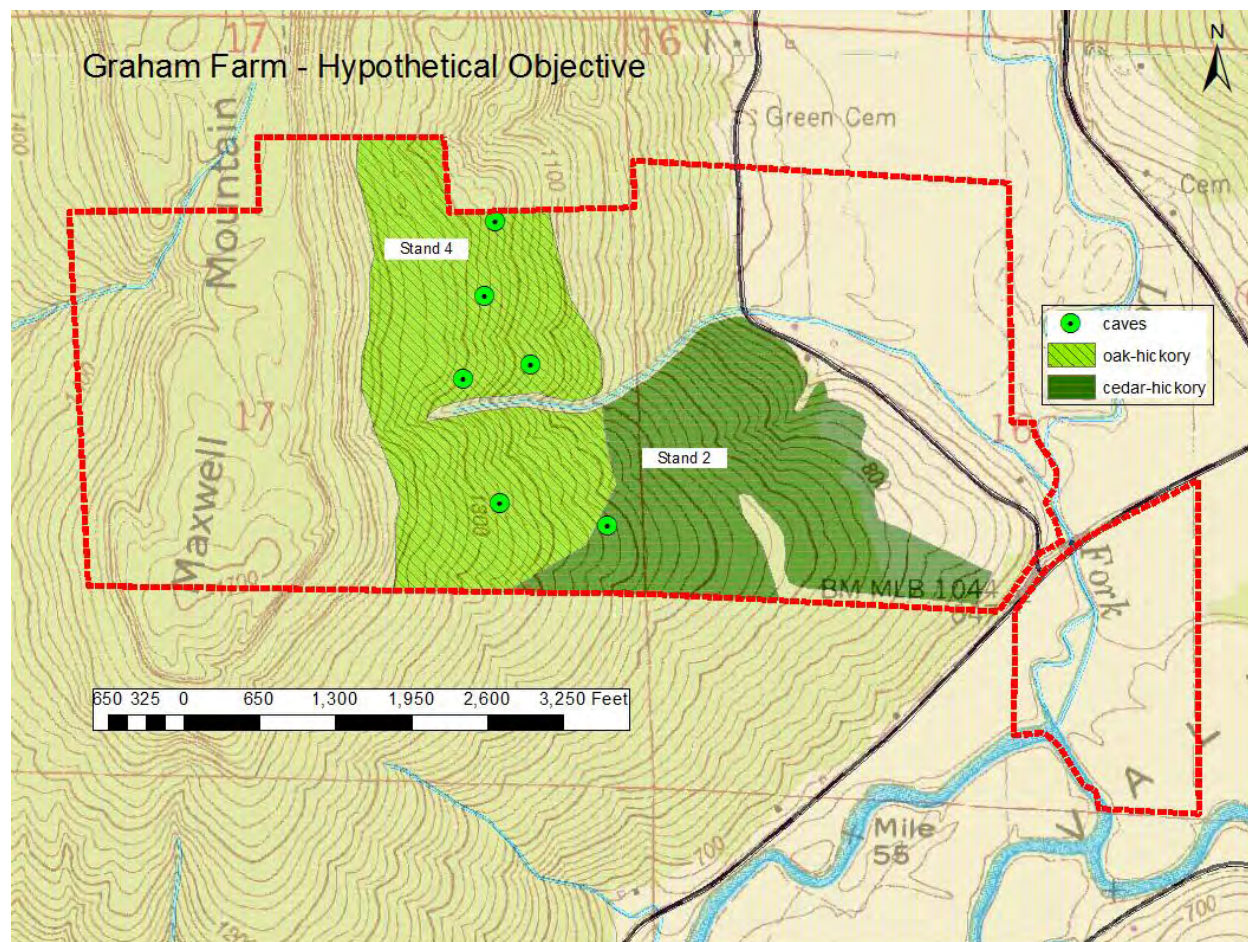


Figure 9: Map of the forest stands on the Graham Farm.

Table 2: Stand Data

Stand #	Acres	# of points	Average BA (ft ² /ac)	Average TPA	Average Snags/acre	Stocking (%)	Composition
1	8.63	0	-	-	-		
2	77.76	23	87.4	147.4	7.21	78	Cedar-Hickory
3	33.37	20	88.5	139.4	15.01		
4	93.33	30	88.67	94.37	12.05	73	Oak-Hickory
5	31.39	2	110	129.46	28.22		
6	69.2	2	100	93.21	4.68		
7	35.7	0	-	-	-		

To determine the site index of the oak-hickory stand (stand 4) we cored and counted the rings of a Northern Red Oak which the age is 93 years old with a height of 69 feet. The was determined to be 58 from a codominant northern red oak that was cored. Site index was determined using a site index curve for upland oaks (Fig.6).



Maps courtesy of NRCS Data Gateway

Figure 10: Map of the stands for the hypothetical harvest.

Wildlife

Deer signs have been seen throughout the property. If the deer population is too high, they could damage forest health or regeneration. Hunting is not preferred by the landowner, however, since it conflicts with the desire to have trails throughout the property.

Desired Wildlife and Preferred Habitat

A habitat suitability index (HSI) is a numerical index between 0 and 1, where 0.0 indicates the worst habitat and 1.0 indicates the optimal habitat.

Blue-winged Warbler

The habitat suitability index (HSI) for the blue-winged warbler was obtained from Tirpak et al. (2009). The variables for the HSI are as follows:

$$HSI = ((SI1 * SI3)^{0.500} * SI2)^{0.500}$$

- SI1: Relationship of landform, landcover type, and successional age class to suitability
- SI2: Relationship between early successional patch size and suitability
- SI3: Relationship between canopy cover and suitability

The blue-winged warbler has habitat in transitional-shrubland, woody wetlands, and mixed and deciduous landcover types and the shrub-seedling and sapling successional age classes. It prefers transitional-shrubland and deciduous landcover types in the shrub-seedling successional age class on the xeric-ridge.

Bottomland HSI = 0.607

Mountain Pasture HSI = 0.904

On a scale from 0 to 1, the bottomland habitat is somewhat decent where it is, but can be improved. The mountain pasture habitat is very good.

"Likes trees that are 10-15 feet tall, shrubs, and grasses" - Bob Head

Brown-headed Nuthatch

The habitat suitability index (HSI) for the brown-headed nuthatch was obtained from Tirpak et al. (2009). The variables for the HSI are as follows:

$$HSI = (SI1 * SI2 * SI3 * SI4)^{0.250}$$

- SI1: Relationship of landform, landcover type, and successional age class to suitability
- SI2: Relationship between snag density and suitability
- SI3: Relationship between small stem density and suitability
- SI4: Relationship between hardwood basal area and suitability

The brown-headed nuthatch has habitat in evergreen and mixed landcover types and the sapling, pole, and saw successional age classes. It prefers the evergreen landcover type and saw successional age class.

Mixed Cedar HSI = 0.212

All other HSI = 0.000

On a scale from 0 to 1, the mixed cedar habitat is very poor. It is, however, the best habitat on the property for the species.

Prefers mature evergreen and mixed forests with not too much hardwood. Decreasing hardwood and promoting evergreen trees would improve the habitat suitability.

Carolina Chickadee

The habitat suitability index (HSI) for the carolina chickadee was obtained from Tirpak et al. (2009). The variables for the HSI are as follows:

$$HSI = (SI1 * SI2)^{0.500}$$

- SI1: Relationship of landform, landcover type, and successional age class to suitability
- SI2: Relationship between snag density and suitability

The carolina chickadee has habitat in a variety of landcover types including transitional-shrubland, woody wetlands, deciduous, evergreen, and mixed forest cover. It has habitat in the sapling, pole, and saw successional age classes. It prefers evergreen and mixed landcover types and saw successional age class, as well as transitional-shrubland landcover type and saw successional age class.

Mixed Cedar HSI = 1.00

Oak-Hickory HSI = 0.710

On a scale from 0 to 1, the mixed cedar habitat is optimal, no improvements can be made. The oak-hickory habitat is quite good, however improvements can be made here.

Can decrease snags by 64% without impacting habitat suitability.

Swainson's Warbler

The habitat suitability index (HSI) for the swainson's warbler was obtained from Tirpak et al. (2009). The variables for the HSI are as follows:

$$HSI = ((SI1 * SI4)^{0.500} * \text{Max}(SI2 \text{ or } SI3))^{0.500}$$

- SI1: Relationship of landform, landcover type, and successional age class to suitability
- SI2: Relationship between forest patch size and suitability
- SI3: Relationship between landscape composition and suitability
- SI4: Relationship between small stem density and suitability

The swainson's warbler has habitat in woody wetlands and deciduous landcover types with sapling, pole, and saw successional age classes, as well as the transitional-shrubland landcover type with the sapling successional age class. It prefers woody wetland and deciduous landcover types in the saw successional age class in the floodplain-valley.

Bottomland HSI = 0.443

On a scale from 0 to 1, the bottomland habitat is somewhat poor, improvements can be made.

Can improve the habitat suitability in the bottomlands by providing more stems per hectare, or by increasing the forested area within a 1 km radius.

"Particularly likes native cane" - Bob Head

Projections

Forest Vegetation

Growth Rate

Current growth rate was determined to be 0.87 inches/decade from a northern red oak. The growth factor was found to be 0.021 (Ashley 1976).

WRDA 1974 Section 80(a) (nominal) - 2017 rate: 2.875% (Natural Resources Conservation Service n.d.)

10-Year Breakeven Inflation Rate: 1.91% (10-Year Breakeven Inflation Rate 2017)

Alternative rate of return: Real rate = Nominal rate - Inflation = 2.875 - 1.91 = 0.965%

The alternative rate of return (0.965%) is less than the growth factor (2.1%). This indicates that it may be better to leave the timber standing than to cut it. However, this alternative rate of return is small compared to what one would typically look at.

Wildlife

Desired Wildlife and Preferred Habitat

Blue-winged Warbler

Habitat suitability in the forested areas is only expected to get worse as canopy cover increases over time.

Brown-headed Nuthatch

Habitat suitability will at best stay the same over ten years. At worst, habitat suitability will decrease as shade intolerant evergreen eastern red cedar (*J. virginiana*) gets replaced by shade intermediate or shade tolerant deciduous species.

Carolina Chickadee

Habitat suitability is not expected to change for this species.

Swainson's Warbler

Habitat suitability is not expected to change considerably for this species. As the trees in the bottomland mature, a maximum of a 0.01 increase in suitability is possible.

Recommendation

Invasive Species Control

Japanese Honeysuckle

Considerations for removing Japanese honeysuckle is that it is an important browse species for turkey and white tailed deer when food source is scarce or inaccessible especially in the south. It also accounts for around 50% of the year-round diet for white tailed deer so removing this woody shrub would be an unfavorable decision when we also look at other species we are managing this property for.

When controlling Japanese Honeysuckle, it will take a combination of methods to rid of the woody shrub.

- Pulling of the plants and roots is an effective method of removing Japanese Honeysuckle under 2 years of age.
- Anything older would take repeated mowing and cutting as well as multiple applications of herbicide.
- Prescribed burning can also play an effective role in eradicating Japanese Honeysuckle but, also when done more than several times and with other methods.

Doing all of these control methods either right before winter or during will increase the effectiveness of eradication.

The most effective herbicides are as follows: Picloram, Hexazinone, Glyphosate, Amitrole, Metsulfuron, Triclopyr + 2,4-D. Roundup contains Glyphosate and can be acquired and used in our management of honeysuckle if we wish to continue.

(Munger 2002)

When we do decide to do our prescribed burns, we will contact the AAMU Fire Dawgs who will be more than willing to burn the land.

Chinese Privet

Several combinations of treatments will be needed to remove Chinese Privet. Application of an herbicide in the fall or winter months will offer the best results. On taller shrubs, a hack and squirt method is preferred. Mulching as well as burning combined with the hack and squirt method produces the best results. Glyphosate (Roundup) is also the recommended herbicide for the removal of Chinese Privet. The same actions to rid our desired area of honeysuckle will be the same for Chinese Privet.

(Miller et al. 2010)

Bottomland Restoration

Moist Soil Management

Adding and removing water from an area certain times of the year using the water control structure that will be added for controlling water levels efficiently. Promoting growth of native vegetation to produce food for the migratory waterfowl and other bird species, this food includes seeds as well as invertebrates.

To control the amount of water in this impoundment a water control structure needs to be built. This will give the ability to control water levels in the shallow water wetland with a desired depth of 10". First a low levee would need to be built at the end with the lowest elevation. Then a water control structure needs to be added using a flashboard riser or a homemade version using boards to hold back water. The cost of this will vary from a couple hundred dollars to thousands of dollars depending on how nice of an impoundment is desired. Overall the cost should be low and this wetland will be great for capturing pollutants such as animal waste, fertilizer, and sediment.

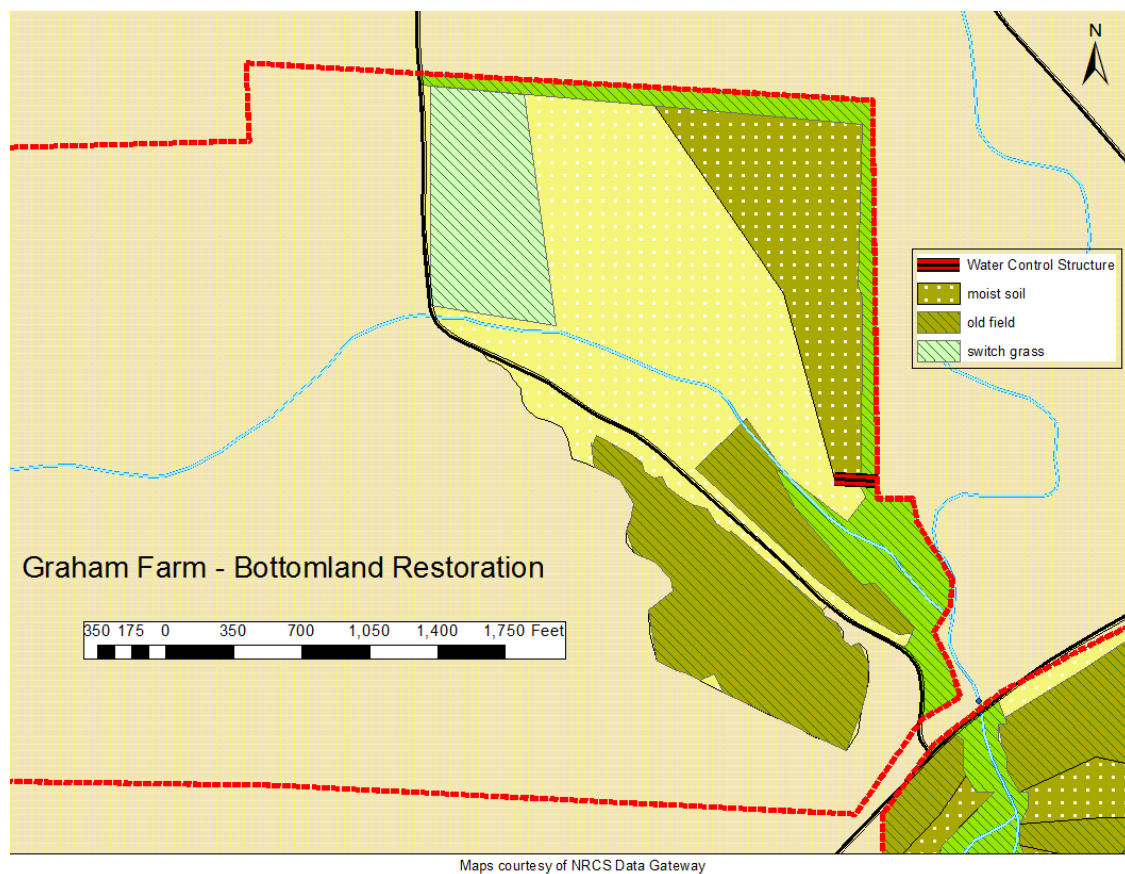


Figure 11: Map of the proposed moist soil management and water control structure.

Old Field Habitat and Buffer Strips

Releasing native plants from pressure of grazing and mowing to promotes early successional plants for food, cover, and nesting habitat. One third of this area should be burned or mowed every year to control saplings and undesirable plants and shrubs.

Planting Pines

Loblolly pines will give diversity to the property that benefits wildlife and the habitat type desired will be improved through burning and thinning. This will also benefit the landowner objectives by improving habitat diversity, providing another educational opportunity, providing possible income, as well as stabilizing the soil next to the river. Another benefit of planting pines is that any chinese privet that comes up can be controlled with prescribed fire.

Scalping and machine planting are the recommended methods for site prep (South 2006).

Based off the South Carolina Forestry Commission tree seeding price guide it costs \$62 for one thousand loblolly seedlings. With a spacing of 8'x10' we would need 6370 seedlings to plant the 11.7 acre pine stand. Total cost of these seedlings would be \$395 not including shipping or labor (South Carolina Forestry Commission Price Guide For Tree Seedlings, Equipment, and Services n.d.).

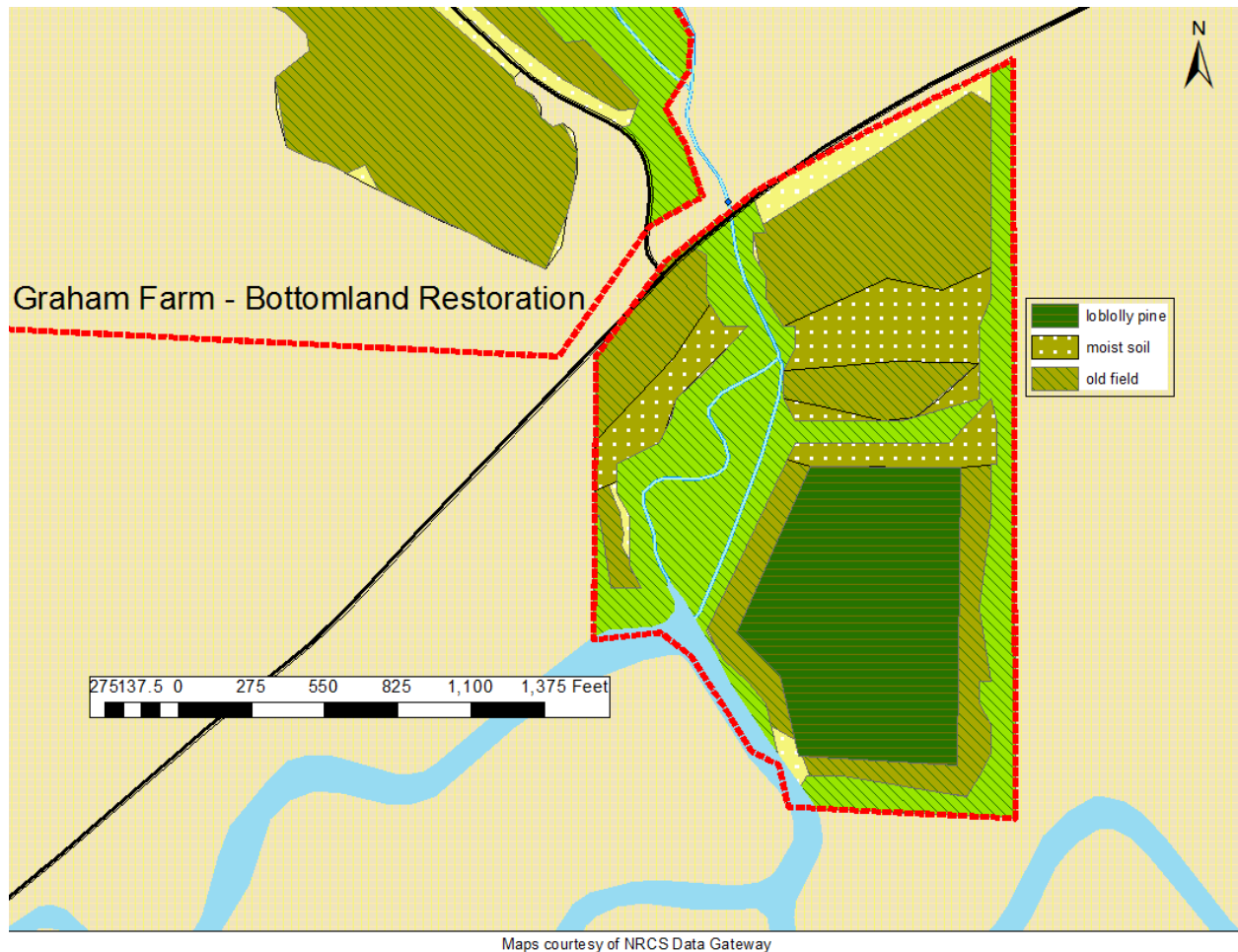


Figure 12: Map of the proposed pine stand.

Recreation

Trails

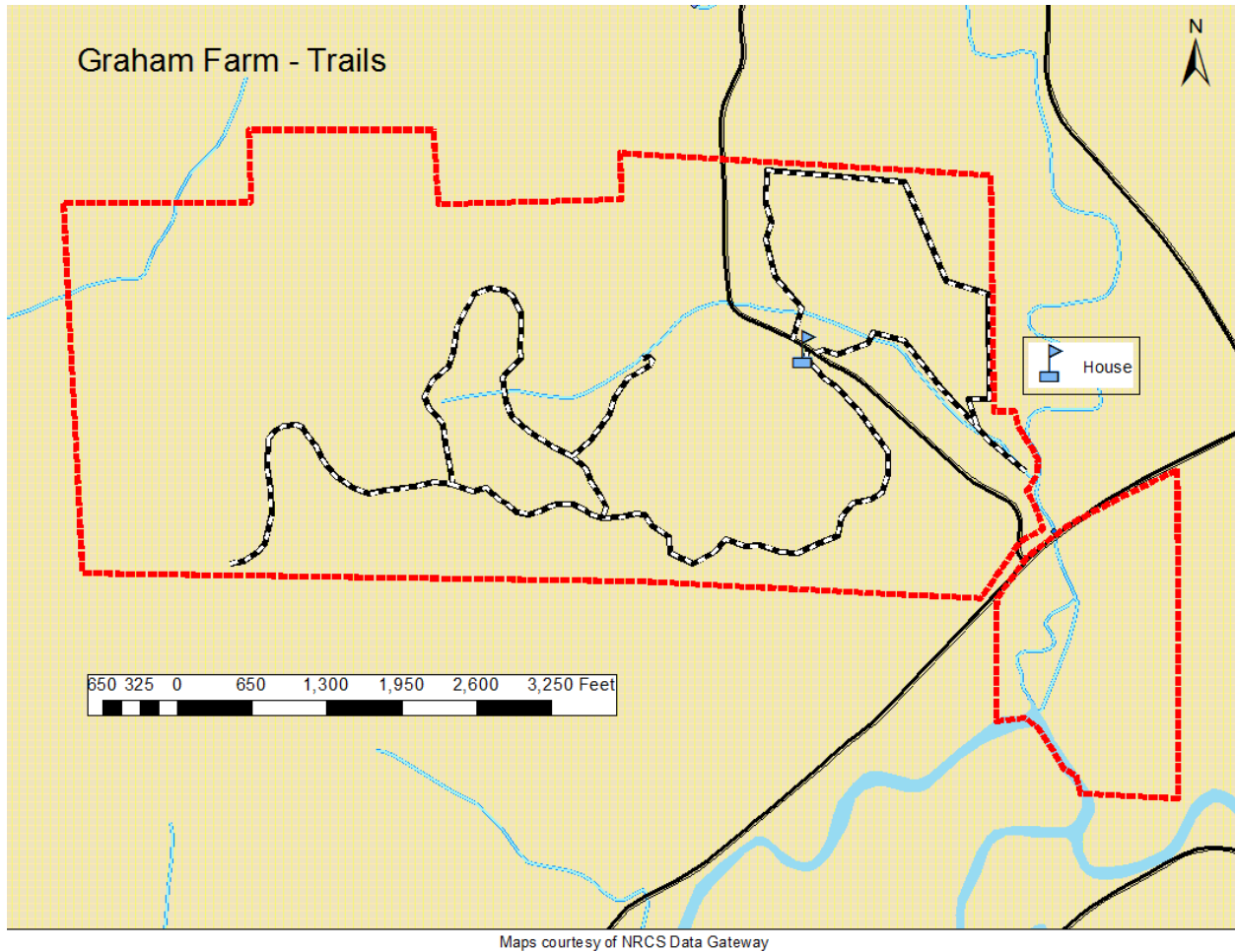


Figure 13: Map of the proposed trails throughout the Graham Farm.

2.54 miles of hiking trails are to be built on the Graham Farm property. The trail system goes from the highest point on the property all the way down to the stream in the bottomland.

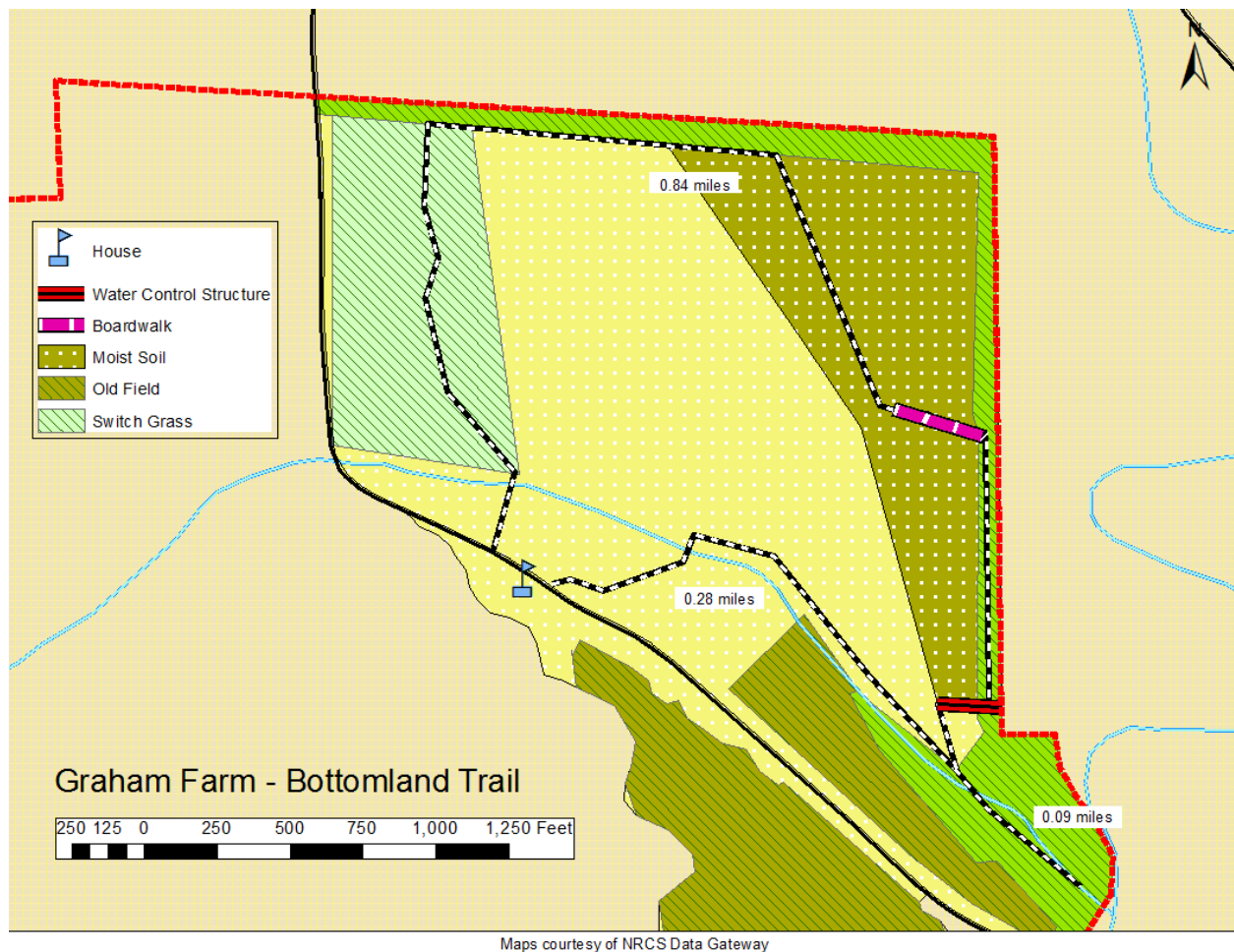


Figure 14: Map of the proposed bottomland trail.

Bottomland Trail

The bottomland trail will cut through the pasture and down towards the water control structure. From here the moist soil management area can be viewed. After a short cross over a boardwalk back through the pasture, the trail goes along the fence line and through the switchgrass before ending at the picnic area.

The total length of the trail is 6,409.02 ft, or 1.21 miles.

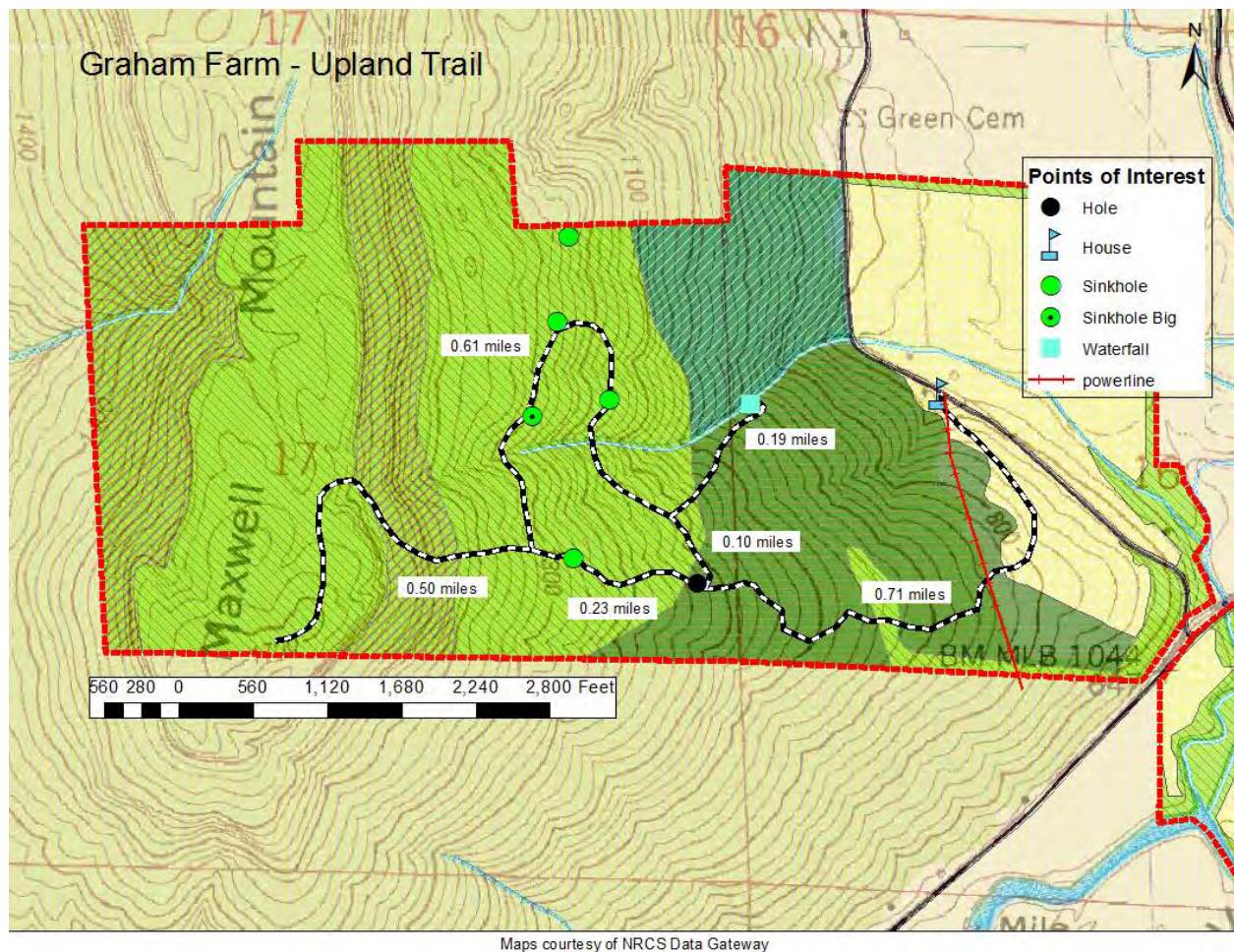


Figure 15: Map of the proposed upland trail.

Upland Trail

The upland trail starts at the Graham house and cuts through the grown out mountain pasture. After a trek through the cedar-hickory stand the trail splits into the Maxwell Mountain trail which goes to the top of the mountain, and the Sinkhole Loop trail which has an offshoot towards the Waterfall trail.

The total length of the trail is 12,318.90 ft or 2.33 miles.

Hypothetical Stand Objectives

Roads

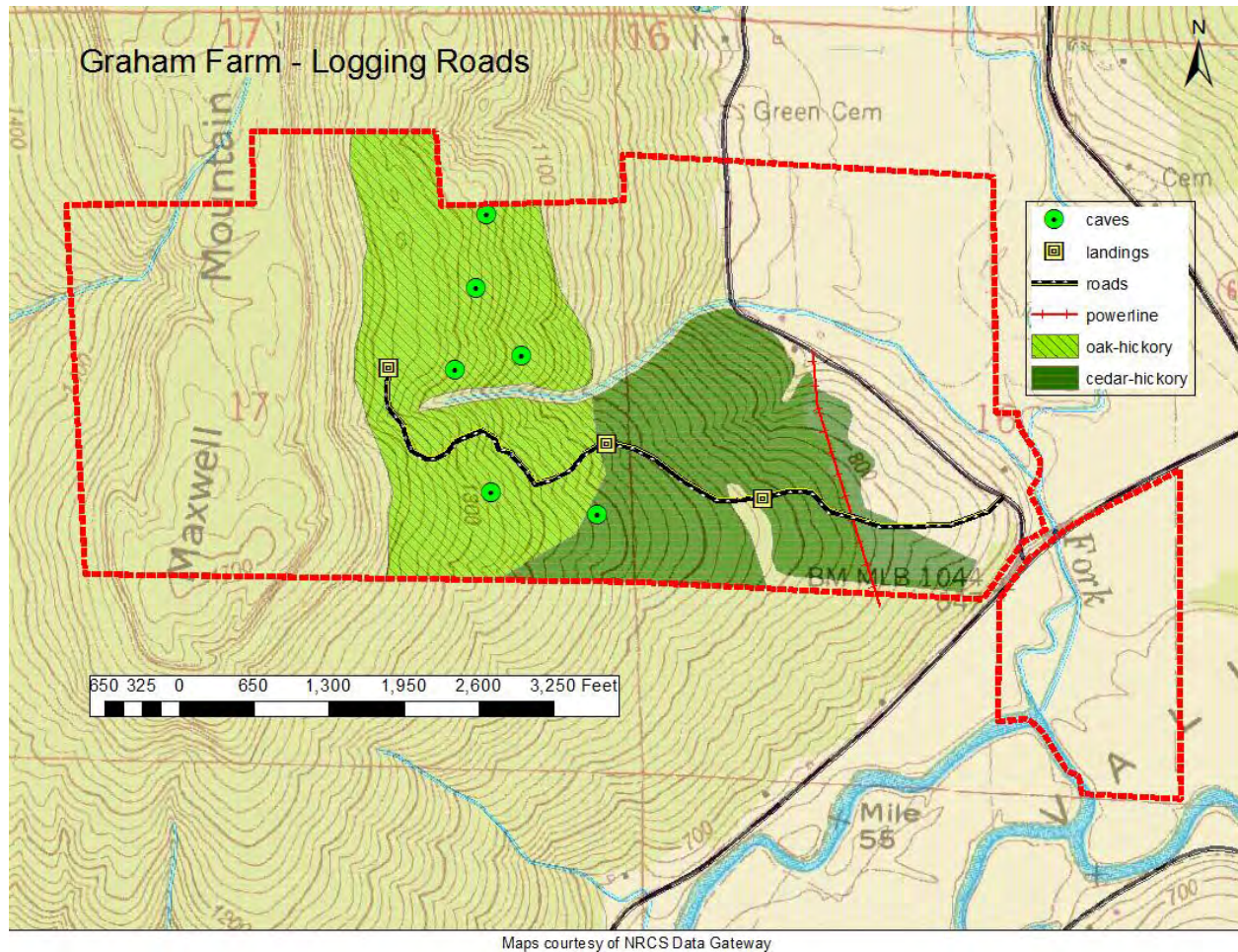


Figure 16: Map of the proposed logging roads for the hypothetical harvest.

The logging roads can be accessed using the gate on 27 near the 65 intersection. 5,496.21 feet, or 1.04 miles of roads are to be constructed for this operation.

Cedar-Hickory Stand

Silvicultural Prescription

Eastern red cedars respond well to seed-tree cutting method with at least 10 trees left per acre. The remaining trees should be harvestable and represent both sexes because the tree is dioecious.

As the stand develops thinnings should reduce the number of trees to about 175 trees per acre. The stands should keep a dense stocking or to where only the upper half of the canopy is open to full sunlight and, the stocking should be kept dense to maintain tree height growth and development of desirable heartwood-sapwood ratio in the tree bole. Eastern redcedar will provide habitat for many of the desired vegetation and wildlife in our stands and although low in nutritional value it still provides emergency food for the animals. (Sander et al. 1983)

Oak-Hickory Stand

Silvicultural Prescription

For the oak-hickory stand we recommend a shelterwood cut with a series of cuts to establish new oak seedlings and provide conditions that will allow for advance reproduction to develop into sturdy stems.

During the first cut the stand should be reduced to 60% stocking leaving the crown coverage as uniform as possible. The understory should also be reduced to allow establishment and development of oak-hickories because any existing understory would respond to the increased light provided by the reduced overstory density. If the first cut can coincide with a good seed drop the seedlings will have a higher chance of establishment. Regeneration of oak-hickory by planting or direct seeding has limited application although survival is acceptable when done so, so we will refrain from planting during our shelterwood cut.

Thinning will be an integral part of managing either of our stands and the recommended first thinning should be at age 20 and thinned every 10-year after with about three-fourths of the rotation. If no product is yielded from the 20-year thin crop trees with about 15 feet of spacing should be released. Smaller trees competing with crop trees should be removed as well and, stands should be thinned from below to about 60% stocking. We plan on having little effect on the water quality although, water yield will increase in areas below the stands we are cutting. Erosion and sedimentation will occur regardless of the harvesting method used but, by using proper precautions we can reduce the damage. (Sander et al. 1983)

Alternatives

Do nothing

Cedar-Hickory and Oak-Hickory Stand

The possibility of getting more volume from the timber by waiting to harvest is not recommended since the stands are due to be harvested.

Clearcut

Cedar-Hickory Stand

Regeneration would be affected if there isn't any advanced regeneration however the seedbed will be prepared by burning to allow for planting of nursery grown seedlings on our clearcut sites and competes well on shelterbelts.

Oak-Hickory Stand

Planting should be acceptable for regeneration and allows for quicker regeneration of the stand. However the crop would have to be monitored and maintained heavily during this stage to prevent pilferage.

Costs and Revenue

Table 3: Stumpage prices for Clearcut

Stand	Acres	Hardwood Pulp	Hardwood Saw	Cedar	Total Stumpage
2	77.76	\$ 12,904.70	\$ 19,651.06	\$ 39,698.96	\$ 72,254.72
4	93.33	\$ 20,385.32	\$ 50,627.59	\$ 1,471.47	\$ 72,484.38

Table 4: Replanting Costs

Stand	Acres	Seedlings/acre	Seedlings	Seedling Cost \$ per 1000	Planting Cost
2	77.76	400	31104	300	\$ 9,331.20
4	93.33	435	40598.55	300	\$ 12,179.57

Total revenue: \$123,228.34

Monitoring

Bottomland Restoration

Invasive Species

Check privet and honeysuckle during winter and spray herbicides or use other forms of controlling during this time

Moist Soil

Control water seasonally, flood during winter, and dry for growing season
Observe what plants are dominant and favor desirable species

Old Fields

Bush hog lanes through fields
Bush hog or burn one third of the fields every year to kill saplings

Pines

Burning should occur when necessary
Thinning every third row once basal area exceeds 100-120sqft per acre.

Hypothetical Stands

Cedar-Hickory Stand

The cedar-hickory stand will be thinned to keep the stand dense and around 175 trees per acre while it is young. Pruning of any kind is not recommended due to the cedars susceptibility to disease and some boring insects. As the stand develops we will want to keep the stocking of the chart as dense as possible and towards the upper end of the stocking chart.

Oak-Hickory Stand

The oak-hickory stand will need to be first thinned 20 years after the stand has developed. And, every 10 years following that a thinning should take place keeping the stand around 60% stocking.

Literature Cited

- Ashley, B. S. (1976). *Field Reference Handbook for Service Foresters*. Department of Agriculture, Forest Service, Northeastern Area, State and Private Forestry.
- Board-feet to tons (water). (n.d.). Retrieved April 14, 2017, from <http://www.conversion-website.com/volume/board-foot-to-ton-water.html>
- Ginrich, S. F. (1967). Measuring and evaluating stocking and stand density in upland hardwood forests in the Central States. *Forest Science*, 13(1), 38-53.

Godwin, J., Roedel, M., Manasco, T., & Hastings, R. W. (2003). Paint Rock River Watershed Nonpoint Source Pollution CWAP Cooperative Agreement C0059425.

Grant Cedar Mill. (n.d.). Retrieved April 14, 2017, from http://www.grantcedarmill.com/grantcedarmillwebsite2017_004.htm

Holcomb, C. J., & Bickford, C. A. (1952). Growth of yellow-poplar and associated species in west Virginia as a guide to selective cutting. USDA Forest Serv. *NE. Forest Exp. Sta., Sta. Paper*, 52, 16.

Miller, J. H., Manning, S. T., & Enloe, S. F. (2010). *A management guide for invasive plants in southern forests*. Asheville, NC: U.S. Dept. of Agriculture, Forest Service, Southern Research Station.

Munger, G. T. (2002). *Lonicera japonica*. US Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory. *Fire Effects Information System*. [http://www.fs.fed.us/database/feis/plants/vine/lonjap/all. Html](http://www.fs.fed.us/database/feis/plants/vine/lonjap/all.Html).

Olson, D. J. 1959. Site Index Curves For Upland Oak in the Southeast. *Res Note -125 Asheville NC US Dep. Agric. For. Serv. Southeast. For. Exp. Stn.* 2 P. 125

Sander, I. L., McGee, C. E., Day, K. G., & Willard, R. E. (1983). Oak-hickory. *Silvicultural systems of the major forest types of the United States, Agriculture Handbook*, 445, 116-120.

South Carolina Forestry Commission Price Guide For Tree Seedlings, Equipment, and Services. (n.d.). Retrieved April 14, 2017, from <https://www.state.sc.us/forest/refprice.htm>

South-wide Average Prices. (2017). Retrieved April 14, 2017, from <http://www.timbermart-south.com/prices.html>

Tirpak, J. M., D. T. Jones-Farrand, F. R. Thompson, D. J. Twedt, and W. B. Uihlein. (2009). *Multiscale habitat suitability index models for priority landbirds in the Central Hardwoods and West Gulf Coastal Plain/Ouachitas Bird Conservation Regions*. 195 p.

USDA-NRCS. Soil Classification - NRCS Soils. (n.d.). Retrieved April 14, 2017, from https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/home/?cid=nrcs142p2_053557

U.S. Fish & Wildlife Service - Environmental Conservation Online System. (n.d.). Retrieved April 14, 2017, from <https://ecos.fws.gov/ecp0/reports/species-by-current-range-county?fips=01071>

Exhibit III-1.

Birmingham Waterworks Board Initiative Description

Birmingham Water Works Board Initiative

The Forestry, Ecology & Wildlife Program (FEWP) entered into a grant agreement with the Birmingham Water Works Board (BWVB) in 2006. The grant involves providing a natural resource inventory and detailed management plan on 14,000 acres of BWVB property in Blount, Jefferson and Shelby counties, Alabama. The management plan includes a timber cruise, wildlife survey, and a natural resource plan. Each year of the grant, AAMU Foresters and Wildlife Biologists will inventory 1,000 acres of forestland over a fourteen year period. Each new project area will be incorporated into the overall management of the entire ownership under a sustainable resource management program. Mr. Daryl Lawson is the AAMU Project Manager for the BSSB initiative.

In addition to resource management, FEWP established a partnership with the BWVB in 2006. This partnership includes two main goals: to recruit minority students to pursue higher education opportunities that can lead to a degree in natural resources, and expose teachers to “hands on” environmental lesson plans in an outdoor classroom setting that teaches basic science, math and communication skills. We feel this partnership has great potential to attract bright and capable students into our academic programs. A brief description of some of the activities with the Young Water Ambassadors follows.

Each summer since this project started FEWP has hosted three activities with the Young Water Ambassadors. The Ambassadors are junior and senior high school students from mostly urban areas in Jefferson County, Alabama. These students were selected by the BWVB to participate in a summer learning program that exposes students and teachers to various educational activities. These activities are sponsored by businesses and educators from across the State and provide training opportunities that encourage students to pursue a college degree. In 2007, approximately 100 high school students and teachers participated in the joint program. FEWP has participated in this event annually for nearly a dozen years.

Beginning in 2008, all 100 YWA students have been travelling to the AAMU campus with their teachers for a half day tour of the FEWP labs and program. Informational brochures were provided to each participant on college registration, cost and different college degree programs in the College of Agricultural, Life and Natural Sciences (CALNS) at AAMU. A one-day field class is hosted in July, on the Lake Purdy property owned by BWVB. This field day exposes the Ambassadors to five outdoor classroom stations, including: Forestry, Forest Fire Management, Forest Insects and health, Fisheries, and Wildlife. Each station provides “hands-on” basic science exercises associated with each discipline. Students and teachers learn and measure trees, ignite and extinguish fires, capture and identify insects, and then they “get their feet wet”. The participants put on waders and ventured into the cold blue waters of Lake Purdy to take netting samples of aquatic wildlife. Several “catches” are made and students brought the fish, snails, and aquatic insects back to shore. These samples were then identified and the relationship between the aquatic environment and the ecosystem was explained. The catches were then released back into their natural environment. Students are also taken on a boat ride to take some water quality measurements of the lake and discuss limnology.

Exhibit III-2

Surveys and Responses of Alumni and Employers of Alumni

Alumni Survey - SUMMARY
Forestry, Ecology and Wildlife Program, Alabama A&M University
February 2008

Section 1. Personal Background:

(name, phone, addresses optional)

Name: _____ Phone: (____) _____

Address: _____

E-mail Address: _____

Year of Graduation: _____ Major: _____ Option _____

Additional degrees or further forestry training _____

Present Occupation: _____

Present Employer: _____

Years with current employer: _____ Years employed in forestry profession: _____

Section 2. Organization of Forestry Curriculum

Please rate your level of agreement or disagreement (No Opinion = 0, Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly Agree = 5) with the following statements regarding the forestry coursework you completed at AAMU:

	NO	SD	D	N	A	SA
1. Curriculum was relevant to my current position	0	0	0	2	7	8
2. Curriculum adequately prepared me to fulfill my current job duties	0	0	0	0	8	9
3. Courses built on one another in a logical progression	0	0	1	2	5	9
4. Courses provided hands-on experience in forestry	0	0	1	1	8	7
5. Course material was stimulating and interesting	0	1	0	1	7	8
6. Courses were easy to schedule	0	0	1	4	4	8
7. Course substitutions/cancellations rarely occurred	0	0	0	0	4	13
8. Course requirements were reasonable	0	0	0	1	8	8
9. Curriculum provided detailed information on forestry topics	0	0	0	2	7	8
10. Curriculum provided information on a wide range of forestry topics	0	0	0	2	7	8

Section 3. Content of Curriculum

For the following competencies, please place a check mark to indicate its importance to your career (left) and the quality of education you received in that area at Alabama A&M University (right). (0 = not offered, 1 = poor, 3 = average, 5 = outstanding)

Importance to your				Quality	Quality of your of your										
Moderately				Education	Education at AAMU at										
AAMU	Unimportant	Important	Important	Skill	0	1	2	3	4	5					
1	☐ 0	☐ 6	10 ☐	Forest ecology	3	0	1	4	5	4					
1	☐ 2	☐ 6	8 ☐	Forest soils	2	0	1	2	6	6					
0	☐ 0	☐ 1	16 ☐	Tree/plant identification	0	0	0	3	3	11					
0	☐ 1	☐ 4	12 ☐	Forest pathology	4	0	0	3	5	5					
1	☐ 1	☐ 3	12 ☐	Fire dynamics	5	1	1	3	5	2					
1	☐ 2	☐ 8	6 ☐	Conservation biology	4	0	1	5	4	3					
1	☐ 1	☐ 8	7 ☐	Wildlife biology	4	1	0	6	4	2					
0	☐ 1	☐ 8	8 ☐	Forest inventory and biometry	1	0	1	4	1	10					
	☐	☐	☐	Forest engineering/											
1	4		5	7	transportation system					7	2	2	3		
2	1			Silvicultural											
	☐	☐	☐	systems											
2	1		1	13	Landscape analysis/geographic information systems					3	0	1	0	4	9
2	☐ 1	☐ 2	12 ☐		5	0	1	3	4	4					
0	☐ 2	☐ 6	9 ☐	Resource economics	0	1	0	5	6	5					
0	☐ 7	☐ 5	5 ☐	Rural community development	9	1	2	2	1	2					
1	☐ 2	☐ 3	11 ☐	Wildland/protected areas management	5	1	0	4	3	4					
1	☐ 1	☐ 4	11 ☐	Watershed management	4	2	1	1	5	4					

1	☐ 7	☐ 5	4 ☐	Range management	8	2	2	4	0	1
0	☐ 2	☐ 2	13 ☐	Resource policy and law	1	1	0	5	6	4
1	☐ 1	☐ 4	11 ☐	Resource management planning	3	0	0	8	4	2

<u>Importance to your</u>			Quality	<u>Quality of your of your</u>						
AAMU			Moderately	Education	Education at AAMU at					
Unimportant	Important	Important		Skill	0	1	2	3	4	5
1	☐ 0	☐ 2	14 ☐	Managerial leadership	4	2	1	2	5	3
1	☐ 0	☐ 7	9 ☐	Alternative dispute resolution	7	1	2	3	2	2
1	☐ 0	☐ 5	11 ☐	Organizational development	7	1	1	3	4	1
1	☐ 2	☐ 3	11 ☐	Human resource management	8	1	2	2	2	2
1	☐ 1	☐ 3	12 ☐	Government relations	6	1	2	3	2	3
1	☐ 1	☐ 3	12 ☐	Financial management	4	1	2	3	6	1
1	☐ 0	☐ 3	13 ☐	Collaborative problem solving	5	0	2	5	2	3
0	☐ 0	☐ 0	17 ☐	Oral communication	1	1	0	3	5	7
0	☐ 0	☐ 0	17 ☐	Written communication	0	1	0	3	6	7
1	☐ 7	☐ 7	2 ☐	Foreign language	8	2	2	4	1	0
1	☐ 0	☐ 2	14 ☐	Ethics	7	1	0	1	3	5

Section 4. Concepts and Skills gained from the Curriculum

Please rate Alabama A&M's performance in helping you acquire the following *general* skills using a 5-point scale, where 1 means poor, 3 means average, and 5 means outstanding.

	1=Poor 3=Average 5=Outstanding									
	0	1	2	3	4	5				
A landscape-level understanding of forest ecosystems and how to manage them to meet ecological, economic, and social needs.	0		0	0	5	4	8			

An understanding of the requirements of a healthy forest, and the silvicultural and other tools to manage that forest sustainably.	0	0	0	2	6	9
Critical thinking - the ability to generate new and innovative approaches to forest management and then test those approaches.	0	0	0	6	5	6
The ability to work well in teams that include a variety of perspectives, both within and outside the organization.	0	0	1	3	0	13
The ability to listen to public concerns about and communicate to the public the environmentally sound forest management practices your organization uses.	0	1	1	3	2	10
The ability to utilize innovative approaches to working with the public to address forest management problems.	0	0	0	7	5	5
The ability to evaluate and synthesize inputs from a variety of specialists when developing resource management plans.	0	0	1	7	4	5
Overall abilities to perform forestry duties.	0	0	0	4	6	7

Section 5. Forestry Faculty

Please rate your level of agreement or disagreement (No Opinion = 0, Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly Agree = 5) with the following statements regarding the forestry teachers at AAMU:

	NO	SD	D	N	A	SA
1. Faculty were knowledgeable about forestry	0	0	0	1	5	11
2. Faculty communicated well with students	0	0	0	2	5	10
3. Faculty were available for course advisement	0	0	1	0	4	12
4. Faculty provided useful course advisement	0	0	1	0	5	11
5. Faculty were flexible in designing course schedules and curriculum changes	0	0	0	1	5	11
6. Faculty participated in extra-curricular forestry activities with students	1	0	0	1	2	13
7. Faculty provided opportunities for field experience in forestry	0	0	1	1	5	10
8. Faculty dealt with student concerns fairly	0	0	0	0	10	7
9. Faculty motivated students to learn forestry	0	0	0	2	7	8
10. Faculty were well prepared for class and returned assignments in a timely manner	0	0	0	0	9	10

Section 6. Alabama A&M University

Please rate your level of agreement or disagreement (No Opinion = 0, Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly Agree = 5) with the following statements regarding AAMU:

	NO	SD	D	N	A	SA
1. Alabama A&M University provided an excellent atmosphere for studying forestry	0	0	1	2	4	10
2. Alabama A&M University offered sufficient facilities and courses to complete forestry degree program in a timely manner	1	0	1	2	6	7
3. Alabama A&M University supported the forestry program adequately	1	0	2	2	6	6
4. Alabama A&M University's library, the Drake Learning Resources Center, provided many of the books and journals necessary to complete forestry course assignments	1	1	3	5	4	3
5. Alabama A&M University provided a unique learning environment in which to study forestry	0	0	1	0	7	9

Section 7. Forestry Program

Please rate your level of agreement or disagreement (No Opinion = 0, Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly Agree = 5) with the following statements regarding the forestry program at AAMU:

	NO	SD	D	N	A	SA
1. Forestry program was administered in a competent manner	0	0	0	2	5	10
2. Forestry program was administered in a compassionate manner	0	0	0	1	9	7
3. Forestry program provided adequate scholarship opportunities	1	0	2	2	4	8
4. Forestry program provided adequate summer employment opportunities in forestry	0	0	1	1	4	11
5. Forestry program provided adequate career advisement and counseling	0	0	1	1	9	6

Section 8. General Comments

1. What is the one thing you most wish you would have learned more about during your education experience at AAMU?

I wish I learned more about the social aspects of the Forest Service and how much I would have to interact with people to get the job done.

(1) During my time at AAMU, I wish that I had the opportunity to see, learn, and identify specimens of other regions of the U.S. besides the southeast. (2) I wish I had the opportunity to take a class in managerial leadership, because with my current employment, managerial leadership plays a very important role in my day to day activities.

I think a better overview of the technical side of what takes place in timber harvesting operations (i.e. tools, equipment limitation, personnel, feasibility, current market conditions and making sense of trends, species/product sorting or grading, transportation systems needs, acceptable stream crossing use, cruising design implementation and sales layout.

More Management Implementation

Public Relations.

Leadership skills/Supervisor training

Forest Engineering – Forest Products

I wish I would have taken the time to do more summer interns to gain a variety of experience in the many areas of forestry.

More information on timber buying contracts.

I wish I had learned more about forestry inventory and biometry.

Ecophysiology of Trees and Tree Nutrition

I wish we had more classes on Urban and Community Forestry.

GIS or map making programs

I wish I had learned to read maps better. I don't remember taking any class that focused on map reading.

GIS or mapping.

My inability to fully understand topographic maps was the one glaring deficiency I had at the beginning of my career. This should be a priority for anyone pursuing a career outdoors.

2. Compared to forestry graduates from other Universities, how do you feel:

<u>0</u>	More poorly trained
<u>12</u>	As well trained
<u>5</u>	Better trained

3. How would you change the forestry program at AAMU to make it more relevant to the position you currently hold?

It is my belief that I have secured a fairly sound education in forestry, however I think more emphasis should be placed on fire, NEPA and recreation.

I would give students an opportunity to stay current on the changing and developing issues in Forestry like biomass production. However, they must also understand how to apply these concepts to private industry practices. The philosophy behind these ideas are critical, but understanding how to implement practices and how the forest products market works can make or break your management options/decisions.

I would focus a lot more on things like networking, interpersonal skills, and public speaking to prepare students for the higher level positions within the Forest Service.

While at AAMU, the forestry program was more relevant to traditional forestry or forest management. My current employment is working as a forester within an urban environment. Before taking classes in urban forestry during graduate school, I didn't know that urban forestry existed. My suggestion to the program is to offer some classes in urban forestry so students will have a more broaden range of forestry skills.

I would add more managerial/leadership type courses to the curriculum. That would be relevant to the position that I am in now as well as any supervisory position. While adding these types of courses will be beneficial, most employers will give you this type of training.

Discuss the importance and uses of forest products other than timber to society.

Maybe not so much for this position, but I would like to see a longer, hands-on forestry approach to summer camp.

More field exercises

Put more focus on prescribe burn, fire suppression, fire line construction, access road layout, hardwood management, wildlife management, timber buying/selling, and more hands-on field work.

Update curriculum and classes with current forest practice issues

I would include more courses in GIS and a detailed course that would cover environmental management issues that are faced in the industry.

It would be great to have more emphasis on hands-on projects whereby students could perform meaningful work while taking ownership of their own management project (similar to the special problems/senior project). This would allow the students to learn skills that can't be learned in a classroom setting.

To make the forestry program more relevant to the position I currently have, I feel there should be more classes on writing forest management plans: (SMR- Stand Management Recommendation).

The program is excellent for the position I have, I learned all of the essential elements needed to become an excellent Forester.

Being able to communicate orally and in writing.

In my career as an Agriculture Specialist I work with a wide range of things my education at AAMU gave me a great foundation for my job I would not change anything about the forestry program to make it more relevant to my job.

4. How would you change the forestry program at AAMU to make it more relevant to the position you hope to hold in ten years?

I would change it by adding more managerial classes to the curriculum.

Add more forestry tracks to the current program (i.e., forest engineering, products, procurement, G.I.S., wildlife) instead of incorporating them all into one.

I wouldn't change the program, but make it diverse as possible such as offering managerial classes that will be composed of financial skills, policy making decisions, and leadership skills.

Learning how to manage/supervise people with diverse backgrounds and thoughts is essential for a sound resource manager. I also believe that staying current on policy changes and political trends will help managers make sense of all the bureaucratic red tape that goes with civil service. This is critical for professionals, since as a supervisor it will be your responsibility to convey and discuss this information to your subordinates (who may not understand or care).

Incorporate a class on how to manage productive meetings.

The program is a great program and it has pretty much prepared me for what lies ahead. I would encourage the program to focus more on communication skills. Whether it be classes, seminars, or trainings that require students to be extensively involved in this area.

I would like to see more alumni come back to AAMU for YMTF (Youth Motivation Task Force) or class lectures. Having more mentorship would be effective as well.

AAMU has several advantages in preparing its students; the small class sizes allows for a better student/teacher ratio. I think there should be a greater emphasis placed on recruiting students from all ethnic groups. This strategy will produce an environment similar to the actual workforce; and build important social skills. This would also bolster AAMU's credibility within the forestry profession.

Same concept as the questions above. As long as we are getting the foundation that is needed to start off on the right foot, it will be up to the individual to advance in their careers. With that said, having people skills and learning how to deal with difficult situations is not something that is easily learned in a classroom. That is where a strong mentoring program is needed. It will be up to us as the alumni to pick a few mentors and follow them through college/job and letting them know what the "real world" will be like. With something like that in place they should have a better understanding of how to enter into the workforce.

In ten years I would like to be a Park Ranger with the National Park Service the classes I took in seminar, and Natural Resource Policy will help me a great deal in this position.

In ten years I hope to become an Urban Forester, the program could add a few Urban Forestry courses or even offer an Urban Forestry minor.

More hands on experience in dendrology in reference to species range.

Perhaps, adding a leadership class to the curriculum that focuses on communications (including conflict resolution), ethics, organizational development, problem solving, etc.

I would make it a requirement for each student to have a least two interns (definitely a summer and another season of choice). This will give students the opportunity to be familiar with the different weather conditions that they may encounter for work responsibilities.

Learn about the type of outfits/organizations that are pursued by students. Help students with career elevation. From entry level and what it takes to be at the top of the ladder.

I would add a human resource management and a business management class. I do more office work now than actual forestry work.

5. What unique skills or perspectives do you feel you bring to the performance of your job as a result of being trained in forestry at Alabama A&M University?

I certainly think that my ability to work as part of a team can be attributed to my time at AAMU.

Well able to address the concerns of people. The skill of forestry is good, but you must be able to relate to people very well.

The ability to work in small groups or in a team environment was a skill that I acquired from A&M. That skill has overlapped into my career. Just about everyday I am working in some sort of a team environment.

I always face a new task as a challenge and look forward to gaining and learning more valuable skills.

I feel that my skills from the program prepared me for everything I have experienced so far. By interning during the summer, I was already prepared for the job and I also had a chance to test the waters before I jumped in.

The skills that I bring are the ability to work with a wide range of different personalities and I have experience working with different ecosystems due to the summer jobs setup by the university each summer.

I think A&M gave me a good overview of the southeastern landscape. The physical location of the school provided a basis to study many common forest types and ecosystems. I also believe strongly that the diversity of the faculty and student body has a great impact on developing professionals who feel comfortable interacting with the diverse general public. This helpful in conveying your message and mold it in a way so that it will be received by the greatest number of people possible.

The ability to grasp onto something quick is a skill my coworkers like about me, which is important in any job. Being able to take two ideas and mold them into one to solve a problem and listening, because it's just amazing how much one can learn just by listening.

The skills that I bring are the ability to work with a wide range of different personalities and I have experience working with different ecosystems due to the summer jobs setup by the university each summer.

Probably at the time was proficient at tree I.D.

1) Innovation: during the time I was at A&M, we were given the freedom to develop our own hands-on projects and that type of creative project development is a major part of my success. 2) GIS proficiency: it has become painfully obvious with the FS (Forest Service) that A&M grads are the only foresters that come out of school with GIS experience.

Going to school at A&M makes you learn to be more patient.

I chose the Forest Science option at A&M so I was given the opportunity to take a lot of courses that have helped me in my career. I am very well rounded because of my degree I am always willing to step up and give presentations, do projects, and try new things my time at A&M helped me to be very confident in myself.

I received the basics, but added training and practical experience with the Forest Service has made me a well rounded Forester.

Growing up in family that owned a logging business, I was very comfortable working with logging equipment and learning the different types of logs that made certain loads to go to the local mills. However, I did not know the very technical and educational side of forestry until I attended the forestry program at AAMU. The program provided me the building blocks that I needed to advance in the field of forestry.

There are numerous skills and perspectives that I have passed on to fellow co-workers, associates, and acquaintances that I learned under the guidance of my professors at Alabama A&M University. Dr. William Stone taught us the importance of Forestry as Freshman's entering into Alabama A&M University and the need and importance of Wildlife Biology, I have carried the teachings of the professors of Alabama A&M University with me and I will continue to learn and teach the way that I was taught at Alabama A&M University.

6. If you are no longer employed in the forestry, or related natural resources, profession, has your forestry training benefited you in other ways?

I am still employed in forestry and the legacy I received from this program still continues and I am proud to carry that torch.

Yes, using skills such as map reading, compass, and G.I.S.

Yes, the program has made me an all around better person. This program has boosted my self confidence to a level that is unimaginable. With the skills and the life lessons I've learned while participating in the program, I feel like I can compete with almost anybody in any profession.

Forestry training brought to my attention that forest is solitude!

I am employed in natural resources.

Yes

7. Please add any other comments regarding the forestry program at AAMU.

Thanks A&M for a stellar education! If I had to do it all again, I would still be a bulldog!

Need more faculty to lighten the teaching load on current faculty. Get more faculty with diverse forestry/wildlife backgrounds to enhance the current program. The USDA program shouldn't force students to pursue forestry alone. Instead, make the program more diverse as far as career opportunities. Pest students enjoy the outdoors but not necessarily forestry or timber management. We have the resources here to expand the above careers for students to enjoy the majors/ careers they choose. 90% of the students dislike the program at some point because it is too broad to learn and retain. More needs to be applied in an outdoor setting. "If you use it, you will remember it".

Given the short history of AAMU's forestry program, there has been a great deal of success. The University has compiled an outstanding group of professors, who possess both the vision and dedication to lead our program into an era where sound training and judgment by resource managers is more critical than ever. I would add that the AAMU forestry program must make resources available to professors in an effort to keep pace with other universities. Training and professional development opportunities for professors must be a priority in order to ensure the students are learning the best available science and techniques.

The forestry program at AAMU should have students take the forester's exam before graduating from forestry or other related fields before leaving AAMU.

Keep up the good work and I'm very, very appreciative of all of the professors in our forestry program. Thanks a bunch ☺

The program at A&M is much improved since I was there. It is more of a forestry program now. Given any degree program, you will not know it all after graduation. I had to read a lot and study after graduation to address weaknesses. Don't sell your books. I treasure my forestry books and I am continuously buying new ones.

The forestry program has been very influential in helping me reach the goals that I thought were so far away. This program equipped me with the skills and the knowledge that I needed to become successful in my position. Without the motivation and the encouragement from the faculty, staff, and my wonderful AAMU forestry family I don't know where I would be. The program has been the foundation for so many professional natural resource leaders that have contributed loyalty, hard work, and dedication into managing natural resources across the world. I must say that being a part of the AAMU Forestry Program is one of the best things that has ever happened to me.

I think the program has come a long way since I graduated in 1998. I look at the opportunities that students have now compared to then and they are miles ahead. There have been additional classes/programs added to the curriculum and they have more opportunities to work in the south (at least with the Forest Service). Programs like the wildlife studies and students being able to work on fire crews are really great. I hope that it continues on that growth path.

I am really happy with my decision to major in Forestry at AAMU. I am proud to call myself a Forester and a Bulldog. The skills I learned at AAMU have not only helped me in my career but also in my life.

Thank you for the opportunity to input my opinions. I look forward to helping out as much as possible in the future.

Another way to help forestry students, would be to help them prepare for the Registered Forester Exam here in Alabama. This test is the key to getting the type of promotions that I or anyone else wants. But I'm noticing that A&M students are taking it three or four times and Auburn students are passing on their first or second.

The forestry program needs to work harder to get its name out. I only hear about UA at this job and the atmosphere here seems to be that A&M is a second rate school. I think the school will have to do more PR to help the department image.

Section 1. Background:

Your Name: _____
Organization: _____
Occupation: _____
AAMU Employee Name: _____
Number of years that you have supervised this employee: _____

Section 2. Employee Evaluation of AAMU Forestry Alumnus:

1. Which of the following assessments of your employee's training is most accurate?

- ☒ 2 Employee was competently trained at AAMU for their current duties.
- ☒ 3 Employee had a solid foundation of knowledge in forestry from AAMU, but required minor on the job training to conduct current duties.
- ☒ 1 Employee had an adequate foundation of forestry knowledge from AAMU, but required moderate on the job training to conduct current duties.
- ☐ Employee had a weak foundation of forestry knowledge and required extensive on the job training to become competent in their current duties.

2. Which statement below best summarizes your evaluation of the employee's potential for career advancement in your organization?

- ☒ 4 Employee has great potential for career advancement without additional academic training
- ☒ 2 Employee has great potential for career advancement with some additional professional training
- ☐ Employee has moderate potential for career advancement with some additional professional training
- ☐ Employee has low potential for career advancement with some additional professional training
- ☐ Employee has no potential for career advancement despite additional professional training

3. Compared to other forestry employees of the same level of experience, this employee is:

- ☒ 1 more capable and better trained
- ☒ 3 more capable and trained as well
- ☐ more capable but poorly trained
- ☐ as capable and better trained
- ☒ 2 as capable and trained as well
- ☐ as capable and poorly trained
- ☐ less capable but better trained
- ☐ less capable but trained as well

_____ less capable and poorly trained

4. For the following competencies, please place a check mark to indicate its importance to a career with your organization (left) and circle the performance of your Alabama A&M employee (right).

Importance to your organization			Skill	Performance of job skill by AAMU graduate (1 = poor, 3 = average, and 5 = outstanding)				
Unimportant	Moderately Important	Very Important		1	2	3	4	5
0	1	5	Forest Ecology	0	0	2	2	2
1	2	3	Forest soils	0	0	4	1	0
0	0	6	Tree/plant identification	0	0	1	3	2
0	3	3	Forest Pathology	0	0	2	3	1
1	2	3	Fire dynamics	0	0	3	1	1
0	2	4	Conservation biology	0	0	3	2	1
0	2	4	Wildlife biology	0	0	2	2	2
0	1	5	Forest inventory and biometry	0	0	1	2	3
2	1	3	Forest engineering/transportation systems	0	1	2	2	0
0	1	5	Silvicultural systems	0	0	1	3	1
1	1	4	Landscape analysis/geographic information systems	0	0	1	2	2
0	3	3	Resource economics	0	0	4	1	1
2	2	2	Rural community development	0	0	5	0	1
1	2	3	Wildland/protected areas management	0	0	3	2	1
1	2	3	Watershed management	0	0	2	3	0
5	0	1	Range management	0	1	3	0	0
0	2	4	Resource policy and law	0	0	4	1	1
0	2	4	Resource management planning	0	0	2	3	1
1	1	4	Alternative dispute resolution	0	1	3	1	1
0	2	4	Managerial leadership	0	0	2	3	1
1	1	4	Organizational development	0	0	3	2	1
1	1	4	Human resource management	0	1	2	2	1
1	1	4	Government relations	0	1	3	1	1
1	1	4	Financial management	0	0	4	1	1
0	2	4	Collaborative problem solving	0	0	1	3	2
0	0	6	Oral communication skills	0	0	2	3	1
0	0	6	Written communication skills	0	0	1	4	1
4	1	1	Foreign language	0	1	1	0	0
0	1	5	Ethics	0	0	0	3	3

5. What special skills or unique perspectives, if any, does this employee bring to the performance of their job because of their training in forestry at Alabama A&M University?

[The employee] brings a fresh outlook on everything because his background is different from the rest of the staff.

The employee's training in forestry brings a unique and diverse perspective that other agricultural specialists may not have. This brings a specific expertise and broadens our resources.

[The employee] has a good foundation of forestry knowledge needed for the industry and management of federal forest lands. She is open to learning new and different skills and is very receptive when faced with new challenges.

[The employee] has excellent leadership skills and always gathers all facts before making decisions. He has a bright future with the Forest Service.

[The employee] is a great employee and an excellent "product" of your institution.

[The employee] is better able to relate to minority stakeholders and gain their trust for management decisions. He views decision-making from a practical aspect of consequences for all stakeholders. Good at team participation and leadership.

6. Please describe any training deficiencies or other difficulties that you have experienced with this employee because of their forestry training at Alabama A&M University.

No deficiencies are evident

None

None

None

None

Has solid training in forestry, needed some on-the-job training in wildlife for graduate studies. Quick learner and a hard worker.

Section 3. Organization Preferences and Requirements for Forestry graduates

1. What complementary experiences do you, or your organization value in a new forestry professional?

Experiences	Important	Not Important	Unsure
Activity in student government	1	2	2
Participation in professional organization(s)	6	0	0
Community service experience	5	0	1
Experience in another region of the U.S.	3	2	1
Field practicum (eg., summer camp)	6	0	0
Full-year co-op	4	2	0
Peace corps	1	3	2
Summer internship	5	1	0
Other:			

2. When hiring a new forestry professional, how important to you are the following?

Hiring Factors	Very Important	Important	Not Important
Candidate interview	5	0	0
College GPA	2	3	0
Graduating institution	2	2	1
Honors and awards	3	0	2
Letters of reference	3	2	1
Relevant experience	5	1	0
Other: Demonstrate that they can WRITE	1		

Exhibit V-1.

Undergraduate Bulletin Excerpt, 2017-18

Academic Year

The sections relevant to the Department of Biological and Environmental Sciences (BES) are included below. The full bulletin is available at:

<http://www.aamu.edu/administrativeoffices/academicaffairs/Pages/Undergraduate-Bulletins.aspx>

Department of Biological and Environmental Sciences

Dr. Anthony Overton, Chair
Carver Complex – Thomas Wing
Voice: 256-372-4219. Fax: 256-372-5905, anthony.overton@aamu.edu

Introduction

Department of Biological and Environmental Sciences include the program areas of Biology, Environmental Science, Forestry.

Our academic programs are dynamic and prepare students for a variety of careers in health care, food and agriculture, basic and applied biosciences and environmental sciences that lead to careers in research, industry, teaching and public service professions. Diverse Issues in Higher Education's Top 100 Degree Producers, ranked AAMU in the top 10 producers of African American graduates in Biological and Biomedical Sciences in the nation and the PhD program in Plant and Soil Science as one of the leading producers of African American PhDs in Agricultural Sciences. Our Forestry, Ecology, and Wildlife degree Program is the only professionally accredited forestry program at a historically black college or university.

Mission Statements/Objectives

The mission of the Department of Biological and Environmental Sciences is to provide our graduates with a solid academic foundation in the biological and environmental sciences with skills for further educational opportunities for careers in research, teaching and public services. We expect that our students will become productive and informed citizens, who are well prepared for positions in public and private institutions, and for graduate and professional studies in the biomedical, biological, natural resources and environmental fields.

Objectives:

- Teach fundamental principles and unifying concepts in the biological and environmental sciences.
- Provide research opportunities for undergraduate and graduate students to promote integrative learning.
- Train students to function as scientists, by integrating research and pedagogy; exposing the students to the scientific process.
- Teach scientific literacy, which is the ability to communicate scientific concepts effectively in both written and oral formats, as well as to think critically and logically.
- Provide a visible and easily accessible resource in the biological and agricultural sciences to the community through seminars by faculty and volunteer activities through student organizations.

The Forestry, Ecology & Wildlife Program (FEWP), as part of the total University, seeks to reflect the mission of the traditional land-grant institution, combining education, research and service to the public and the forestry profession. The undergraduate degree program is designed to educate broad-based, ecologically sensitive resource managers. Such a background will enable them to succeed as professional managers and practice conservation of forests and other natural resources for multiple uses. Faculty and graduate students in the FEWP conduct basic and applied research on forest ecosystems and resources in northern Alabama and beyond to provide needed information to land managers, resource planners, scientists and society. As part of a Historically Black College or University, FEWP seeks to address the needs of capable students who as a group are underrepresented in the forestry profession, as well as the minority, forest-landowner community that has historically been under-served by the forestry profession.

Programs Offered

Bachelor of Science Degrees		
MAJOR	CONCENTRATION	MINOR
Biology	Environmental Health Pre-Nursing Pre-Professional Health Teacher (6-12)	Biology Environmental Health
Environmental Science	Agricultural Science Environmental Health Science Plant Science Soil Science	Remote Sensing & GIS
Forestry	Ecology Fish and Wildlife Science Forest Management Forest Science Forestry Business	Fisheries Wildlife Biology

Financial Aid/Scholarships

In addition to financial support available from university (need and merit-based) support programs, opportunities exist for student research assistance via faculty research projects. Specialized scholarships are available from certain public/governmental agencies. Incoming students may also qualify for the USDA Scholars Program, among other merit-based scholarships.

Cooperative Education/Internships

A large number of students majoring in Environmental Science, Forestry and accept summer and cooperative placements with governmental agencies, universities, private forestry and biotech and other agribusiness industries. This includes the Multi-Workforce Strategic Initiative Program (MWSI), housed on campus, for qualified forestry majors interested in a career with the USDA Forest Service. Tuition, support, summer job and permanent employment opportunities are available through the MWSI program.

An extensive research program provides unique opportunities for undergraduate students enrolled in the department to gain valuable practical experience in their chosen field of study. Under this program, several part-time work positions are available for competent and needy undergraduate students. The department also assists in securing summer employment for its students within its own research program or with private, state, and federal agencies.

Student/Professional Organizations

Agronomy Club

Alpha Zeta

Water Resources Club

Environmental Science Club

Graduate Student Association – Department of Biological and Environmental Sciences

Horticulture Club

Minorities in Agriculture, Natural Resources, and Related Sciences (MANNRS)

Society of American Foresters – Student Chapter

Association of Southern Forestry Clubs

Strategies for Ecology Education, Development and Sustainability (SEEDS) – Ecological Society of America – Student Chapter

Special Programs/Awards/Recognitions

Students have an opportunity to participate in Outstanding Student Awards given at the College level, for students at each classification level. Students also participate in the University's Academic honors programs (e.g., Dean's List, etc.)

Department Graduation Requirements

1. Complete the University General Education Curriculum requirements.
2. Complete the Department and Major Curriculum requirements.
3. Complete the minimum number of semester credit hours required for graduation.
4. Students pursuing a minor must fulfill the prerequisite requirements for any of the 18 credit hour courses required for the minor.
5. Students pursuing a program must earn at least 25 percent of the credit hours required at Alabama A&M University.
6. Students pursuing a program must earn at least 50 percent of course work in the major/concentration/specialty area at AAMU.
7. Maintain the grade point averages and course grades noted on each curricula page for programs, majors, concentrations, minors, courses, etc.
8. Biology-Pre-Professional Health majors must have a ≥ 3.0 GPA upon entering the second semester freshman portion of the program and maintain for the remainder of the program.
9. Maintain a grade of "C" or better in BIO and NRE prefix courses.
10. All students must take the departmental Exit Exam in their senior year as part of the requirement to obtain a BS degree in Biology.

A two-year pre-nursing program is offered. Upon completion of these two years, the student is advised to register in a two-year professional curriculum in nursing. Cooperative agreements are currently maintained with Emory University in Atlanta, Georgia; the University of Alabama in Birmingham (UAB); the University of Alabama in Huntsville (UAH); the University of North Alabama in Florence (UNA). The B.S. degree in nursing will be awarded by the respective institution attended for the final two years.

Forestry
136 Credit Hours

FRESHMAN YEAR					
First Semester			Second Semester		
Course No.	Course Title	Hrs	Course No.	Course Title	Hrs
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I ²	3	ENG 102	Composition II ²	3
MTH 113	Pre-Calculus Trigonometry	3	CHE 102	General Chemistry II	3
CHE 101	General Chemistry I	3	CHE 102L	General Chemistry II Lab	1
CHE 101L	General Chemistry I Lab	1	BIO 103	Principles of Biology I	3
NRE 281	Intro to Forestry ²	3	BIO 103L	Principles of Biology I Lab	1
NRE 101	Intro to Plant Science ²	4		Fine Arts – See GenEd Listing ¹	<u>3</u>
		18		HIS Sequence – See GenEd Listing ¹	<u>3</u>
					18

SOPHOMORE YEAR					
First Semester			Second Semester		
Course No.	Course Title	Hrs	Course No.	Course Title	Hrs
	Literature – See GenEd Listing ¹	3		HIS Sequence – See GenEd Listing ¹	3
ECO 232	Princ of Microeconomics	3	ENG 205	General Speech	3
BIO 104	Principles of Biology II	3	PHL 201	Intro to Philosophy	3
BIO 104L	Principles of Biology II Lab	1	HED 101	Personal and Community Health	2
NRE 251	Intro to Soil Science ²	4	NRE 199	Technology in Ag & Bio Sciences	3
NRE 282	Dendrology ²	<u>3</u>		Soc/Beh Sci – See GenEd Listing ¹	<u>3</u>
		17			17

JUNIOR YEAR					
First Semester			Second Semester		
Course No.	Course Title	Hrs	Course No.	Course Title	Hrs
NRE 365	Intro to GIS ²	3	NRE 371	Forest Mensuration ²	4
NRE 379	Forest Ecology ²	3	NRE 375	Silviculture ²	4
NRE 382	Forestry Field Techniques I ²	3	NRE 383	Forestry Field Techniques II ²	3
NRE 430	Biostatistics ²	3	NRE 387	Wildlife-Forestry Relationships ²	3
	Concentration Course ³	3		Concentration Course ³	<u>3</u>
	Concentration Course ³	<u>3</u>			17
		18			

SENIOR YEAR					
First Semester			Second Semester		
Course No.	Course Title	Hrs	Course No.	Course Title	Hrs
NRE 474	Forest Ecological Management ²	2	NRE 376	Forest Pest Management ²	3
NRE 483	Forest Resource Economics ²	3	NRE 480	Natural Resource Policy ²	3
	Concentration Course ³	3	NRE 491	Seminar & Scientific Writing ²	1
	Concentration Course ³	3	NRE 497	Forest Ecological Mgt Project [CS]	4
	Free Elective	<u>3</u>		Concentration Course ³	3
		14		Concentration Course ³	<u>3</u>
					17

¹See [General Education Requirements](#) section of this Bulletin for eligible courses.²MinGrade of C required.³Although concentrations are a minimum 21 hours, some may require additional hours. Please check the Bulletin. The attached concentration within the baseline program is limited to only those concentrations listed on the back of the Program Checklist and in the “Minors, Concentrations, Electives” Section of the Bulletin for this Department unless otherwise specified here.

Concentrations, Minors & Electives

(FOR) FISH & WILDLIFE SCIENCE CONCENTRATION	
MinGPA 2.0. MinGrade C. MinGrade C NRE course pre-reqs.	
NRE 286 Wildlife Biology and Identification	3
NRE 386 Principles of Wildlife Management	3
NRE 388 Principles of Fisheries Sciences	3
NRE 389 Fisheries Mgt and Aquaculture	3
NRE 488 Wildlife Techniques	3
FOR Electives	<u>6</u>
	21

(FOR) FORESTRY BUSINESS CONCENTRATION	
MinGPA 2.0. MinGrade C. MinGrade C NRE course pre-reqs.	
NRE 370 Natural Resource Conservation & Mgt	3
NRE 381 Wood Products	3
NRE 384 Forest Operations Systems & Mgt	3
NRE 389 Fish Management and Aquaculture	3
NRE 486 Environmental Policy and Law	3
FOR Electives	<u>6</u>
	21

(FOR) FOREST MANAGEMENT CONCENTRATION	
MinGPA 2.0. MinGrade C. MinGrade C NRE course pre-reqs.	
NRE 372 Forest Fire Ecology & Mgt	2
NRE 381 Wood Products	3
NRE 384 Forest Operations Systems & Mgt	3
NRE 385 Forest Recreation	3
Forestry Elective	3
Free Elective	<u>7</u>
	21

(FOR) FOREST SCIENCE CONCENTRATION	
MinGPA 2.0. MinGrade C. MinGrade C NRE course pre-reqs.	
Forestry Elective	14
Free Elective	<u>7</u>
	21

(FOR) ECOLOGY CONCENTRATION	
MinGPA 2.0. MinGrade C. MinGrade C NRE course pre-reqs.	
BIO 205 Ecology	3
NRE 372 Forest Fire Ecology & Mgt	2
NRE 379 Forest Ecology	3
NRE 471 Aerial Photo Interpretation	3
NRE 484 Ecological Processes	3

And Any **SEVEN HRS** of the following:

BIO 202/L Comparative Vert Anat & Lab	4	NRE 470 Soil, Plant and Water Analysis	4
BIO 311/L Principles of Genetics & Lab	4	NRE 474 Forest Ecological Management	2
BIO 330/L Microbiology & Lab	4	NRE 475 Principles of Wetlands	3
NRE 286 Wildlife Biology and Identification	3	NRE 476 Remote Sensing of Environment	4
NRE 366 Climate and Global Change	4	NRE 478 GIS, Spatial Analysis and Modeling	4
NRE 370 Natural Resource Conservation and Management	3	NRE 481 Hydrology and Watershed Management	3
NRE 387 Wildlife-Forestry Relationships	3	NRE 490 Special Probs in Plant/Soil Science	<u>1-3</u>
NRE 465 Application of Geostatistics	3		21

(ES) ENVIRONMENTAL HEALTH SCIENCE CONCENTRATION	
MinGPA 2.0. MinGrade C. MinGrade C NRE course pre-reqs.	
NRE 101 Intro to Plant Science	(4)
NRE 170 Intro to Environmental Sci	(3)
NRE 223 Intro to Env Health Science	3
NRE 400 Epidemiology	3
NRE 451 Environmental Toxicology	3
NRE 453 Hazardous Waste Management	3
NRE 460 Soil Chemistry	3
NRE 470 Soil, Plant & Water Anal	(4)
NRE 486 Environmental Policy & Law	3
NRE 496 Env Health Internship	<u>3</u>
	21
	+ (11)

(ES) SOIL SCIENCE CONCENTRATION	
MinGPA 2.0. MinGrade C. MinGrade C NRE course pre-reqs.	
NRE 251 Intro to Soil Science	(4)
NRE 350 Soil Morphology	4
NRE 366 Climate and Global Change	4
NRE 406 Soil Microbiology	4
NRE 450 Earth Science	3
NRE 452 Soil Fertility	3
NRE 460 Soil Chemistry	3
NRE 461 Soil Physics	4
NRE 470 Soil, Plant & Water Analysis	(4)
	25
	+ (8)

BIOLOGY (6-12) TEACHER CONCENTRATION	
MinGPA 2.75 cumulative, major, concentration. MinGrade C.	
BIO 205 Ecology	3
EDU 101 Lab Approach/Concept Dev ¹	0-2
FED 200 Intro to Education ²	2
FED 212 Human Growth/Development ²	3
FED 215 Instructional Technology ²	3
FED 300 Foundations of Education	2
FED 404 Tests & Measurements	3
PSY 403 Educational Psychology	3
SED 409 Reading in the Content Area	3
SED 424 Teaching Science in Sec Schls	3
SED 494 Clinical Experience in Sec Schls	6
SED 495 Internship	12
SPE 201 Intro to Study of Excep Child ²	3
SPE 326 Mgt of Classroom Behavior	<u>3</u>
	50-52

¹Advisor may suggest this course be taken.²MinGrade of C required.

NOTE: When a Teacher Program/Option is revised and approved, all students majoring in the program must immediately conform to the revised program.

NOTE: If the Teacher Concentration is chosen by the student, FED 215 will replace the computer literacy requirement.

NOTE: If the Teacher Concentration is chosen by the student, the Admission, Completion and other GPAs (including GenEd) are 2.75.

NOTE: If the Teacher Concentration is chosen by the student, the General Education math course requires a grade of C or better.

(ES) REMOTE SENSING & GIS MINOR	
MinGPA 2.0. MinGrade C. MinGrade C NRE course pre-reqs.	
*NRE 365 Introduction to Geographic Info Systems	3
NRE 465 Applications of Geostatistics	3
NRE 476 Remote Sensing of the Environment	4
And Any EIGHT HOURS of the following courses:	
NRE 366 Climate and Global Change	4
NRE 471 Aerial Photo-Interpretation	3
NRE 478 GIS, Spatial Analysis, and Modeling	4
NRE 481 Hydrology and Watershed Management	3
EE 303 Electromagnetic Field Theory	3
EE 304 Numerical Methods & Digital Computation	3
CS 204 Visual Programming	3
CS 309 Computer Graphics	<u>3</u>
	18

*NRE 365 is not counted as a part of the minor for students who major in URP, ES and FOR. Students not majoring in the three majors in the previous sentence then must take 11 hours instead of the eight hours listed above.

(FOR) FISHERIES MINOR (NonFOR mjr)	
MinGPA 2.0. MinGrade C. MinGrade C NRE course pre-reqs.	
NRE 388 Principles of Fisheries Science	3
NRE 389 Fisheries Management and Aquaculture	3
And Any TWELVE HOURS of the following courses:	
BIO 201/L Invertebrate Zoology & Lab	4
BIO 202/L Comparative Vertebrate Anatomy & Lab	4
BIO 205 Ecology	3
BIO 311/L Genetics & Lab	4
BIO 321/L Introduction to Parasitology & Lab	4
BIO 340/L Developmental Biology & Lab	4
BIO 402/L Limnology & Lab	4
BIO 411/L Cell and Molecular Biology & Lab	4
BIO 481 Research in Biology	2-4
NRE 475 Principles of Wetlands	3
NRE 477 Insect Biology and Pest Management	3
NRE 484 Ecological Processes	3
NRE 490 Special Probs in Plant & Soil Science	<u>1-3</u>
	18

(BIO) BIOLOGY MINOR (NonBIO mjr) MinGPA 2.0. MinGrade C.	
BIO 103 Principles of Biology	3
BIO 103L Principles of Biology Lab	1
And any four Lec/Lab below broken down as follows: 2 @ 2xx level, 1 @ 3xx level, 1 @ 4xx level for a maximum of 16 hours plus the 4 hours above.	
BIO 202/L Comparative Vertebrate Anat & Lab	4
BIO 203/L General Botany I & Lab	4
BIO 204/L General Botany II & Lab	4
BIO 221/L Human Anat & Physiology I & Lab	4
BIO 222/L Human Anat & Physiology II & Lab	4
BIO 330/L Microbiology & Lab	4
BIO 340/L Developmental Biology & Lab	4
BIO 411/L Cell and Molecular Biology & Lab	4
BIO 434/L Principles of Physiology & Lab	<u>4</u>
	20

(BIO) ENVIRONMENTAL HEALTH MINOR MinGPA 2.0. MinGrade C. MinGrade C NRE course pre-reqs.	
BIO 223 Intro to Environmental Health	3
BIO 490 Internship	3
BIO 433 Fundamentals of Epidemiology	3
And Any of the Following for a minimum minor total of 18 hours:	
BIO 200 Environmental Biology	3
BIO 205 Ecology	3
BIO 321/L Parasitology & Lab	4
BIO 324 Ecotoxicology I/Env Toxicology	3
BIO 330/L Microbiology & Lab	4
BIO 430/L Medical Microbiology & Lab	4
BIO 450 Radiation Biology	3
NRE 453 Hazardous Waste Management	3
NRE 486 Environmental Policy and Law	3
MTH 355 or PSY 265 or SOC 265	<u>3</u>
	18

(FOR) WILDLIFE BIOLOGY MINOR MinGPA 2.0. MinGrade C. MinGrade C NRE course pre-reqs.	
NRE 286 Wildlife Biology and Identification	3
NRE 386 Principles of Wildlife Management	3
NRE 387 Wildlife-Forestry Relationships	3
And Any TWELVE HRS of the following:	
BIO 201/L Invertebrate Zoology & Lab	4
BIO 202/L Comparative Vert Anat & Lab	4
BIO 205 Ecology	3
BIO 311/L Genetics & Lab	4
BIO 321/L Intro to Parasitology & Lab	4
BIO 322/L General Entomology & Lab	4
BIO 340/L Developmental Biology & Lab	4
BIO 402/L Limnology & Lab	4
BIO 411/L Cell and Molecular Biology & Lab	4
BIO 481 Research in Biology	2-4
NRE 475 Principles of Wetlands	3
*NRE 488 Wildlife Techniques	3
NRE 489 Forest Ecological Management	3
NRE 490 Special Probs in Plant/Soil Sci	<u>1-3</u>
	21

*NRE 488 may be substituted for NRE 286 or 386 or 387.

(ES) ENVIRONMENTAL SCIENCE ELECTIVES			
BIO 205 Ecology	3	NRE 452 Soil Fertility and Fertilizers	3
BIO 321 Introduction to Parasitology	3	NRE 453 Hazardous Waste Management	3
BIO 322 General Entomology	3	NRE 461 Soil Physics	4
BIO 324 Ecotoxicology I	3	NRE 475 Principles of Wetlands	3
BIO 402 Limnology	3	NRE 476 Remote Sensing of the Environment I	4
CHE 252/L Organic Chemistry II & Lab	3	NRE 478 GIS, Spatial Analysis, and Modeling	4
NRE 223 Intro to Env Health Science	3	NRE 481 Hydrology and Watershed Mgt	3
NRE 350 Soil Morphology	4	NRE 486 Environmental Policy and Law	3
NRE 366 Climate and Global Change	4	NRE 490 Special Probs in Plant & Soil Science	1-3
NRE 370 Natural Resource Conservation/ Mgt	3	NRE 494 Irrigation and Drainage Systems	4
NRE 400 Fundamentals of Epidemiology	3	NRE 495 Soil & Water Conservation Applications	3
NRE 417 Sustainable Crop Production	3	NRE 496 Environmental Health Internships	3
NRE 450 Earth Science	3	UPL 442 Planning and the Environment	3
NRE 451 Environmental Toxicology	3		

BIOLOGY ELECTIVES	
BIO 202/L Comparative Vertebrate Anat & Lab	4
BIO 206 Medical Terminology	3
BIO 220 Allied Health Microbiology & Lab	4
BIO 221/L Human Anat & Phys I & Lab	4
BIO 222/L Human Anat & Phys II & Lab	4
BIO 340/L Embryology & Lab	4

(PBT) PLANT BIOTECHNOLOGY ELECTIVES	
MinGrade C. MinGrade C NRE course pre-reqs.	
BIO 311/L Principles of Genetics & Lab	4
BIO 330 Microbiology	3
CHE 407/L Biochemistry I & Lab	4
MGT 315 Principles of Management	3
NRE 365 Intro to Geographic Info Systems	3
NRE 406 Soil Microbiology	4
NRE 417 Sustainable Crop Production	3
NRE 421 Plant Propagation	3

(FOR) FORESTRY & FORESTRY BUSINESS (FOB) ELECTIVES	
MinGrade C. MinGrade C NRE course pre-reqs.	
AGB 422 Agricultural Financing (FOB)	3
ECO 414 Managerial Economics (FOB)	3
FIN 315 Principles of Finance (FOB)	3
LSM 201 Intro to Logistics and SCM (FOB)	3
MKT 315 Principles of Marketing (FOB)	3
NRE 101 Intro to Plant Science (FOB)	3
NRE 286 Wildlife Biology and Identification	3
NRE 360 Cooperative Education (FOB)	3
NRE 370 Natural Resource Conservation and Management	3
NRE 372 Forest Fire Ecology and Management	2
NRE 381 Wood Products	3
NRE 384 Forest Operations Systems and Management	3
NRE 385 Forest Recreation	3
NRE 386 Principles of Wildlife Management	3
NRE 388 Principles of Fisheries Science	3
NRE 389 Fisheries Management and Aquaculture	3
NRE 471 Aerial Photo Interpretation	3
NRE 477 Insect Biology and Pest Management	3
NRE 481 Hydrology and Watershed Management	3
NRE 484 Ecological Processes	3
NRE 486 Environmental Policy and Law	3
NRE 488 Wildlife Techniques	3
NRE 490 Special Problems in Plant & Soil Science (FOB)	1-3

FREE ELECTIVES
Any course except
developmental courses.

MinGrade C NRE course pre-reqs.								
BOTANY			ZOOLOGY			MEDICAL TECHNOLOGY		
BIO 200/L Env Biology	4		BIO 200/L Env Biology	4		BIO 321/L Intro to Parasitology	4	
BIO 205 Ecology	3		BIO 205 Ecology	3		BIO 412/L Molecular Biology	4	
BIO 344/L Princ of Plant Tax.	4		BIO 344/L Princ of Plant Tax.	4		BIO 430/L Med Microbiology	4	
BIO 451/L Plant Anatomy	4		BIO 451/L Plant Anatomy	4		BIO 431/L Princ of Immunology	4	
BIO 454/L Plant Pathology	4		BIO 454/L Plant Pathology	4		CHE 408/L Biochemistry II	4	
BIO 461/L Plant Physiology	4		BIO 461/L Plant Physiology	4		CHE 221/L Analytical Chem	4	
CHE 408/L Biochemistry II	4		CHE 408/L Biochemistry II	4		MTH 355 Applied Statistics	3	

(BIO) RECOMMENDED BIOLOGY ELECTIVE COURSES (Choose 8 hours)					
PRE-MEDICINE			ENVIRONMENTAL HEALTH		
BIO 221/L Hum Anat & Phys I	4		BIO 200/L Env Biology	3	
BIO 222/L Hum Anat & Phys II	4		BIO 205 Ecology	3	
BIO 340/L Dev Biology/ Embryology	4		BIO 223 Intro to Env Health	3	
BIO 430/L Med Microbiology	4		BIO 324 Ecotoxicology I	4	
BIO 431/L Princ of Immunology	4		BIO 433 Fund of Epidemiology	4	
CHE 408/L Biochemistry II	4		BIO 450 Radiation Biology	3	
MTH 126 Calculus II	4		MTH 355 Applied Statistics	3	
MTH 355 Applied Statistics	3				

(FOR) COURSES FOR FOREST SCIENCE SPECIALTY TRACKS								
MinGrade C NRE course pre-reqs.								
*WILDLIFE			*ECOLOGY			*GIS / REMOTE SENSING		
NRE 286 Wildlf Bio & Id	3		NRE 370 Nat Res Con & Mgt	3		NRE 465 Appl Geostatistics	3	
NRE 386 Princ Wildlf Mgt	3		NRE 372 Forest Fire Ecol & Mgt	2		NRE 471 Use Int Aer Photo	3	
NRE 388 Princ Fish Mgt	3		NRE 477 Insect Bio/Pest Mgt	3		NRE 476 Remote Sens Env	4	
NRE 389 Fish Man & Aqua	3		NRE 484 Ecological Processes	3		NRE 478 GIS, Spat Anal	4	
NRE 488 Wildlife Tech	3		NRE 486 Env Policy & Law	3		NRE 481 Hydrol/Wtrshed Mgt	3	
Free Elective	<u>3</u>		Free Elective	<u>4</u>		Forestry Elective	<u>5</u>	
	18			18			22	

*Students must satisfy all Forest Science curriculum requirements, including at least 11 hours of forestry electives and 7 hours of free electives; forestry courses can be used as free electives.

(FOR) COURSES FOR FOREST SCIENCE SPECIALTY TRACKS					
MinGrade C NRE course pre-reqs.					
*FORESTRY BUSINESS			*TAILOR-YOUR-OWN		
AGB 421 or MGT 315	3		Forestry Elective	11	
AGB 422 Agric Financing	3		Free Elective	<u>7</u>	
LSM 409 Intl Log & SCM	3			18	
MGT 450 Princ of Real Estate	3				
NRE 381 Wood Products	3				
NRE 384 For Ops Sys & Mgt	3				
Forestry Electives	<u>5</u>				
	23				

*Students must satisfy all Forest Science curriculum requirements, including at least 11 hours of forestry electives and 7 hours of free electives; forestry courses can be used as free electives.

Each student choosing Forestry-Forest Science should select from one of the specialty tracks listed above. Students must adhere to the courses associated with the track they choose; course substitutions are not allowed without advisor approval. The Forestry-Forest Science curriculum contains 11 restricted (forestry) and 7 general (advisor approved) elective hours. This gives students who choose this concentration the flexibility to specialize in a variety of areas. Such specialization can be of advantage in qualifying graduates for a greater variety of employment opportunities and allows students to better tailor their studies toward specific career goals. Additionally, students interested in post-graduate study have the option of tailoring their curricula to enhance preparation for graduate school.

Natural Resources & Environmental Sciences

- NRE 101 Introduction to Plant Science – 4 credit hours. Study of the fundamental principles of science as related to the basic aspects of plant growth, morphology, physiology, ecology, propagation, and utilization. Prerequisites: None.
- NRE 170 Introduction to Environmental Science – 3 credit hours. A study of man both as a dominant force and as an inseparable part of the ecosphere. Basic ecological concepts, pollution and pollution control, resources and resource use, human manipulation of ecosystems, the law and environmental problems, the urban environment, problems of population growth, and discussion of other specific environmental issues. Prerequisites: None.
- NRE 199 Technology in Agricultural & Biological Sciences – 3 credit hours. This course is designed for freshman students who plan to major in the “Agricultural Sciences” including Forestry, Environmental, Biological, Animal, Food, Family and Consumer Sciences. The first part of the course will provide an overview of technological tools for writing reports, data analyses, and presentations. The second part of the course will focus on advanced technology and its applications. This will include geographic information system (GIS), statistics, precision agriculture, remote sensing, and online databases. Prerequisites: None.
- NRE 223 Introduction to Environmental Health Science – 3 credit hours. The fundamental of environmental health, covering environmental control agencies, elements of the environment suffering from pollution, environmental pollutants and their sources, effects of environmental pollution, and methods of pollution control. Prerequisites: (NRE 170, BIO 101, 101L, CHE 101, 101L) or instructor consent.
- NRE 251 Introduction to Soil Science – 4 credit hours. Fundamental principles of soil science, a comprehensive study of physical, chemical, and biological properties of soils and their applications to crop production and other land uses. (Audio-tutorial). Prerequisites: None.
- NRE 281 Introduction to Forestry – 3 credit hours. Principles and practices of forestry. Brief treatment of forest tree biology, dendrology, forest ecology, hydrology, insects and diseases, mensuration, silvicultural methods, products, economics, and management. Prerequisites: None.
- NRE 282 Dendrology – 3 credit hours. Identification, classification, and silvics of commercially and ecologically important forest plants in the United States. Prerequisites: NRE 281.
- NRE 286 Wildlife Biology and Identification – 3 credit hours. Identification, distribution, life history, and behavior of North American amphibians, reptiles, birds and mammals. Emphasis on ecological and zoological aspects of special relevance to management. A laboratory and field course in species identification, techniques of age and sex determination, and behavior analysis. Prerequisites: None.
- NRE 306 Environmental Microbiology – 4 credit hours (3 clock hour lecture and 2 clock hour lab periods per week). This course is an introduction to the rapidly evolving fields of microbial ecology and environmental microbiology. We are literally surrounded and covered by microorganisms significant in the earth’s habitability and our own survival. Microbial ecology and environmental microbiology attempt to document and enhance our understanding of the diversities and activities of microbial communities and populations. Environmental microbiology has been revolutionized by molecular and genomic technologies. Prerequisites: (BIO 101 and 102) or BIO 103.
- NRE 350 Soil Morphology, Genesis, and Classification – 4 credit hours. Soil characteristics used in soil survey and identification, factors and processes of soil formation and principles of soil classification systems are addressed. Prerequisites: NRE 251.
- NRE 351 Soil and Water Conservation – 3 credit hours. A study of soil and water conservation principles as related to wind and water erosion control, water utilization and runoff control, irrigation and drainage principles relating to crop production. Prerequisites: NRE 251 and junior or senior standing.
- NRE 360 Cooperative Education – 1-6 credit hours. Relevant job-related experiences are arranged with federal and state government or with private industry. Prior approval by student’s advisor is required. Prerequisites: None.
- NRE 365 Introduction to Geographic Information Systems – 3 credit hours. An introduction to computer-assisted geographic analysis technology used in the management, assessment, and inventory of natural resources. Prerequisites: None.

- NRE 366 Climate and Global Change – 4 credit hours. Climate and global change; relationships between the sun and the earth; the global structure and variations of the atmosphere and oceans; and the influence of humans and natural processes on the climate system and its variability.
- NRE 370 Natural Resource Conservation and Management – 3 credit hours. An ecological approach to basic conservation principles and techniques. Introduction to policies and techniques for intelligent management and utilization of forests and other natural resources. Prerequisites: None.
- NRE 371 Forest Mensuration – 4 credit hours. An applied approach to forest measurements, including log, tree and stand measurements, as well as data analysis. Training in commonly used measuring devices is included during a weekly field laboratory. Prerequisites: NRE 281. Co-requisites: NRE 375.
- NRE 372 Forest Fire Ecology and Management – 2 credit hours. This course will describe the impacts of fire on various forested ecosystems and describe tools for prediction of both the effects and behavior of forest fires. Fire prevention and management techniques will also be discussed. Prerequisites: NRE 281, 282.
- NRE 375 Silviculture – 4 credit hours. A study of ecosystem-based sustainable and adaptive forest management silvicultural systems, regeneration methods and intermediate treatments. Prerequisites: NRE 281, 282, 379, 380. Co-requisites: NRE 371.
- NRE 376 Forest Pest Management – 3 credit hours. An introductory course on the biology, ecology and management of forest pests, with particular emphasis on insects and tree disease pathogens. The course includes a weekly three-hour laboratory, where students develop skills in insect and pathogen identification and learn to recognize pest problems via associated host tree symptoms. Prerequisites: NRE 281, 379.
- NRE 379 Forest Ecology – 3 credit hours. An introductory course on the interaction between forest trees and their environment. The course covers basic concepts and theories concerning forest structure, function and dynamics and their application for sustainable forest management. Prerequisites: NRE 281, 282.
- NRE 381 Wood Products – 3 credit hours. A study of the physical and chemical composition of wood and the products derived from wood. Prerequisites: NRE 281.
- NRE 382 Forestry Field Techniques I – 3 credit hours. A forestry field technique course that covers timber harvesting, forest mensuration and forest land surveying that is arranged to be taught during weekends, school breaks, or other arranged times. Prerequisites or co-requisite: NRE 281.
- NRE 383 Forestry Field Techniques II – 3 credit hours. A forestry field techniques course that covers forest management, forest operations, Silviculture, urban forestry and forest recreation that is arranged to be taught during weekends, school breaks, or other arranged times. Prerequisite or co-requisite: NRE 281.
- NRE 384 Forest Operations Systems and Management – 3hrs. Valuation procedures, market forces harvesting and transportation activities, and processing systems that supply human demands for forest products. Prerequisites: NRE 281, junior or senior standing.
- NRE 385 Forest Recreation – 3 credit hours. An introduction to forest recreation from the planning, policy, legal, and technical standpoints. Campgrounds, picnic areas, trail construction, visitor, and operations management are a few of the major areas covered. Specific information and recommendations on how to perform forest recreation jobs at the technical level are also provided. Prerequisites: NRE 281 or sophomore standing.
- NRE 386 Principles of Wildlife Management – 3 credit hours. An introduction to the life history requirements, behavioral adaptations, habitat selection, population dynamics, community relationships, and management strategies of terrestrial vertebrates in North America. History of wildlife management, current wildlife policies, and survey of wildlife field techniques are also included. Prerequisites: BIO 101 or 103.
- NRE 387 Wildlife-Forestry Relationships – 3 credit hours. An in-depth course on the relationships between forest habitat conditions and the abundance, diversity, and physiological condition of wildlife. Examination of wildlife effects on forest regeneration and management practices with consideration of vertebrate pest control strategies. Discussion of

- wildlife-habitat relationships models, habitat suitability models, and assessment of beneficial and detrimental impacts of forest management on wildlife conservation. Prerequisites: NRE 281.
- NRE 388 Principles of Fisheries Science – 3 credit hours. Hands-on introduction to fisheries science. Overview of the nature of fisheries, brief introduction to the physiological ecology of aquatic organisms, methods in the capture and identification of local fishes, introduction to trophic interactions, bioassessment, and habitat and water quality assessment. Prerequisite: None.
- NRE 389 Fisheries Management and Aquaculture – 3 credit hours. Hands-on introduction to the practice of fisheries management and aquaculture. Overview of common and experimental aquaculture methods. Examination of basic fisheries management techniques and experience in fisheries assessment. Prerequisite: None.
- NRE 400 Fundamentals of Epidemiology – 3 credit hours. Students will learn the fundamentals of epidemiology. Areas of emphasis include epidemiology definitions and practical applications, measures of morbidity and mortality, descriptive epidemiology, observational and experimental study designs, data interpretation issues, infectious disease epidemiology, environmental epidemiology, and chronic disease epidemiology. Prerequisites: CHE 101, 101L.
- NRE 401 Floral and Garden Center Management (formerly Nursery and Greenhouse Management) – 4 credit hours. Management of garden centers, including financing, selecting a location, designing of facilities, greenhouse construction, selection of plant materials, personnel management, selling and advertising, and maintaining plant materials. Principles and practices of establishment and management of a retail flower shop, including store location, buying, floral design, pricing and merchandise control. Prerequisites: NRE 101 or instructor consent.
- NRE 406 Soil Microbiology – 4 credit hours. A study of the properties and classes of microorganisms as related to soil and crop production. Effects of microorganisms on the fertility, and chemical, and physical properties of soil, are emphasized. Prerequisites: BIO 101, 101L, 102, 102L, 330, 330L. Seniors and graduate students only.
- NRE 410 Forage Management – 3 credit hours. A study of the soil - plant - animal complex as it relates to the morphology, physiology, and utilization of forages. Emphasis will be on agronomic practices and physiological considerations in forage management in Alabama. Prerequisites: NRE 101 or (BIO 204, 204L)
- NRE 411 Weed Science and Herbicide Technology – 3 credit hours. Phenology of weeds, habitat management by cultural, mechanical, biological and chemical means, dissipation and phytotoxicity of herbicides. Application and physiological relationships of herbicides and recent advances in weed control problems. Prerequisites: NRE 101 or BIO 204, 204L.
- NRE 417 Sustainable Crop Production – 3 credit hours. Principles of sustainable agriculture with modern crop production practices, management of biological, physical, and human resources to optimize field crop production in a sustainable and cost-effective manner. Emerging biotechnologies, precision agriculture, etc. are highlighted. Prerequisites: NRE 101.
- NRE 421 Plant Propagation – 3 credit hours. A study of the principles, processes, methods, and materials involved in sexual and asexual propagation of plants. Prerequisites: NRE 101 or instructor consent.
- NRE 422 Landscape Design and Construction – 4 credit hours. A study of the principles of landscape design, including symbols, styles, finished drawings, selection and arrangement of plants, sections and elevations design of construction features and computer-aided drawing. Prerequisites: NRE 423.
- NRE 423 Ornamentals I – Trees and Shrubs – 3 credit hours. Type, characteristics, adaptation, maintenance, and functional uses of ornamental plants used in landscape design, with a special emphasis on trees, shrubs, vines, and groundcovers. Prerequisites: NRE 101 or instructor consent.
- NRE 425 Lawn and Turf Management – 3 credit hours. Methods and principles of establishing and maintaining residential lawns as well as special-purpose turf grasses for commercial landscapes, golf courses or athletic fields, including weed and pest control. Prerequisites: NRE 101.
- NRE 427 Ornamentals II – Flowers and Foliage Plants – 3 credit hours. Identification, culture, and use of herbaceous annuals and perennials, bulbs, herbs and ornamental grasses. Flower bed and border preparation and maintenance; selection, installation, and care of tropical foliage plants in interior settings; use of light, plant acclimatization, growing media, fertilizers, containers, and pest control. Prerequisites: NRE 101 or instructor consent.

- NRE 428 Fruit and Vegetable Production – 3 credit hours. Commercial fruit and vegetable culture, including site selection and preparation, classes of vegetables, species of fruits, establishment, pest control, and harvesting are emphasized in this course. Prerequisites: NRE 101 or instructor consent.
- NRE 430 Biostatistics – 3 credit hours. Introductory statistics, with emphasis on the biological sciences. Includes a study of natural distribution systems, sampling techniques, data arrangement, tests of significance, and logical inferences. Prerequisites: MTH 113.
- NRE 431 Principles of Plant Breeding – 3 credit hours. Principles, methods, and techniques involved in plant breeding, and their application to field crops. Prerequisites: BIO 204, 204L, 311 311L.
- NRE 432 Plant Disease Diagnosis – 4 credit hours. A study of the general principles and methods applied in identification, epidemiology, etiology, and control of major plant diseases. Prerequisites: None.
- NRE 433 Introduction to Molecular Genetics – 3 credit hours. The study of prokaryotic DNA structure and replication, restriction analysis, sequencing, transcription, translation, gene regulation and gene expression. Prerequisites: instructor consent.
- NRE 433L Introduction to Molecular Genetics Laboratory – 1 credit hour. This course emphasizes the basic techniques used in molecular genetics and provides a step-by-step approach and hands-on experience in the field of recombinant DNA technology. Co-requisites: NRE 433.
- NRE 435 Introduction to Bioinformatics – 4 credit hours. An interdisciplinary course melding information and biological sciences. Structure and function of proteins and nucleic acids; retrieval and interpretation of bioinformation, algorithms and software for sequence alignment, similarity searching of sequence databases. Prerequisites: General Biology/Biochemistry, some familiarity with computer programming.
- NRE 437 Plant Tissue Culture Methods & Applications – 4 credit hours.
- NRE 440 Seed Production Practices – 4 credit hours. A study of the principles and practices in the production of pure seeds, with emphasis on harvesting, drying and storage; crop and weed seed identification and laboratory practices in seed testing; and official rules for testing seeds and seed laws or marketing. Prerequisites: NRE 101 or 310.
- NRE 441 Phytophysiology – 4 credit hours. A study of the environment-plant growth interaction in the physiology of plants with emphasis on whole plant processes. Prerequisites: NRE 101.
- NRE 445 Bioinformatics Applications – 3 credit hours. This course covers the translation and analysis of nucleic acid and protein sequences, with an emphasis on the application of algorithms to biological problems. Discussions include applications to genome and proteome sequences, protein structure, and sequence-structure analysis. Instructions, step by step tutorials and links for each application are provided.
- NRE 450 Earth Science – 3 credit hours. An advanced level overview of earth science concepts, processes, and categories, with emphasis on plate tectonics, volcanism, weathering and erosion, global weather and climate, vegetation, and soil. Emphasis on human interactions and relationships with the physical environment and resulting public policy and management conflicts, (e.g., biodiversity as an issue) as well as management strategies are addressed. Prerequisites: None.
- NRE 451 Environmental Toxicology – 3 credit hours. Toxic effects of environmental chemicals on living systems, the chemical and biological characteristics of major pollutants, their origins and uses, and the exposure, transformation and elimination of toxic substances by biological systems. Prerequisites: (CHE 102, 302) or instructor consent.
- NRE 452 Soil Fertility and Fertilizers – 3 credit hours. A study of the relationship of soil chemistry, forms of nutrients in soils, and role of plant nutrients in crop production, as well as other factors associated with soil productivity; and basic concepts of fertilizer application and manufacturing. Prerequisites: CHE 102, NRE 251.
- NRE 453 Hazardous Waste Management – 3 credit hours. The impact, technologies, problems and issues associated with hazardous wastes, and management practices are emphasized in this course. Case studies of hazardous waste spills, risk assessments, and remediation techniques are included. Prerequisites: None.

- NRE 460 Soil Chemistry – 3 credit hours. Chemical and mineralogical composition of soil; fundamental chemical properties of soils; nature and properties of soil colloids; cation exchange phenomena in soils; soil reaction, and soil acidity are addressed in this course. Prerequisites: CHE 101, 101L, 102, 102L, NRE 251.
- NRE 461 Soil Physics – 4 credit hours. A study of physical make-up and properties of soil, including structure, thermal relationships, consistency, plasticity, water and their interrelatedness. Prerequisites: PHY 201, NRE 251.
- NRE 465 Applications of Geostatistics – 3 credit hours. Use of geostatistical models in sampling experimental design, mapping contaminant concentration, risk analysis, remediation, planning and probability analyses. Conceptual development of theory and action in managing natural resources. Prerequisites: MTH 112, 113, (NRE 430 or equivalent statistics).
- NRE 470 Soil, Plant, and Water Analysis – 4 credit hours. Chemical and instrumental methods in the analysis of soil, plant, and water samples; experimental and descriptive inorganic and organic analyses; atomic and molecular absorption and emission spectroscopy, mass spectrometry, X-ray diffraction and fluorescence, gas and ion chromatography, and ion-selective electrodes. Prerequisites: CHE 102, 202, NRE 251.
Note: This course is a capstone course for the Environmental Science program. Therefore, students majoring in this program cannot substitute this course.
- NRE 471 Aerial Photo-Interpretation – 3 credit hours. Detection, identification and analysis of objects or features from aerial photographs. Sensing devices and other equipment related to photogrammetry application are utilized. Interpretation of terrain, vegetation, and cultural features is emphasized. Prerequisites: MTH 112, 113.
- NRE 472 Soil, Water and Air Pollution – 3 credit hours. The fate of chemical fertilizers, pesticides, and other agricultural and industrial pollutants in relation to environmental quality as well as the effects of these factors on checks and balances of natural terrestrial and aquatic ecosystems. Prerequisites: CHE 102, 102L, NRE 251.
- NRE 474 Forest Ecological Management – 2 credit hours. A study of the integrated management of forest resources including plant, site and landscape processes, as well as interrelationships of forestry practices, wildlife and range management, hydrology, recreation, and other demands. Prerequisite: NRE 281, 282, 365, 371, 375, 376, 379, 380, 387, 430.
- NRE 475 Principles of Wetlands – 3 credit hours. The importance of wetlands for wildlife, waste treatment, flood control, and water quality is emphasized. Biological, chemical, and physical processes, which occur in natural and constructed wetlands, are addressed. Field trips are required. Prerequisites: CHE 102, 102L, NRE 251.
- NRE 476 Remote Sensing of the Environment I – 4 credit hours. The principles of remote sensor systems and their utility, natural resource inventory and management, land use planning, and environmental monitoring, as well as, interpretation of color infrared photos, multispectral and thermal scanners, and radar imagery are emphasized in this course. Prerequisites: instructor consent.
- NRE 477 Insect Biology and Pest Management – 3 credit hours. Biology of insects, taxonomy, basic structure and function, ecology and the management of insect pest populations. The course includes a weekly three-hour laboratory, where students develop insect identification and collecting skills. Prerequisites: None.
- NRE 478 GIS, Spatial Analysis, and Modeling – 4 credit hours. This intermediate Geographic Information Systems course prepares students for advanced principles of GIS class. Principles and methods of spatial analysis and their application to different disciplines such as urban planning, environmental science, and natural resource management. Integrate geographic concepts and techniques used in spatial analysis, network analysis and 3D analysis with both raster and vector data structures. Prerequisites: NRE 365.
- NRE 480 Natural Resource Policy – 3 credit hours. Evaluation of land and forest problems and policies in the United States, including an analysis of current social and resource characteristics that have shaped policy in the United States. Prerequisites: NRE 281.
- NRE 481 Hydrology and Watershed Management – 3 credit hours. This course addresses the occurrence and movement of water over the earth's surface. The hydrologic cycle, surface runoff relations, relationship of precipitation to stream flow with frequency analysis, unit hydrograph theory, flood routing, probability in hydrology, hydrologic simulation and stochastic methods in hydrology are covered. Prerequisites: instructor consent.

- NRE 483 Forest Resources Economics – 3 credit hours. A discussion of the market, price, and cost affecting factors as they relate to timber-harvesting techniques used for determining the best economic alternative. Seniors only. Prerequisites: NRE 281, ECO 232.
- NRE 484 Ecological Processes – 3 credit hours. A review of ecological concepts and processes. Investigations into the ecological role of fire and wetlands are also included. Prerequisites: None.
- NRE 486 Environmental Policy and Law – 3 credit hours. An understanding of the environmental law system by examining various laws, policies, and cases within the U.S. legal system that are used to minimize, prevent, or remedy the consequences of actions which damage or threaten the environment, public health or safety. Prerequisites: None..
- NRE 488 Wildlife Techniques – 3 credit hours. Field and lab procedures for determining sex and age, capture and marking, physiological indices, harvest surveys, population estimation procedures, and habitat evaluation. Includes mapping with geographic information systems, orienteering and field safety. Introduce students to a broad range of methods and equipment used by wildlife professionals to gather information on wild animals and their habitat. In addition, this course will emphasize the characteristics of a particular technique that might make it superior to others in practical situations. Prerequisites: None.
- NRE 490 Special Problems – 1-3 credit hours. The student selects a problem within his or her major interest that is planned and executed under the supervision of a faculty member. Prerequisites: instructor consent.
- NRE 491 Seminar and Scientific Writing – 1 credit hour. A course designed to help students develop skills and techniques associated with data gathering and presentation by using audio-visual equipment. Guest speakers will also present topics of general interest in agriculture and environmental science. Prerequisites: Senior classification, instructor consent.
- NRE 493 International Exchange and Study Abroad – 1-12 credit hours. Students entering into this program will register for 6-16 credit hours at the home institution and pay fees at the home institution, but actually take a load equivalent to the credit hours for which they registered at one of the cooperating international institutions. Courses will be determined between home institution advisor, student, and host institution mentor. Prerequisites: None.
- NRE 494 Irrigation and Drainage Systems – 4 credit hours. Students will learn designing and construction of irrigation and drainage structures. This course integrates soil and water physics; irrigation development; crop water requirements & scheduling; irrigation planning and design; drainage criteria; design discharges; surface/sub-surface drainage systems design; irrigation drainage structures; land grading and excavation; lab and field exercises and measurements. Prerequisites: For NRES students – NRE 351. For Civil Engineering students – (EGC 305, CE 305) or instructor consent.
- NRE 495 Soil and Water Conservation Applications – 3 credit hours. Advanced theory and practice of soil and water conservation engineering. Applications of soil and water conservation theory and practice. Design and construction of effective soil and water conservation structures.
- NRE 496 Environmental Health Internships – 3 credit hours. Those students enrolled in Environmental Health Science program will gain additional field experience, career mentoring, and research opportunities through summer employment/internships with partners such as state and local Departments of Public Health, Environmental Protection Agency (EPA), the Centers for Disease Control (CDC), National Institutes of Environmental Health Sciences (NIEHS), and biotech industries involved in biomedical research, etc. Prerequisites: Must have completed all course requirements and instructor consent.
- NRE 497 Forest Ecological Management Project – 4 credit hours. Capstone course with teams of students applying their accumulated knowledge to identify, analyze, and solve real forest ecosystem management problems. Student teams prepare a written management plan for a property, taking into account ecological economic, social, and legal constraints. Senior standing and major in Forestry required. Prerequisite: Senior standing, NRE 281, 282, 365, 371, 375, 376, 379, 380, 387, 430, 474, 483.
Note: This course is a capstone course for the Forestry program. Therefore, students majoring in this program cannot substitute this course.

First Year Experience

Exhibit V-2.

Syllabi of Recent Forestry Courses

COLLEGE OF AGRICULTURAL, LIFE AND
NATURAL SCIENCES
Alabama A&M University
Normal, AL 35762

COURSE SYLLABUS

FALL 2017

Course Number	NRE 101
Course Title	Introduction to Plant Science
Call Number/Section	11876, Section 01
Class Times	Lectures: 1:00 - 1:50 AM, Monday, Wednesday, and Friday Labs: 2:00 – 4:00 PM, Wednesday
Class Location	Lectures: Carver Complex Thomas Wing Room A223 Labs: Carver Complex South Bonner Wing Rm 102
Prerequisites	None
Textbooks	Margaret E. McMahon, Anton M. Kofranek and Vincent E. Rubatzky. 2009. Plant Science: Growth, Development, and Utilization of Cultivated Plants. 5 th Edition
Instructor	Srinivasa Rao Mentreddy
Office	CCTW Room 203-A
Office Hours	9:00-11:00 AM Mondays & Fridays; 2:00-4:00 PM Tuesdays & Thursdays
E-mail address	Srinivasa.mentreddy@aamu.edu / rmentreddy@gmail.com
Telephone number	256-372-4250

AAMU Quality Enhancement Plan (QEP):
“Enhancing Students’ Critical Thinking Skills”
Critical Thinking Definition:

Critical thinking is analyzing, evaluating, and synthesizing information into logical conclusions.

COURSE DESCRIPTION

This is a four credit hour course designed to introduce you to many aspects of basic and applied plant science and Agriculture. Basic skills you will learn include identifying plants and their parts, understanding how plants grow and reproduce, how to propagate and maintain plants, and how plants function in communities and ecosystems.

CATALOG STATEMENT

NRE 101 Introduction to Plant Science – Four semester hours. This course deals with study of the fundamental principles of science as related to the basic aspects of plant growth, morphology, physiology, ecology, propagation, and utilization. Prerequisites: None.

COURSE OBJECTIVES

- To acquaint students with the importance of plants to the survival and well-being of the earth's animal population.
- To enable the student learn the fundamentals of the botany of higher plants including classification, domestication, morphology, anatomy, growth, development, and propagation (classical breeding and modern biotechnology techniques).
- To introduce students to research applications and the scientific methods.
- To develop student familiarity with, and appreciation for plants and sharpen their observational skills.
- To acquaint the student with the principles of soil management and methods of growing various crop plants without polluting our environment.

STUDENT LEARNING OUTCOMES

Upon successful completion of this course, students will:

- Be able to identify plant parts and functions
- Learn to think critically about science and scientific research.
- Learn major plant groups, with particular emphasis on agriculturally important crops.
- Describe the flow of genetic information, the chromosome theory of heredity and the relationship between genetics and evolutionary theory.
- Recognize the ecological relationships between organisms and their environment and the challenges caused by intensifying food production to feed increasing populations.
- Identify agricultural practices that maximize plant structure and function.
- Learn how plants take in water, nutrients and create carbohydrates through

photosynthesis.

- Describe how plants reproduce, utilize basic resources necessary for food production (land, soil, water, nutrients, and energy) and compete against pests.
- Understand how to organize, plan, and design agri-science research experiments; interpret data and analyze and report the results.

CLASS FORMAT

This four credit hour class will include Powerpoint lectures and hands-on demonstrations and experimentations in the laboratory or greenhouse. Students are required to be present at every class meeting. There will be no make-up exams. Any student found cheating will earn an automatic zero for that exam. Any assignment or report turned in after the deadline will not be acceptable and will receive a grade of zero.

POLICY ON IN-CLASS CELL PHONE USE AND TEXT MESSAGING

Cell phones should be turned off or put on vibrate and should not be answered during class. Non-emergency in-class text messaging is not acceptable. Laptops will not be used during lectures or exams.

SERVICES FOR PERSONS WITH DISABILITIES

The University provides environmental and programmatic access for persons with documented disabilities as defined in Section 504 of the Rehabilitation Act of 1973 and the Americans with Disability Act of 1990. Any student who desires information or assistance in arranging needed services for a disabling condition should contact the Director of Special Students Services, Student Center, Room 203, (256) 372-4263.

ATTENDANCE POLICY

A student is permitted one (1) unexcused absence for each credit hour generated by the class. For example, three (3) absences are allowed in a two-hour class.

INSTRUCTORS

1. Instructors are required to keep accurate attendance records.
2. Instructors must include on their syllabi applicable penalties for unexcused absences beyond those permitted based on credit hours.
3. Each student who exceeds the number of unexcused absences will be counseled by

the teacher regarding any applicable penalties as stated on the course outline.

STUDENTS

1. Class attendance is expected as well as a privilege and students are required to be punctual and prepared.
2. **Cell Phones must be placed in OFF position before entering the class and kept away in bag or pocket until the class is over; Students found using cell phone will be either asked to leave the class room or penalized with 10% reduction in final scores. Only exception to the rule, is when the student is allowed to keep the cell phone on Vibrate mode when expecting an important call.**
2. Learning experiences proceed at such a rapid pace that attendance is necessary if students are to acquire the knowledge, develop competence, skills and strategies that students need to be successful in their endeavors.
3. Students are required to carry out all assigned work and to take examinations and quizzes at the class period designated.
4. Failure to take examinations and quizzes, carry out assignments at the designated times may result in an appropriate reduction in the final grade, **except as provided in items 6 and 7 below.**
5. Arrangements for make-up work, due to excused absences, must be initiated by the student.
6. **Excused absences can be obtained upon presenting documentation to Special Student Services for the following reasons indicated below:**
 - A. Personal Illness or Illness of a Family Member**
Documentation bearing the signature of Doctors, Dormitory Counselors, Infirmary and/or Hospital Officials, Athletic Trainers, etc. shall constitute proof.
 - B. Death in the Family**
Funeral programs, newspaper obituaries, statements from funeral directors shall constitute proof.
 - C. Subpoena for Court Appearances**
The student's copy of the document shall constitute proof.
 - D. Emergencies or Circumstances over which the Student has no Immediate Control**
Appropriate corroboration, documentation and/or explanation shall constitute proof.
7. **Students may be excused for trips by members of student organizations sponsored by Academic units;** trips for University classes, trips for participation at/in intercollegiate athletic events.
8. **Authorized excuses, dispatched from the appropriate offices, teachers, coaches or sponsors over signature of the Department Chairperson and Dean or Director, shall constitute proof.**

Unresolved problems regarding attendance and/or procedures shall be appealed through appropriate University grievance channels.

TUTORIAL ASSISTANCE

Tutorial assistance for undergraduate courses can be obtained from the Tutorial Assistance Network (TAN), a subsidiary of the Office of Academic Support Services. TAN is located in Room 100C Buchanan Hall. The telephone number is 256-372-5487.

GRADE DETERMINATION

Course Requirements	Points Awarded	Percent of Total
10 Quizzes	100	20%
Midterm examination	100	20 %
Final examination	100	20 %
Term paper & Seminar	100	10 %
Laboratory reports	100	25 %
Attendance	100	5%
TOTAL	600	100%.
Grading Scale		
Percent of Points	Number of Points	Grade
90-100 %	540-600	A
80-89 %	480-539	B
70-79 %	420-479	C
60-69%	360-419	D
< 60%	< 360	F

DESCRIPTION OF SPECIFIC ASSIGNMENTS

Students will be required to complete four assignments over the duration of the course.

COURSE OUTLINE **Jan 8 – May 4, 2018**

Dates	Chapter	Title	
1/10-12/18	1	Definition & Scope; Introduction, Role of Plants in the Living World	
1/17	2	Structure of Higher Plants – The Cell & Cell Division	
1/19	3	Plant Genetics	Quiz 1
1/22	4	Plant Tissues	
1/24	5	Dicots and Monocots	
1/26		Revision of Chapters 1 - 5	
1/29		Test 1 (Chapters 1 – 5)	
1/31	6	Origin and Domestication of Cultivated Plants	
2/02	7	Origin and Domestication of Cultivated Plants	
2/05	8	Taxonomy- Plant Classification	
2/07	9	Plant Classification	Quiz 2
2/09	10	Vegetative and Reproductive Growth & Development	
2/12	11	Vegetative and Reproductive Growth & Development	
2/14	12	Vegetative and Reproductive Growth & Development	Quiz 3
2/16		Revision 6 - 12	
2/19	13	Plant Propagation	
2/21	14	Plant Propagation	
2/23	15	Plant Growth Regulators	Quiz 4
2/26	16	Agricultural Biotechnology	

2/28	17	Agricultural Biotechnology	
3/2		Revision 13 - 17	
3/5		Mid-term Exam	
3/7	18	Photosynthesis	Quiz 5
3/9	19	Respiration	
3/12	20	Soil	
3/14	21	Soil water	Quiz 6
3/16	22	Soil Water Management	
3/19	23	Soil Water Management	
3/21	24	Mineral Nutrition	
3/23	25	Mineral Nutrition	Quiz 7
3/25 - 30		Spring Break	
4/02		Revision Chapters	
4/4		Test 2	
4/6	26	Weeds	
4/9	27	Weeds	
4/11	28	Insects	
4/13	29	Insects	Quiz 8
4/16	30	Diseases	
4/18	31	Diseases	
4/20	32	Integrated Pest Management	Quiz 9

4/23	33	Sustainable Agriculture and Organic farming	
4/25	34	Agricultural Biosecurity	Quiz 10
4/27		Review for Final Exams	
4/30		Final Exam	
5/02		Term papers and Seminar	

THE INSTRUCTOR RESERVES THE RIGHT TO CHANGE OR MODIFY INFORMATION PROVIDED IN THIS SYLLABUS. CLASS ANNOUNCEMENTS SUPERSEDE SYLLABUS STATEMENTS

INSTRUCTIONS FOR TERM PAPER

Term Paper: Students are required to submit a paper on a topic related to the subject that has been decided by discussion with the instructor. The paper should be more than 6 and less than 10 full pages.

Must have a minimum 10 references from journals, text book, magazines or authentic online sources published during the last five years.

Type your paper per the following format:

Margins: 1" all around.

Spacing: Double

Font: Times New Roman or Arial; Font size: 12 pitch.

Submit by 11:00 pm on May 4, 2018

Name_____

COLLEGE OF
AGRICULTURAL, LIFE
AND NATURAL
SCIENCES (CALNS)
Alabama A&M University
Normal, AL 35762

COURSE SYLLABUS

SPRING 2018

Course Number	NRE 281
Course Title	Introduction to Forestry
Call Number/Section	10189, Section 0
Class Times	02:00-04:50 p.m. Wednesdays
Class Location	CCS 103
Prerequisites	None
Textbook	Introduction to Forestry and Natural Resources.2013. Grebner, D.L., Bettinger, P., and J.P. Siry (eds.) 1 st edition. Academic Press, Elsevier Inc. ISBN:978-0-12-386901-2)
Instructor	Colmore S. Christian, PhD
Office	Room 138, Agricultural Research Center (ARC) Building
Office Hours	9:00-11:00 Mondays, 11:00 a.m. – Noon on Tuesdays or by appointment
E-mail address	colmore.christian@aamu.edu
Telephone number	256-372-4335

COURSE DESCRIPTION

This three credit hour course is designed to introduce students to the many aspects of forestry. It focuses on the principles and practices of forestry. Overviews of forest policy development, forest tree biology, dendrology, forest ecology, hydrology, forest health, mensuration, silvicultural methods, forest products, economics, multiple use forestry, ecosystem services, and management are among the topics presented.

All Forestry majors must achieve a grade of C or higher as this class is part of the core curriculum for the forestry program.

STUDENT LEARNING OUTCOMES

At the end of the course students must:

- (a) have a general understanding of the broad fields of forest management and science as well as current forestry issues in the professional literature;
- (b) have knowledge about the variety of careers in forestry and the importance of forestry to the economy;
- (c) demonstrate technical reading and written communication skills and abide by ethical standards in writing.
- (d) know the basics of tree identification and the various geographic, biological, and environmental factors that affect forest growth and distribution;
- (e) be familiar with forest inventory methods as well as log, tree, and forest measurement methods and the instruments/devices (maps, compasses, clinometers, diameter tapes, and GPS units) used for such purposes;
- (f) gain an appreciation for the importance and social values of forests, and how those values are influenced by forest policy, management, and planning;
- (g) develop an understanding of proper stewardship of forest resources and the environment;
- (h) understand the use and hazards associated with forest fires and prescribe burning;
- (i) differentiate between the different silvicultural methods, even-aged and uneven-aged forests, natural and artificial regeneration methods, urban and traditional forest management;
- (j) be able to discuss timber harvesting techniques and the impacts of timber harvesting on the ecosystem;
- (k) understand the concept and principles of multiple use forestry.

CLASS FORMAT

Format will include lectures, guest speakers, field trips and assignments. Quizzes and exams will consist of multiple-choice, fill-in-the-blanks, true or false, and short essay questions. You may also be asked 'list questions' (e.g. list 3 of the 5 uses of US national forests mentioned in the Multiple Use & Sustained Yield Act - 1960). **Exams will be conducted in class on the days they are scheduled.** If you miss a quiz, an assignment, or an exam without prior consent of Instructor, you will need to present a **doctor's medical report** or an **official university excuse to have assignment, quiz or exam rescheduled.** The schedule of quizzes and assignments will be at the Instructor's

discretion and may be scheduled at any time. Students will be given advance notice of scheduled exams.

NOTE TAKING

In order to pass this class, you will need to take notes DURING CLASS, unless you have a photographic memory. You should come to class prepared to take notes, ask questions, and participate in discussions. **If you have not taken notes before or need help improving your note-taking skills, please come to see me. I will be happy to work with you to improve your note taking skills.**

CELL PHONE POLICY

Cell phones must be TURNED OFF and put away in book-bag or pocket during class. If you have an important call to make or are expecting an important phone call during class time, do not come to class before your call. Two (2) points will be deducted from your total score for each phone use (or ringing) during class. THE USE OF CELL PHONES DURING QUIZ OR EXAM, WITHOUT THE APPROVAL OF THE INSTRUCTOR , WILL RESULT IN STUDENT BEING AWARDED ZERO FOR THE QUIZ/EXAM. IN ADDITION, OTHER DISCIPLINARY MEASURES MAY BE INITIATED.

COURSE OUTCOMES

Students **will** be expected to demonstrate mastery of core competencies, both in the field and in the classroom as appropriate, to successfully complete the course.

SERVICES FOR PERSONS WITH DISABILITIES

The University provides environmental and programmatic access for persons with documented disabilities as defined in Section 504 of the Rehabilitation Act of 1973 and the Americans with Disability Act of 1990. Any student who desires information or assistance in arranging needed services for a disabling condition should contact the Director of Special Students Services, Student Center, Room 203, (256) 372-4263.

STUDY FOLDER

Not Applicable

ATTENDANCE POLICY

In accordance with University policy UG15, class attendance will be recorded. Students will not be penalized for being absent for 1-3 class sessions. For more than three (3) absences only an official University excuse or a doctor's medical report will be accepted. Attending classes will HELP your final letter grade. Perfect attendance will earn you **10** bonus points. Please come and talk to Instructor if you are having difficulties either attending class or arriving to class on time.

TUTORIAL ASSISTANCE

Tutorial assistance for undergraduate courses can be obtained from the Tutorial Assistance Network (TAN), a subsidiary of the Office of Academic Support Services. The telephone number is 256-372-5487.

GRADE DETERMINATION

Course Requirements	Points Awarded	Percent of Total
Students' final grades will be based on cumulative scores of:		
Three (3) quizzes	15 points each (45 points)	9 %
Two (2) exams	100 points each (200 points)	$(20\% \times 2) = 40\%$
One review paper & presentation	100 points (100 points)	20%
Ten (10) other assignments (reports, group assignments, homework, etc.).	10 points each (100 points)	20%
Misc. (attendance [15], participation [15], team spirit [15], punctuality [10], etc.).	55 points	11%
TOTAL	Total of 500 points	100 %
Grading Scale		
Percent of Points	Number of Points	Grade
90% or more	450-500 points	A

80-89%	400-449 points	B
70-79%	350-399 points	C
60-69%	300-349 points	D
59% or less	299 or less	F

DESCRIPTION OF SPECIFIC ASSIGNMENTS

Description of special assignments.
1. You will be required to review and orally present the highlights of a selected article to your classmates and Instructor during the last week or two of the course. The selected refereed paper must be related to a current issue in forestry, natural resources, or forest policy. You will have 15 minutes (depending on class size) for your presentation. You should use Microsoft PowerPoint or similar software to develop the visual component of your presentation. Your fellow students and instructor will give you feed-back on your presentation. The instructor will evaluate presentations. Higher scores will be awarded to those with clear, concise descriptions of the article and what you learned as a result. Be sure to give complete reference (i.e., author(s), year, title, journal's name or website address, and page numbers) information on article at the end of your presentation in a "References" section. YOU MUST ATTACH a copy of the article with your presentation. ARTICLES should be at least 5 pages long. NEWSPAPER AND POPULAR MAGAZINE ARTICLES ARE UNACCEPTABLE. Select a <u>refereed journal article</u> on a forestry-related subject of your choice. Whereas the internet can be used, articles MUST BE FROM VALID SCIENTIFIC JOURNAL SOURCES. Journals you need can be found either in the Drake Learning Resources Center. Suitable journals include: Journal of Forestry, Southern Journal of Applied Forestry, Agroforestry Systems, Canadian Journal of Forest Research, or a similar <u>refereed journal</u>. If you have a question about whether or not your article qualifies, please ask Instructor. Only articles published during 2013-2018 are acceptable. The purpose of this assignment is to get you to think about and understand the CURRENT issues in forestry/natural resources and to introduce you to literature search methods.
2. Other assignments will include, but not necessarily limited to reports (guest speakers, field trips, etc.), homework/readings, group work, etc.
3. Students are encouraged to join and participate in one of the student organizations in CALNS. Active participation (to be confirmed by Instructor) will earn you points. Class participation, punctuality, team spirit, will earn you points

COURSE OUTLINE

Dates*	Topics	Comments/Assignments
Week 1	1. Introductions 2. Review of syllabus and introduction of relevant student organizations. 3. LRC Orientation	Student/Instructor conferences. Homework: - Report on LRC visit - Reading: Chapters 1 & 15
Week 2	1. Definitions and Concepts, Forests, Brief History of Forest Use, and Forest Policy in US. • Native American land use/Colonial Period/Preservation/conservation/Modern environmental movement 2. Forest Policy • Definition • Policy Development • Policies affecting forests/land use.	Chapters 1 Chapters 15
Week 3	1. Careers in Forestry & Natural Resource Management. • Private Industry • Research/Education • Forest Service/Park Service 2. Characteristics and Growth of Trees • Tree Biology/Tree Structure (leaves, branches, roots, wood, etc.). (Campus Field Exercise or Lab Exercise)	Chapter 18 Readings: Chapter 9
Week 4	1. Exam 1 2. Forest Dynamics/Landscape Ecology • Composition & distribution of forests • Tolerance and succession • Disturbance, human impacts/Forest Soils • Alabama's forests (handout)	 Readings: Chapter 10
Week 5	Forest Measurements and Forestry Related Data. • Orientation/Mapping Reading • Use of compass • GPS/GIS • Timber measurements • Forest Growth and Yield (Campus Field Exercise)	Readings: Chapter 8
Week 6	Visit to Moss Saw-mill	Field Trip Report, Group Assignment
Week 7	1. Common Forestry Practices • Site Preparation & Intermediate treatments	Readings: Chapter 11

	• Even vs. uneven aged stand management • Natural vs. artificial regeneration • Silvicultural Systems/Methods (Possible visit to Christmas Tree Farm)	Article & draft presentation at mid-term student/instructor conference (10% of grade for Paper) . Student's performance also discussed.
Week 8	Forest Disturbance and Health • Forest Disturbances • Invasive forest insects, plants, etc. • Economic and ecological effects • Natural fires in the ecosystem • Forest fire, prescribed burning, safety, etc. • Advantages and disadvantages of fire (Possible Guest Speaker)	Reading: Chapter 14
Week 9	Urban and Community Forestry • NIPF Landowners • Forest communities in the developing world • Principles of community forestry • Urban forestry (Possible visit with Huntsville's Urban Forester)	Reading: Chapter 16 Field Report
Week 10	1. Forest Industry • Logging/Harvesting Methods/Equipment & safety/Environmental issues related to logging • Replanting and wood products • Forest Management Plans	Readings: Chapters 12 & 4
Week 11	1. Ecosystem Services • What is an ecosystem • What are ecosystem services 2. Outdoor Recreation • Parks/Recreation management objectives and options (Possible visit to Monte Sano State park)	Readings: Chapters 6 & 7 Field Report
Week 12	Wildlife • Forest wildlife habitats • Types of forest wildlife/wildlife diversity • Effects of management on wildlife (Visit to Wheeler National Wildlife Refuge)	Reading: Chapter 5 Field Report
Week 13	Exam 2 Presentation of Review Paper.	Copies of article and presentation due
Week 14	Presentation of Review Paper.	Copies of article and presentation due
Week 15	Presentation of Review Paper.	Copies of article and presentation due

COLLEGE OF
AGRICULTURAL, LIFE AND
NATURAL SCIENCES
Alabama A&M University
Normal, AL 35762

COURSE SYLLABUS

Fall 2017

Course Number	NRE 282
Course Title	Dendrology
Call	0-70572
Number/Section	1-70573
Class Times	Lecture: 10-10:50 M and W Labs: 8-11 Thursday OR 2-5PM (<u>all students must be in a lab</u>)
Class Location	Forestry/Wood Products Lab, Agricultural Research Center
Prerequisites	Introduction to Forestry, NRE 281
Materials	Required DVD: <u>Woody Plants in North America</u> (3rd ed). ISBN number: 978-0-7575-9701-5. Recommended Field Guide: Peterson Field Guide to Eastern Trees by Petrides Study guides, handouts and Powerpoint presentations used during lectures will be made available. Useful websites: http://www.cnr.vt.edu/dendro/dendrology/main.htm (Virginia Tech University; Tree CD set made here); http://www.na.fs.fed.us/spfo/pubs/silvics_manual/table_of_contents.htm (US Forest Service Silvics Manuals; VERY IMPORTANT)
Instructor	Heather Howell
Office	154 Agricultural Research Center (ARC)
Office Hours	8-10AM Monday/Wednesday, open door policy; email/call to make an appointment
E-mail address	heather.howell@aamu.edu
Telephone number	256-372-4568

AAMU Quality Enhancement Plan (QEP):
“Enhancing Students’ Critical Thinking Skills”
Critical Thinking Definition:

Critical thinking is analyzing, evaluating, and synthesizing information into logical conclusions

COURSE DESCRIPTION

Dendrology – Identification, classification, and silvics of commercially and ecologically important forest plants in the United States.

COURSE CONTENT

What is this course about?

1. Tree Identification – Foresters must be proficient in the identification of trees and other woody plants, especially in the field. Such knowledge supports a wide variety of activities associated with forestry, including inventory of stands, silviculture (see below), public outreach (tours of forests, etc.), wildlife management (trees as sources of food and shelter), etc. To best develop these skills students must look at a lot of trees in natural conditions, learn important characteristics that distinguish different species and have some skills in being able to systematically identify unknown species that might be encountered.
2. Silvics – In general, foresters should understand how important tree species grow, reproduce and respond to environmental changes. Silvics refers to study of the life history and general characteristics of tree species, including such things as native range, habitat tendencies, reproductive characteristics, competitive ability (tolerance), damaging agents, important uses, genetics, etc. This knowledge is critical to the practice of silviculture, one of the defining disciplines of forestry. Silviculture is defined as the practice of controlling the establishment, growth, composition, health, and quality of forests to meet diverse needs and values. It should be noted that some silvical characteristics are very useful for tree identification.
3. Tree Biology – Foresters work with plants and should have basic knowledge of how they are built and how they work, which supports the development of skills in tree identification and understanding of silvics concepts. In this course we will cover some basic tree biology, including classification/nomenclature, within-species variation and plant structure/function, including especially morphology. Morphology deals with the external physical characteristics of plants (primarily leaves, fruit, twigs and bark), which are used extensively for tree identification. Knowledge of important plant morphology concepts is thus critical to development of tree id skills.

STUDENT OUTCOMES (skill sets developed)

By the completion of the course students will:

1. Possess sufficient knowledge of taxonomic classification (including nomenclatural rules), intraspecific variation in plants and woody plant morphology for their practical application to the process of tree identification and silviculture. 2. Be able to name (technical and vernacular) and systematically distinguish, in the field, 70-100 important tree species. 3. Know how to use a diagnostic key to identify unknown tree species. 4. Demonstrate knowledge of woody plant life history and other general characteristics (reproduction, competitive ability, damaging agents, habitat, native range, important uses) for a specific set of important trees. 5 Demonstrate an understanding of the importance of silvics knowledge to the practices of tree identification and silviculture.

The instructor will assess students on individual competencies throughout the course and will provide feedback and guidance toward improving performance. Students are expected to maintain an average score of at least 70% for EACH competency.

ACADEMIC HONESTY, ATTENDANCE/PUNCTUALITY AND CLASSROOM/LAB FORMAT

1. Missed Exams and Quizzes- Valid excuses for missing exams/quizzes include sickness, death in the family and court date, all of which must be documented. It's your responsibility to come to your instructor and make arrangements to make up missed exams and quizzes, within one week, after which even valid excuses will not be accepted.

2. Academic Honesty- All students in attendance at Alabama A&M University are expected to be honorable and to observe standards of conduct appropriate to a community of scholars. The University expects from its students a higher standard of conduct than the minimum required to avoid discipline. All acts of dishonesty in any academic work constitute academic misconduct (described in the Student Handbook). **In this course, academic misconduct is punishable by receiving a zero on the associated assignment/exam. A second incident of academic misconduct will result in an F for the course.**

3. Ethics: Students are expected to adhere to professional ethics, e.g., the Society of American Foresters Code of Ethics, available at safnet.org/about/codeofethics.cfm. Ethics will be reinforced throughout the duration of a course through examples of real life situations.

4. Attendance/Punctuality- Regular attendance and punctuality are required in this course. Roll will be taken at the beginning of each class; if you are late such that your name does not appear on the roll, you will be counted as absent.

5. Late assignments – Late homework/minor assignments will not accepted and will result in a zero

6. Classroom format- **Lectures** will cover tree biology, silvics and identification, using PowerPoint presentations, the DVD set and interactive lecture methods. Other lecture activities include exams and quizzes. **Labs** will usually be in the field; the class will meet in front of ARC. Three major activities occur during early labs: tree quizzes, introductions to new trees, and review of old trees. After introduction of all trees for the course, the labs consist of quizzes and review. Labs will usually not be on campus and students may not know in advance where we are going. All labs will run the entire 3 hours; some may run a few minutes longer. **The van leaves within five minutes of the beginning of lab.** Directions to lab sites will be provided. Labs will be in or near wooded areas much of the time and students will encounter mud, biting insects, poison ivy, possibly snakes, unpleasant weather conditions and so forth. Wear appropriate clothing, including especially long pants and a good pair of boots, even during hot weather. Consider bringing along some insect repellent and don't wear perfume or cologne (attracts stinging/biting insects). If the weather is bad the lab will be held inside, using the DVD set for the quiz and to cover new trees. Students are expected to adhere to field quiz conduct. **Please remember that the rules here are primarily used to prevent, rather than identify, cheating. The instructor will give you a zero for breaking the rules, whether or not you are actually cheating. Two rules violations will result in an F for the course.**

SERVICES FOR PERSONS WITH DISABILITIES

The University provides environmental and programmatic access for persons with documented disabilities as defined in Section 504 of the Rehabilitation Act of 1973 and the Americans with Disability

Act of 1990. Any student who desires information or assistance in arranging needed services for a disabling condition should contact the Director of Special Students Services, Student Center, Room 203, (256) 372-4263.

TUTORIAL ASSISTANCE

Tutorial assistance for undergraduate courses can be obtained from the Tutorial Assistance Network (TAN), a subsidiary of the Office of Academic Support Services. TAN is located in Room 100C Buchanan Hall. The telephone number is 256-372-5487.

GRADE DETERMINATION

Course Requirements	Percent of Total	Percentage	Grade
Field (Lab) Quizzes (9-12 quizzes)	40	90-100	A
Field Final Exam	10	80-89	B
Identification (Key Quiz(zes))	10	70-79	C
Lecture Exams (4 Incl. final)	40	60-69	D
TOTAL	100	<60	F

DESCRIPTION OF SPECIFIC ASSIGNMENTS

Field quizzes/Field final- Field quizzes count half of your grade and are the most important assignment in the course. Any tree discussed in the field during labs is fair game for the field quizzes. Two of the lowest quiz grades earlier in the course will be dropped. <u>Quizzes from week 10 through the end of the course, including the field final, cannot be dropped for any reason.</u> Detailed information is available in the Dendrology Tree List.
Key and Winter Twig/Fruit Quiz(zes)- These in-class quizzes will assess your ability to use a diagnostic key to identify unknown trees and will give you additional practice identifying trees with non-leaf characters.
Lecture Exams/ Final Exam - The in-class exams emphasize the botany and silvics material in the course, with some reinforcement of identification skills, especially later in the course. The final exam covers everything in the course and is administered during finals week Lectures, silvics table and tree id DVD are the primary sources of material for these exams. <u>No one can be excused from the final exam and it cannot be dropped</u>
Extra credit/bonus points – Extra credit is built into your exams and there will be extra credit assignments throughout the course.

COURSE OUTLINE

Week	Lectures:	Labs:
1	Syllabus, Introduction to Dendrology,	Urban forest, disturbed areas, landscaping-

	Group 1 Trees	AAMU campus
2	Introduction to Dendrology, Group 1 Trees	Urban forest, disturbed areas, uplands, invasive species – AAMU campus
3	Tree Terminology, Group 2 Trees	Uplands, disturbed, dry slopes – Monte Sano, Land Trust parking lot
4	Tree Terminology, Group 2 Trees – Test 1	Uplands – Monte Sano, campground
5	Tree Growth and Reproduction, Group 3 Trees	Bottomlands – Hays Preserve, Flint River
6	Tree Growth and Reproduction, Group 3 Trees	Bottomlands – Hays Preserve, Swamp
7	Tree Growth and Reproduction, Group 4 Trees	Uplands, Plantings – Green Mountain
8	Tree Growth and Reproduction, Group 4 Trees - Test 2	DVD (Bad Weather Day) – Non-local important trees.
9	Twig Key, Group 5 Trees	Moist Uplands - Fagan Springs
10	Twig Key, Group 5 Trees, Twig Quiz	Uplands - Certain Trail
11	Winter Tree ID, Group 6 Trees	Bottomlands – Flint River
12	Winter Tree ID, Group 6 Trees Test 3	Cove Forest – Monte Sano
13	Winter Tree ID, Group 7 Trees	Field Final
14	Winter Tree ID, Group 7 Trees	
15 (Sr.Finals)	Final Review, Group 8 Trees	
16 (Finals)	-Final (Test 4)	

College of Agricultural, Life and Natural Sciences

Alabama A&M University

Normal, AL 35762

COURSE SYLLABUS

Spring 2018

Course Number	NRE 365
Course Title	Introduction to Geographic Information Systems
Call Number/Section	70902
Class Times	2 – 5 pm W
Class Location	CCS 217
Prerequisites	None
Textbook	Optional text book: Discovering GIS and ArcGIS by Bradley A. Shellito
Instructor	Dawn Lemke
Office	CCS-BW 218A
Office Hours	W 9:00 – 2:00
E-mail address	Dawn.lemke@aamu.edu
Telephone number	256-372-4562

COURSE DESCRIPTION

Geographic Information Systems (GIS) is a combination of software and hardware with capabilities for manipulating, analyzing and displaying **spatially-referenced** information--that is, information which is referenced by its location on the earth's surface. By linking data to maps, a GIS can reveal relationships not apparent with traditional item-referenced information systems and database management products, and by displaying information in a graphic form can communicate complex spatial patterns succinctly.

This course is designed to introduce students to the fundamental concepts and applications of GIS. It covers the structure and function of GIS, cartography, and supporting disciplines such as remote sensing and GPS. The basic GIS concepts such as map characteristics and projections, spatial data models, relational databases, and spatial analysis with emphasis on the nature and source of geographic data and the issues of data input, data quality and metadata will be covered. Lab exercises developed using ArcGIS software will be covered to develop basic proficiency in GIS software usage.

The required text provides entry-level material on GIS. Additional outside readings in the student's area of interest are recommended. Completing reading assignments in the syllabus before will be beneficial.

STUDENT LEARNING OUTCOMES

Upon completion of the course the student will be able to:

- Gain a basic, practical understanding of GIS concepts, technical issues, and applications
- Better understand GIS software and hardware options that exist today
- Plan, design and implement as basic GIS approach to natural resources problem solving
- Identify the appropriate use of a GIS system, underrating the advantages and limitations
- Gain practical experience in ArcGIS software

CLASS FORMAT

ACADEMIC DISHONESTY

AAMU's academic dishonesty policies will be strictly followed. Any form of cheating will result in a grade of F and might lead to expulsion from the university. The heavy computational requirement in the course might tempt a student to plagiarize, which is a form of cheating. Academic dishonesty has been defined as follows:

- **Plagiarism:** To make and pass off as one's own ideas, writing, artistic products, etc. of someone else; for example, submitting, without appropriate acknowledgment, a report, notebook, speech, outline, theme, thesis, or other written, visual, electronic/computerized or oral material that has been knowingly obtained or copied in whole or in part, from the work of others, whether such source is published or unpublished, including (but not limited to) another individual's academic composition, compilation, or other product, or commercially prepared paper.

- Cheating: or dishonest practices in connection with examinations, papers and projects including but not limited to:
 - Obtaining help from another student during examinations.
 - Knowingly giving help to another student during examinations, taking an examination or doing academic work for another student, or providing one's own work for another student to copy and submit as his/her own.

SERVICES FOR PERSONS WITH DISABILITIES

The University provides environmental and programmatic access for persons with documented disabilities as defined in Section 504 of the Rehabilitation Act of 1973 and the Americans with Disability Act of 1990. Any student who desires information or assistance in arranging needed services for a disabling condition should contact the Director of Special Students Services, Student Center, Room 203, 256-372-4263.

ATTENDANCE POLICY

Regular participation is required to obtain a good grade in this course. To comply with federal mandates for universities' handling of student aid, students must regularly be engaged in "academically related" activities. Students are expected to attend the entire period of each class throughout the semester. This course only meets once a week so only one unexcused absence is allowed, excess unexcused absences may result in the drop in one letter grade. Your absence does not excuse responsibility for material covered in class. Excused absences must be supported by official letters.

TUTORIAL ASSISTANCE

Tutorial assistance for undergraduate courses can be obtained from the Tutorial Assistance Network (TAN), a subsidiary of the Office of Academic Support Services. TAN is located in Room 100C Buchanan Hall. The telephone number is 256-372-5487.

GRADE DETERMINATION

There will be homework assignments, and midterm and final exams throughout the semester. These evaluation methods will consist of questions ranging from multiple choice, true/false, problem solving, data analysis and interpretation, class projects, definitions, short answers, and maps. All tests will be designed based on the previous lectures, homework, and class works. Make-up tests will not be allowed unless there is a valid official excuse.

One thousand (1,000) points can be earned through assignments/homework, quizzes, exams, and the group project. Any student who "needs" a certain grade in this course to graduate, improve or maintain his/her Grade Point Average (GPA) must begin working for that grade from the

beginning of the semester. Remember, grades are earned, not given. Midterm grades will be calculated from points accumulated through the university set midterm due date.

Homework /Assignments:

Homework and Assignments will make up 50% of your grade. Each student is expected to complete and submit homework assignments within the given period (normally a week). There will be a 1 point deduction each day after the due date for the late submission of homework. Homework assignments should be uploaded in the Blackboard system using a homework/assignment tab (instruction will be provided). Homework will be graded and returned within a week. Students are encouraged to check the comments attached with each homework and discuss with the instructor when it is needed.

ESRI training models will be used for weekly homework, each worth 50 points.

- Get Started with ArcMap
- Planning a Cartography Project
- Creating and Sharing GIS Content Using ArcGIS Online
- Finding Geographic Data in ArcGIS
- Editing in ArcGIS Desktop
- Homeless in the Badlands
- Referencing Data to Real-World Locations Using ArcGIS
- Get Started with Story Maps
- Basics of Raster Data
- Finding Areas at Risk of Flooding in a Cloudburst

For each assignment you need to upload a certification of completion if given, and at least one map made during the assignment and a short (~200 word) description of the map, how it might be used, what you learnt etc . After the second week maps will be graded for completeness and design.

Quizzes:

Quizzes will be given on blackboard, in class and only in the first 10 min of class (2 to 2:10). Quiz will be 10 multi-choice questions based on material covered the week before. They will be open book, but you cannot interact with others. There will be no make up quizzes without an official excuse.

Exams:

Two exams will be given, mid-term and final. Each exam will be worth 10% of the final grade. If you have an A going into the final you do not need to take the final.

Project:

The project will be worth 20% of your grade and more information will be given after the midterm.

Bonus:

There will be bonus work done in class, this will often be group or class working problems.
There will be at least 10 bonus assignments, each worth 10 points.

Course Requirements	Points Awarded	Percent of Total
Assignments (~10)	500	50%
Quiz (~10)	100	10%
Project	200	20%
Mid-term	100	10%
Final	100	10%
TOTAL	1000	100
Grading Scale		
Percent of Points	Number of Points	Grade
90<	900	A
80-90	800	B
70-80	700	C
60-70	600	D
>60	>600	F

COURSE OUTLINE

	Topics	Assignments
Unit 1	Introduction and setup, Ch 1 intro to GIS	
SNOW WEEK		
Unit 2	Ch 2 Tables & Attributes	Get Started with ArcMap
Unit 3	Ch 3 Creating a Map	Planning a Cartography Project
Unit 4	Ch 4 Online maps	Creating and Sharing GIS Content Using ArcGIS Online
Unit 5	Ch 5 Finding Data	Finding Geographic Data in ArcGIS
Unit 6	Coordinate Systems	Referencing Data to Real
Unit 7	Ch 6 & 7 Creating and Editing	Editing in ArcGIS Desktop
	Midterm	MidTerm Exam (100 points)
Unit 9	PROJECT	Get Started with Story Maps
Unit 10	Ch 8 & 9 Geoprocessing	Homeless in the Badlands
Spring Break		
	PROJECT	
Unit 11	Ch 12 Raters	Basics of Raster Data
Unit 12	Ch 15 DEM	Finding Areas at Risk of Flooding in a Cloudburst
	Projects	Project (200 points)
	Final	Final exam (100 points)

**Alabama A&M
University
Normal, AL 35762**

COURSE SYLLABUS

Fall 2017

Course Number:	NRES 370
Course Title:	Natural Resource Conservation and Management
Class Times:	Lecture 5:00-6:20PM, TR or TBA
Class Location(s):	ARC TBA
Prerequisites:	None
Textbook and Resources:	No textbook required. Handouts will be provided.
Instructor:	Heather Howell
Office:	ARC 144, ARC 154
Office Hours:	TBA
E-mail address:	heather.howell@aamu.edu
Telephone number:	256-372-4568

COURSE DESCRIPTION

An ecological approach to basic conservation principles and techniques. Introduction to policies and techniques for intelligent management and utilization of forests and other natural resources.

STUDENT LEARNING OUTCOMES

Students will be able to:
1. Understand the basic concepts and history behind natural resource management.
2. Understand basic soil quality, and conservation practices.
3. Understand water quality, water conservation practices.
4. Understand concepts related to the conservation of biodiversity, forests, and wildlife.
5. Understand how natural resource management may function in a changing world.

CLASS FORMAT

This is a one-semester combined lecture and lab course. Students will complete assignments for each class. During class periods, students should be ready to share what they have learned from completing each homework assignment. Discussion, lectures, case studies, online activities, specified lectures/assemblies, individual and group activities, and a variety of audio-visual and computer-based instructional technologies will be used.

COURSE OUTCOMES ASSESSMENT NRE 370

[illegible]

3. Water	1/8	1/8	1/8	1/8	4/8	4/8	1/8	1/8	1/8	1/8	4/4	20/20
4. Biodiversity	1/8	1/8	1/8	1/8	1/8	1/8	4/8	4/8	1/8	1/8	4/4	20/20
5. Change	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	4/8	4/8	4/4	20/20
Total	8/8	8/8	8/8	8/8	8/8	8/8	8/8	8/8	8/8	8/8	20/20	100/100

PERSONS WITH DISABILITIES

The University provides environmental and programmatic access for persons with documented disabilities as defined in Section 504 of the Rehabilitation Act of 1973 and the Americans with Disability Act of 1990. Any student who desires information or assistance in arranging needed services for a disabling condition should contact the **Director of Special Students Services, Carver Complex South, Room 106, (256) 372-4263.**

ATTENDANCE POLICY

I understand that sometimes things happen beyond our control; therefore, if you believe your absence should be excused, it is important to get in touch with me as soon as possible if you are going to be absent. In accordance with University policy UG15, class attendance will be recorded. Excessive absenteeism (and/or tardiness) will hurt your final letter grade. Please come and talk to me if you are having difficulties arriving to class on time.

TUTORIAL ASSISTANCE

We are available during office hours and by appointment for tutorial assistance. Special times are scheduled in the calendar for optional writing assistance and information review.

Grading:

Assignments: 80% (10 @ 8% each)
Participation: 20%

Grade Scale:

90-100%	A
80-89%	B
70-79%	C
60-69%	D
<59%	F

DESCRIPTION OF SPECIFIC ASSIGNMENTS

Assignments:

There will be opportunities to do 14 short written assignments, of which 10 must be completed and will count for a grade. Additional assignments completed beyond the 10 may be turned in for extra credit. Written assignments will include questionnaires, short essays (approximately 1 paragraph to 1 page), and reports\worksheets on activities in the lab or field. **Even if data is jointly collected, written assignments are to be individual efforts.**

Participation:

Participation is based upon your being present for class meetings, participating in discussions, field, and lab activities, and responding promptly to assignments posted on Blackboard.

Exams:

There are no exams in this class, and it will remain that way as long as students participate satisfactorily in class activities. This class is an elective class, and it is geared towards being enjoyable and informative. However, if there is a lack of participation, I will have to assess your progress with tests.

COURSE OUTLINE	
Week 1	Topic: Introduction to Natural Resources Management, History and Policy Related to Natural Resources Management, Ecological Concepts Important To Natural Resource Management
	Activity: Read assigned article.
	Assignment: Answer questions about article.
Week 2	Topic: Soil Conservation BMP's.
	Activity: Find the BMP's.
	Assignment: Find, photograph, and critique an example of local soil conservation practices as implemented.
Week 3	Topic: Soil Judging
	Activity: Soil Examination
	Assignment: Evaluate the soil quality in one or two different locations, discuss management implications.
Week 4	Topic: Water Quality and Conservation: Intro
	Activity: Mercury Contamination Map
	Assignment: Turn in water for mercury testing and determine if there is a spatial pattern using GIS.
Week 5	Topic: Watershed Management Plan
	Activity: Read a watershed management plan or compare plans.
	Assignment: Critique a watershed management plan.
Week 6	Topic: Wetland Delineation
	Field/Lab Activity: Delineate a wetland, either based upon existing/remotely-sensed data, or by information gathered in the field.
	Assignment: Determine whether an area qualifies as a wetland.
Week 7	Topic: Water Quality and Conservation: Intro, Quality, Quantity, Wetlands, Watersheds, BMP's
	Field/Lab Activity: Stream Erosion/Sedimentation
	Assignment: Examine stormwater samples for sedimentation in forested and unforested streams.
Week 8	Topic: Biodiversity (Forestry and Wildlife): Intro
	Activity: Read article/chapter.
	Assignment: Discuss the meaning and importance of biodiversity.
Week 9	Topic: Biodiversity (Forestry and Wildlife): Quality, Quantity
	Field/Lab Activity: Species richness and evenness survey.
	Assignment: Along a transect, count the number of individuals and types of vegetation, preferably in two different areas.
Week 10	Topic: Biodiversity (Forestry and Wildlife): BMP's
	Field/Lab Activity: Landscape BMP's for wildlife.
	Assignment: Examine an area and suggest BMP's to manage for a species or type of wildlife.
Week 11	Topic: Global Change: Climate Change
	Activity: Temperature and precipitation changes in North Alabama.
	Assignment: Using climate change maps and models, evaluate climate changes in the area and discuss their implications.
Week 12	Topic: Global Change: Urbanization, Populations
	Activity: Use Maps/GIS to look at Populations and Urbanization
	Assignment: Discuss local/world population growth/urbanization and its implications for natural resources.
Week 13	Topic: Global Change: Oceans and Coasts, Climate Change, Urbanization, Populations
	Activity: Discuss challenges in natural resource management with our changing world.
	Assignment: Write an essay about the issue that you feel is most important to natural resource management.
Week 14	Topic: Wrap/Up Final Review
	Activity: None Assignment: None
Final	If student participation is satisfactory, there will be no final in this class.

Student Name_____

CALNS BES FEWP
Alabama A&M University
Normal, AL 35762

COURSE SYLLABUS
SPRING 2018

Course Number	NRE 371
Course Title	Forest Mensuration
Call Number	10193
Class Times	Lectures 10:00 – 10:50 Mondays, Wednesdays, Fridays, Labs 10:00 – 12:50 Tuesdays
Class Location	Forestry/Wood Products Lab at ARC Building
Prerequisites	NRE 382 and 383 (Forestry Field Techniques I and II)
Co-requisite	NRE 375 (Silviculture)
Required Textbook	Avery, T.E., and H.E. Burkhardt. 2002. Forest Measurements. 5 th edition. Waveland Press, Inc. Long Grove, IL. ISBN 9781478629085
Instructor	Dr. Kozma Naka
Office	143 ARC Building
Office Hours	Weekdays 9:00 – 10:00 AM, 1:00 – 2:00 PM
E-mail address	kozma.naka@aamu.edu
Telephone numbers	Office: (256) 372-4235, Cellular: (256) 603-8357

COURSE DESCRIPTION

An applied approach to forest measurements, including log, tree, and stand measurements, as well as data analysis. Training in commonly used measuring devices is included during a weekly field laboratory (4 hrs.)

ELECTRONIC MATERIALS

This syllabus, lecture presentations and other materials can be found on AAMU blackboard at <https://aamu.blackboard.com>

ADDITIONAL STUDY MATERIALS

Husch, B., T.W. Beers, and J.A Kershaw, Jr. 2003. Forest Mensuration. 4th edition. John Wiley & Sons, Hoboken, NJ. ISBN 0471018503

Freese, F. 1962. Elementary Forest Sampling. Agriculture. Handbook No. 232. Southern Forest Experiment Station, USDA Forest Service.

STUDENT LEARNING OUTCOMES

1. Use the US Public Land Survey, maps, compass and necessary measurement tools to describe tract locations and determine boundaries of forest stands.
2. Quantify attributes of trees and logs.
3. Perform statistical computations, apply sampling designs and predict variables (regression analysis).
4. Calculate stand-level attributes such as basal area, trees per acre, quadratic mean diameter and site index.
5. Present the methodology and the results professionally.

CLASS FORMAT

1. **Lectures:** Classes consist of lectures presented by the instructor or a guest speaker. Lectures will explained topics in greater detail and will be more up-to-date than the assigned readings.
2. **Labs:** Instruction for the labs will be handed separately. Labs will be completed on a team-basis. Each team member will receive the same number of points. Lab assignments are due on Monday of the next week.
3. **Advanced Preparation:** Start reading the materials covered in the lecture at the same day. Expected time for class preparation on the part of the student is three hours study for every hour of lecture. Read the assigned materials thoroughly in advance of each lab.
4. **Review:** The key to successful learning, aside from continuous and active student participation in the process, is repetition. Review is an important form of repetition. Hours of lectures cannot be reviewed in a few hours before a test. Review continually and systematically.
5. **Class Participation:** Participation in classroom discussions and activities is expected and required. Students are expected to perform their own calculations during lectures and labs. A CALCULATOR is required all the time; a laptop with spreadsheet software is desirable. Students are encouraged to raise questions and express opinions in class or during scheduled office hours.
6. **Cellular Phones:** Turn off your cell phone during class, unless permission is granted. If the phone rings during class, you will be asked to leave and get an absence. Use of a phone during an exam or quiz will be automatically considered as cheating. Laptops and tablets can be used only for class purposes. Web surfing during the class is not allowed.

ACADEMIC HONESTY

In this class, you can work together on lectures and homework, but you must do your own work during tests and quizzes. A PICTURE ID is required to take a test and shown upon request. Any form of cheating will be dealt with according to the Academic Policies and Procedures Manual (excerpt follows).

All students in attendance at Alabama A&M University are expected to be honorable and to observe standards of conduct appropriate to a community of scholars. The University expects from its students a higher standard of conduct than the minimum required to avoid discipline. All acts of dishonesty in any academic work constitute academic misconduct. This includes, but is not necessarily limited to, the following:

1. Cheating – using or attempting to use unauthorized materials, information, or study aids in any academic exercise.
2. Plagiarism – representing the words, ideas, or data of another as one's own in any academic exercise.
3. Fabrication – unauthorized falsification or invention of any information or citation in an academic exercise.
4. Aiding and abetting academic dishonesty – intentionally or knowingly helping or attempting to help another student commit an act of academic dishonesty.
5. Acts of academic misconduct may be punishable by one of the following:
 - Letter of academic misconduct placed in the student's academic folder.
 - Temporary suspension from the University.
 - Expulsion from the University.
 - Expulsion from a class by the instructor which could possibly result in a failing grade.
 - Lowering of a final grade.
 - Academic discipline resulting in the loss of scholarships, nonparticipation in academic related activities, etc.

Ethics: Students are expected to adhere to professional ethics, e.g., the Society of American Foresters Code of Ethics available at safnet.org/about/codeofethics.cfm Ethics will be reinforced throughout the duration of a course through class work and examples of real life situations.

CLASSROOM ETIQUETTE SUMMARIZED (from AAMU Student Guidebook)

DO:

- Be prepared and on time in class
- Have your textbook, notebook, calculator and pen/pencil ready.
- Raise your hand to ask question
- Do wait your turn to speak

- Alert your professor if you are going to be absent (planned)
- Turn off or put on silent mode your cell phone while in class.

DON'T:

- Be chronically late or absent
- Hold private conversation in class while the professor is lecturing
- Answer your cell phone or send text messages
- Forget to take your hat/cap off when you enter the building
- Eat in class without the permission of the instructor.

For more information, please refer to the classroom code of conduct which can be found at:
<http://www.aamu.edu/campuslife/studentresources/Classroom%20Code%20of%20Conduct/Classroom%20Code%20of%20Conduct.pdf>

NON-DISCRIMINATION AND ANTI-HARASSMENT STATEMENT

The University is committed to a work environment in which all individuals are treated with respect and dignity. Therefore, discrimination or harassment based on age, race, gender, color, religion, national origin, disability, genetic information, sexual orientation, covered veteran status, or any other characteristics protected under state, federal, or local law will not be tolerated. The full policy document can be found at:

<http://www.aamu.edu/administrativeoffices/hrservices/Documents/6.10%20-%20Non-Discrimination%20and%20Anti-Harassment%20Policy.pdf>

SERVICES FOR PERSONS WITH DISABILITIES

Any student who desires information or assistance in arranging needed services for a disabling condition should contact the Office of Special Students Services, Carver Complex South, Room 106, phone (256) 372-4263. Details can be found at their website:

<http://www.aamu.edu/Academics/academicresources/sss/Pages/default.aspx>

ATTENDANCE POLICY

A student is permitted one unexcused absence for each credit hour generated by the class. Therefore, three (3) unexcused absences are allowed in this class. After that the penalties will be 2%, 3% and 5% of the final grade for the three subsequent absences. Attendance in the lectures will be recorded 5 minutes after class starts. Please contact me if you expect to be absent, so you can better mitigate the consequences. According to the University Policy, students need to wait 15 minutes if the instructor is late. **Absence for any reason does not relieve the student of the responsibility for assignments and material covered in class.** Ask your classmates what happened while you were absent.

Excused absences can be obtained upon presenting documentation to Veterans Affairs & Disability Services in Room 106 Carver Complex. Details can be found at their website:

<http://www.aamu.edu/administrativeoffices/VADS/Pages/Official-Class-Excuses.aspx>

All students requesting official class excuses should make the request and submit the class excuse to course instructor within seven (7) days after the missed class or classes.

However, participation in the labs is mandatory. Students are required to make-up every missed labs regardless of valid excuses. Arrangements for make-up lab prior to the beginning of the next one must be initiated by the student. Some labs cannot be substituted on another location, so students need to provide their own transportation.

TUTORIAL ASSISTANCE

Tutorial assistance for undergraduate courses can be obtained from the Tutorial Assistance Network (TAN), located in Room 233 Thomas Hall. Their telephone number is 256-372-5487. Details can be found at their website:

<http://www.aamu.edu/Academics/academicresources/Pages/Tutorial-Assistance-Network.aspx>

GRADE DETERMINATION

Course Requirements	Points Awarded	Percent of Total
Exam 1	100	15%
Exam 2	100	20%
Exam 3	100	20%
Final Exam	100	25%
Labs	100	20%
Homework, quizzes, participation and leadership		bonus (up to 10%)
TOTAL		100
Grading Scale		
Percent of Points	Number of Points	Grade
90 – 100	90 – 100	A
80 – 89	80 – 89	B
70 – 79	70 – 79	C
60 – 69	60 – 69	D
< 60	< 60	F.

Incomplete Grades: A grade of “I” will be given in those circumstances where a student has satisfactorily (defined as a C average or better) completed at least 75% of the course requirements, and there is an excusable reason for his or her not having completed all requirements prior to grade reporting time.

Make-up Examination Policy: No special make-up test will be given after the scheduled one. Arrangements for make-up work *prior* to the scheduled test, due to an excused absence must be initiated by the student. If an accident happens on the way to the exam, **give me a call** me as soon as possible.

Extra Credit Work: There will be no extra credit work assigned to enable a student to raise her/his grade. Any student who desires a certain grade in this course must begin working for that grade from the start of the semester. Grades are earned, not given.

COURSE OUTLINE (tentative)

Week 1

Lecture: Forest land measurements.

Reading: Introduction, Chapter 4.

Week 2

Lab: Compass, pacing, and stand mapping.

Lecture: Statistical methods.

Reading: Chapter 2.

Week 3

Lab: Manual statistical calculations.

Lecture: Statistical methods.

Reading: Chapter 2.

Week 4

Lab: Statistical methods using Excel.

Lecture: Measurement of tree diameters, heights and forms.

Reading: Chapter 1, sections 1.1 – 8; Chapter 7, sections 7.1 – 11.

Week 5

Lab: Measuring tree diameters, heights, and forms.

Lecture: Volume, tree form, tree crown, tree age.

Reading: Chapter 7, sections 7.12-21, Chapter 5, sections 5.1 – 3, 6 – 12

Exam 1

Week 6

Lab: Cubic-foot volume and biomass calculations using taper equations and conic sections. Measurements of crown and age.

Lecture: Cubic-foot volume equations and tables, biomass/weight equations.

Reading: Chapter 8, sections 8.1 – 6, 8 – 12, 14 – 16

Week 7

Lab: Standard and local cubic-foot volume and biomass tables.

Lecture: Board-foot log rules, scaling practices, BF/CF ratios, grading.

Reading: Chapter 6, sections 6.1 – 14, 17 – 19.

Week 8

Lab: Board-foot volume tables.

Lecture: Forest inventory and cruising.

Reading: Chapter 9.

Week 9

Lab: Forest Inventory and Analysis (FIA) sample unit.

Lecture: Line-plot cruising; stand and stock table construction.

Reading: Chapter 10.

Week 10

Lab: Stand and stock tables, line-plot cruise with fixed-area plots; regeneration survey

Lecture: Site quality and stand density.

Reading: Chapter 15, sections 15.1-15.19.

Exam 2**Week 11**

Lab: Assessing Site Index and Stand-Density Index

Lecture: Simple random sampling for stand-level attributes, cruise statistics, sample size calculation, stratified random sampling, double sampling.

Reading: Chapter 3, sections 3.1 – 11, 3.15.

Week 12

Lab: Cruise statistics.

Lecture: Point sampling – techniques and cruise summaries.

Reading: Chapter 11, except section 11.22.

Week 13

Lab: Point sample cruise.

Lecture: Tree growth and stand table projection.

Reading: Chapter 16

Week 14

Lab: Cruise report for the landowner.

Lecture: Growth and yield models.

Reading: Chapter 17

Exam 3

Week 15

<u>Lab</u> : Prediction of stand growth

<u>Lecture</u> : Review

Final Exam for graduating seniors.

Final Exam on Monday of final exam week at 11:00 AM-1:00 PM

Name_____

College of Agricultural,
Life, and Natural Sciences
Alabama A&M University
Normal, AL 35762

COURSE SYLLABUS

Spring 2018

Course Number	NRE 372
Course Title	Forest Fire Ecology and Management
Call Number/Section	10194
Class Times	9:00-9:50 Mondays, 9:00-12:00 Thursday
Class Location	Wood Lab, 157 ARC Building
Prerequisites	
Textbook	Pyne, S.J., Andrews, P.L., Laven R.D. 1996. Introduction to Wildland Fire. 2 nd Edition. John Wiley & Sons Inc.
Instructor	Dr. Xiongwen Chen
Office	Agricultural Research Center (ARC) 139
Office Hours	10:00 am – 12:00pm or by appointment
E-mail address	Xiongwen.chen@aamu.edu
Telephone number	256-372-4231

AAMU Quality Enhancement Plan (QEP):
“Enhancing Students’ Critical Thinking Skills”
Critical Thinking Definition:

Critical thinking is analyzing, evaluating, and synthesizing information into logical conclusions.

COURSE DESCRIPTION

To develop an understanding of the impacts and uses of fires in forested ecosystems, along with strategies to manage fire regime to provide desired effect. To show a hands-on understanding of the strategies required to enhance the ability of a forest to withstand wildfire, and methods to reduce the chance of catastrophic fire.

STUDENT LEARNING OUTCOMES

1. Proficiency for causes and affecting factors of forest fires.
2. Mastery of the potential ecological effects of forest fires.
3. Understanding the general processes for organizing forest fire control.
4. Mastery of the knowledge in fire control and fire use.
5. Have primary experience for forest fire use (prescribed burning).

CLASS FORMAT

Lecture, Recitation, Field Trips

COURSE OUTCOMES

All students are expected to be on time and PREPARED for class. Students should be respectful of their peers and the instructor. Cell phones are not allowed in class unless you have permission of the instructor. Make-up exams are ONLY given if you have an official excuse and make satisfactory arrangements with the instructor.

Cheating on an exam, falsification of information, or plagiarism on an assignment will result in an automatic failing grade for the course. Plagiarism is passing off another's work as your own. Plagiarism can be flagrant, such as copying another student's work and putting your name on it or cutting and pasting paragraphs from scientific articles for your term paper. Plagiarism can also be unintentional, such as failing to give proper credit to the author of an article when you report their facts, data, or ideas in your term paper. **Plagiarism is an academic offense subject to disciplinary action.** It will result in an automatic failing grade in this course. Guidelines for proper literature citation are discussed during the first day of class, but ask me for help if you are uncertain when to quote someone else's work.

SERVICES FOR PERSONS WITH DISABILITIES

The University provides environmental and programmatic access for persons with documented disabilities as defined in Section 504 of the Rehabilitation Act of 1973 and the Americans with Disability Act of 1990. Any student who desires information or assistance in arranging needed services for a disabling condition should contact the Director of Special Students Services, Student Center, Room 203, (256) 372-4263.

STUDY FOLDER

Blackboard

ATTENDANCE POLICY

In accordance with university policy UG 15, class attendance will be recorded. Each student is allowed a maximum of **3** unexcused absences for this course. **Absenteeism will hurt your grade in this course!** The 4th unexcused absence will cause you to lose 2% of your grade, the 5th unexcused absence will cost you an additional 3% of your grade. A 6th unexcused absence will result in the loss of another 5% of your grade for a total of 10% (a letter grade). Participation in class will help your grade. Please schedule excused absences ahead of time. **Tardiness will hurt your grade!** Students who are more than 5 minutes late will receive an unexcused absence.

TUTORIAL ASSISTANCE

Tutorial assistance for undergraduate courses can be obtained from the Tutorial Assistance Network (TAN), a subsidiary of the Office of Academic Support Services. TAN is located in Room 100 Thompson Hall. The telephone number is 256-372-5487.

GRADE DETERMINATION

Course Requirements	Points Awarded	Percent of Total
3 Quizzes or assignments (20% each)	300	36%
2 Tests (15% each)	200	18%
1 Presentation (10% each)	100	6%
10 Field practices (4% each)	1000	40%
TOTAL	1600	100%
Grading Scale		
Percent of Points	Number of Points	Grade
90-100		A
80-89		B
70-79		C
60-69		D
Below 60%		F

DESCRIPTION OF SPECIFIC ASSIGNMENTS

<u>Quizzes:</u> Quizzes will cover the concepts and must-known knowledge from the lectures, the text, and supplemental reading. <u>Tests:</u> Tests are comprehensive questions. They will be in the format of multiple-choice, short questions, essay, and problem-solving.
<u>Field Practice:</u> You must participate in 10 classes of field practice. There is a lab report for each trip.
<u>Presentation:</u> Presentation is often related to new ideas or new approach for forest fire research and management. It can also be the discussion of current strategies or policies. It needs 20 sliders to introduce a question and deep discussion.

COURSE OUTLINE

Tentative Dates*	Topics	Assignments
Week 1	Course Introduction	
Week 2	Combustion	Chapters 1 & 2
	Quiz 1	
Week 3	Fire behaviors	Chapter 3
Week 4	Fuels	Chapter 4
Week 5	Fire weather	Chapter 5
Weeks 6	Midterm test (Chapters 1-5)	
Week 7	Fire regimes of forests	Chapter 6
	Quiz 2 or assignment	
Week 8	Fire culture and fire effects	Chapter 7
Week 9	Fire adaptation	Chapter 8
	Quiz 3	
Week 10	Fire suppression	Chapter 9
Week 11	Prescribed burning	Chapter 10
	Presentation	
	Final test (Chapters 1-10)	

Name_____

College of Agricultural,
Life, and Natural Sciences
Alabama A&M University
Normal, AL 35762

COURSE SYLLABUS

Spring 2018

Course Number	NRE 375
Course Title	Silviculture
Call Number/Section	10723, Section 01
Class Times	Mondays and Wednesdays from 11:00 a.m. to 12:20 a.m. Lab: Tuesdays from 8:00 a.m. to 9:50 a.m.
Class Location	Carver Complex Sth Bonner Wing 102 Lab: Scheduled at Carver Complex South Bonner Wing, room 102. However, nearly all labs will be in the field and will be combined with the Mensuration labs of Dr. Naka. Therefore, you will be in a combined Silviculture and Mensuration lab from 8:00 a.m. to 12:50 p.m. Sometimes the lab will be all silviculture, other times it will be all mensuration, and sometimes it may be split between the two. Always come on time for the lab; otherwise the vans will leave you.
Prerequisites	NRE 281, 282, 379 and 380 (Introduction to Forestry, Dendrology, Forest Ecology, and Forest Field Techniques); Co-requisite: NRE 371 (Forest Mensuration), or instructor consent.
Textbook (required)	Smith, D.M., B.C. Larson, M.J. Kelty, and P.M.S. Ashton. 1996. The practice of silviculture: applied forest ecology, 9th edition . John Wiley & Sons, New York, NY. 560 pages. ISBN: 9780471109419. Additional material from: Nyland, Ralph D. 2016. Silviculture: Concepts and Applications. Third Edition. Waveland Press Inc. 680 pages. ISBN 13: 978-1-4786-2714-2. Additional material (recent and not so recent journal articles, technical reports, etc.) will also be provided

Instructor	Dr. Luben Dimov
Office	Agricultural Research Center (ARC) Building, Room 146
Office Hours	Monday and Tuesday 1:15-3:30, Wednesday 1:15-1:50, Thursday 9:20-2:15, or by appointment
E-mail address	Luben.Dimov@aamu.edu
Telephone number	256-372-4545

AAMU Quality Enhancement Plan (QEP):
“Enhancing Students’ Critical Thinking Skills”
Critical Thinking Definition:

Critical thinking is analyzing, evaluating, and synthesizing information into logical conclusions.

COURSE DESCRIPTION

Silviculture is the theory and practice of controlling the forest vegetation and environment to achieve the goals of landowners and society on a sustainable basis. The course will help you learn how to achieve that with a variety of silvicultural tools. You will observe and quantify various silvicultural treatments and outcomes in a number of forest types of the region.

STUDENT LEARNING OUTCOMES

After passing this course, a student will be able to:

- 1) Quantify ecological, site, and stand conditions
- 2) Prescribe suitable silvicultural treatments capable of achieving a large variety of management objectives while maintaining the long-term forest productivity, health, and resilience
- 3) Analyze quantitative information and draw conclusions from it
- 4) Behave professionally and ethically
- 5) Present results and silvicultural recommendations orally and in writing

CLASS FORMAT

Lecture and hands-on laboratory exercises

ACADEMIC HONESTY

In this class, you can work together on lectures and homework, but you must do your own work during tests and quizzes. Any form of cheating will be dealt with according to the Academic Policies and Procedures Manual.

If there is academic misconduct during an exam, a student gets zero points on that particular exam. Academic misconduct during a quiz results in zero points on the particular quiz. If there is academic misconduct during any exam or a quiz, a student will not get any bonus points or curving of the grade that the rest of the students may get. Additional disciplinary measures are also possible, as per the Academic Policies Manual.

Academic misconduct includes cheating (using or attempting to use unauthorized materials, information, or study aids in any academic exercise), plagiarism (representing the words, ideas, or data of another as one's own in any academic exercise), fabrication (unauthorized falsification or invention of any information or citation in an academic exercise), aiding and abetting academic dishonesty (intentionally or knowingly helping or attempting to help another student commit an act of academic dishonesty).

All students in attendance at Alabama A&M University are expected to be honorable and to observe standards of conduct appropriate to a community of scholars. The University expects from its students a higher standard of conduct than the minimum required to avoid discipline. All acts of dishonesty in any academic work constitute academic misconduct. This includes, but is not necessarily limited to, the following:

6. Cheating – using or attempting to use unauthorized materials, information, or study aids in any academic exercise.
7. Plagiarism – representing the words, ideas, or data of another as one's own in any academic exercise.
8. Fabrication – unauthorized falsification or invention of any information or citation in an academic exercise.
9. Aiding and abetting academic dishonesty – intentionally or knowingly helping or attempting to help another student commit an act of academic dishonesty.
10. Acts of academic misconduct may be punishable by one of the following:
 - Letter of academic misconduct placed in the student's academic folder.
 - Temporary suspension from the University.
 - Expulsion from the University.
 - Expulsion from a class by the instructor which could possibly result in a failing grade.
 - Lowering of a final grade.
 - Academic discipline resulting in the loss of scholarships, nonparticipation in academic related activities, etc.

Ethics: Students are expected to adhere to professional ethics, e.g., the Society of American Foresters Code of Ethics available at safnet.org/about/codeofethics.cfm Ethics will be reinforced throughout the duration of a course through class work and examples of real life situations.

CLASSROOM ETIQUETTE SUMMARIZED (from AAMU Student Guidebook)

DO:

- Be prepared and on time in class

- Have your textbook, notebook, calculator and pen/pencil ready.
- Raise your hand to ask question
- Do wait your turn to speak
- Alert your professor if you are going to be absent (planned)
- Turn off or put on silent mode your cell phone while in class.

DON'T:

- Be chronically late or absent
- Hold private conversation in class while the professor is lecturing
- Answer your cell phone or send text messages
- Forget to take your hat/cap off when you enter the building
- Eat in class without the permission of the instructor.

For more information, please refer to the classroom code of conduct which can be found at:
<http://www.aamu.edu/campuslife/studentresources/Classroom%20Code%20of%20Conduct/Classroom%20Code%20of%20Conduct.pdf>

SERVICES FOR PERSONS WITH DISABILITIES

Disability statement (Americans with Disabilities Act): Alabama A&M University is committed to serving the needs of students with disabilities, and the institution recognizes its responsibility for creating an instructional climate in which a student with disabilities can succeed. A student with a disability who needs academic accommodation should:

(1) Register with and provide documentation to the AAMU certifying official in the Office of Disability Services to verify eligibility and to discuss the options for reasonable academic accommodations that might be available.

(2) Provide a letter to me indicating the type of accommodation that is needed.

This syllabus and other course materials are available in alternative format upon request. For more information about services available to AAMU students with disabilities, please go to the Office of Disability Services in Room 106, Carver Complex South or call 256-372-4263 or 256-372-5805.

NON-DISCRIMINATION AND ANTI-HARASSMENT STATEMENT

The University is committed to a work environment in which all individuals are treated with respect and dignity. Therefore, discrimination or harassment based on age, race, gender, color, religion, national origin, disability, genetic information, sexual orientation, covered veteran status, or any other characteristics protected under state, federal, or local law will not be tolerated. The full policy document can be found at:

<http://www.aamu.edu/administrativeoffices/hrservices/Documents/6.10%20-%20Non-Discrimination%20and%20Anti-Harassment%20Policy.pdf>

STUDY FOLDER

From the AAMU front page go to myAAMU and then click Blackboard where I will upload files.

ATTENDANCE POLICY

Arrival on time and attendance of lectures and labs are required. If you arrive late you may miss a quiz and get zero points on it. Three late arrivals are equal to one absence. If you will have to miss a class, you need to notify me in advance by email or phone.

When there is an exam, you have to come to the classroom on time or no more than 5 minutes late in order to be allowed to take an exam. Arriving later than that disturbs everyone who came on time.

You are required to be on time and will be evaluated on that. The university rule is that you can have one unexcused absence per credit hour. Our forestry program also has this additional rule – for the next unexcused absence, after you reached your one absence per credit hour, you lose 2 points from the final grade; miss another, lose 3 more points; miss another, lose 5 points. For labs, you can miss 1 lab. After that, if you miss another lab, you lose 5 points from the final grade. And 5 more next time. If a student is more than 5 minutes late for class, that's considered absence. For assignments, if you are submitting late, we will drop one letter grade for that assignment if late up to 24 hours. If the assignment is more than 24 hours late, then no points are awarded. For short (little) assignments, if you're late at all, you lose all points. The instructor determines if an assignment is considered short. Be sure to attend particularly when we have guest lecturers.

TUTORIAL ASSISTANCE

Tutorial assistance for undergraduate courses can be obtained from the Tutorial Assistance Network (TAN), located in Room 233 Thomas Hall. Their telephone number is 256-372-5487. Details can be found at their website:

<http://www.aamu.edu/Academics/academicresources/Pages/Tutorial-Assistance-Network.aspx>

GRADE DETERMINATION

A = 90 to 100, B = 80 to 89.9, C = 70 to 79.9, D = 60 to 69.9, F = 0 to 59.9.

Weight:

1. Project and presentation:	5% - assign prescriptions to forests, present and justify your decision
2. Attendance, participation, professionalism:	10% - attendance, active participation in the discussion, professional behavior

3. Quizzes and assignments:	30% - the quizzes are often at the very beginning of class or lab
4. Midterm Exam:	25% - Monday, March 5
5. Final Exam (comprehensive):	30% - date not yet assigned by the university, but likely on Wednesday, May 2, 11:00 a.m. – 1:00 p.m.

COURSE OUTLINE

Unless indicated otherwise, the material is from your textbook (Nyland 2016). All handouts, presentation slides, and publications will be made available to you in the Blackboard Learning Management System.

You will have at least six lab assignments. The required work includes:

- entering plot data on spreadsheets
- calculating tree basal area, stand basal area, and trees per acre
- plotting the proportion of basal area in each species
- determining the quadratic mean diameter and percent stocking
- calculating live crown ratio
- stem analysis and graphing of tree heights over time
- use of the regeneration models
- determining site index using site index curves and a soil-based method

During the labs, you will also be tested on:

- tree identification (continuously), scientific species names
- knowledge of species silvics (free Silvics books at: http://www.na.fs.fed.us/spfo/pubs/silvics_manual/table_of_contents.htm)
- ability to select the appropriate trees for harvested during:
 - o cleaning
 - o liberation
 - o thinning from below
 - o thinning from above
 - o free thinning
 - o geometric thinning
 - o establishment stage of the seed-tree and shelterwood regeneration methods
 - o group selection
 - o individual tree selection.

Lastly, you will develop and present a silvicultural plan for a stand that will be assigned to you in the second half of the semester.

Be sure to read the material before we cover it in class. Review all information throughout the semester – there will be quizzes every week, often during the first few minutes of class.

The chapters below refer to chapters from this book: Smith, D.M., B.C. Larson, M.J. Kelty, and P.M.S. Ashton. 1996. The practice of silviculture: applied forest ecology, 9th edition. John Wiley & Sons, New York, NY. 560 pages. ISBN: 9780471109419.

Date	Material	Source
Jan 6	Introductions, course overview, definitions of important terms	Syllabus; Adams et al. (1994)
Jan 11	Silviculture as an orderly discipline; definition of forestry terms	Chapter 1; Adams et al. (1994)
Jan 13	Stand dynamics	Chapter 2; Oliver and Larson (1996) 145-171
Jan 18	No class-Dr. M.L. King Day	
Jan 20	Tree response to thinning and pruning	Chapter 3; O'Hara (2007)
Jan 25	Management of growth and yield by thinning	Chapter 4
Jan 27	Methods and application of thinning: low thinning, crown thinning	Chapter 5
Feb 1	Thinning of dominants, geometric thinning, free thinning	Chapter 5
Feb 3	Cleaning, liberation, use of herbicides	Chapter 6
Feb 8	Ecology of regeneration	Chap 7; Belli (1999), Steiner et al. (2008), Loftis' REGEN model and spp ranks
Feb 10	Site preparation (through prescribed burning)	Chapter 8
Feb 15	Site preparation - mechanical, herbicide, site improvement	Chapter 8
Feb 17	Site classification and species selection	Chapter 9; Baker and Broadfoot (1979), Carmean et al. (1989), Lockhart (2013)
Feb 22	Artificial regeneration: planting	Chapter 10; Allen et al. (2004)
Feb 24	Artificial regeneration: direct seeding	Chapter 10; Allen et al. (2004)
Feb 29	Time for questions about the material before the exam	
Mar 2	Midterm Exam	
Mar 7	Regeneration methods - clearcutting	Chapter 12
Mar 9	Regeneration methods – shelterwood and seed-tree	Chapter 14; Brose et al. (1999), Raymond et al. (2009)
Mar 14	Regeneration Methods - vegetative	Chapter 13
Mar 16	Regeneration of pure unevenaged stands	Chapter 15
Mar 21	Spring Break	
Mar 23	Spring Break	
Mar 28	Regeneration of mixed unevenaged and two-aged stands	Chapter 16; Kelty (2006), Hulvey et al. (2013)

Mar 30	Timber management	Chapter 17
Apr 4	Silviculture of watersheds; Control of damaging agents	Chapters 18, 19
Apr 6	Silvicultural tools for managing wildlife habitat	Chapter 20
Apr 11	Agroforestry	Chapter 21
Apr 13	Silviculture with the ecosystem in mind	Seymour and Hunter (1999), Franklin et al. (1997)
Apr 18	Silviculture with the ecosystem in mind (2)	Lindenmayer and Franklin (2002)
Apr 20	Silviculture with the ecosystem in mind (3)	Puettmann et al. (2008)
Apr 27, 29	Select topics, time for questions about the material before the exam	
Apr 29	Final Exam	

References

- Adams, D.L., Hodges, J.D., Loftis, D.L., Long, J.L., Seymour, R.S., Helms, J.A. 1994. Silviculture terminology with appendix of draft ecosystem management terms. Prepared by the Silviculture Instructors Subgroup, Silviculture Working Group (D2), Society of American Foresters. 16 p.
- Allen, J.A.; Keeland, B.D.; Stanturf, J.A.; Clewell, A.F.; Kennedy, H.E. Jr. 2004. A guide to bottomland hardwood restoration. Gen. Tech. Rep. SRS-40. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 142 p
- Baker, J.B., Broadfoot, W.M. 1979. A practical field method of site evaluation for commercially important southern hardwoods. U.S. Dep. Agric. For. Serv. Gen. Tech. Rep. SO-26, 51 p. South For. Exp. Stn., New Orleans, LA.
- Belli, K.L., Hart, C.P., Hodges, J.D., Stanturf, J.A. 1999. Assessing the regeneration potential of red oaks and ash on minor bottoms of Mississippi. Southern Journal of Applied Forestry 23:133-138.
- Brose, P., Van Lear, D., Cooper, R. 1999. Using shelterwood harvests and prescribed fire to regenerate oak stands on productive upland sites. Forest Ecology and Management 113:125-141.
- Carmean, W.H., Hahn, J.T., Jacobs, R.D. 1989. Site index curves for forest species in the eastern United States. Gen. Tech. Rep. NC-128. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station. 142 p.
- Franklin, J.F., D.R. Berg, D.A. Thornburgh, and J.C. Tappeiner. 1997. Alternative silvicultural approaches to timber harvesting: variable retention harvest systems. *In*: Kohm, K.A. and J.F. Franklin (Eds.), Creating a Forestry for the 21st Century. Island Press, Washington, D.C. 111-139.
- Hulvey, K.B., Hobbs, R.J., Standish, R.J., Lindenmayer, D.B., Lach, L. and Perring, M.P. 2013 Benefits of tree mixes in carbon plantings. Nature Climate Change 3:869-874.
- Kelty, M.J. 2006. The role of species mixtures in plantation forestry. Forest Ecology and Management 233: 195–204.
- Lindenmayer, D.B., Franklin, J. 2002. Conserving forest biodiversity. Island Press, Washington, DC. 163-205.
- Lockhard, B.R. 2013. Site index determination techniques for southern bottomland hardwoods. Southern Journal of Applied Forestry 37: 5-12.
- O'Hara, K.L. 2007. Pruning wounds and occlusion: A long-standing conundrum in forestry. Journal of Forestry 105: 131-138.
- Oliver, C.D., Larson, B.C. 1996. Forest stand dynamics. New York: McGraw-Hill. 520 p.

- Perkey, A.W., Wilkins, B.L. 2001. Crop tree field guide: selecting and managing crop trees in the central Appalachians. USDA Forest Service, Northeastern area state and private forestry. NA-TP-10-01. 97 p.
- Puettmann, K.J., Coates, K.D., Messier, C.C., 2008. A Critique of Silviculture: Managing for Complexity. Island Press. 107-149.
- Raymond, P., S. Bédard, V. Roy, C. Larouche, and S. Tremblay. 2009. The irregular shelterwood system: review, classification, and potential application to forests affected by partial disturbances. *Journal of Forestry* 107: 405-413.
- Seymour, R.S., Hunter, M.L. Jr. 1999. Principles of ecological forestry. In: Hunter, M.L., Jr. (Ed.), *Maintaining biodiversity in forest ecosystems*. Cambridge University Press, Cambridge, UK. 22-61.
- Steiner, K.C., Finley, J.C., Gould, P.J., Fei, S., McDill, M. 2008. Oak regeneration guidelines for the Central Appalachians. *Northern Journal of Applied Forestry* 25:5-16.

College of Agricultural, Life and Natural Sciences
Alabama A&M University
Normal, AL 35762
COURSE SYLLABUS
Spring 2018

Course Number	NRE 376
Course Title	Forest Pest Management
Call Number/Section	10231, Section 0
Class Times	8-8:50 M and W; Lab 2-4:50 Th
Class Location	Forestry/Wood Products Lab, Agricultural Research Center
Prerequisites	NRE 281 and NRE 379
Textbook	<u>Textbook resource:</u> Castello and Teale. 2011. <u>Forest Health – An Integrated Perspective</u>. ISBN: 978-0-521-74741-7. <u>Textbook resource:</u> Edmonds, et al. 2010. <u>Forest Health and Protection</u> (2nd ed). ISBN: 1-57766-652-6 <u>Textbook purchase is not required</u>; however, these are both valuable references and not terribly expensive; you are encouraged to purchase one or both if your budget allows. Recommended Field Guide for Insect Collection: Eaton and Kaufmann. 2010. <u>Field Guide to Insects of North America</u>. Available in most bookstores and online. <u>You will need a good field guide for your collection!!</u> Study guides and handouts from the resources above, and ppt presentations used during lectures will be made available to students Useful websites: http://www.fs.fed.us/r8/foresthealth/ (Forest Service, Region 8); http://www.forestry.alabama.gov/ (Alabama Forestry Commission;
Instructor	Heather Howell
Office	154 ARC
Office Hours	Call or email for appointment to be sure to meet with me; I should be around between 9AM and 2PM MW
E-mail address	heather.howell@aamu.edu
Telephone number	256-372-4568

AAMU Quality Enhancement Plan (QEP):
“Enhancing Students’ Critical Thinking Skills”
Critical Thinking Definition:

Critical thinking is analyzing, evaluating, and synthesizing information into logical conclusions

COURSE DESCRIPTION

An introductory course on the biology, ecology and management of forest pests, with particular emphasis on insects and tree disease pathogens. The course includes a weekly three-hour laboratory, where students develop skills in insect and pathogen identification and learn to recognize pest problems via associated host tree symptoms.

STUDENT LEARNING OUTCOMES

What is this course about?

1. **Forest Health Concept** – Foresters need to have a broad, integrative and in depth health concept as it relates to important ecological principles, pest concepts, sound forest management practices and the development of a forest management plan. This includes knowledge of methods used to monitor forest health and organizations tasked with such, as well as understanding how pests and disease contribute to forest health problems.
2. **Forest Health – Ecological Component** – An understanding of both biotic (living) and abiotic (non-living) components of forest health and how they interact is essential to sound and sustainable forest management. This includes biology and ecology of arthropods, pathogens and other living organisms potentially impacting forests in important ways, as well as such important abiotic components as edaphic (pertaining to soil) factors, pollution and global climate change.
3. **Forest Health – The Human Dimension** - Foresters should have a sound understanding of forest health as it relates to a variety of human activities, including especially forest management, conservation of biological diversity and monitoring of forest health. Integrated Pest Management (IPM) is an especially important concept; foresters should know how it is applied to the management of forest pests, including the ecological, economic and social aspects.
4. **Entomological Literacy** – This course will require students to develop a fundamental knowledge of the biology and ecology of arthropods, especially insects, as very important components of forest ecosystems and our world as a whole. This will include an understanding of the importance of insects in general, their classification and identification, their biology (especially growth and development) and ecology.

Student Learning Outcomes (SLOs): By the completion of the course students will:

1. Have a thorough understanding of the 2-part definition of a healthy forest, as related to sustainability and productivity. This concept was developed by the Forest Health textbook authors, J.D. Castello and S.A. Teale, at SUNY-ESF, in collaboration with colleagues and students. Competency in this SLO will be developed assessed via quizzes and major exams, with accompanying graded reading and class discussion assignments. Adequate proficiency is indicated by averaging at least 70% on quizzes and exams covering this area.
2. Be knowledgeable of the impacts of native and non-native insects, pathogens and other living organisms on forest health, including distinguishing between healthy and unhealthy impacts and human influences on such. This SLO will be assessed on quizzes and major exams; adequate proficiency is indicated by averaging at 70% on such quizzes/exams

3. Be knowledgeable of the importance of abiotic factors (fire, wind, drought, pollution, etc.) and global climate change on forest health. Knowledge will be assessed on quizzes and exams (adequate proficiency at least 70%)

4. Human Impacts on Forest Health – Be knowledgeable of forest health as related to human activities, including specifically the importance of integrated pest management concepts to sound forest management, conservation of biodiversity as an important component of forest management and use/organization of forest health monitoring as a way to track forest conditions at large time and space scales. Knowledge will be assessed using quizzes and exams (adequate proficiency at least 70%)

5. Forest Pathology Literacy – Have a thorough introductory knowledge of the importance, biology and ecology of forest pathogens, as one of the most important groups of organisms interacting with humans in a variety of harmful and beneficial ways. Students will develop identification and classification skills through an insect/damage/sign collection and will be introduced to a variety of important concepts. Proficiency will be assessed by exams/quizzes and the collection (adequate proficiency at least 70%)

The instructor will assess students on individual competencies throughout the course and will provide feedback and guidance toward improving performance.

ACADEMIC HONESTY, ATTENDANCE/PUNCTUALITY AND CLASSROOM/LAB FORMAT

1. Missed Exams and Quizzes- Valid excuses for missing exams/quizzes include sickness, death in the family and court date, all of which must be documented. It's your responsibility to come to your instructor and make arrangements to make up missed exams and quizzes, within one week, after which even valid excuses will not be accepted.

2. Academic Honesty- All students in attendance at Alabama A&M University are expected to be honorable and to observe standards of conduct appropriate to a community of scholars. All acts of dishonesty in any academic work constitute academic misconduct as described in the student handbook. Students who violate test-taking procedures, for example, not remaining quiet during an exam or looking at another student's paper will be assumed to be cheating. **In this course, academic misconduct is punishable by receiving a zero on the associated assignment/exam. A second incident of academic misconduct will result in an F for the course.**

3. Ethics: Students are expected to adhere to professional ethics, e.g., the Society of American Foresters Code of Ethics, available at safnet.org/about/codeofethics.cfm. Ethics will be reinforced throughout the duration of a course through examples of real life situations.

4. Attendance/Punctuality- Regular attendance and punctuality are required in this course. Roll will be taken at the beginning of each class; if you are late such that your name does not appear on the roll, you will be counted as absent. If I see you on your cell phone during class, I will also count you as absent. Part of your grade is based upon participation. Being absent or not participating will cause you to lose your participation credit.

5. Late assignments – I may excuse some assignments for lateness or allow you to turn them in late, but there had better be an excusable reason documented similarly to missed quizzes and exams.

6. Classroom format-

Lectures will cover forest health concepts and application, ecological components of forest health (biotic and abiotic disturbance factors, population outbreaks, etc.), human dimensions of forest health (including pest/disease management) and entomological literacy (insect awareness and biology). Lectures will range from traditional format through “flip-the-classroom” approaches involving more interactive approaches, such as classroom writing assignments, student teaching, graded classroom discussions, etc.

Lab periods will be used for a variety of activities, including additional lectures, exams, quizzes, field work/field trips, forest health laboratory exercises, etc. A considerable period will be set aside to allow students to collect insects and other materials and prepare their collections.

Field Conditions. Field labs will be in or near wooded areas much of the time and students will potentially encounter mud, biting insects, poison ivy (which can cause rashes when leaves are not present, possibly snakes (not likely this time of year), unpleasant weather conditions and so forth. Wear appropriate clothing, including especially long pants and a good pair of boots.

SERVICES FOR PERSONS WITH DISABILITIES

The University provides environmental and programmatic access for persons with documented disabilities as defined in Section 504 of the Rehabilitation Act of 1973 and the Americans with Disability Act of 1990. Any student who desires information or assistance in arranging needed services for a disabling condition should contact the Director of Special Students Services, Student Center, Room 203, (256) 372-4263.

TUTORIAL ASSISTANCE

Tutorial assistance for undergraduate courses can be obtained from the Tutorial Assistance Network (TAN), a subsidiary of the Office of Academic Support Services. TAN is located in Room 100C Buchanan Hall. The telephone number is 256-372-5487.

GRADE DETERMINATION

Course Requirements	Percent of Total	Grading Scale	Grade
Exams (4, comprehensive)	40	Percent of Points	A
Collection	15	90-100	B
In-Class/Lab	30	80-89	C
Activities/Homework		70-79	D
Participation	15	60-69	F
TOTAL	100	<60	

DESCRIPTION OF SPECIFIC ASSIGNMENTS

Exams/Final- All exams are comprehensive, although new material will be emphasized and the instructor will provide guidelines on what old material to review. The final will cover the entire course.

Collection-You will be required to make arthropod/damage/sign collection. A good portion of

lab time will be devoted to making this collection. Each individual must do his/her own collection, which will be due at the end of the semester. A preliminary collection must be submitted about 2/3 of the way through the semester. Further instructions are forthcoming.

In-class/lab activities/homework- You will have in-class writing assignments, insect ID quizzes and other lab-related assignments most weeks of the course, including field exercises, and possibly some homework assignments. Because most of these assignments must be completed during class, regular attendance and being on time are essential.

Extra credit/bonus points – Extra credit is built into your exams and assignments throughout the course.

COURSE OUTLINE

Week 1	Introduction to Forest Pest Management Forest Health – Definitions, baseline mortality concept of forest health, role of humans
Week 2	Forest Pathology
Week 3	Overview of tree diseases, pests, and pathogens
Week 4	Common Viral and Bacterial Diseases
Week 5	Fungal Diseases
Week 6	Phytophthora Diseases
Week 7	Nematodes
Week 8	Insect Pests
Week 9	Plant Pests
Week 10	Forest Health Monitoring and Diagnosis (The Good, the Bad, and the Ugly)
Week 11	Cultural Methods to Facilitate Forest Health
Week 12	Interventions to Control Diseases
Week 13	Interventions to Control Pests
Week 14	Integrated Pest Management
Week 15	Finals

Name _____

College of Agricultural,
Life, and Natural Sciences
Alabama A&M University
Normal, AL 35762

COURSE SYLLABUS

Fall, 2017

Course Number	NRE 379
Course Title	Forest Ecology
Call Number/Section	70906
Class Times	8:00-8:50 am Mondays, Wednesdays 9:00 am-12:20 pm
Class Location	Wood Lab, ARC building
Prerequisites	NRE 281 – Introduction to Forestry
Textbook	Kimmins, J.P. 2004. Forest Ecology. 3 rd Edition. Pearson Education, Inc. ISBN: 0-13-066258-5
Instructor	Dr. Xiongwen Chen
Office	Agricultural Research Center (ARC) 139
Office Hours	10:00 am – 12:00 pm or by appointment
E-mail address	Xiongwen.chen@aamu.edu
Telephone number	256-372-4231

AAMU Quality Enhancement Plan (QEP):
“Enhancing Students’ Critical Thinking Skills”
Critical Thinking Definition:

Critical thinking is analyzing, evaluating, and synthesizing information into logical conclusions.

COURSE DESCRIPTION

This is an introductory course on the interactions between forest trees and their

environment. It covers the basic concepts and theories concerning forest structure, function, and dynamics and their application for sustainable forest management.

STUDENT LEARNING OUTCOMES

Upon completion of this course, the students will:

- Be knowledgeable of the role that solar radiation, temperature, wind, water, soil, and fire play in forest ecosystems;
- Have a clear understanding of the concept of biological diversity and its importance;
- Demonstrate knowledge of succession and other spatial and temporal changes in the forest ecosystems;
- Have a clear understanding of the ways in which trees interact with each other and their environment;
- Have the theoretical base necessary for practicing sustainable ecosystem-level forest management;
- Have demonstrated ability to discuss complex ecological issues and present orally and in writing on the subject of forest ecology.

CLASS FORMAT

Lecture, Recitation, Field Trips

COURSE OUTCOMES

All students are expected to be on time and PREPARED for class. Students should be respectful of their peers and the instructor. Cell phones are not allowed in class unless you have permission of the instructor. Make-up exams are ONLY given if you have an official excuse and make satisfactory arrangements with the instructor.

Cheating on an exam, falsification of information, or plagiarism on an assignment will result in an automatic failing grade for the course. Plagiarism is passing off another's work as your own. Plagiarism can be flagrant, such as copying another student's work and putting your name on it or cutting and pasting paragraphs from scientific articles for your term paper. Plagiarism can also be unintentional, such as failing to give proper credit to the author of an article when you report their facts, data, or ideas in your term paper. **Plagiarism is an academic offense subject to disciplinary action.** It will result in an automatic failing grade in this course. Guidelines for

proper literature citation are discussed during the first day of class, but ask me for help if you are uncertain when to quote someone else's work.

SERVICES FOR PERSONS WITH DISABILITIES

The University provides environmental and programmatic access for persons with documented disabilities as defined in Section 504 of the Rehabilitation Act of 1973 and the Americans with Disability Act of 1990. Any student who desires information or assistance in arranging needed services for a disabling condition should contact the Director of Special Students Services, Student Center, Room 203, (256) 372-4263.

STUDY FOLDER

Blackboard

ATTENDANCE POLICY

In accordance with university policy UG 15, class attendance will be recorded. Each student is allowed a maximum of 3 unexcused absences for this course. Absenteeism will hurt your grade in this course! The 4 th unexcused absence will cause you to lose 2% of your grade, the 5 th unexcused absence will cost you an additional 3% of your grade. A 6 th unexcused absence will result in the loss of another 5% of your grade for a total of 10% (a letter grade). Participation in class will help your grade. Please schedule excused absences ahead of time. Tardiness will hurt your grade! Students who are more than 5 minutes late will receive an unexcused absence.

TUTORIAL ASSISTANCE

Tutorial assistance for undergraduate courses can be obtained from the Tutorial Assistance Network (TAN), a subsidiary of the Office of Academic Support Services. TAN is located in Room 100 Thompson Hall. The telephone number is 256-372-5487.

GRADE DETERMINATION

Course Requirements	Points Awarded	Percent of Total
15 Quizzes and assignments	1500	30%
2 Tests	200	30%
1 Presentation	100	10%
8 Class Field Trips	800	30%
TOTAL		100%
Grading Scale		

Percent of Points	Number of Points	Grade
90-100		A
80-89		B
70-79		C
60-69		D
Below 60%		F

DESCRIPTION OF SPECIFIC ASSIGNMENTS

<u>Quizzes</u>: Exams will cover the main concepts and theories from each chapter, supplemental readings, and problem sets. <u>Tests</u>: Tests will be in a comprehensive way, including multiple-choice, short answer, essay, and problem-solving.
<u>Field Trips</u>: You must participate in 7 class field trips. There is a lab report for each trip.
<u>Presentation</u>: Presentation will target a specific question in forest ecology which is selected by each student. It includes 20 slides with literature review and discussion.

COURSE OUTLINE

Tentative Dates*	Topics	Assignments
Week 1	Course Introduction, human population and environment	
Week 2	Human, forestry, and ecology	Chapters 1 & 2
Week 3	Ecology and history	Chapter 3
Week 4	Ecosystem and forest ecosystem	Chapter 4
Week 5	Ecosystem classification	Chapter 5
	Mid-term test (Chapters 1-5)	
Week 7	Energy processes	Chapter 6
Week 8	Biogeochemical cycles	Chapter 7
Week 9	Ecological factors (solar radiation)	Chapter 8
Week 10-12	Ecological factors (temperature, water, soil...)	Chapter 9-13
Week 13	Disturbances and ecological processes	Chapter 14-16
Week 14	Succession and biodiversity	Chapter 17
Week 15	Simulation and models in forest ecology	Chapter 19-20
Week 16	Sustainable Forestry	Chapter 21
	Presentation	
	Final Exam (All Chapters)	

Student Name_____

CALNS BES FEWP
Alabama A&M University
Normal, AL 35762

COURSE SYLLABUS
FALL 2017

Course Number	NRE 381
Course Title	Wood Products
Call Number	70428
Class Times	11:00 AM – 11:50 AM Mondays, Wednesdays, and Fridays
Class Location	Forestry/Wood Products Lab at ARC Building
Prerequisites	NRE 281 (Introduction to Forestry)
Textbook	Shmulsky, R. and P. D. Jones. 2011. Forest Products and Wood Science: An Introduction. Sixth Edition. Wiley-Blackwell. Oxford, UK. ISBN: 978-0-8138-2074-3.
Instructor	Dr. Kozma Naka
Office	143 ARC Building
Office Hours	Weekdays 10:00 – 11:00 AM, 1:00 – 2:00 PM
E-mail address	kozma.naka@aamu.edu
Telephone numbers	Office: (256) 372-4235, Cellular: (256) 603-8357

COURSE DESCRIPTION

A study of the physical and chemical composition of wood and the products derived from wood (3 hrs.)

ELECTRONIC MATERIALS

This syllabus, lecture presentations and other course materials can be found on AAMU blackboard at <https://aamu.blackboard.com>

Appendices, review questions, and additional readings can be found at:
<http://www.wiley.com/go/shmulsky>

ADDITIONAL STUDY MATERIALS

Hoadley, B. R. 1990. Identifying Wood: Accurate results with simple tools. The Taunton Press. Newtown, CT

STUDENT LEARNING OUTCOMES

1. Recognize or assess chemical, structural, physical properties of wood
2. Use knowledge of wood quality in prescribing silvicultural treatments
3. Be familiar with wood product manufacturing process

4. Identify and appraise timber forest products and their properties.

CLASS FORMAT

1. **Lectures:** Classes consist of lectures presented by the instructor or a guest speaker. Lectures will explained topics in greater detail and will be more up-to-date than the assigned readings.
2. **Advanced Preparation:** Start reading the materials covered in the lecture at the same day. Expected time for class preparation on the part of the student is three hours study for every hour of lecture. Read the assigned materials thoroughly in advance of each lab.
3. **Review:** The key to successful learning, aside from continuous and active student participation in the process, is repetition. Review is an important form of repetition. Hours of lectures cannot be reviewed in a few hours before a test. Review continually and systematically.
4. **Class Participation:** Participation in classroom discussions and activities is expected and required. Students are encouraged to raise questions and express opinions in class or during scheduled office hours.
5. **Electronic devices:** Turn off your cell phone during class, unless permission is granted. If the phone rings during class, you will be asked to leave and get an absence. Use of a phone during an exam or quiz will be automatically considered as cheating. Laptops and tablets can be used only for class purposes. Web surfing during the class is not allowed.

ACADEMIC HONESTY

In this class, you can work together on lectures and homework, but you must do your own work during tests and quizzes. A PICTURE ID is required to take a test and shown upon request. Any form of cheating will be dealt with according to the Academic Policies and Procedures Manual (excerpt follows).

All students in attendance at Alabama A&M University are expected to be honorable and to observe standards of conduct appropriate to a community of scholars. The University expects from its students a higher standard of conduct than the minimum required to avoid discipline. All acts of dishonesty in any academic work constitute academic misconduct. This includes, but is not necessarily limited to, the following:

1. Cheating – using or attempting to use unauthorized materials, information, or study aids in any academic exercise.
2. Plagiarism – representing the words, ideas, or data of another as one's own in any academic exercise.
3. Fabrication – unauthorized falsification or invention of any information or citation in an academic exercise.
4. Aiding and abetting academic dishonesty – intentionally or knowingly helping or attempting to help another student commit an act of academic dishonesty.

5. Acts of academic misconduct may be punishable by one of the following:
- Letter of academic misconduct placed in the student's academic folder.
 - Temporary suspension from the University.
 - Expulsion from the University.
 - Expulsion from a class by the instructor which could possibly result in a failing grade.
 - Lowering of a final grade.
 - Academic discipline resulting in the loss of scholarships, nonparticipation in academic related activities, etc.

Ethics: Students are expected to adhere to professional ethics, e.g., the Society of American Foresters Code of Ethics available at safnet.org/about/codeofethics.cfm Ethics will be reinforced throughout the duration of a course through examples of real life situations.

CLASSROOM ETIQUETTE SUMMARIZED

(from AAMU Student Guidebook)

DO:

- Be prepared and on time in class
- Have your textbook, notebook, calculator and pen/pencil ready.
- Raise your hand to ask question
- Do wait your turn to speak
- Alert your professor if you are going to be absent (planned)
- Turn off or put on silent mode your cell phone while in class.

DON'T:

- Be chronically late or absent
- Hold private conversation in class while the professor is lecturing
- Answer your cell phone or send text messages
- Forget to take your hat/cap off when you enter the building
- Eat in class without the permission of the instructor.

NON-DISCRIMINATION AND ANTI-HARASSMENT STATEMENT

The University is committed to a work environment in which all individuals are treated with respect and dignity. Therefore, discrimination or harassment based on age, race, gender, color, religion, national origin, disability, genetic information, sexual orientation, covered veteran status, or any other characteristics protected under state, federal, or local law will not be tolerated. The full policy document can be found at:

<http://www.aamu.edu/administrativeoffices/hrservices/Documents/6.10%20-%20Non-Discrimination%20and%20Anti-Harassment%20Policy.pdf>

SERVICES FOR PERSONS WITH DISABILITIES

Any student who desires information or assistance in arranging needed services for a disabling condition should contact the Office of Special Students Services, Carver Complex South, Room 106, phone (256) 372-4263. Details can be found at their website:

<http://www.aamu.edu/Academics/academicresources/sss/Pages/default.aspx>

ATTENDANCE POLICY

A student is permitted one unexcused absence for each credit hour generated by the class. Therefore, three (3) unexcused absences are allowed in this class. After that the penalties will be 2%, 3% and 5% of the final grade for the three subsequent absences. Attendance in the lectures will be recorded 5 minutes after class starts. Please contact me if you expect to be absent, so you can better mitigate the consequences. According to the University Policy, students need to wait 15 minutes if the instructor is late. **Absence for any reason does not relieve the student of the responsibility for assignments and material covered in class.** Ask your classmates what happened while you were absent.

Excused absences can be obtained upon presenting documentation to Veterans Affairs & Disability Services in Room 106 Carver Complex. Details can be found at their website:

<http://www.aamu.edu/administrativeoffices/VADS/Pages/Official-Class-Excuses.aspx>

All students requesting official class excuses should make the request and submit the class excuse to course instructor within seven (7) days after the missed class or classes.

TUTORIAL ASSISTANCE

Tutorial assistance for undergraduate courses can be obtained from the Tutorial Assistance Network (TAN), located in Room 233 Thomas Hall. Their telephone number is 256-372-5487. Details can be found at their website:

<http://www.aamu.edu/Academics/academicresources/Pages/Tutorial-Assistance-Network.aspx>

GRADE DETERMINATION

Course Requirements	Points Awarded	Percent of Total
Exam 1	100	20%
Exam 2	100	20%
Exam 3	100	20%
Final Exam	100	25%
Presentation	100	10%
Quizzes	Variable	5%
Participation in trips/classwork	Variable	Bonus (up to 10%)
Total		100

Grading Scale		
Percent of Points	Number of Points	Grade
90 – 100	90 – 100	A
80 – 89	80 – 89	B
70 – 79	70 – 79	C
60 – 69	60 – 69	D
< 60	< 60	F.

Incomplete Grades: A grade of “I” will be given in those circumstances where a student has satisfactorily (defined as a C average or better) completed at least 75% of the course requirements, and there is an excusable reason for his or her not having completed all requirements prior to grade reporting time.

Make-up Examination Policy: No special make-up test will be given after the scheduled one. Arrangements for make-up work *prior* to the scheduled test, due to an excused absence must be initiated by the student. If an accident happens on the way to the exam, **give me a call** me as soon as possible.

Extra Credit Work: There will be no extra credit work assigned to enable a student to raise her/his grade. Any student who desires a certain grade in this course must begin working for that grade from the start of the semester. Grades are earned, not given.

Presentation. Each student is required to prepare a PowerPoint presentation on a topic relevant to wood products with prior approval of the instructor. They are due electronically on 11:00 AM CDT of the first Monday of October.

Late submissions because of a valid excuse during the next 24 hours will be penalized 10% of the assignment grade. No presentation will be considered 24 hours after the initial guidelines (no valid excuses or exceptions). The actual presentation time will be scheduled in accordance with the instructor.

COURSE OUTLINE (tentative)

Lectures will usually be on Wednesdays and Fridays while Mondays will have trips, class work, quizzes, and exams.

Week 1

Lecture: Introduction to the course and to wood as a raw material and wood products.

Reading: Introduction and Chapter 17.

Week 2

Class work: “Wood as a global resource” video.

Lecture: Tree growth, production of woody tissue and macroscopic character of wood.

Reading: Chapters 1 and 2.

Week 3

Trip: Home improvement store

Lecture: Composition and structure of wood cells; softwood structure. Reading: Chapters 3 and 4.

Week 4

Class work: Softwood properties and identification

Lecture: Hardwood structure. Reading: Chapter 5.

Week 5

Class work: Hardwood properties and identification

Lecture: Juvenile and reaction wood, wood of branches and roots, bark. Chapter 6.

Week 6

Exam 1 (Introduction, chapters 17, 1, 2, 3, 4, 5, 6)

Lecture: Moisture content in the wood. Reading: Chapter 7.

Week 7

Class work: Quiz, exercises on moisture content

Lecture: Density and specific gravity. Reading: Chapter 8.

Week 8

Class work: Quiz, exercises on density and specific gravity

Lecture: Mechanical properties of wood. Reading: Chapter 9.

Week 9

Class work: Quiz, exercises on mechanical properties of wood

Lecture: Wood durability and protection. Reading: Chapter 10.

Week 10

Trip: Wood drying and preservation at L&L Lumber

Lecture: Silvicultural practices and wood quality. Reading: Chapter 11.

Week 11

Exam 2 (chapters 7, 8, 9, 10, 11)

Lecture: Lumber production. Reading: Chapter 12.

Week 12

Trip: Moss hardwood mill in Gurley

Lecture: Composites. Reading: Chapters 13 and 14.

Week 13

Lecture: Pulp and paper. Reading: Chapter 15.

Thanksgiving recess

Week 14

Class work: "Rock-Tenn Demopolis plant tour" Video

Lecture: Bioenergy and chemical products

Reading: Chapter 16.

Week 15

Exam 3 (chapters 12, 13, 14, 15, 16)

Lecture: Study guide for the final exam.

FINAL EXAM (comprehensive)

Exam week Wednesday at 11:00 AM – 1 PM

Student Name_____

CALNS BES FEWP

**Alabama A&M University
Normal, AL 35762**

COURSE SYLLABUS

FALL 2017

Course Number	NRE 382
Course Title	Forestry Field Techniques I
Class Times	See the attached schedule
Class Location	Forestry/Wood Products Lab, ARC Building
Prerequisite	NRE 281 (Introduction to Forestry)
Textbook	Avery, T. E. and H. E Burkhart. 2002. Forest Measurements, 5 th edition. Waveland Press, Inc. Long Grove, IL. ISBN 9781478629085 (copies of some chapters will be provided if asked for)
Instructor	Dr. Kozma Naka
Office	143 ARC Building
Office Hours	Weekdays 9:00 – 10:00 AM, 1:00 – 2:00 PM
E-mail address	kozma.naka@aamu.edu
Telephone numbers	Office: (256) 372-4235, Cellular: (256) 603-8357

COURSE DESCRIPTION

An arranged time course of forestry field techniques in timber harvesting, forest mensuration, forest land surveying and silvicultural practices.

ADDITIONAL STUDY MATERIALS

Williams, M. D. 2007. Identifying Trees: An All-Season Guide to Eastern North America. Stackpole Books. ISBN 9780811733601 or an equivalent dendrology book.

Smith, S., D.M., B.C. Larson, M.J. Kelty, and P.M.S. Ashton. 1996. The practice of silviculture: applied forest ecology, 9th edition. John Wiley & Sons, New York, NY.
ISBN: 9780471109419

Additional readings and handouts will be provided as needed.

STUDENT LEARNING OUTCOMES

- Provide students with hands-on training in forest land surveying, forest mensuration, and timber harvesting techniques.
- Apply forestry field techniques skills.
- Work effectively and efficiently in crews. Most of the field exercises are accomplished by crews and require leadership, cooperation, and organization.
- Interact with faculty, potential employers, future colleagues or job references on a more personal basis.
- Learn how to behave as professionals at all times.
- Learn the ethics of the forestry profession.

Forestry Field Techniques I (NRE 382) is a 3 credit hour intensive field course required for all forestry majors offered by the Forestry, Ecology, and Wildlife Program (FEWP). It is also recommended for other students that plan to pursue employment with the USDA Forest Service or any other forestry employer. There are three main components of this course:

1. Education and Assessment:
 - Education (lectures, field work, reading assignments)
 - Assessment (tests, quizzes, exercises, journal)
2. Professional Development (instrument and software use for data collection, analysis, and interpretation)
3. Social Interactions (travel, team work, meals, lodging, feedback)

EQUIPMENT

The students need to have the following personal field equipment for this course:

1. A hard hat, a cruiser's vest, a 75 ft. logger's tape, a compass, a clinometer, a 10 BAF prism, a bark gauge and an increment borer.
2. You will need this equipment for other courses and in your professional career. Other equipment needed for this course include:
3. A clipboard, an engineer's scale, a Mesavage & Girard Volume Tables booklet, a ruler, a protractor, and a triangle.

If you cannot afford the equipment please contact Dr. Naka to make arrangements to borrow them from FEWP. Other equipment will be provided as needed.

GRADING

- Grade will be determined from: 1) the quality of a daily journal (20%), 2) commitment, attitude and team work (30%), 3) tests, quizzes and field exercises administered throughout the course (50%).
- The daily journal (college ruled, 10.5 x 8 inch) should explain the activities that we participated in each day (e.g., places we went, who spoke, what was demonstrated), what you learned, and your impressions of the field experience. EACH DAY's activities should require about a page in the journal. The daily entry is due at 8:00 PM of the same day to be graded by the instructor and will be given back on the next morning.
- Commitment, attitude and team work will be peer and instructor evaluated for field work, lodging arrangements, transportation, and food preparation. Quizzes will be given randomly and will be closed book. However, you can use the journal for the weekly tests and this is another reason to have a good journal at hand. Tours and field exercises will be conducted to help students with courses to be taken in the following years.
- Since this course will continue past the end of the Fall semester, an grade "I" (incomplete) will be assigned temporarily and will be removed upon the successful completion of all the course requirements.

TIME AND ACTIVITIES:

1. Preparations

- Register for the course, pay university tuition and fees.
- Fill the Personal Information Form (hard copy and electronically) and the Attendance and Participation Policy Form and give them to Dr. Naka.

August 19, 11:59 AM – Meeting: Course Introduction and Logistics. Arrangements for one day activities. Turn in the forms.

Location: Forestry/Wood Products Lab, ARC Building, AAMU campus

December 9, 9:00 AM –Logistics and arrangements for the trips.

Location: Forestry/Wood Products Lab, ARC Building, AAMU campus

2. Field Trips

A complete schedule for each field trip will be provided a week prior to the trip. Additional information will be provided prior to the events.

1. First week after Fall semester final exams:

Epes, AL (forests of West Alabama): forest mensuration, wood products, forest operations, agroforestry, and forest management. Mensuration equipment kit is needed. Hardhat is optional. Lodging at the Federation of Southern Cooperatives Learning Center—closest grocery store is about 8 miles away, closest Walmart is about 40 miles away, decent cell phone service. Meals are served on site or at the places that will visit.

2. Second week after Fall semester final exams:

Bankhead National Forest, Addison, AL: forest mensuration, silviculture, timber harvesting techniques. Mensuration equipment kit and hardhat are required. Daily trips. Decent cell phone reception in the field. Eating out in Addison, Double Springs or Hartselle.

TRANSPORTATION

Transportation at destinations will be by university vehicles. Students may not drive their own vehicles on field trips unless permission is granted. **Please, inform Dr. Naka ASAP** if you intend to come with your own vehicle and check on a map or ask for directions to plan your trip.

Each student eligible and able to drive will have permission to drive university vehicles. Obtaining permission to drive does not mean that you are required to drive. However, you might need short rides to the stores or need to drive in an emergency. Driving university vehicles will help you when applying for on-campus biweekly positions.

Do not expect to be picked up or dropped at your place. Student should come at the ARC parking lot to load equipment and luggage not less than 15 minutes earlier before we leave. Eat or bring your own breakfast, since we have not planned time to stop for breakfast.

While we are on the road, you shall follow all the safety rules. To reduce the rollover risk of our vehicles, we will check the quality of rear tires, keep the gas tank as full as possible and drive conservatively. Passengers will fill front seats first and nothing will ever be loaded on the roof. It is students' responsibility to keep the van clean. Smoking (including e-cigarettes) or spraying insect repellent/sunblock in the van is not allowed in any circumstances. It might be very cold in the van, so bring a sweater with you.

FOOD AND ACCOMMODATION

Food and accommodation will be provided during overnight traveling. Have a meal before we leave campus because the next meal will be 4-5 hours later. Bring some snacks with you in case we are late to our destination. When traveling, we will stay at cabins, dorms, hotels or tents and eat at camp kitchens, cafeteria or restaurants. Meals will be provided when we sleep out of town at about the following times: breakfast at 7:00 AM, lunch at noon and dinner at 6:00 PM local time. If the meal is not a buffet the following money limit, including drinks and tip, applies: \$11.00 for breakfast, \$12.00 for lunch and \$23.00 for supper.

FIELD PREPARATIONS

Participants need to be prepared for four to ten days of field work depending on the schedule. Please bring:

- A water bottle or canteen (VERY IMPORTANT). We usually provide bottled water, but it is your responsibility to carry the water with you.
- Personal medication (VERY IMPORTANT), especially emergency prescription medication such as asthma inhalers or Epi pen. Benadryl
- Clipboard, pencils, pencil sharpener, pens, a notebook, ruler, backpack
- A pocket knife, a flash light, a machete
- A calculator (necessary), a laptop (desirable).
- NO SHORTS NO FLIP-FLOPS. Appropriate and sufficient sturdy outdoors clothing (old blue jeans, comfortable shirt), including rain gear (field work goes on rain or shine), work gloves, etc. *Boots* are required during all field work and tours.
- Hat, gloves, jacket, extra clothing for cold weather during late fall and winter.
- Snake chaps, sunglasses, a hat/scarf, sun block, hand sanitizer, tissues, insect repellent, poison ivy/insect bite lotion.
- Business casual clothes and shoes are needed when we will meet people in their offices. Washing machines may be available, but you need to bring your own detergent.
- Toiletries such as soap, shampoo, washcloth, towel, razor, comb, toothbrush, and toothpaste.
- Swimming suit, athletic equipment and fishing gear. Swimming in the ocean, lakes, ponds, and hotel pools is encouraged. Facilities may be available for ball games.
- Bedding will be provided but you may want to bring sheets, pillow, pillowcase, blanket, sleeping bag in case there are not enough beds.
- Cellular phones. Bring them but use them discretely. Inform us immediately when you change your phone number. Have your voice mail box set up and do not keep it full.

DO NOT BRING pets, firearms, bows, illegal drugs, alcoholic beverages.

CLASS POLICIES

Classroom Format: Classes will consist of lectures, tours and/or field exercises presented by instructors or guest speakers. All students are expected to have completed the assigned readings and fully participate in field exercises and tours. This course will be a valuable learning experience for use in future classes and forestry employment positions.

ATTENDANCE: Full attendance is required. Make arrangements before the class starts so you will be free of other commitments such as employment, family, court requirements and doctor appointments. Class will begin at the time indicated in the schedule. FACULTY CANNOT WAKE STUDENTS UP. Three late arrivals will be considered a full day absence. Food will not be provided if class is missed, unless it is already paid for in advance. The van is not going to wait for you if you cannot get it together on time. If you are left behind, you will miss the class for that day or half-day. Missing half a day of class without an **excused** absence will result in a 5% reduction of your final letter grade besides making it up another day later or in the next year, depending on activities scheduled for that day.

Respect and Attention: We will be guests at all plants and operations visited. As such, the hosts are to be accorded respect and attention.

- Gather around the speaker so he or she does not have to yell.
- Ask intelligent questions, and do not be afraid to enter into a mannerly discussion. Do not be confrontational.
- Avoid talking or wandering off while the host is talking.
- Stay together and respect safety railings, floor markings and warning signs. We will be visiting places of work, designed for work, not specifically visitor safety.
- No horseplay—save it for the other 15 hours of the day.
- Be on time—departure times will be announced for the vans, and they will leave at that time. Make sure that nobody is left behind.
- Be observant. Transportation to and from locations provides an excellent opportunity to look at the land, land use, communities and social artifacts, all of which are important in developing the understanding that makes a true professional! On site, hosts only have time to point out the most rudimentary and visible aspects of their operation, take time to consider how they fit together and interact to make the practice or operation function.

Make-up Policy: Students are required to make-up every missed activity regardless of valid excuses. Arrangements for make-up work prior to the end of the summer session must be initiated by the student. Some activities cannot be substituted on another location, so the student needs to travel on her/his expenses or wait until next year to finish the work. The grade of “I” will not be removed unless the student has fulfilled all the course requirements.

Extra Credit Work: There will be no extra credit work assigned to enable a student to raise her/his grade. Any student who desires a certain grade in this course must begin working for that grade from the start of the course.

ACADEMIC HONESTY

In this class, you will travel and work together as a team, but you must do your own work during tests and quizzes. Any form of cheating will be dealt with according to the Academic Policies and Procedures Manual (excerpt follows).

All students in attendance at Alabama A&M University are expected to be honorable and to observe standards of conduct appropriate to a community of scholars. The University expects from its students a higher standard of conduct than the minimum required to avoid discipline. All acts of dishonesty in any academic work constitute academic misconduct. This includes, but is not necessarily limited to, the following:

6. Cheating – using or attempting to use unauthorized materials, information, or study aids in any academic exercise.
7. Plagiarism – representing the words, ideas, or data of another as one's own in any academic exercise.
8. Fabrication – unauthorized falsification or invention of any information or citation in an academic exercise.
9. Aiding and abetting academic dishonesty – intentionally or knowingly helping or attempting to help another student commit an act of academic dishonesty.
10. Acts of academic misconduct may be punishable by one of the following:
 - Letter of academic misconduct placed in the student's academic folder.
 - Temporary suspension from the University.
 - Expulsion from the University.
 - Expulsion from a class by the instructor which could possibly result in a failing grade.
 - Lowering of a final grade.
 - Academic discipline resulting in the loss of scholarships, nonparticipation in academic related activities, etc.

Ethics: Students are expected to adhere to professional ethics, e.g., the Society of American Foresters Code of Ethics available at safnet.org/about/codeofethics.cfm Ethics will be reinforced throughout the duration of a course through examples of real life situations.

SERVICES FOR PERSONS WITH DISABILITIES

Any student who desires information or assistance in arranging needed services for a **disabling** condition should contact the Office of Special Students Services, Carver Complex South, Room 106, phone (256) 372-4263. Details can be found at their website:

<http://www.aamu.edu/Academics/academicresources/sss/Pages/default.aspx>

ROLE AND RESPONSIBILITY OF THE STUDENTS

Points will be deducted as a disciplinary measure when actions or behavior will interfere with the class. You are expected to pay attention and show proper respect to faculty of other schools and other our agency/industry hosts. These forest professionals are doing us a favor by showing us

their knowledge and forestry operations. Please, remember that you are an ambassador of the University and want to leave a good impression with all those that we make contact with. The same respect and consideration should be displayed towards instructors, classmates, and students from other universities. You are expected to contribute toward daily chores such as shopping, cleaning, loading/unloading, and cooking. Unacceptable behavior can lead to a failure in the course and even expulsion from the university. No foul language is allowed in any circumstances.

Alabama A&M University does not assume responsibility for the personal safety of students. Students are required to have medical insurance and carry the insurance card with them. Students will be responsible for paying any medical, doctor, or hospital bills that may arise during the session while you are away from campus. We will carry a first aid kit with us on all field exercises.

The Forestry Field Techniques course is an exciting experience that you will always remember. We hope that you will find it enjoyable as well as educational. There will occasionally be opportunities for recreational activities in the evening. When time permits, you may go shopping or visit family or friends, if permission is granted. However, WE NEED TO KNOW WHERE EVERYBODY IS.

CLASSROOM ETIQUETTE SUMMARIZED (from AAMU Student Guidebook)

DO:

- Be prepared and on time in class
- Have your textbook, notebook, calculator and pen/pencil ready.
- Raise your hand to ask question
- Do wait your turn to speak
- Alert your professor if you are going to be absent (planned)
- Turn off or put on silent mode your cell phone while in class.

DON'T:

- Be chronically late or absent
- Hold private conversation in class while the professor is lecturing
- Answer your cell phone or send text messages
- Forget to take your hat/cap off when you enter the building
- Eat in class without the permission of the instructor.

NON-DISCRIMINATION AND ANTI-HARASSMENT STATEMENT

The University is committed to a work environment in which all individuals are treated with respect and dignity. Therefore, discrimination or harassment based on age, race, gender, color, religion, national origin, disability, genetic information, sexual orientation, covered veteran

status, or any other characteristics protected under state, federal, or local law will not be tolerated. The full policy document can be found at:

<http://www.aamu.edu/administrativeoffices/hrservices/Documents/6.10%20-%20Non-Discrimination%20and%20Anti-Harassment%20Policy.pdf>

Student Name_____

CALNS BES FEWP

**Alabama A&M University
Normal, AL 35762**

COURSE SYLLABUS

SPRING 2017

Course Number	NRE 383
Course Title	Forestry Field Techniques II
Call Number	11270
Class Times	See the attached schedule
Class Location	Forestry/Wood Products Lab, ARC Building
Prerequisite	NRE 281 (Introduction to Forestry)
Textbook	Avery T.E. and H.E. Burkhardt. 2002. Forest Measurements. Fifth Edition. Waveland Press Inc. 456 pages. ISBN 13: 978-1-4786-2908-5 (REQUIRED, will provide copies of the chapters if needed and asked for)
Instructor	Dr. Kozma Naka
Office	143 ARC Building
Office Hours	Weekdays 9:00 – 10:00 AM, 1:00 – 2:00 PM
E-mail address	kozma.naka@aamu.edu
Telephone numbers	Office: (256) 372-4235, Cellular: (256) 603-8357

COURSE DESCRIPTION

An arranged time course of forestry field techniques in timber harvesting, forest mensuration, forest land surveying and silvicultural practices.

ADDITIONAL STUDY MATERIALS

Leopold, Aldo. 1970. A Sand County Almanac. 1st Edition. Ballantine. ISBN 10: 0-345-34505-3. (REQUIRED, inexpensive, can also be borrowed from a public library)

Williams, M. D. 2007. Identifying Trees: an All-Season Guide to Eastern North America. Stackpole Books. ISBN 13: 978-0-8117-3360-1 or an equivalent dendrology book.

Nyland, R.D. 2016. Silviculture: Concepts and Applications. Third Edition. Waveland Press Inc. 680 pages. ISBN 13: 978-1-4786-2714-2

Additional readings and handouts will be provided as needed.

STUDENT LEARNING OUTCOMES

- Provide students with hands-on training in forest land surveying, forest mensuration, and timber harvesting techniques.
- Apply forestry field techniques skills.
- Work effectively and efficiently in crews. Most of the field exercises are accomplished by crews and require leadership, cooperation, and organization.
- Interact with faculty, potential employers, future colleagues or job references on a more personal basis.
- Learn how to behave as professionals at all times.
- Learn the ethics of the forestry profession.

Forestry Field Techniques II (NRE 383) is a 3 credit hour intensive field course required for all forestry majors offered by the Forestry, Ecology, and Wildlife Program (FEWP). It is also recommended for other students that plan to pursue employment with the USDA Forest Service or any other forestry employer. There are three main components of this course:

4. Education and Assessment:
 - Education (lectures, field work, reading assignments)
 - Assessment (tests, quizzes, exercises, journal)
5. Professional Development (instrument and software use for data collection, analysis, and interpretation)
6. Social Interactions (travel, team work, meals, lodging, feedback)

EQUIPMENT

The students need to have the following personal field equipment for this course:

4. A hard hat, a cruiser's vest, a 75 ft. logger's tape, a compass, a clinometer, a 10 BAF prism, a bark gauge and an increment borer.
5. You will need this equipment for other courses and in your professional career. Other equipment needed for this course include:
6. A clipboard, an engineer's scale, a Mesavage & Girard Volume Tables booklet, a ruler, a protractor, and a triangle.

Students can also borrow the equipment from AAMU Forestry and Wildlife Program.

GRADING

- Grade will be determined from: 1) the quality of a daily journal (20%), 2) commitment, attitude and team work (30%), 3) tests, quizzes and field exercises administered throughout the course (50%).
- The daily journal (college ruled, 10.5 x 8 inch) should explain the activities that we participated in each day (e.g., places we went, who spoke, what was demonstrated), what you learned, and your impressions of the field experience. EACH DAY's activities should require about a page in the journal. The daily entry is due at 8:00 PM of the same day to be graded by the instructor and will be given back on the next morning.
- Commitment, attitude and team work will be peer and instructor evaluated for field work, lodging arrangements, transportation, and food preparation. Quizzes will be given randomly and will be closed book. However, you can use the journal for the weekly tests and this is another reason to have a good journal at hand. Tours and field exercises will be conducted to help students with courses to be taken in the following years.
- Since this course will continue past the end of the Fall semester, an grade "I" (incomplete) will be assigned temporarily and will be removed upon the successful completion of all the course requirements.

TIME AND ACTIVITIES:

1. Preparations

- Register for the course, pay university tuition and fees.
- Fill the Personal Information Form (hard copy and electronically) and the Attendance and Participation Policy Form and give them to Dr. Naka.

January 18, 11:59 AM – Meeting: Course Introduction and Logistics. Arrangements for one day activities. Turn in the forms.

Location: Forestry/Wood Products Lab, ARC Building, AAMU campus

May 5, 9:00 AM –Logistics and arrangements for the trips.

Location: Forestry/Wood Products Lab, ARC Building, AAMU campus

2. Field Trips

A complete schedule for each field trip will be provided a week prior to the trip. Additional information will be provided prior to the events.

1. First week after Spring semester final exams:
Asheville, NC and Knoxville, TN (hardwood forests): park management, recreation, silviculture, history of forestry, hydrology, forest soils, FIA (Forest Inventory and Analysis).

Mensuration equipment kit and hardhat are required. Lodging in hotels. Breakfast at the hotel, lunch and dinner at local buffet restaurants.

2. Second week after Spring semester final exams:

Solon Dixon Forestry Education Center, (Auburn University facility), Andalusia, AL (forest field measurements). Mensuration equipment kit is required. Lodging at the camps cabin/dorms. Meals at the cafeteria.

TRANSPORTATION

Transportation at destinations will be by university vehicles. Students may not drive their own vehicles on field trips unless permission is granted. **Please, inform Dr. Naka ASAP** if you intend to come with your own vehicle and check on a map or ask for directions to plan your trip.

Each student eligible and able to drive will have permission to drive university vehicles. Obtaining permission to drive does not mean that you are required to drive. However, you might need short rides to the stores or need to drive in an emergency. Driving university vehicles will help you when applying for on-campus biweekly positions.

Do not expect to be picked up or dropped at your place. Student should come at the ARC parking lot to load equipment and luggage not less than 15 minutes earlier before we leave. Eat or bring your own breakfast, since we have not planned time to stop for breakfast.

While we are on the road, you shall follow all the safety rules. To reduce the rollover risk of our vehicles, we will check the quality of rear tires, keep the gas tank as full as possible and drive conservatively. Passengers will fill front seats first and nothing will ever be loaded on the roof. It is students' responsibility to keep the van clean. Smoking (including e-cigarettes) or spraying insect repellent/sunblock in the van is not allowed in any circumstances. It might be very cold in the van, so bring a sweater with you.

FOOD AND ACCOMMODATION

Food and accommodation will be provided during overnight traveling. Have a meal before we leave campus because the next meal will be 4-5 hours later. Bring some snacks with you in case we are late to our destination. When traveling, we will stay at cabins, dorms, hotels or tents and eat at camp kitchens, cafeteria or restaurants. Meals will be provided when we sleep out of town at about the following times: breakfast at 7:00 AM, lunch at noon and dinner at 6:00 PM local time. If the meal is not a buffet the following money limit, including drinks and tip, applies: \$11.00 for breakfast, \$12.00 for lunch and \$23.00 for supper.

FIELD PREPARATIONS

Participants need to be prepared for four to ten days of field work depending on the schedule. Please bring:

- A water bottle or canteen (VERY IMPORTANT). We usually provide bottled water, but it is your responsibility to carry the water with you.
- Personal medication (VERY IMPORTANT), especially emergency prescription medication such as asthma inhalers or Epi pen. Benadryl
- Clipboard, pencils, pencil sharpener, pens, a notebook, ruler, backpack
- A pocket knife, a flash light, a machete
- A calculator (necessary), a laptop (desirable).
- NO SHORTS NO FLIP FLOPS. Appropriate and sufficient sturdy outdoors clothing (old blue jeans, comfortable shirt), including rain gear (field work goes on rain or shine), work gloves, etc. *Boots* are required during all field work and tours.
- Hat, gloves, jacket, extra clothing for cold weather during late fall and winter.
- Snake chaps, sunglasses, a hat/scarf, sun block, hand sanitizer, tissues, insect repellent, poison ivy/insect bite lotion.
- Business casual clothes and shoes are needed when we will meet people in their offices. Washing machines may be available, but you need to bring your own detergent.
- SHOWER FLIP FLOPS and toiletries (soap, shampoo, washcloth, towel, razor, comb, toothbrush, toothpaste).
- Swimming suit, athletic equipment and fishing gear. Swimming in the ocean, lakes, ponds, and hotel pools is encouraged. Facilities may be available for ball games.
- Bedding will be provided but you may want to bring sheets, pillow, pillowcase, blanket, sleeping bag in case there are not enough beds.
- Cellular phones. Bring them but use them discretely. Inform us immediately when you change your phone number. Have your voice mail box set up and do not keep it full.

DO NOT BRING pets, firearms, bows, illegal drugs, alcoholic beverages.

CLASS POLICIES

Classroom Format: Classes will consist of lectures, tours and/or field exercises presented by instructors or guest speakers. All students are expected to have completed the assigned readings and fully participate in field exercises and tours. This course will be a valuable learning experience for use in future classes and forestry employment positions.

Attendance: Full attendance is required. Class will begin at the time indicated in the schedule. FACULTY CANNOT WAKE STUDENTS UP. Three late arrivals will be considered a full day absence. Food will not be provided if class is missed, unless it is already paid for in advance. The van is not going to wait for you if you cannot get it together on time. If you are left behind, you will miss the class for that day or half-day. Missing half a day of class without an **excused** absence will result in a 5% reduction of your final letter grade besides making it up another day later or in the next year, depending on activities scheduled for that day.

Respect and Attention: We will be guests at all plants and operations visited. As such, the hosts are to be accorded respect and attention.

- Gather around the speaker so he or she does not have to yell.
- Ask intelligent questions, and do not be afraid to enter into a mannerly discussion. Do not be confrontational.
- Avoid talking or wandering off while the host is talking.
- Stay together and respect safety railings, floor markings and warning signs. We will be visiting places of work, designed for work, not specifically visitor safety.
- No horseplay—save it for the other 15 hours of the day.
- Be on time—departure times will be announced for the vans, and they will leave at that time. Make sure that nobody is left behind.
- Be observant. Transportation to and from locations provides an excellent opportunity to look at the land, land use, communities and social artifacts, all of which are important in developing the understanding that makes a true professional! On site, hosts only have time to point out the most rudimentary and visible aspects of their operation, take time to consider how they fit together and interact to make the practice or operation function.

Make-up Policy: Students are required to make-up every missed activity regardless of valid excuses. Arrangements for make-up work prior to the end of the summer session must be initiated by the student. Some activities cannot be substituted on another location, so the student needs to travel on her/his expenses or wait until next year to finish the work. The grade of “I” will not be removed unless the student has fulfilled all the course requirements.

Extra Credit Work: There will be no extra credit work assigned to enable a student to raise her/his grade. Any student who desires a certain grade in this course must begin working for that grade from the start of the course.

ACADEMIC HONESTY

In this class, you will travel and work together as a team, but you must do your own work during tests and quizzes. Any form of cheating will be dealt with according to the Academic Policies and Procedures Manual (excerpt follows).

All students in attendance at Alabama A&M University are expected to be honorable and to observe standards of conduct appropriate to a community of scholars. The University expects from its students a higher standard of conduct than the minimum required to avoid discipline. All acts of dishonesty in any academic work constitute academic misconduct. This includes, but is not necessarily limited to, the following:

11. Cheating – using or attempting to use unauthorized materials, information, or study aids in any academic exercise.
12. Plagiarism – representing the words, ideas, or data of another as one's own in any academic exercise.
13. Fabrication – unauthorized falsification or invention of any information or citation in an academic exercise.
14. Aiding and abetting academic dishonesty – intentionally or knowingly helping or attempting to help another student commit an act of academic dishonesty.
15. Acts of academic misconduct may be punishable by one of the following:
 - Letter of academic misconduct placed in the student's academic folder.
 - Temporary suspension from the University.
 - Expulsion from the University.
 - Expulsion from a class by the instructor which could possibly result in a failing grade.
 - Lowering of a final grade.
 - Academic discipline resulting in the loss of scholarships, nonparticipation in academic related activities, etc.

Ethics: Students are expected to adhere to professional ethics, e.g., the Society of American Foresters Code of Ethics available at safnet.org/about/codeofethics.cfm Ethics will be reinforced throughout the duration of a course through examples of real life situations.

SERVICES FOR PERSONS WITH DISABILITIES

Any student who desires information or assistance in arranging needed services for a **disabling** condition should contact the Office of Special Students Services, Carver Complex South, Room 106, phone (256) 372-4263. Details can be found at their website:

<http://www.aamu.edu/Academics/academicresources/sss/Pages/default.aspx>

ROLE AND RESPONSIBILITY OF THE STUDENTS

Points will be deducted as a disciplinary measure when actions or behavior will interfere with the class. You are expected to pay attention and show proper respect to faculty of other schools and other our agency/industry hosts. These forest professionals are doing us a favor by showing us their knowledge and forestry operations. Please, remember that you are an ambassador of the University and want to leave a good impression with all those that we make contact with. The same respect and consideration should be displayed towards instructors, classmates, and students from other universities. You are expected to contribute toward daily chores such as shopping, cleaning, loading/unloading, and cooking. Unacceptable behavior can lead to a failure in the course and even expulsion from the university. No foul language is allowed in any circumstances.

Alabama A&M University does not assume responsibility for the personal safety of students. Students are required to have medical insurance and carry the insurance card with them. Students will be responsible for paying any medical, doctor, or hospital bills that may arise during the session while you are away from campus. We will carry a first aid kit with us on all field exercises.

The Forestry Field Techniques course is an exciting experience that you will always remember. We hope that you will find it enjoyable as well as educational. There will occasionally be opportunities for recreational activities in the evening. When time permits, you may go shopping or visit family or friends, if permission is granted. However, WE NEED TO KNOW WHERE EVERYBODY IS.

CLASSROOM ETIQUETTE SUMMARIZED (from AAMU Student Guidebook)

DO:

- Be prepared and on time in class
- Have your textbook, notebook, calculator and pen/pencil ready.
- Raise your hand to ask question
- Do wait your turn to speak
- Alert your professor if you are going to be absent (planned)
- Turn off or put on silent mode your cell phone while in class.

DON'T:

- Be chronically late or absent
- Hold private conversation in class while the professor is lecturing
- Answer your cell phone or send text messages
- Forget to take your hat/cap off when you enter the building
- Eat in class without the permission of the instructor.

NON-DISCRIMINATION AND ANTI-HARASSMENT STATEMENT

The University is committed to a work environment in which all individuals are treated with respect and dignity. Therefore, discrimination or harassment based on age, race, gender, color, religion, national origin, disability, genetic information, sexual orientation, covered veteran status, or any other characteristics protected under state, federal, or local law will not be tolerated. The full policy document can be found at:

<http://www.aamu.edu/administrativeoffices/hrservices/Documents/6.10%20-%20Non-Discrimination%20and%20Anti-Harassment%20Policy.pdf>

Student Name_____

**SAES NRES
Alabama A&M University
Normal, AL 35762**

**COURSE SYLLABUS
SPRING 2018**

Course Number	NRE 384
Course Title	Forest Operations Systems and Management
Call Number	11570
Class Times	2:00 – 4:50 PM Tuesdays
Class Location	Forestry/Wood Products Lab at ARC Building
Prerequisites	Prerequisites: Junior or senior standing
Textbook	Greulich, F.R., D.P. Hanley, J.F. McNeel, D. Baumgartner. 1999. A Primer for Timber Harvesting. Washington State University Cooperative. Available at http://cru.cahe.wsu.edu/CEPublications/eb1316/eb1316.pdf
Instructor	Dr. Kozma Naka
Office	143 ARC Building
Office Hours	Weekdays 9:00 – 10:00 AM, 1:00 – 2:00 PM
E-mail address	kozma.naka@aamu.edu
Telephone numbers	Office: (256) 372-4235, Cellular: (256) 603-8357

COURSE DESCRIPTION

Valuation procedures, market forces, harvesting and transportation activities, and processing systems that supply human demands for forest products. (3 hrs.)

ELECTRONIC MATERIALS

This syllabus, lecture presentations and other course materials can be found on AAMU blackboard at <https://aamu.blackboard.com>

ADDITIONAL STUDY MATERIALS

Simmons, F.C. 1979. Handbook for eastern timber harvesting. USDA Forest Service, Northeastern Area, Broomall, PA

Vodak, M.D., T.W. Reisinger, W.B. Stuart and T.A. Walbridge. 1982. Business Management Handbook for Eastern Harvesting.

Selected case studies and articles from professional and trade journals and conference proceedings such as Forest Products Journal, Southern Journal of Applied Forestry, Timber Harvesting, American Logger and Lumberman, and Forest Operations Review.

STUDENT LEARNING OUTCOMES

The objective of this course is to “acquaint students with valuation procedures, market forces, processing systems, transportation and harvesting activities that translate human demands for timber-based and other consumable forest products into the availability of those products” (from the Society of American Foresters Accreditation manual). During this course, students will:

1. Compare different procurement methods
2. Design and analyze harvesting and transportation systems
3. Demonstrate knowledge of processing systems and markets
4. Evaluate the impact of forest operations
5. Write a harvesting plan

CLASS FORMAT

6. **Lectures:** Classes consist of lectures presented by the instructor or a guest speaker. Lectures will explained topics in greater detail and will be more up-to-date than the assigned readings.
7. **Labs and trips:** Instruction for labs or trips will be handed separately. Labs will be completed on a team-basis. Each team member will receive the same number of points. Lab assignments are due on Tuesday of the next week.
8. **Advanced Preparation:** Start reading the materials covered in the lecture at the same day. Expected time for class preparation on the part of the student is three hours study for every hour of lecture. Read the assigned materials thoroughly in advance of each lab.
9. **Review:** The key to successful learning, aside from continuous and active student participation in the process, is repetition. Review is an important form of repetition. Hours of lectures cannot be reviewed in a few hours before a test. Review continually and systematically.
10. **Class Participation:** Participation in classroom discussions and activities is expected and required. Students are encouraged to raise questions and express opinions in class or during scheduled office hours.

ACADEMIC HONESTY

In this class, you can work together on lectures and homework, but you must do your own work during tests and quizzes. Any form of cheating will be dealt with according to the Academic Policies and Procedures Manual (excerpt follows).

All students in attendance at Alabama A&M University are expected to be honorable and to observe standards of conduct appropriate to a community of scholars. The University expects

from its students a higher standard of conduct than the minimum required to avoid discipline. All acts of dishonesty in any academic work constitute academic misconduct. This includes, but is not necessarily limited to, the following:

16. Cheating – using or attempting to use unauthorized materials, information, or study aids in any academic exercise.
17. Plagiarism – representing the words, ideas, or data of another as one's own in any academic exercise.
18. Fabrication – unauthorized falsification or invention of any information or citation in an academic exercise.
19. Aiding and abetting academic dishonesty – intentionally or knowingly helping or attempting to help another student commit an act of academic dishonesty.
20. Acts of academic misconduct may be punishable by one of the following:
 - Letter of academic misconduct placed in the student's academic folder.
 - Temporary suspension from the University.
 - Expulsion from the University.
 - Expulsion from a class by the instructor which could possibly result in a failing grade.
 - Lowering of a final grade.
 - Academic discipline resulting in the loss of scholarships, nonparticipation in academic related activities, etc.

Ethics: Students are expected to adhere to professional ethics, e.g., the Society of American Foresters Code of Ethics available at safnet.org/about/codeofethics.cfm Ethics will be reinforced throughout the duration of a course through class work and examples of real life situations.

CLASSROOM ETIQUETTE SUMMARIZED (from AAMU Student Guidebook)

DO:

- Be prepared and on time in class
- Have your textbook, notebook, calculator and pen/pencil ready.
- Raise your hand to ask question
- Do wait your turn to speak
- Alert your professor if you are going to be absent (planned)
- Turn off or put on silent mode your cell phone while in class.

DON'T:

- Be chronically late or absent
- Hold private conversation in class while the professor is lecturing
- Answer your cell phone or send text messages
- Forget to take your hat/cap off when you enter the building
- Eat in class without the permission of the instructor.

NON-DISCRIMINATION AND ANTI-HARASSMENT STATEMENT

The University is committed to a work environment in which all individuals are treated with respect and dignity. Therefore, discrimination or harassment based on age, race, gender, color, religion, national origin, disability, genetic information, sexual orientation, covered veteran status, or any other characteristics protected under state, federal, or local law will not be tolerated. The full policy document can be found at:

<http://www.aamu.edu/administrativeoffices/hrservices/Documents/6.10%20-%20Non-Discrimination%20and%20Anti-Harassment%20Policy.pdf>

SERVICES FOR PERSONS WITH DISABILITIES

Any student who desires information or assistance in arranging needed services for a disabling condition should contact the Office of Special Students Services, Carver Complex South, Room 106, phone (256) 372-4263. Details can be found at their website:

<http://www.aamu.edu/Academics/academicresources/sss/Pages/default.aspx>

ATTENDANCE POLICY

A student is permitted one unexcused absence for each credit hour generated by the class. Therefore, three (3) unexcused absences are allowed in this class. After that the penalties will be 2%, 3% and 5% of the final grade for the three subsequent absences. Attendance in the lectures will be recorded 5 minutes after class starts. Please contact me if you expect to be absent, so you can better mitigate the consequences. According to the University Policy, students need to wait 15 minutes if the instructor is late. **Absence for any reason does not relieve the student of the responsibility for assignments and material covered in class.** Ask your classmates what happened while you were absent.

Excused absences can be obtained upon presenting documentation to Veterans Affairs & Disability Services in Room 106 Carver Complex. Details can be found at their website:

<http://www.aamu.edu/administrativeoffices/VADS/Pages/Official-Class-Excuses.aspx>

All students requesting official class excuses should make the request and submit the class excuse to course instructor within seven (7) days after the missed class or classes.

However, participation in the labs and trips is mandatory. Students are required to make-up every missed labs or trips regardless of valid excuses. Arrangements for make-up lab and trips prior to the beginning of the next one must be initiated by the student. Some labs or trips cannot be substituted on another location, so students need to provide their own transportation.

TUTORIAL ASSISTANCE

Tutorial assistance for undergraduate courses can be obtained from the Tutorial Assistance Network (TAN), located in Room 233 Thomas Hall. Their telephone number is 256-372-5487. Details can be found at their website:

GRADE DETERMINATION

Course Requirements	Points Awarded	Percent of Total
Exam 1	100	20%
Exam 2	100	20%
Exam 3	100	20%
Paper and presentation	100	25%
Labs, Homework, Quizzes	100	15%
TOTAL		100%
Grading Scale		
Percent of Points	Number of Points	Grade
90 – 100	90 – 100	A
80 – 89	80 – 89	B
70 – 79	70 – 79	C
60 – 69	60 – 69	D
< 60	< 60	F.

Incomplete Grades: A grade of “I” will be given in those circumstances where a student has satisfactorily (defined as a C average or better) completed at least 75% of the course requirements, and there is an excusable reason for his or her not having completed all requirements prior to grade reporting time.

Make-up Examination Policy: No special make-up test will be given after the scheduled one. Arrangements for make-up work *prior* to the scheduled test, due to an **excused** absence must be initiated by the student. If an accident happens on the way to the exam, **give me a call** me as soon as possible.

COURSE OUTLINE (tentative)

Week 1

- Introduction to the course policies and requirements
- Forest products specifications and markets (poles, sawtimber, pulp, biomass)
- Merchandising timber sales to multiple markets

Week 2

- Timber harvesting systems
- Harvesting systems (cut-to-length, tree length, whole tree)

Week 3

- Timber harvest planning
- Timber procurement strategies
- Long-term timber contract and landowner assistance programs

Week 4

Field trip to a timber sale

Week 5

Exam 1

Week 6

Merchandising logs

Wood-Mizer

Week 7

Merchandising logs

Wood-Mizer

Week 8

Forest Operations impact:

BMPs (Best Management Practices)

Forest Aesthetics

Week 9

Structure of wood industry (size, location, ownership)

Wood supply systems

Week 10

Harvesting System Evaluations

Cost and productivity estimation

Factors affecting system performance

Week 11

Exam 2

Student presentations

Week 12

Management of labor, capital, and machinery

Forest Roads

Week 13

Bioenergy use of forest biomass (resources, management, harvesting, processing, utilization and environmental issues)

Week 14

Student presentations

Exam 3 on Tuesday of the Final Examinations week at 11:00-1:00 PM

Name_____

COLLEGE OF
AGRICULTURAL, LIFE
AND NATURAL
SCIENCES
Alabama A&M University
Normal, AL 35762

COURSE SYLLABUS

FALL 2017

Course Number	NRE 385
Course Title	Forest Recreation
Call Number/Section	70862 , Section 0
Class Times	<i>Hours: 15:30–16:50 TR</i>
Class Location	Classroom: CCS 102
Prerequisites	None
Textbook	<u>Required:</u> Moore, Roger L. and B. L. Driver. 2005. Introduction to Outdoor Recreation. Venture Publishing (ISBN -13: 978-1-892132-50-5) (NOTE: Copy on reserve at the library) <u>Supplemental Reference Texts:</u> Douglas, Robert W. 2000. <i>Forest Recreation 5th Ed.</i> Waveland Press, Inc. Prospect Heights, IL, www.waveland.com (847-634-0081). Sharpe, Grant W., Charles H. Odegaard and Wenonah Sharpe. 1994. <i>A Comprehensive Introduction to Park Management, 2nd Ed.</i> Sagamore Publishing, Champaign, IL.
Instructor	Colmore S. Christian, PhD
Office	Room 138, Agricultural Research Center (ARC) Building
Office Hours	9:00-11:00 Mondays, 11:00 - Noon on Tuesdays or by appointment

E-mail address	colmore.christian@aamu.edu
Telephone number	256-372-4335

COURSE DESCRIPTION

A 3-hours course. An introduction to forest recreation from the planning, policy, legal, research, and technical standpoints. Land use policy, campgrounds, picnic areas, trails, visitor use, ecological impacts, use of volunteers, and operations management are a few of the major areas covered. Specific information and recommendations on how to perform forest recreation jobs at the technical level are provided.

All Forestry majors must achieve a grade of C or higher as this class is part of the core curriculum for the forestry program.

STUDENT LEARNING OUTCOMES

Learning Objectives: The course is designed to provide students with an introduction to and a broad overview of forest recreation. The specific objectives of the course are:

- 1. To understand the role of forest recreation in a forest management context.**

The first part of the course is devoted to understanding relevant concepts, the demand for outdoor recreation, the supply of recreational opportunities, the legal framework for provision of public recreation opportunities, the financing of forest recreation and some aspects of recreation area development.

- 2. To understand the strategies for managing recreational areas.**

The second part of the course is focused on the examination the resources required to manage a natural recreation facility such as a park.

- 3. To understand the use and protection of recreational facilities or sites.**

The third part of the course is devoted to exploring some of the problems and challenges associated with providing recreational opportunities to the public.

Core competencies: For successful completion of the course students must be able to:

1. Discuss the various issues which influence and impact the demand for forest recreation;
2. Identify the factors which impact the supply of forest recreation opportunities;
3. Discuss the legal framework, at the State and national levels, which govern

- the provision of public recreation;
4. Outline strategies for financing forest recreation;
 5. Identify the resources required for the effective management of forest recreation areas such as parks;
 6. Discuss and describe the problems and challenges associated with providing recreational opportunities to the public.

CLASS FORMAT

Course format will include lectures, guest speakers, field trips and other experiential learning opportunities, and various assignments. Exams will consist primarily of essay questions. **Exams will be conducted in class on the days they are scheduled.** If you miss a field assignment or an exam without prior consent, you need to have a **doctor's excuse** or **official university excuse before missed exam or assignment is rescheduled.** The schedule of assignments will be at the instructor's discretion and may be scheduled at any time. Dates of scheduled exams are captured in syllabus.

NOTE TAKING

In order to pass this class, you will need to take notes DURING CLASS, unless you have a photographic memory. You should come to class prepared to take notes, ask questions, and participate in discussions. If you have not taken notes before or need help improving your note-taking skills, please come to see me. I will be happy to work with you to improve your note taking skills.

CELL PHONE POLICY

Cell phones and other electronic items must be TURNED OFF and put away in book-bag or pocket during class. If you have an important call to make or are expecting an important phone call during class time, DO NOT come to class. Five (5) points will be deducted from your total score for each phone use (or ringing) during class. THE USE OF CELL PHONES DURING QUIZ OR EXAM WILL RESULT IN STUDENT BEING AWARDED ZERO FOR THE QUIZ/EXAM. IN ADDITION, OTHER DISCIPLINARY MEASURES MAY BE INITIATED.

COURSE OUTCOMES

Students **will** be expected to demonstrate mastery of core competencies, either in the field or in doors as appropriate, to successfully complete the course.

SERVICES FOR PERSONS WITH DISABILITIES

The University provides environmental and programmatic access for persons with documented disabilities as defined in Section 504 of the Rehabilitation Act of 1973 and the Americans with Disability Act of 1990. Any student who desires information or assistance in arranging needed services for a disabling condition should contact the Director of Special Students Services (256) 372-4263.

STUDY FOLDER

Not Applicable

ATTENDANCE POLICY

In accordance with University policy UG15, class attendance will be recorded. Students will not be penalized for being absent for up to three class sessions. For more than three (3) absences only an official University excuse or a doctor's medical certificate will be accepted. Attending classes will HELP your final letter grade. Perfect attendance will earn you extra points. Please let me know if you are having difficulties either attending class or arriving to class on time.

TUTORIAL ASSISTANCE

Tutorial assistance for undergraduate courses can be obtained from the Tutorial Assistance Network (TAN), a subsidiary of the Office of Academic Support Services. TAN's telephone number is 256-372-5487.

GRADE DETERMINATION

Students' final grades will be largely based on cumulative scores of:

Course Requirements	Points Awarded	Percent of Total
Exams (2)	2 X 100 points each (200 points)	50%
Class participation and quizzes (100), participation in field trips (75) and regular attendance (25)	200 points	40 %
Individual Project	100 points	10%
TOTAL	500 points	100 %

Grading Scale		
Percent of Points	Number of Points	Grade
90% or more	450-500 points	A
80-89%	400-449 points	B
70-79%	350-399 points	C
60-69%	300-349 points	D
59% or less	299 or less	F

DESCRIPTION OF SPECIFIC ASSIGNMENTS

Description of special assignments.
1. You will be required to identify a state or national park, national forest, outdoor recreation or protected area and prepare a PowerPoint presentation for presentation to your classmates and instructor during the last week or two of the course. Among other things you must identify some of the challenges (e.g. visitor services, ecological and visual impacts, vandalism, litter/garbage, funding, manpower/personnel, etc.) faced by the property. Be sure to support your arguments and data with appropriate references. You will have 15-30 minutes (depending on class size) for your presentation. Your fellow students and instructor will give you feed-back on your presentation. The instructor will evaluate presentations. Higher scores will be awarded to those with clear and concise descriptions of selected property, identification of challenges faced by the selected property, and the comprehensive nature of strategies proposed to address challenges outlined. Be sure to give complete reference (i.e., author(s), year, title, journal's name or website address, and page numbers) information at the end of your presentation. You must submit a copy of your presentation at the end of your presentation .
2. You may be asked to evaluate selected assignments of your classmates for which you will be graded.
3. Other assignments will include, but not necessarily limited to reports (guest speakers, field trips, etc.), homework assignments, and reading assignments.
4. Approximately 2-4 quizzes may be administered.

COURSE OUTLINE

Dates*	Topics	Comments/Assignments
Week 1	Introductions, review of syllabus and assignments. Definitions, Concepts and Trends (leisure, recreation, park, visitors/users).	- Review syllabus - Chapter 1
Week 2	Overview of Park Management(Land use in US, trends and associated factors)	Chapter 1
Week 3	Policy (Concept, policy formulation, historical highlights, etc.).	Chapter 3 & 11
Week 4	Laws and Liabilities Field Trip Big Springs Park	Individual reports
Week 5	Citizen Involvement Exam 1	Chapter 7, 8, 9 & 16
Week 6	Planning (Definitions, planning process, land acquisition, development, etc.).	Chapter 11 & 17
Week 7	Visit to Monte Sano State Park Ecological Impacts & Visitor Behavior	- Reports - Group Assignment - Chapter 14 & 16
Week 8	Vandalism	- Chapter 16 - Handouts
Week 9	Conflicts	- Student/Instructor Conference (10% of assignment's grade) - Chapter 14 & Handouts
Week 10	Visit to Wheeler Wildlife Refuge Interpretation (Concepts, purpose, etc.)	- Reports - Handouts
Week 11	Care of Visitors	Chapter
Week 12	Role of Private Sector in Outdoor Recreation Selected Relevant Professional Organizations Visit to Land Trust Properties	- Chapter 7 & 8
Week 13	Fiscal and Personnel Management	Chapter 11
Week 14	Exam 2	
Week 15	Presentations on Selected Park/Forest.	Submit copy of

		presentation
Week16	Presentation on Selected Park/Forest.	• Submit copy of presentation

***NOTE:** One Saturday field trip to the Bankhead National Forest will be scheduled after discussions with students to determine the most convenient date.

Name_____

College of Agricultural,
Life, and Natural Sciences
Alabama A&M University
Normal, AL 35762

COURSE SYLLABUS

Spring 2018

Course Number	NRE 387
Course Title	Wildlife-Forestry Relationships
Call Number/Section	10196, Section 0
Class Times	2:00-3:20 Mondays, Wednesdays
Class Location	Room 105, T.G. New Classroom Bldg and ARC Wildlife Lab 150
Prerequisites	NRE 281 – Introduction to Forestry
Textbook	Hunter, Jr., M.L. and F.K.A. Schmiegelow. 2011. Wildlife, Forests, and Forestry 2 nd edition. Prentice Hall, Englewood Cliffs, NJ. ISBN: 978-0-13-501432-5
Instructor	Dr. William E. Stone
Office	Agricultural Research Center (ARC) 144
Office Hours	Monday & Wednesday 10:00 am – 12:00pm MW and 1:30- 2:00pm MW, or by appointment
E-mail address	william.stone@aamu.edu
Telephone number	256-372-4248

AAMU Quality Enhancement Plan (QEP):
“Enhancing Students’ Critical Thinking Skills”

Critical Thinking Definition:

Critical thinking is analyzing, evaluating, and synthesizing information into logical conclusions.

COURSE DESCRIPTION

An in-depth course on the relationships between forest habitat conditions and the

abundance, diversity, and physiological condition of wildlife. Examination of wildlife effects on forest regeneration and management practices with consideration of vertebrate pest control strategies. Discussion of wildlife-habitat relationships models, habitat suitability models, and assessment of beneficial and detrimental impacts of forest management on wildlife conservation.

STUDENT LEARNING OUTCOMES

- 1) Capability to describe the fundamental biological, ecological and behavioral factors that influence wildlife abundance, diversity, and condition in forest environments.
- 2) Mastery of forest ecological concepts and characteristics, and the responses of wildlife species to changing environmental conditions in the forest.
- 3) Proficiency in computing quantitative indices of wildlife diversity and forest habitat conditions that affect wildlife communities.
- 4) Proficiency in modeling probable wildlife habitat suitability consequences of changing forest composition, structure, age, and heterogeneity.
- 5) Ability to apply forest ecological concepts to forest management scenarios to forecast wildlife community responses to management decisions.
- 6) Demonstrated ability to collect reliable field data and literary information to write a research paper on wildlife habitat suitability and a term paper on the integration of wildlife and forest management for a wildlife species.

CLASS FORMAT

Lecture, Recitation, Field Trips

COURSE OUTCOMES

All students are expected to be on time and PREPARED for class. Students should be respectful of their peers and the instructor. Cell phones are not allowed in class unless you have permission of the instructor. Make-up exams are ONLY given if you have an official excuse and make satisfactory arrangements with the instructor.

Cheating on an exam, falsification of information, or plagiarism on an assignment will result in an automatic failing grade for the course. Plagiarism is passing off another's work as your own. Plagiarism can be flagrant, such as copying another student's work and putting your name on it or cutting and pasting paragraphs from scientific articles for your term paper. Plagiarism can also be unintentional, such as failing to give proper credit to the author of an article when you report their facts, data, or ideas in your term paper. **Plagiarism is an academic offense subject to disciplinary action.** It will result in an automatic failing grade in this course. Guidelines for

proper literature citation are discussed during the first day of class, but ask me for help if you are uncertain when to quote someone else's work.

SERVICES FOR PERSONS WITH DISABILITIES

The University provides environmental and programmatic access for persons with documented disabilities as defined in Section 504 of the Rehabilitation Act of 1973 and the Americans with Disability Act of 1990. Any student who desires information or assistance in arranging needed services for a disabling condition should contact the Director of Special Students Services, Student Center, Room 203, (256) 372-4263.

STUDY FOLDER

Blackboard

ATTENDANCE POLICY

In accordance with university policy UG 15, class attendance will be recorded. Each student is allowed a maximum of **3** unexcused absences for this course. **Absenteeism will hurt your grade in this course!** The 4th unexcused absence will cause you to lose 2% of your grade, the 5th unexcused absence will cost you an additional 3% of your grade. A 6th unexcused absence will result in the loss of another 5% of your grade for a total of 10% (a letter grade). Participation in class will help your grade. Class begins at 2:00 pm and goes until 3:20 pm each day of class. Please schedule excused absences ahead of time. **Tardiness will hurt your grade!** Students who are more than 5 minutes late will receive and unexcused absence.

TUTORIAL ASSISTANCE

Tutorial assistance for undergraduate courses can be obtained from the Tutorial Assistance Network (TAN), a subsidiary of the Office of Academic Support Services. TAN is located in Room 100 Thompson Hall. The telephone number is 256-372-5487.

GRADE DETERMINATION

Course Requirements	Points Awarded	Percent of Total
3 Exams (15% each)	300	45%
5 Research Reports (9% each)	300	45%
5 Class Field Trips (2%	66	10%

each)		
TOTAL	666	100%
Grading Scale		
Percent of Points	Number of Points	Grade
90-100	600-666	A
80-89	533-600	B
70-79	467-533	C
60-69	400-467	D
Below 60%	0-399	F

DESCRIPTION OF SPECIFIC ASSIGNMENTS

Exams: Exams will cover material from lectures, the text, supplemental readings, and problem sets. Tests will primarily be in a multiple-choice format, but will also include short answer, essay, and problem-solving. Each will determine 15% of your overall grade.

Field Trips:

You must participate in 5 class field trips. Each trip is approximately 2% of your overall grade. There is a lab report for each trip.

Research Reports (Each of five worth 9% of overall grade):

Research reports are often tied to a field trip where data are collected, analyzed and presented in a written report. Ideally, each research report will consist of a Title and Authors and Date, an Introduction, a Methods section, a Results section, a Discussion Section and a Literature Cited Section. They are designed to allow you to practice computation of species diversity indices, foliage height diversity indices, understory plant heterogeneity and diversity, ecotone diversity indices, stand interspersions, crown volume and cover, and other important habitat parameters before being tested on the material. Also, you will gain a working knowledge of population viability analysis and guild matrices.

They will be due 2 weeks after they are assigned in class. Homework that is not turned in within 14 days after assigned will not be accepted.

Research Report Topics:

1. Diversity indices (Bird species at feeder)
2. Edge and interspersions indices (AAMU Forest-Field edge)
3. Canopy cover and dead wood measurements (cover % in AAMU Forest)

4. Minimum viable population analysis and guild matrices
5. Habitat Suitability Indexes (2 species of birds in AAMU pine forest)

Each student will work on a team to collect data on the habitat suitability of pine stands for pine warblers and red-cockaded woodpeckers and report written results in scientific writing format. Students will be required to participate in a field trip to WTARS in Meridianville to collect field data. Data will be processed and interpreted with USFWS H.S.I. models.

Due 2 weeks after field trip (trip will be in early April).

COURSE OUTLINE

Tentative Dates*	Topics	Assignments
Week 1	Course Introduction	
Week 2	What are Wildlife and Forests?	Chapters 1 & 2
Week 3	Diversity and Diversity Indices	Chapter 3
Week 4	Species Composition	Chapter 4
Week 5	Age Structure	Chapter 5
Feb. 14 (Wed.)	EXAM 1 (Chapters 1-5)	
Week 6	Spatial Heterogeneity	Chapter 6
Week 7	Edges	Chapter 7
Week 8	Islands and Fragments	Chapter 8
Week 9	Shores and Streamside Zones	Chapter 9
Week 10	Dying, Dead, and Down Trees	Chapter 10
March 28 (Wed.)	EXAM 2 (Chapters 6-10)	
Week 11	Vertical Structure	Chapter 11
Week 12	Special Species	Chapter 12
Week 13	Management Plans and Habitat Suitability Index Models	Chapter 13
Week 14	Economics (Who Pays?)	Chapter 14
May 2 (Wed.)	Final Exam (Chapters 11-14)	2:00 – 4:00 pm

Matrix for Converting Assignment Scores to SLO Scores (Post Flip):

Outcome	Test 1	Test 2	Test 3	5 Field Trips	5 Research Lab Reports	Total
SLO 1 Wildlife Biol&Div	40	25	30	11	40	146 (22%)

SLO 2 Forest Ecology	20	40	25	11	50	146 (22%)
SLO 3 Math Skills	10	10	10	11	60	101 (15%)
SLO 4 Habitat Suitability	5	10	20	11	40	86 (13%)
SLO 5 Forest Management	15	10	10	11	60	106 (16%)
SLO 6 Written Comm. & Critical Thinking	10	5	5	11	50	81 (12%)
Total Points & Grade Percent	100 15%	100 15%	100 15%	66 10%	300 45%	666 (100%)

**Alabama A&M
University
Normal, AL 35762**

**COURSE SYLLABUS
Fall 2017**

Course Number:	NRES 388
Course Title:	Principles of Fisheries
Class Times:	Lecture 3:30 – 4:50, T,R
Class Location(s):	ARC TBA
Prerequisites:	None
Textbook and Resources:	No textbook required. Handouts will be provided. Additional Reading: Ross, M. R 1997. Fisheries Conservation and Management. Prentice Hall, Upper Saddle River, N.J. Finlayson, B. L., Gippel, C. J, McMahon, T. A., and N. D. Gordon. 2004. Stream Hydrology: An Introduction for Ecologists John Wiley and Sons, 444 pages. Mettee, M. F., O'Neil, P. F. and J. M. Pierson. 1996. Fishes of Alabama and the Mobile Basin, 3 rd Edition. Geological Survey of Alabama, Birmingham, AL 820pp.
Instructor:	Heather Howell
Office:	ARC 144, ARC 154
Office Hours:	TBA
E-mail address:	heather.howell@aamu.edu
Telephone number:	256-372-4568

COURSE DESCRIPTION

This course is a hands-on introduction to fisheries science. Overview of the nature of fisheries, brief introduction to the physiological ecology of aquatic organisms, methods in the capture and identification of local fishes, introduction to trophic interactions, bioassessment, and habitat and water quality assessment.

STUDENT LEARNING OUTCOMES

Students will be able to:
1. Comprehend the nature and scope of fisheries science
2. Understand the relationship between form and function in aquatic organisms, particularly fish.
3. Be able to assess fish populations, communities, and individual fish health
4. Understand the taxonomic relationships between different kinds of fish and master the identification of local fish in the field and the lab.
5. Master sampling techniques (particularly those for fish) and related field safety.
6. Know the major groups of organisms present in freshwater aquatic ecosystems other than fish, and master the collection and analysis techniques used in bioassessment with those organisms.
7. Understand how aquatic habitat is organized at different scales, and master the collection and analysis of habitat data for the purposes of habitat assessment.
8. Comprehend the ecological processes and relationships that drive the status of fisheries resources.
9. Be able to communicate information, arguments, methodology, results, and conclusions effectively in writing and speech.
10. Be able to collect data in a manner consistent with scientific rigor.

CLASS FORMAT

This is a one-semester combined lecture and lab course. Students will complete assignments for each class. During class periods,

students should be ready to share what they have learned from completing each homework assignments. Discussion, lectures, case studies, online activities, specified lectures/assemblies, individual and group activities, and a variety of audio-visual and computer-based instructional technologies will be used.

COURSE OUTCOMES ASSESSMENT NRE 387

Outcomes	Assignments							Participation	Total
	Fisheries Essay	Condition Lab Report	Midterm	Fish Assemblage Lab Report	Bioassessment Lab Report	Mussel Lab Report	Final		
6. Fisheries Science	2/5	0	3/25	0	0	0	3/5	0.5/25	8.5
7. Physiological Ecology	0.	0	5/25	0	0	0	3/5	1/25	9.0
8. Fish Assessment	0	1.5/5	5/25	1/5	0	0	3/5	3/25	13.5
9. Taxonomy & ID	0	0	5/25	1/5	0	0	0	3/25	9.0
10. Sampling& Field Safety	0	1.5/5	3/25	1/5	1/5	1/5	3/5	7.5/25	18.0
11. Bioassessment	0	0	0	0	2/5	0.5/5	3/5	2.5/25	8.0
12. Habitat	0	0	0	0	0	1/5	3/5	4/25	8.0
13. Aquatic Ecology	0	0	0	0	0	0.5/5	3/5	2/25	5.5
14. Communication	3/5	1/5	4/25	1/5	1/5	1/5	4/5	0.5/25	15.5
15. Data Collection	0	1/5	0	1/5	1/5	1/5	0	1/25	5.0
Total	5/5	5/5	25/25	5/5	5/5	5/5	25/25	25/25	100

PERSONS WITH DISABILITIES

Some parts of this course require vigorous physical exercise for extended periods in the outdoors. If you are unable to participate in some parts of the course because of a disability that you make me aware of, you will in no way be penalized. I will make my best effort to ensure that you participate in this class to the fullest extent possible based upon your abilities. The University provides environmental and programmatic access for persons with documented disabilities as defined in Section 504 of the Rehabilitation Act of 1973 and the Americans with Disability Act of 1990. Any student who desires information or assistance in arranging needed services for a disabling condition should contact the **Director of Special Students Services, Carver Complex South, Room 106, (256) 372-4263.**

ATTENDANCE POLICY

I understand that sometimes things happen beyond our control; therefore, if you believe your absence should be excused, it is important to get in touch with me as soon as possible if you are going to be absent. In accordance with University policy UG15, class attendance will be recorded. Each student is allowed a maximum of 3 unexcused absences for this course. If a test or other project requires a curve, then the attendance record will be used to prorate the extra points according to the following scale: 0 or 1 absences between the test = 100% of curve, 2 absences = 75%, 3 absences = 50%, 4 absences = 25% and 5 or more absences will earn no curve, bonus or extra points. Excessive absenteeism (and/or tardiness) will hurt your final letter grade. Please come and talk to me if you are having difficulties arriving to class on time.

TUTORIAL ASSISTANCE

I am available during office hours and by appointment for tutorial assistance. Special times are scheduled in the calendar for optional writing assistance and information review.

Grading:

Essays/Lab Reports: 25% total (5@5% each)

Participation: 25%

Midterm: 25%

Grade Scale:

90-100%

80-89%

70-79%

A

B

C

Final: 25%

60-69%

D

<59%

F

DESCRIPTION OF SPECIFIC ASSIGNMENTS

Essays/Lab Reports:

Five written assignments, a mixture of essays and lab reports, will be used to assess your understanding of the material and procedures covered in this class. Essays will consist of either a discussion of fisheries issues or an analysis of current fisheries literature. Lab reports will be “mini research papers” where you will be expected to discuss the meaning of data collected in class in light of statistics and current fisheries literature. **Even if data is jointly collected, research papers are to be individual efforts.**

Participation:

Hands-on learning is essential to understanding the principles of fisheries science. If you do not show up and participate on a regular basis, then you will get no benefit from this class. You can earn the full, easy, 25% by doing the following: (1) Avoiding unexcused absences (for each unexcused absence, you lose 5% of your total grade, up to the total 25% participation grade), **Phone use (non-emergency) during class will count as an absence** (2) Assisting to the best of your ability in fieldwork, (3) Participating in cleanup, loading, and organization, (4) Attempting to enter into intelligent discourse during class, and (5) Demonstrating an ability to work well with myself and other students.

Midterm/Final:

The midterm will be in essay/problem format. I expect you to demonstrate understanding of current fisheries literature and issues, application of practical fisheries knowledge, appropriate selection of techniques and their practice, and analysis of data.

COURSE OUTLINE

Principles of Fisheries Course Outline The order of activities is subject to change.	
Session 1 (1 hr)	Topic: Definition and Components of a Fishery, History of Fisheries Human Dimensions of Fisheries Science Field/Lab Activity: None Assignment: ESSAY (1) Write about A) Your ideas about how fisheries are or should be managed, B) What roles fisheries professionals, community members, and businesses should play in fisheries, or C) Your prior experiences with fisheries.
Session 2 (2 hrs)	Topic: Fish Anatomy and Physiology Field/Lab Activity: Comparative Fish Morphology Assignment: Examine representative specimens of fishes, and compare their functional anatomy. From an additional fish specimen or set of specimens, make inferences about that/ those fish species' life history from its/their internal and external morphology.
Session 3 (6 hrs)	Topic: Fish Health (FISHING TRIP) Field/Lab Activity: Fish Condition and Stock Assessment Assignment: Sample fishes through angling and/or netting in the impounded Tennessee River. Evaluate the recreational fishing potential of the site(s) surveyed and the health and condition of the game fish sampled. LAB REPORT (2)
Session 4	Topic: Fish Taxonomy Field/Lab Activity: None

(3 hrs)	Assignment: Discuss the relationship between different types of fishes, with a focus on locally extant species.
Session 5 (3 hrs)	Topic: Fish Identification Field/Lab Activity: Identify fish specimens using a dichotomous key Assignment: Determine the identity of selected fish specimens based upon morphological characteristics.
Session 6 (3 hrs)	Midterm Covers: Introduction, to Fisheries, Fish Anatomy and Physiology, Basic Life History, Basic Field and Boat Safety, Fish Measurement and Condition Assessment. As well as Basic Fish Taxonomy and identification.
Session 7 (6 hrs)	Topic: Fish Sampling Techniques Field/Lab Activity: Sampling for fish using seining. Assignment: Collect and identify fish using seining techniques.
Session 8 (6 hrs)	Topic: Fish Sampling Techniques, cont. (FISH CAMP) Field/Lab Activity: Sampling for fish using a backpack electrofisher Assignment: Collect and identify fish using backpack electrofishing techniques. Compare, if possible fish communities at the two collection sites, render an index of biological integrity, and evaluate the sites relative to each other based upon the fish assemblages. LAB REPORT (3)
Session 9 (2 hrs)	Topic: Other Aquatic Organisms Field/Lab Activity: None Assignment: Discuss the types of other organisms besides fish in the aquatic ecosystem, and their roles in assessing ecosystem health.
Session 10 (3 hrs)	Topic: Bioassessment (FISH CAMP) Field/Lab Activity: Assess the health of a stream site using rapid bioassessment protocol. Assignment: Identification of aquatic organisms used for bioassessment of ecosystem health. Analysis of bioassessment data. LAB REPORT (4)
Session 11 (6 hrs)	Topic: Quantitative Mussel Sampling (FISH CAMP) Field/Lab Activity: Sampling and identification of mussels in the field. Collection of in-stream habitat data Assignment: Determine the species richness, estimated age structure, and distribution within habitat of mussels. LAB REPORT (5)
Session 12 (2 hrs)	Topic: Habitat Organization Field/Lab Activity: None Assignment: Discuss how habitat structure at different scales is assessed and how it is important to fisheries health
Session 13 (3 hrs)	Topic: Habitat Assessment (FISH CAMP) Field/Lab Activity: Using the protocols, collect quantitative and qualitative habitat data from one or more sites Assignment: Assess the habitat quality of the site(s) and compare two sites if possible.
Session 14 (2 hrs)	Topic: Aquatic Ecology Field/Lab Activity: None Assignment: Discuss how biotic and abiotic components of an aquatic ecosystem work together to support healthy fisheries.
Final	

Fisheries Management and Aquaculture
SPS 389
SPRING 2018

Instructor: Heather Howell
Office: Agricultural Research Center (ARC) 154
Phone: 372-4568 Email: heather.howell@aamu.edu
Class times: Monday/Wednesday 2:00-3:30PM
Office hours: Mondays 10:00-11:00 AM
Credit Hours: 3

Description:

Hands-on introduction to the practice of fisheries management and aquaculture. Overview of common and experimental aquaculture methods. Examination of basic fisheries management techniques and experience in fisheries assessment.

Things You Will Learn:

The philosophy behind fisheries management practices, the assessment of the health of fisheries and fish populations, the relationship between people and fisheries, the balancing of the components within a recirculating aquaculture system, the way larger-scale aquaculture works, the factors to consider in choosing an organism for aquaculture, the design of aquaponics systems, and the budgeting considerations in aquaculture.

Resources:

I will provide handouts with the information covered in class that you will be expected to know. In addition, the following texts are recommended for your reading.

Recommended: Finlayson, B. L., Gippel, C. J., McMahon, T. A., and N. D. Gordon. 2004. Stream Hydrology: An Introduction for Ecologists. John Wiley and Sons, 444 pages.

Reccomended: Ross, M. R 1997. Fisheries Conservation and Management. Prentice Hall, Upper Saddle River, N.J.

Recommended: Mettee, M. F., O'Neil, P. F. and J. M. Pierson. 1996. Fishes of Alabama and the Mobile Basin, 3rd Edition. Geological Survey of Alabama, Birmingham, AL 820pp.

Fisheries Management and Aquaculture Schedule	
Week 1	Topic: Mission of fisheries management: Economic/cultural importance of fisheries, perceptions of fisheries and management practices Reading: Ross, Ch. 1, Ch. 6, Ch 7
	Field/Lab Activity: Assignment: Write about A) Your ideas about what the mission of fisheries management should be, B) How one should balance economic and noneconomic values of fisheries C) Your perceptions/experiences of fisheries management
Week 2	Topic: Differing Needs of Aquacultured Taxa (Fish, Crustaceans, Molluscs) Reading: Extension Publications and Recent Literature
	Field/Lab Activity: None Evaluate the pros and cons of different organisms if used in aquaculture.

Week 3	Topic: Aquaculture 1: Larger-Scale Aquaculture Systems Reading: Extension Publication sand Recent Literature.
	Field/Lab Activity: Aquaculture in the Real World ESSAY from Week 1 DUE during Week 3.
Week 4	Topic: Aquaculture 2: Small Scale Recirculating Aquaculture Systems: Balancing Nutrition, Pollution, and Oxygen Reading: Extension Publications and Recent Literature
	Field/Lab Activity: Look at and/or set up a recirculating aquaculture system
Week 5	Topic: Two for the Money: Aquaponics Systems Reading: Extension Publications and Recent Literature
	Field/Lab Activity: Aquaponics for Fun and Profit Set up an aquaponics system. Plant various crop plants, harvest them later, and evaluate production.
Week 6	Topic: Aquabusiness Reading: Extension Publications and Recent Literature
	Field/Lab Activity: Make a budget. Discuss the components of an aquaculture budget. Examine the thin line between profit and loss. Discuss business plan. Assignment: Design your own aquaculture system Set up your own budget, and discuss the real-world implications of your design. Would you make a profit?
Week 7	Topic: Processing Reading: Extension Publications and Recent Literature
	Field/Lab Activity: None Assignment: None
Week 8	Topic: Breeding Reading: Extension Publications and Recent Literature
	Field/Lab Activity: None Assignment: None Aquaculture System Design and Budget from DUE during Week 8
Week 9	MIDTERM EXAM
Week 10	Topic: Methods of Fisheries Management (Stocking, Limiting Catches, Restoration of Fisheries Habitat) Reading: Ross, Ch. 7, Ch 8, Ch. 10
	Lab/Field Activity: Fishing Trip Assignment: Capture fish and assess their condition, write lab report.
Week 11-13	Topic: Assessing Fisheries Health 1 (Water/habitat quality) Reading: Ross, Ch. 2, EPA Rapid Bioassessment Protocol, Stream Classification Protocol
	Field/Lab Activity: Water/Habitat Quality Assessment Assignment: Examination of Water Quality & Habitat in the field and relationship to gamefish populations. Fish marking and release. Condition Lab Report DUE during Week 13
Week 12	Spring Break
Week 14	Topic: Assessing Fisheries Health 2: Population structure Reading: Ross,Ch. 3
	Field/Lab Activity: Fish Tagging, Release-Recapture Studies Assignment: Continuation of above, coming back later and seeing if any fish from before are recaptured. Write a lab report on the fish population assessment.
Week 15	Topic: Impact of fisheries management upon ecology. Impact of human activity and disturbance on fisheries. Fisheries/Forestry Interactions Reading: Ross Ch. 4, 11, 12.
	Field/Lab Activity: None Assignment: None LAB REPORT on ASSESSING FISHERIES HEALTH DUE
Week 16 Final	FINAL GIVEN

Grading:	Grade Scale:

Essays: 5% total (2@ 2.5% each) Aquaculture System Design and Budget: 10% Lab Report (Fisheries Health Assessment): 10% Participation: 25% Midterm: 25% Final: 25%	90-100% A 80-89% B 70-79% C 60-69% D <59% F
NOTE: Assignments more than 1 week overdue <u>will not be accepted</u> unless there are extenuating circumstances. Assignments more than two days overdue will lose 4%/day in points.	

Essays:

Essays will consist of either a discussion of fisheries issues or an analysis of current fisheries literature. These essays are important in gauging your writing skills and your understanding of the material

Aquaculture System Design and Budget:

During class, I will provide you with information about and starting conditions of possible aquaculture business scenarios. You will be given a starting budget and price lists of equipment and supplies. You will have to design an aquaculture system and raise your “crop” within budget. Then, you need to decide how to market your “crop” and determine whether you made a profit.

Lab Report (Fisheries Health Assessment):

The Lab Report will be a “mini research paper” where you will be expected to discuss the meaning of data collected in class in light of statistics and current fisheries literature.

Participation:

Hands-on learning is essential to understanding the principles of fisheries science. If you do not show up and participate on a regular basis, then you will get no benefit from this class. You can earn the full, easy, 25% by doing the following: (1) Avoiding unexcused absences (for each unexcused absence, you lose 5% of your total grade, up to the total 25% participation grade), (2) Assisting to the best of your ability in fieldwork, (3) Participating in cleanup, loading, and organization, (4) Attempting to enter into intelligent discourse during class, and (5) Demonstrating an ability to work well with myself and other students.

Midterm and Final Exam:

The midterm and final exam will be in essay format. I expect you to demonstrate understanding of current fisheries literature and issues, application of practical fisheries knowledge, appropriate selection of techniques and their practice, and analysis of data.

Class Attendance:

I understand that sometimes things happen beyond our control; therefore, if you believe your absence should be excused, it is important to get in touch with me as soon as possible if you are going to be absent. In accordance with University policy UG15, class attendance will be recorded. Each student is allowed a maximum of 3 unexcused absences for this course. If a test or other project requires a curve, then the attendance record will be used to prorate the extra points according to the following scale: 0 or 1 absences between the test = 100% of curve, 2 absences = 75%, 3 absences = 50%, 4 absences = 25% and 5 or more absences will earn no curve, bonus or extra points. Excessive absenteeism (and/or tardiness) will hurt your final letter grade. Please come and talk to me if you are having difficulties arriving to class on time.

Disabilities:

Some parts of this course require vigorous physical exercise for extended periods in the outdoors. If you are unable to participate in some parts of the course because of a disability that you make me aware of, you will in no way be penalized. I will make my best effort to ensure that you participate in this class to the fullest extent possible based upon your abilities.

Student Name_____

CALNS BES FEWP

**Alabama A&M University (AAMU)
Normal, AL 35762**

COURSE SYLLABUS SPRING 2018

Course Number	NRE 430
Course Title	Biostatistics (Section 1)
Call Number	11878
Class Times	2:00 PM – 3:20 PM Mondays and Wednesdays
Class Location	Carver Complex Sth Bonner Wing 211
Prerequisites	MTH 112 (Pre-Calculus Algebra) and MTH 113 (Pre-Calculus Trigonometry)
Textbook	Hampton, R. E. and J. E. Havel. 2014. Introductory Biological Statistics. 3 rd Edition. Waveland Press, Inc. Long Grove, Illinois
Instructor	Drs. Kozma Naka and Troy Bowman
Office	143 and 142 ARC Building
Office Hours	Weekdays 9:00 – 10:00 AM, 1:00 – 2:00 PM
E-mail address	kozma.naka@aamu.edu and troy.bowman@aamu.edu
Telephones	Dr. Naka - Office: (256) 372-4235, Cellular: (256) 603-8357 Dr. Bowman - Office: (256) 372-4249, Cellular: (515) 450-3489

COURSE DESCRIPTION

Introductory statistics, with emphasis on the biological sciences. Includes a study of natural distribution systems, sampling techniques, data arrangement, tests of significance, and logical inferences. (3 hrs.)

ELECTRONIC MATERIALS

This syllabus, lecture presentations and other materials can be found on AAMU blackboard at <https://aamu.blackboard.com>

ADDITIONAL STUDY MATERIALS

Samuels, M. L. and J. A. Witmer. 2003. Statistics for the life sciences. 3rd Ed. Pearson Education, Inc. Upper Saddle River, New Jersey.

Sokal, R. R. and F. J. Rohlf. 1995. Biometry. 3rd Ed. W. H. Freeman and Co., San Francisco.

STUDENT LEARNING OUTCOMES

The learning outcomes for this course are to compute/perform and interpret the results of:

5. Measures of descriptive statistics.
6. Probability of common statistical distributions.
7. Hypothesis testing of one, two, and multiple samples.
8. Basic linear correlation and regression analysis.

CLASS FORMAT

11. **Lectures:** Classes consist of lectures presented by the instructor or a guest speaker. Lectures will explained topics in greater detail and will be more up-to-date than the assigned readings.
12. **Preparation:** Start reading the materials covered in the lecture on the same day. Expected time for class preparation on the part of the student is three hours study for every hour of lecture. Because of the nature of the subject, learning the material covered in previous lectures is crucial in understanding the current topics. Read the assigned materials thoroughly in advance of each lecture.
13. **Review:** The key to successful learning, aside from continuous and active student participation in the process, is repetition. Review is an important form of repetition. Hours of lectures cannot be reviewed in a few hours before a test. Review continually and systematically.
14. **Class Participation:** Participation in classroom discussions and activities is expected and required. Students are expected to perform their own calculations during lectures. A CALCULATOR able to perform statistical functions is required all the time. Students are encouraged to raise questions and express opinions in class or during scheduled office hours.
15. **Electronic devices:** Turn off your cell phone during class, unless permission is granted. If the phone rings during class, you will be asked to leave and get an absence. Use of a phone during an exam or quiz will be automatically considered as cheating. Laptops and tablets can be used only for class purposes. Web surfing during the class is not allowed.

ACADEMIC HONESTY

In this class, you can work together on lectures and homework, but you must do your own work during tests and quizzes. A PICTURE ID is required to take a test and shown upon request. Any form of cheating will be dealt with according to the Academic Policies and Procedures Manual (excerpt follows).

All students in attendance at Alabama A&M University are expected to be honorable and to observe standards of conduct appropriate to a community of scholars. The University expects from its students a higher standard of conduct than the minimum required to avoid discipline. All acts of dishonesty in any academic work constitute academic misconduct. This includes, but is not necessarily limited to, the following:

21. Cheating – using or attempting to use unauthorized materials, information, or study aids in any academic exercise.
22. Plagiarism – representing the words, ideas, or data of another as one's own in any academic exercise.
23. Fabrication – unauthorized falsification or invention of any information or citation in an academic exercise.
24. Aiding and abetting academic dishonesty – intentionally or knowingly helping or attempting to help another student commit an act of academic dishonesty.
25. Acts of academic misconduct may be punishable by one of the following:
 - Letter of academic misconduct placed in the student's academic folder.
 - Temporary suspension from the University.
 - Expulsion from the University.
 - Expulsion from a class by the instructor which could possibly result in a failing grade.
 - Lowering of a final grade.
 - Academic discipline resulting in the loss of scholarships, nonparticipation in academic related activities, etc.

Ethics: Students are expected to adhere to professional ethics of the American Statistical Association Ethical Guidelines for Statistical Practice available at <http://www.amstat.org/about/ethicalguidelines.cfm> Ethics will be reinforced throughout the duration of a course through class work and examples of real life situations.

CLASSROOM ETIQUETTE SUMMARIZED

(from AAMU Student Guidebook)

DO:

- Be prepared and on time in class
- Have your textbook, notebook, calculator and pen/pencil ready.
- Raise your hand to ask question
- Do wait your turn to speak
- Alert your professor if you are going to be absent (planned)
- Turn off or put on silent mode your cell phone while in class.

DON'T:

- Be chronically late or absent
- Hold private conversation in class while the professor is lecturing
- Answer your cell phone or send text messages
- Forget to take your hat/cap off when you enter the building
- Eat in class without the permission of the instructor.

NON-DISCRIMINATION AND ANTI-HARASSMENT STATEMENT

The University is committed to a work environment in which all individuals are treated with respect and dignity. Therefore, discrimination or harassment based on age, race, gender, color, religion, national origin, disability, genetic information, sexual orientation, covered veteran status, or any other characteristics protected under state, federal, or local law will not be tolerated. The full policy document can be found at:

<http://www.aamu.edu/administrativeoffices/hrservices/Documents/6.10%20-%20Non-Discrimination%20and%20Anti-Harassment%20Policy.pdf>

SPECIAL STUDENTS SERVICES

Any student who desires information or assistance in arranging needed services for a disabling condition should contact the Office of Special Students Services, Carver Complex South, Room 106, phone (256) 372-4263. Details can be found at their website:

<http://www.aamu.edu/Academics/academicresources/sss/Pages/default.aspx>

ATTENDANCE POLICY

A student is permitted one unexcused absence for each credit hour generated by the class. Therefore, three (3) unexcused absences are allowed in this class. After that the penalties will be 2%, 3% and 5% of the final grade for the three subsequent absences. Attendance in the lectures will be recorded 5 minutes after class starts. Please contact me if you expect to be absent, so you can better mitigate the consequences. According to the University Policy, students need to wait 15 minutes if the instructor is late. **Absence for any reason does not relieve the student of the responsibility for assignments and material covered in class.** Ask your classmates what happened while you were absent.

Excused absences can be obtained upon presenting documentation to Veterans Affairs & Disability Services in Room 106 Carver Complex. Details can be found at their website:

<http://www.aamu.edu/administrativeoffices/VADS/Pages/Official-Class-Excuses.aspx>

All students requesting official class excuses should make the request and submit the class excuse to course instructor within seven (7) days after the missed class or classes.

TUTORIAL ASSISTANCE

Tutorial assistance for undergraduate courses can be obtained from the Tutorial Assistance Network (TAN), located in Room 233 Thomas Hall. Their telephone number is 256-372-5487. Details can be found at their website:

<http://www.aamu.edu/Academics/academicresources/Pages/Tutorial-Assistance-Network.aspx>

GRADE DETERMINATION

Course Requirements	Points Awarded	Percent of Total
Exam 1	100	20%
Exam 2	100	20%
Exam 3	100	20%
Final Exam	100	30%
Quizzes	Variable	10%
Homework	Variable	10% (bonus)
Grading Scale		
Percent of Points	Number of Points	Grade
90 – 100	90 – 100	A
80 – 89	80 – 89	B
70 – 79	70 – 79	C
60 – 69	60 – 69	D
< 60	< 60	F

Incomplete Grades: A grade of “I” will be given in those circumstances where a student has satisfactorily (defined as a C average or better) completed at least 75% of the course requirements, and there is an excusable reason for his or her not having completed all requirements prior to grade reporting time.

Make-up Examination Policy: No special make-up test will be given after the scheduled one. Arrangements for make-up work *prior* to the scheduled test, due to an **excused** absence must be initiated by the student. If an accident happens on the way to the exam, **give me a call** me as soon as possible.

Extra Credit Work: There will be no extra credit work assigned to enable a student to raise her/his grade. Any student who desires a certain grade in this course must begin working for that grade from the start of the semester. Grades are earned, not given.

INFORMED CONSENT AGREEMENT

Each student has to sign the Informed Consent Agreement form that will be handed out the week after the last day to register or add courses.

COURSE OUTLINE (tentative)

<u>TOPICS</u>	<u>READINGS</u>
A. Introduction Definition of statistical terms	Chapter 1
B. Data in Biology and descriptive statistics 1. Populations, samples, variables, accuracy and 2. Measures of central tendency (mean, median, mode) 3. Measures of dispersion Range, variance or mean square, standard deviation, coefficient of variability	frequencyChapter 2, 3 and 4
C. Probability and Distributions 1. Probability 2. Binomial 3. Normal	Chapter 5 distributionChapter 5 distributionChapter 6
D. Sampling distribution and confidence Standard deviation of sample means (standard error)	intervalChapter 7
E. Hypothesis Testing simple hypothesis using normal and t-distribution	TestingChapter 8 and 9
F. Principles of Experimental Design 1. What is an experiment? 2. Objective of an experiment 3. Experimental treatment and error, error control 4. Replication and its functions, randomization	Chapter 8
G. Comparison of paired	sampleChapter 9
H. Comparing the means of many independent	samplesChapter 10 and 11
I. Analysis of categorical 1. Goodness of fit 2. Contingency table analysis	dataChapter 14
J. Linear regression and correlation	Chapter 12

FINAL EXAM

Exam week Tuesday at 11:00 AM – 1:00 PM

Name _____

College of Agricultural,
Life, and Natural Sciences
Alabama A&M University
Normal, AL 35762

COURSE SYLLABUS

Fall 2017

Course Number	NRE 471
Course Title	Aerial Photography
Call Number/Section	70536
Class Times	3:30-4:50 Tuesdays, Thursdays
Class Location	Wood Lab, ARC Building
Prerequisites	MATH 101
Textbook	Paine DP, Kiser JD. 2003. Aerial Photography and Imaging Interpretation. 2 nd Edition. John Wiley & Son, Inc.
Instructor	Dr. Xiongwen Chen
Office	Agricultural Research Center (ARC) 139
Office Hours	10:00 am – 12:00pm or by appointment
E-mail address	Xiongwen.chen@aamu.edu
Telephone number	256-372-4231

AAMU Quality Enhancement Plan (QEP):
“Enhancing Students’ Critical Thinking Skills”
Critical Thinking Definition:

Critical thinking is analyzing, evaluating, and synthesizing information into logical conclusions.

COURSE DESCRIPTION

This course is to develop hands-on skills that you will need for future courses and work in natural resource management. These skills include determining direction, distance, area, height, and density from aerial photographs; interpretation of panchromatic, color, color infrared photography and digital imagery; determining positions with global positioning systems (GPS); and making and using maps. To do this you will need to understand basic characteristics of remote sensing and aerial photography and be able to determine scale and resolution of aerial photographs. Upon completion of the course, one should be able to plan aerial photo project, be able to transfer map features from photos to maps, and be able to determine areas, slopes, and object elevation from photographs.

STUDENT LEARNING OUTCOMES

1. Proficiency in processing aerial photo to extract information and make corrections.
2. Mastery of the ability for important calculation, such as for target height, slope, scale and etc.
3. Acquiring ability to use aerial photo for environmental monitoring and natural resources management.

CLASS FORMAT

Lecture, Recitation, Lab

COURSE OUTCOMES

All students are expected to be on time and PREPARED for class. Students should be respectful of their peers and the instructor. Cell phones are not allowed in class unless you have permission of the instructor. Make-up exams are ONLY given if you have an official excuse and make satisfactory arrangements with the instructor.

Cheating on an exam, falsification of information, or plagiarism on an assignment will result in an automatic failing grade for the course. Plagiarism is passing off another's work as your own. Plagiarism can be flagrant, such as copying another student's work and putting your name on it or cutting and pasting paragraphs from scientific articles for your term paper. Plagiarism can also be unintentional, such as failing to give proper credit to the author of an article when you report their facts, data, or ideas in your term paper. **Plagiarism is an academic offense subject to disciplinary action.** It will result in an automatic failing grade in this course. Guidelines for proper literature citation are discussed during the first day of class, but ask me for help if you are uncertain when to quote someone else's work.

SERVICES FOR PERSONS WITH DISABILITIES

The University provides environmental and programmatic access for persons with documented disabilities as defined in Section 504 of the Rehabilitation Act of 1973 and the Americans with Disability Act of 1990. Any student who desires information or assistance in arranging needed services for a disabling condition should contact the Director of Special Students Services, Student Center, Room 203, (256) 372-4263.

STUDY FOLDER

Blackboard

ATTENDANCE POLICY

In accordance with university policy UG 15, class attendance will be recorded. Each student is allowed a maximum of **3** unexcused absences for this course. **Absenteeism will hurt your grade in this course!** The 4th unexcused absence will cause you to lose 2% of your grade, the 5th unexcused absence will cost you an additional 3% of your grade. A 6th unexcused absence will result in the loss of another 5% of your grade for a total of 10% (a letter grade). Participation in class will help your grade. Please schedule excused absences ahead of time. **Tardiness will hurt your grade!** Students who are more than 5 minutes late will receive an unexcused absence.

TUTORIAL ASSISTANCE

Tutorial assistance for undergraduate courses can be obtained from the Tutorial Assistance Network (TAN), a subsidiary of the Office of Academic Support Services. TAN is located in Room 100 Thompson Hall. The telephone number is 256-372-5487.

GRADE DETERMINATION

Course Requirements	Points Awarded	Percent of Total
4 Quizzes	400	20%
2 Tests	200	40%
2 Presentations	200	10%
Lab and practice	100	30%
TOTAL		100%
Grading Scale		
Percent of Points	Number of Points	Grade
90-100		A

80-89		B
70-79		C
60-69		D
Below 60%		F

DESCRIPTION OF SPECIFIC ASSIGNMENTS

<u>Quizzes:</u> Quizzes will check the learned the concepts and theories in the class time. <u>Tests:</u> Tests will be comprehensive and cover material from lectures, the text, supplemental readings, and problem sets. Tests will primarily be in a multiple-choice and also include short answer, essay, and problem-solving.
<u>Lab:</u> You must participate in 5 lab class. There is a lab report for each lab.
<u>Presentations:</u> One group (2-3 students) presentation will be presented before mid-term test. The group presentation is to cover a project. A personal presentation will be presented before final test. The personal presentation is based on literature to show your knowledge on the new ideas and development in aerial photography.

COURSE OUTLINE

Tentative Dates*	Topics	Assignments
Week 1	Course Introduction	
Week 2	Introduction to remote sensing/aerial photo-interpretation	Chapters 1
Week 3	The electromagnetic spectrum and camera system	Chapter 2-3
Week 4	Image scale	Chapter 4
Week 5	Geometry of vertical aerial photographs	Chapter 5
	Group presentation	
Week 6	Mid-term test (Chapters 1-5)	
Week 7	Acquisition of aerial photographs/photo mission	Chapter 6
Week 8	Slopes and ground elevations	Chapter 7
Week 9	Road and trail layouts	Chapter 8
Week 10	Mapping from aerial photographs	Chapter 9
Week 11	Principles of imagery interpretation	Chapter 10
Week 12	Global position system and drone	Chapter 11, drone information will be provided
Week 13	Environmental monitoring case study	Chapter 12-15
Week 14	Individual presentation	
	Final Exam (Chapters)	

Name _____

College of Agricultural,
Life, and Natural Sciences
Alabama A&M University
Normal, AL 35762

COURSE SYLLABUS

Fall 2017

Course Number	NRE 474
Course Title	Forest Ecological Management (This is the first of two capstone series course for Forestry seniors)
Call Number/Section	70852, Section 01
Class Times	Mondays and Wednesdays from 10:00 a.m. to 10:50 a.m.
Class Location	Agricultural Research Center 150 (library) and 155 (ARC Computer Lab)
Prerequisites	NRE 281, 282, 365, 371, 375, 376, 379, 380, 387, 430
Textbook (required)	Forest Management and Planning. By Peter Bettinger, Jacek Siry, Kevin Boston. 360 pages. Academic Press, 2008. ISBN-10: 0123743044, ISBN-13: 978-0123743046. We will also make use of various scientific articles and reports and some material from these recommended books, among others: 1. Buongiorno, J., Gilles, J.K. 2003. Decision Methods for Forest Resource Management. Academic Press, Elsevier Science, San Diego, California. 439 pages. ISBN: 0-12-141360-8. 2. Forest Plans of North America, 1st Edition. Editor(s): Siry, Bettinger, Merry, Grebner, Boston, Cieszewski. 2015. Academic Press. Print Book ISBN: 9780127999364. Pages: 482 You will also use other resources, in the process of starting to prepare a forest management plan for a real landowner. For GIS data you can use sources such as the USDA Geospatial Data Gateway at http://datagateway.nrcs.usda.gov/
Instructor	Dr. Luben Dimov
Office	Agricultural Research Center (ARC) Building, Room 146
Office Hours	Mon, Wed, Fri 11:00am-1:00pm; and Tue, Th 12:30pm-2:30pm., or by appointment
E-mail address	Luben.Dimov@aamu.edu
Telephone number	256-372-4545

AAMU Quality Enhancement Plan (QEP):
“Enhancing Students’ Critical Thinking Skills”

Critical Thinking Definition:

Critical thinking is analyzing, evaluating, and synthesizing information into logical conclusions.

COURSE DESCRIPTION

The course aims to provide the theoretical background, knowledge, and skills needed for developing the forest management plan during the capstone course the following semester. During this course, the students will become familiar with major legislation pertinent to forest management in the USA, with ways to inventory, predict and model forest conditions, and with the planning for ecological, economic, and social goals. The students will also start preparing some aspects of the forest management plan that is to be completed the following semester.

STUDENT LEARNING OUTCOMES

Upon completion of this course, the students will:

- Demonstrate knowledge of the concepts, criteria, methods, and BMP constraints used in sustainable forest ecosystem-level management planning in North America (score minimum 70% on the quizzes and exams covering this material)
- Demonstrate knowledge of valuing and characterizing forest conditions (score minimum 70% on the quizzes and exams covering this material)
- Show ability to choose appropriate silvicultural treatments based on the results from the inventory of forest conditions (score minimum 70% on the quizzes and exams covering this material)
- Be aware of the forest certification systems, major federal and state rules and regulations constraining and regulating forest management activities (score minimum 70% on the quizzes and exams covering this material)
- Know what Geographic Information Systems (GIS) technology is used for in natural resource management and be able to apply it for planning and management of forest ecosystems (score minimum 70% on the quizzes and exams covering this material)
- Be capable of estimating and projecting of stand and forest conditions (score minimum 70% on the quizzes and exams covering this material)
- Use linear programming techniques to solve natural resource management problems (min 70%).
- Demonstrate clear understanding and knowledge of ethics in forest management and of the major federal and state rules and regulations constraining and regulating forest management activities (score minimum 70% on the quizzes and exams covering this material)

- Have the theoretical background needed for the design of a forest management plan (score minimum 70% on the quizzes and exams covering this material)
- Be able to make an oral presentation on a topic related to forest management (score minimum 75% on the presentation)
- Demonstrate professionalism, ethics, and excellent writing and analytical skills

CLASS FORMAT

Lectures with lots of hands-on work and activities.

ACADEMIC HONESTY

In this class, you can work together on lectures and homework, but you must do your own work during tests and quizzes. Any form of cheating will be dealt with according to the Academic Policies and Procedures Manual.

If there is academic misconduct during an exam, a student gets zero points on that particular exam. Academic misconduct during a quiz results in zero points on the particular quiz. If there is academic misconduct during any exam or a quiz, a student will not get any bonus points or curving of the grade that the rest of the students may get. Additional disciplinary measures are also possible, as per the Academic Policies Manual.

Academic misconduct includes cheating (using or attempting to use unauthorized materials, information, or study aids in any academic exercise), plagiarism (representing the words, ideas, or data of another as one's own in any academic exercise), fabrication (unauthorized falsification or invention of any information or citation in an academic exercise), aiding and abetting academic dishonesty (intentionally or knowingly helping or attempting to help another student commit an act of academic dishonesty).

All students in attendance at Alabama A&M University are expected to be honorable and to observe standards of conduct appropriate to a community of scholars. The University expects from its students a higher standard of conduct than the minimum required to avoid discipline. All acts of dishonesty in any academic work constitute academic misconduct. This includes, but is not necessarily limited to, the following:

26. Cheating – using or attempting to use unauthorized materials, information, or study aids in any academic exercise.
27. Plagiarism – representing the words, ideas, or data of another as one's own in any academic exercise.
28. Fabrication – unauthorized falsification or invention of any information or citation in an academic exercise.

29. Aiding and abetting academic dishonesty – intentionally or knowingly helping or attempting to help another student commit an act of academic dishonesty.
30. Acts of academic misconduct may be punishable by one of the following:
- Letter of academic misconduct placed in the student's academic folder.
 - Temporary suspension from the University.
 - Expulsion from the University.
 - Expulsion from a class by the instructor which could possibly result in a failing grade.
 - Lowering of a final grade.
 - Academic discipline resulting in the loss of scholarships, nonparticipation in academic related activities, etc.

Ethics: Students are expected to adhere to professional ethics, e.g., the Society of American Foresters Code of Ethics available at safnet.org/about/codeofethics.cfm Ethics will be reinforced throughout the duration of a course through class work and examples of real life situations.

CLASSROOM ETIQUETTE SUMMARIZED (from AAMU Student Guidebook)

DO:

- Be prepared and on time in class
- Have your textbook, notebook, calculator and pen/pencil ready.
- Raise your hand to ask question
- Do wait your turn to speak
- Alert your professor if you are going to be absent (planned)
- Turn off or put on silent mode your cell phone while in class.

DON'T:

- Be chronically late or absent
- Hold private conversation in class while the professor is lecturing
- Answer your cell phone or send text messages
- Forget to take your hat/cap off when you enter the building
- Eat in class without the permission of the instructor.

For more information, please refer to the classroom code of conduct which can be found at:
<http://www.aamu.edu/campuslife/studentresources/Classroom%20Code%20of%20Conduct/Classroom%20Code%20of%20Conduct.pdf>

SERVICES FOR PERSONS WITH DISABILITIES

Disability statement (Americans with Disabilities Act): Alabama A&M University is committed to serving the needs of students with disabilities, and the institution recognizes its responsibility for creating an instructional climate in which a student with disabilities can succeed. A student with a disability who needs academic accommodation should:

(1) Register with and provide documentation to the AAMU certifying official in the Office of Disability Services to verify eligibility and to discuss the options for reasonable academic accommodations that might be available.

(2) Provide a letter to me indicating the type of accommodation that is needed.

This syllabus and other course materials are available in alternative format upon request. For more information about services available to AAMU students with disabilities, please go to the Office of Disability Services in Room 106, Carver Complex South or call 256-372-4263 or 256-372-5805.

NON-DISCRIMINATION AND ANTI-HARASSMENT STATEMENT

The University is committed to a work environment in which all individuals are treated with respect and dignity. Therefore, discrimination or harassment based on age, race, gender, color, religion, national origin, disability, genetic information, sexual orientation, covered veteran status, or any other characteristics protected under state, federal, or local law will not be tolerated. The full policy document can be found at:

<http://www.aamu.edu/administrativeoffices/hrservices/Documents/6.10%20-%20Non-Discrimination%20and%20Anti-Harassment%20Policy.pdf>

STUDY FOLDER

From the AAMU front page go to myAAMU and then click Blackboard where I will upload files.

ATTENDANCE POLICY

Arrival on time and attendance of lectures and labs are required. If you arrive late you may miss a quiz and get zero points on it. Three late arrivals are equal to one absence. If you will have to miss a class, you need to notify me in advance by email or phone.

When there is an exam, you have to come to the classroom on time or no more than 5 minutes late in order to be allowed to take an exam. Arriving later than that disturbs everyone who came on time.

You are required to be on time and will be evaluated on that. The university rule is that you can have one unexcused absence per credit hour. Our forestry program also has this additional rule – for the next unexcused absence, after you reached your one absence per credit hour, you lose 2 points from the final grade; miss another, lose 3 more points; miss another, lose 5 points. For labs, you can miss 1 lab. After that, if you miss another lab, you lose 5 points from the final grade. And 5 more next time. If a student is more than 5 minutes late for class, that's considered absence. For assignments, if you are submitting late, we will drop one letter grade for that assignment if late up to 24 hours. If the assignment is more than 24 hours late, then no points are awarded. For short (little) assignments, if you're late at all, you lose all points. The instructor determines if an assignment is considered short. Be sure to attend particularly when we have guest lecturers.

TUTORIAL ASSISTANCE

Tutorial assistance for undergraduate courses can be obtained from the Tutorial Assistance Network (TAN), located in Room 233 Thomas Hall. Their telephone number is 256-372-5487. Details can be found at their website:
<http://www.aamu.edu/Academics/academicresources/Pages/Tutorial-Assistance-Network.aspx>

GRADE DETERMINATION

A = 90 to 100, B = 80 to 89.9, C = 70 to 79.9, D = 60 to 69.9, F = 0 to 59.9.

Weight:

1. Quizzes and assignments	30%
2. Midterm exam	25%
3. Final exam	30%
3. Attendance, participation, teamwork, professionalism:	15%

COURSE OUTLINE

We'll have much less lecturing, but much more hands-on learning during the pre-capstone course to give students the opportunity to practice analyzing data and writing a forest management plan. Students will work on preparing all parts of a forest management plan that they can. Work in pre-assigned teams.

Part 1 Data, GIS

1. Extract property and ownership information from publicly available county tax records: owner name; PPIN and legal description; address; acres; acres in timber; land, use, and taxable value; property tax last year.
2. Obtain property maps from the county records, extract them and insert them in a report (as jpeg files)
3. Create a map of the property in GIS software - ArcGIS (costs; proprietary) or QGIS (free open-source) or other acceptable package. Properly and accurately delineate the boundaries, roads, fields, and streams.
4. Split the property into stands and delineate the stands.
5. Find average slope and aspect of each stand from the available layers.
6. Download on GPS unit the boundaries of the property and stands and the pre-determined plot locations.
7. Learn how to calculate the mean, standard deviation, and range, of selected stand and environmental characteristics, such as:

- 7.1. Total basal area per acre and trees per acre
- 7.2. Basal area per acre of each species
- 7.3. Sawtimber volume in board feet per acre, as well as total volume and value (on the entire property)
- 7.4. Pulpwood volume in tons per acre, as well as total volume and value (on the entire property)
- 7.5. Estimate of the value of recreational, wildlife, and other forest resources, tax liabilities,
- 7.6. Habitat suitability indices in each stand for white-tailed deer, wild turkey, and at least one non-game species. Cost of improving the HSIs.
8. Create graphs for each of the items above to show their values within and between stands

Whenever possible use pivot tables or other software features that allow automation and reduce human error; use LibreOffice (free open-source), Excel (costs, proprietary), or R (free, open-source, extremely powerful, but steep learning curve).

Part 2 Writing the plan (use of any kind of template is not allowed – you will actually have to write everything in the plan rather than fill in blanks on a template). Some of these items will be done in practice the following semester, but now we will practice them.

9. Following a discussion with the landowner, or a conference call with her/him, prepare a write up of the landowner's background, goals, objectives, and constraints.
10. Put in a word processor (e.g., LibreOffice (free) or MS-Word) the maps, recent aerial images, property information (total acres, acres in timber, etc.)
11. Put in a word processor a description of how to carry out the inventory. Include description of how the plot locations will be chosen, what will be measured and how, how the calculations will be made, what sources are used (which growth and yield tables, diagrams, articles, etc.), followed by timber volume by species and product class, stumpage prices, soils, riparian areas, advance regeneration, wildlife habitat characteristics that are necessary for calculating habitat suitability indices, recreational features, etc.
12. Projections – value of each attribute from above in 10 years for each proposed managed alternative
13. Recommendation for which activities need to be carried out and when. Find if cost-share programs are available for any of these activities.
14. How the outcome differs from the outcome of the other alternatives
15. Timeline (e.g., table 1.1 in your book for NRE 474)
16. (Not part of the plan) Peer evaluation – every student evaluates the work of everyone else on their team. I grade their ability to provide a fair evaluation.
17. (MAYBE OR MAYBE NOT FOR THE ITEMS IN ITALIC BELOW)
Use of the forest service software FVS and of FIA data (get FIA employees or Santosh)

18. Obtain expertise in forest stand simulation and spatial modeling with FVS, PTAEDA3, OAKSIM , ArcGIS, Landscape Management System-LMS, Spectrum, RSPS/Woodstock/Stanley, etc. And in forest regeneration simulation using REGEN.

19. Obtain experience with tradeoff analysis, valuation, harvest scheduling, risk management, and/or financial analysis.

Not required, but recommended: I encourage you to also learn to use the Forest Service software FVS. Its use for assignments will be for extra points.

For assignments, if you are submitting late, 10 points will be subtracted if late up to 24 hours. If the assignment is more than 24 hours late, then no points are awarded for it. For short (little) assignments of less than 10 points, if you're late at all, you lose all points.

In addition to this hands-on work, exams will also cover material from lectures and assigned material from the book and articles. Topics include:

Alabama Forestry BMPs

Ecosystem services and finding their values, including carbon sequestration

Forest certification

Additional possible topic, time permitting: landscape level management

**College of Agricultural, Life and Natural Sciences
Alabama A&M University
Normal, AL 35762**

COURSE SYLLABUS

Spring 2017

Course Number	NRE 481
Course Title	Hydrology and Watershed Management
Call Number/Section	
Class Times	
Class Location	CCS 217
Prerequisites	None
Textbook	Material will be provided, including papers, online training and other relevant readings.
Instructor	Dawn Lemke
Office	CCS 218E
Office Hours	Tuesday 11 to 4; Wednesday 9 to 4
E-mail address	Dawn.Lemke@aamu.edu
Telephone number	256-372-4562

COURSE DESCRIPTION

This course addresses the occurrence and movement of water over the earth's surface. The hydrologic cycle, surface runoff relations, relationship of precipitation to stream flow with frequency analysis, unit hydrograph theory, flood routing, probability in hydrology, hydrologic simulation and stochastic methods in hydrology are covered.

There will be an emphasis on human interactions and relationships with the physical environment and the resulting public policy and management issues. Students will explore watershed management issues currently of public and political interest including climate change and land use change.

STUDENT LEARNING OUTCOMES

Students will:

- Develop a quantitative and qualitative understanding of hydrological processes.
- Demonstrate integrative, critical thinking and inquiry-based learning using evidence, logic, reasoning, and calculation.
- Apply and evaluate available hydrologic tools and methods, including field equipment, MS Excel and ArcGIS.
- Integrate hydrologic knowledge with communication and problem-solving skills.

CLASS FORMAT

ACADEMIC DISHONESTY

AAMU's academic dishonesty policies will be strictly followed. Any form of cheating will result in a grade of F and might lead to expulsion from the university. The heavy computational requirement in the course might tempt a student to plagiarize, which is a form of cheating. Academic dishonesty has been defined as follows:

- 1) Plagiarism: To make and pass off as one's own ideas, writing, artistic products, etc. of someone else; for example, submitting, without appropriate acknowledgment, a report, notebook, speech, outline, theme, thesis, or other written, visual, electronic/computerized or oral material that has been knowingly obtained or copied in whole or in part, from the work of others, whether such source is published or unpublished, including (but not limited to) another individual's academic composition, compilation, or other product, or commercially prepared paper.
- 2) Cheating: or dishonest practices in connection with examinations, papers and projects including but not limited to:
 - a. Obtaining help from another student during examinations.
 - b. Knowingly giving help to another student during examinations, taking an examination or doing academic work for another student, or providing one's own work for another student to copy and submit as his/her own.
 - c. The unauthorized use of notes, books, or other online sources of information during examinations.

CLASSROOM RULES AND BEHAVIOR

- 1) Do not use communication devices (such as cell phones, emails, texting, facebook, my space or other social networks or websites) during class. Cell phones must be turned off or put in silence/vibration mode throughout the class time.
- 2) Do not side talk during the lectures. Talking is disruptive to the instructor and to your peers.
- 3) Do not arrive late to class and do not leave the classroom during class meetings. Exceptions may occur for emergency reasons with prior approval of the instructor.

SERVICES FOR PERSONS WITH DISABILITIES

The University provides environmental and programmatic access for persons with documented disabilities as defined in Section 504 of the Rehabilitation Act of 1973 and the Americans with Disability Act of 1990. Any student who desires information or assistance in arranging needed services for a disabling condition should contact the Director of Special Students Services, Student Center, Room 203, 256-372-4263.

ATTENDANCE POLICY

A student is permitted three unexcused absences during semester, after which an official excuse is required or participation grade will be docked.

Undergraduate Attendance (10% of grade): Participation in class is expected, with 10% of the final grade representing class participation. If more than three classes are

missed or attended late without an official excuse attendance grade will drop by 1% (i.e. if you miss, or are late to, five classes, without an official excuse your attendance grade will be 8/10).

Graduate Attendance (5% of grade): Participation in class is expected, with 5% of the final grade representing class participation. If more than three classes are missed or attended late without an official excuse attendance grade will drop by 1% (i.e. if you miss (or are late to) five class, without an official excuse your attendance grade will be 3/5).

TUTORIAL ASSISTANCE

Tutorial assistance for undergraduate courses can be obtained from the Tutorial Assistance Network (TAN), a subsidiary of the Office of Academic Support Services. TAN is located in Room 100C Buchanan Hall. The telephone number is 256-372-5487.

GRADE DETERMINATION - UNDERGRADUATE

Course Requirements	Points Awarded	Percent of Total
Attendance and Participation	250	25
Mid-term Research Paper and Presentation	250	25
Watershed Project	300	30
Final Exam	200	20
TOTAL	1000	100
Grading Scale		
Percent of Points	Number of Points	Grade
90<	900	A
80-90	800	B
70-80	700	C
60-70	600	D
>60	>600	F

DESCRIPTION OF SPECIFIC ASSIGNMENTS

Attendance and Participation (25%): This grade will be based on homework assignments, field trips, class discussion and participation.

Mid-term Research Paper and Presentation (25%): You will be required to write a review paper on the order of 5 pages (12pt, single spaced, not including references) on a topic of your choosing. Original thinking is necessary for a research paper. That said,

original thinking does not amount to asserting your personal opinions without taking into account any appropriate literature on your topic. For a research paper, the challenge is to find a topic which is not too broad and to treat it incisively. You are required to use at least five primary source (from a peer reviewed journal). Reference works, encyclopaedia articles, websites etc. do not meet this requirement. I will be glad to assist in the selection and formulation of the topic. A ten minute presentation is required as part of the assessment.

Watershed Project (30%): Students will be placed in small groups to undertake a field assessment of a subwatershed. This will include site selection, data collection, report and presentation. Groups will use online data to undertake a watershed assessment of hydrological parameters of a given watershed. This will be further discussed in class.

Final Exam (20%): The exam will be comprehensive and include short answer and essay questions. Students who have an A on completing all other work will not be required to sit the final.

COURSE OUTLINE

Dates*	Topics	Assignments
Week 1	Introduction and Overview	
Week 2	Local Rivers & Introduction to Equipment	
Week 3	Water Quality	
Week 4	Forest Hydrology / Urban Hydrology	
Week 5	Rainfall	
Week 6	Floods/Droughts	
Week 7	Agricultural Hydrology	
Week 8	GIS/Data/Watershed Delineations	Paper Due
Week 9	Climate Change	
Week 10	Spring Break	
Week 11	Presentations	
Week 12	Groundwater	
Week 13	Freshwater Ecology	
Week 14	Wetlands	
Week 15	International Issues	
Week 16	Presentation of Watershed Project	Watershed Project Due
Week 17	Final	

Instructor: **Dr. Zachary Senwo**

**College of Agricultural,
Life and Natural Sciences
Alabama A&M University
Normal, AL 35762**

COURSE SYLLABUS

SPRING 2018

Course Number	NRE 491 - Spring 2014
Course Title	Seminar
Call Number/Section	10204
Class Times	1:00 – 1:50 Thursday
Class Location	Room 210, CCS
Prerequisites	N/A
Textbooks	Roger E. Axtell – <i>Do's and Taboos of Public Speaking. How to Get Those Butterflies Flying in Formation.</i> Alley, M. 2003. <i>The craft of scientific presentations: critical steps to succeed and critical errors to avoid.</i> Springer-Verlag, New York. 241p.
Instructor	Zachary Senwo
Office	149 ARC Building
Office Hours	9– 5 pm (Open door policy)
E-mail address	Zachary.senwo@aamu.edu
Telephone number	256-372-4216

**AAMU Quality Enhancement Plan (QEP):
“Enhancing Students’ Critical Thinking Skills”
Critical Thinking Definition:**

Critical thinking is analyzing, evaluating, and synthesizing information into logical conclusions.

COURSE DESCRIPTION

One semester hour. Seminar course. A course designed to help students develop skills

and techniques associated with data gathering and presentation by using audio - visual equipment. Guest speakers will also present topics of general interest in agriculture and environmental science. Prerequisites: Senior classification and consent of instructor.

STUDENT LEARNING OUTCOMES

(1). Students will learn ideas, methods and techniques to enable them improve the content and presentation of scientific seminars; (2) Students will learn some approaches effectively used in assembling, organizing, and presenting professional or scientific results in both oral and poster formats; (3) Students will develop comfortable attitude and ability to speak and communicate with scientific professionals and peers; (4) Students will become familiar with options available for multimedia presentations including computer aided graphics, slide presentations, and the use of light show.

CLASS FORMAT

All students must conduct their studies at AAMU honestly, ethically and in accordance with accepted standards of academic conduct. Any form of academic conduct that is contrary to these standards is academic misconduct, for which AAMU may penalize a student. Specifically it is academic misconduct for a student to: present copied, falsified or improperly obtained data as if it were the result of laboratory work, field trips or other investigatory work; include in the student's individual work material that is the result of significant assistance from another person if that assistance was unacceptable according to the instructions or guidelines for that work; assist another student in the presentation of that student's individual work in a way that is unacceptable according to the instructions or guidelines for that work; cheat; (Cheating is dishonest conduct in assessment); plagiarism (Plagiarism is knowingly presenting the work or property of another person as if it were one's own). I expect work to be turned in on the date it is due. Late work will be penalized accordingly. Students are encouraged to visit the AAMU's **Policies on Academic Misconduct** for further details. All cell phones **MUST** be turned off during lecture and lab exercises. Failure to comply will lead to removal from the lecture class or lab exercise.

COURSE OUTCOMES

(1) Students develop ideas, methods and techniques to improve the content and presentation of scientific seminars; (2) Students understand some approaches in effectively assembling, organizing, and presenting professional or scientific results in both oral and poster formats; (3) Students develop comfortable attitude and ability to speak and communicate with scientific professionals and peers; (4) students become familiar with options available for multimedia presentations that include computer aided graphics, slide presentations, and the use of light show; (5) Students gain knowledge to

critically evaluate and discuss seminar presentations.

SERVICES FOR PERSONS WITH DISABILITIES

The University provides environmental and programmatic access for persons with documented disabilities as defined in Section 504 of the Rehabilitation Act of 1973 and the Americans with Disability Act of 1990. Any student who desires information or assistance in arranging needed services for a disabling condition should contact the Director of Special Students Services, Student Center, Room 203, (256) 372-4263.

STUDY FOLDER

This section is optional

ATTENDANCE POLICY

A student is permitted one (1) unexcused absence for each credit hour generated by the class. For example, two (2) absences are allowed in a two-hour class.

TUTORIAL ASSISTANCE

Tutorial assistance for undergraduate courses can be obtained from the Tutorial Assistance Network (TAN), a subsidiary of the Office of Academic Support Services. TAN is located in Room 100C Buchanan Hall. The telephone number is 256-372-5487.

GRADE DETERMINATION

Course Requirements	Points Awarded	Percent of Total
Presenter's knowledge of the subject	05	10
Presenter's presentation style	05	10
Coverage of topic	05	10
Ability to engage audience	05	10
Presenter's demeanor Enunciation, volume, vocabulary, Clarity and readability	05	10
Good amount of material per slide	05	10
Presenter's effectiveness	05	10
Scientific content and quality and quality of the seminar	05	10
Presenter's response to questions		

TOTAL	50	100
Grading Scale		
Percent of Points 90-100 80-90 70-79 60-69 <60	Number of Points 90 80 70 60 59	Grade A B C D F
List percent of total points required for each letter grade	List required number of points for each letter grade	List letter grades that go with the percents and points.

COURSE OUTLINE

Dates*	Topics	Assignments
Week 1	Overview: Advantages and Disadvantages of Presentation	Read Text
Week 2	Common Errors in Presentations, The Word You Say	Read Text
Week 3	Class Presentation/Adding Flavors to your seminar	Read Text
Week 4	Class presentation, supporting arguments in your seminar	Read Text
Week 5	Class presentation, structure, organization, transitions, depth, emphasis	Read Text
Week 6	Class presentation, visual aids, slides, writing boards, films	Read Text
Week 7	Class presentation, delivery, various styles, opportunity to improve	Read Text
Week 8	Class presentation, critical review	Read Text
Week 9	Class presentation, critical review	Read Text
Week 10	Class presentation, critical review	Read Text
Week 11	Class presentation, critical review	Read Text
Week 12	Class presentation, critical review	Read Text
Week 13	Class presentation, critical review	Read Text
Week 14	Class presentation, critical review	Read Text
Click here to enter text.		

Name_____

College of Agricultural,
Life, and Natural Sciences
Alabama A&M University
Normal, AL 35762

COURSE SYLLABUS

Spring 2018

Course Number	NRE 497
Course Title	Forest Ecological Management Project (This is the final capstone course for Forestry seniors)
Call Number/Section	10205, Section 01
Class Times	Lectures: Fridays 8:00-9:50 a.m. Labs: Fridays from 10:00 a.m. to 3:00 p.m. Plus, you meet with individual faculty for tutoring and assistance with your plan outside these hours. The above meeting locations are according to the catalog. However, most weeks we will be meeting in the ARC Bldg Computer Lab or in front of the ARC Building. When going to the field, we will be in the van by 7:55, so we can leave at 8:00 a.m. for the landowner's property
Class Location	CCB, Room 113, but will be in the field. If weather does not permit, we'll be in the ARC computer lab. Most weeks we will be meeting in front of the ARC Building. When going to the field, we will be in the van by 7:55, so we can leave at 8:00 a.m. for the landowner's property. Always be dressed appropriately for the weather and field conditions. Bring water, lunch, and anything else you will need between 8 a.m. and 3 p.m. while we are in the field.
Prerequisites	Forest Ecology NRE 379, Forest Measurements NRE 371, Silviculture NRE 375, Forest Ecological Management NRE 474, and all courses that are prerequisites for them.
Textbook (required)	None. You need knowledge accumulated during your forestry courses up to this point. You will use your Forestry textbooks (Forest Measurements, Silviculture, Forest Ecology, Pest Management, Economics, the book for the precapstone course, etc.). We will cover some new and more advanced concepts from the NRE 474 book and other sources. You will need to become

	quite proficient at using spreadsheets and their linear programming function (e.g., MSExcel, LibreOffice Calc), word processors (e.g., MSWord, LibreOffice Writer), GIS software (ArcGIS, QGIS), and other software (including Forest Vegetation Simulator (FVS). I will be uploading useful publications, documents, volume and yield tables, etc. on Blackboard. For GIS data you can use sources such as the USDA Geospatial Data Gateway at http://datagateway.nrcs.usda.gov/
Instructor	Dr. Luben Dimov
Office	Agricultural Research Center (ARC) Building, Room 146
Office Hours	Monday and Tuesday 1:15-3:30, Wednesday 1:15-1:50, Thursday 9:20-2:15, or by appointment
E-mail address	Luben.Dimov@aamu.edu
Telephone number	256-372-4545

AAMU Quality Enhancement Plan (QEP):
“Enhancing Students’ Critical Thinking Skills”
Critical Thinking Definition:

Critical thinking is analyzing, evaluating, and synthesizing information into logical conclusions.

COURSE DESCRIPTION

Develop a forest management plan for a real landowner. The plan will be based on landowner objectives and constraints, best management practices, and maintaining forest site productivity, forest ecosystem services, functions, and resilience.

The main objective is for the students to demonstrate proficiency in all subjects from the major and to excel in problem solving, critical thinking, and communication.

Specifically:

1. Identify landowner objectives.
2. Identify and measure land areas and conduct spatial analyses.
3. Design and implement comprehensive land, forest, and wildlife inventories as well as surveys for determining Habitat Suitability Indices (HSI) for species of interest.
4. Analyze inventory data and project future conditions.
5. Assess abiotic and biotic components of forest ecosystems.
6. Develop silvicultural prescriptions appropriate for the management objectives and the results from the inventory.
7. Develop management plan alternatives addressing multiple objectives and constraints.
8. Integrate necessary financial, social and legal aspects into a management plan.
9. Communicate in written and oral formats to both expert and non-expert audiences.
10. Demonstrate teamwork, cooperation, professionalism, and adherence to standards of professional ethics.

STUDENT LEARNING OUTCOMES

Upon completion of this course, you will:

- Have the experience and be able to design a forest management plan that is based on the principles of sustainable forest ecosystem-level management and takes into account the major federal and state rules and regulations constraining and regulating forest management activities
- Be able to use Geographic Information Systems (GIS) technology and apply it for management of forest ecosystems
- Be able to present orally and in writing as formal document the forest management plan

CLASS FORMAT

Much less lectures and a lot more laboratory exercises for field data collection, analysis, and preparation of forest management plans.

ACADEMIC HONESTY

In this class, you can work together on lectures and homework, but you must do your own work during tests and quizzes. Any form of cheating will be dealt with according to the Academic Policies and Procedures Manual.

If there is academic misconduct during an exam, a student gets zero points on that particular exam. Academic misconduct during a quiz results in zero points on the particular quiz. If there is academic misconduct during any exam or a quiz, a student will not get any bonus points or curving of the grade that the rest of the students may get. Additional disciplinary measures are also possible, as per the Academic Policies Manual.

Academic misconduct includes cheating (using or attempting to use unauthorized materials, information, or study aids in any academic exercise), plagiarism (representing the words, ideas, or data of another as one's own in any academic exercise), fabrication (unauthorized falsification or invention of any information or citation in an academic exercise), aiding and abetting academic dishonesty (intentionally or knowingly helping or attempting to help another student commit an act of academic dishonesty).

All students in attendance at Alabama A&M University are expected to be honorable and to observe standards of conduct appropriate to a community of scholars. The University expects from its students a higher standard of conduct than the minimum required to avoid discipline. All

acts of dishonesty in any academic work constitute academic misconduct. This includes, but is not necessarily limited to, the following:

31. Cheating – using or attempting to use unauthorized materials, information, or study aids in any academic exercise.
32. Plagiarism – representing the words, ideas, or data of another as one's own in any academic exercise.
33. Fabrication – unauthorized falsification or invention of any information or citation in an academic exercise.
34. Aiding and abetting academic dishonesty – intentionally or knowingly helping or attempting to help another student commit an act of academic dishonesty.
35. Acts of academic misconduct may be punishable by one of the following:
 - Letter of academic misconduct placed in the student's academic folder.
 - Temporary suspension from the University.
 - Expulsion from the University.
 - Expulsion from a class by the instructor which could possibly result in a failing grade.
 - Lowering of a final grade.
 - Academic discipline resulting in the loss of scholarships, nonparticipation in academic related activities, etc.

Ethics: Students are expected to adhere to professional ethics, e.g., the Society of American Foresters Code of Ethics available at safnet.org/about/codeofethics.cfm Ethics will be reinforced throughout the duration of a course through class work and examples of real life situations.

CLASSROOM ETIQUETTE SUMMARIZED (from AAMU Student Guidebook)

DO:

- Be prepared and on time in class
- Have your textbook, notebook, calculator and pen/pencil ready.
- Raise your hand to ask question
- Do wait your turn to speak
- Alert your professor if you are going to be absent (planned)
- Turn off or put on silent mode your cell phone while in class.

DON'T:

- Be chronically late or absent
- Hold private conversation in class while the professor is lecturing
- Answer your cell phone or send text messages
- Forget to take your hat/cap off when you enter the building
- Eat in class without the permission of the instructor.

For more information, please refer to the [classroom code of conduct](http://www.aamu.edu/campuslife/studentresources/Classroom%20Code%20of%20Conduct/Classroom%20Code%20of%20Conduct.pdf) which can be found at:
<http://www.aamu.edu/campuslife/studentresources/Classroom%20Code%20of%20Conduct/Classroom%20Code%20of%20Conduct.pdf>

SERVICES FOR PERSONS WITH DISABILITIES

Disability statement (Americans with Disabilities Act): Alabama A&M University is committed to serving the needs of students with disabilities, and the institution recognizes its responsibility for creating an instructional climate in which a student with disabilities can succeed. A student with a disability who needs academic accommodation should:

(1) Register with and provide documentation to the AAMU certifying official in the Office of Disability Services to verify eligibility and to discuss the options for reasonable academic accommodations that might be available.

(2) Provide a letter to me indicating the type of accommodation that is needed.

This syllabus and other course materials are available in alternative format upon request. For more information about services available to AAMU students with disabilities, please go to the Office of Disability Services in Room 106, Carver Complex South or call 256-372-4263 or 256-372-5805.

NON-DISCRIMINATION AND ANTI-HARASSMENT STATEMENT

The University is committed to a work environment in which all individuals are treated with respect and dignity. Therefore, discrimination or harassment based on age, race, gender, color, religion, national origin, disability, genetic information, sexual orientation, covered veteran status, or any other characteristics protected under state, federal, or local law will not be tolerated. The full policy document can be found at:

<http://www.aamu.edu/administrativeoffices/hrservices/Documents/6.10%20-%20Non-Discrimination%20and%20Anti-Harassment%20Policy.pdf>

STUDY FOLDER

From the AAMU front page go to myAAMU and then click Blackboard where I will upload files.

ATTENDANCE POLICY

Arrival on time and attendance of lectures and labs are required. If you arrive late you may miss a quiz and get zero points on it. Three late arrivals are equal to one absence. If you will have to miss a class, you need to notify me in advance by email or phone.

When there is an exam, you have to come to the classroom on time or no more than 5 minutes late in order to be allowed to take an exam. Arriving later than that disturbs everyone who came on time.

You are required to be on time and will be evaluated on that. The university rule is that you can have one unexcused absence per credit hour. Our forestry program also has this additional rule – for the next unexcused absence, after you reached your one absence per credit hour, you lose 2 points from the final grade; miss another, lose 3 more points; miss

another, lose 5 points. For labs, you can miss 1 lab. After that, if you miss another lab, you lose 5 points from the final grade. And 5 more next time. If a student is more than 5 minutes late for class, that's considered absence. For assignments, if you are submitting late, we will drop one letter grade for that assignment if late up to 24 hours. If the assignment is more than 24 hours late, then no points are awarded. For short (little) assignments, if you're late at all, you lose all points. The instructor determines if an assignment is considered short. Be sure to attend particularly when we have guest lecturers.

TUTORIAL ASSISTANCE

Tutorial assistance for undergraduate courses can be obtained from the Tutorial Assistance Network (TAN), located in Room 233 Thomas Hall. Their telephone number is 256-372-5487. Details can be found at their website:

<http://www.aamu.edu/Academics/academicresources/Pages/Tutorial-Assistance-Network.aspx>

GRADE DETERMINATION

A = 90 to 100, B = 80 to 89.9, C = 70 to 79.9, D = 60 to 69.9, F = 0 to 59.9.

Weight:

1. Management plan	40% - does the plan address the landowner objectives and constraints, provide alternatives, etc.
2. Presentation and defense of plan	15% - before faculty, students, and the landowner
3. Individual testing during the field data collection	20% - you will be tested in species ID and scientific names, pacing, tree dbh, height and other measurements, tree grading, and others
3. Attendance, participation, professionalism:	10% - attendance, active participation, professional and ethical behavior, helping others. You are being evaluated at every class
4. Oral testing/quizzing by all faculty on the plan and other forestry topics	15%

COURSE OUTLINE

Content of Management Plan

You should make your forest management plan so well that it is something you are proud of and you would want to show to your friends, relatives, and future employers. The content of the final forest management plan has to include at least these items:

1. Objectives and goals of the landowner
2. Maps, recent aerial images, property information (total acres, acres in timber, etc.)
3. Inventory – description of how the plot locations were chosen, what was measured and how, how the calculations were made, what sources were used (which growth and yield tables, diagrams, articles, etc.), followed by timber volume by species and product class, stumpage prices, soils, riparian areas, advance regeneration, wildlife habitat characteristics that are necessary for calculating habitat suitability indices, recreational features, etc.
4. Projections – value of each attribute from “3” above in 10 years for each proposed managed alternative
5. Recommendation for which activities need to be carried out and when
6. How the outcome differs from the outcome of the other alternatives
7. Timeline (e.g., table 1.1 in your book for NRE 474)

All data and technical information about how all calculations were done has to be included in appendices at the end. References to any publications that are cited must also be enclosed there.

Faculty Review

Throughout the course, your draft reports will be reviewed by me and by other professors in several areas, including measurements, silviculture, wildlife, economics, pest management, etc.

Important Deadlines

The management plans and all the data (spreadsheets, GIS data and layers, etc.) are due by 7 a.m. on Monday, April 9.

The faculty will then give you feedback by about Monday, April 16. You will have several days to address issues raised by the reviewers (the faculty).

The presentation and defense of your updated plans will be from 8 a.m. to 3 p.m. on Friday, April 20.

Within a few days you will get more feedback from all faculty.

The revised final versions of your plans and data are due by 7a.m. on Wednesday, April 25.

Your final grades have to be submitted by 10am on Thursday, April 26.

Exhibit V-3.

Student Course Evaluation Form and
Recent Summaries for Forestry Courses



Fall 2016 Course Evaluation for Subject (Secondary Subject)

Dear [R\$FN] [R\$LN]

On behalf of the Course Evaluations service at AAMU, we are seeking your feedback on the courses you are currently taking. This feedback will help your instructors, departments, and the university better understand and address the concerns of students such as yourself.

For each question, please select the answer which best reflects your experience with the instructor, course, and your personal efforts. Also, we would greatly appreciate any detailed feedback you might have, which you can provide at the end of the evaluations.

Because your feedback is important, we may send reminders after a few days if we have not received your reply. We greatly appreciate your help and input.

- To save your answers and move onto the next section, just click the "NEXT" button
- Please remember to click the "SUBMIT" button after you complete the survey.
- If you are unable to complete the survey in one session, make sure to save your review by clicking the "SAVE" button (under "OPTION" on mobile).

To resume a previously saved survey, return to your original email containing the link to your course feedback. If your session times out prior to submitting, please return to your original email.

Course Evaluation Team
OIPRE

[Previous](#)[Next](#)[Save](#)[Submit](#)

[Mobile Version](#) | [Standard Version](#)





Copy of Instructor Report for Kozma Naka (Biometry)

Fall 2016 Course Evaluation

Project Audience 16

Responses Received 1

Response Ratio 6%

Report Comments

Department	NRE
School	AG
Level	UG

Prepared by eXplorance Support

Creation Date Thu, Mar 30, 2017



Alabama A&M University

Course Evaluations

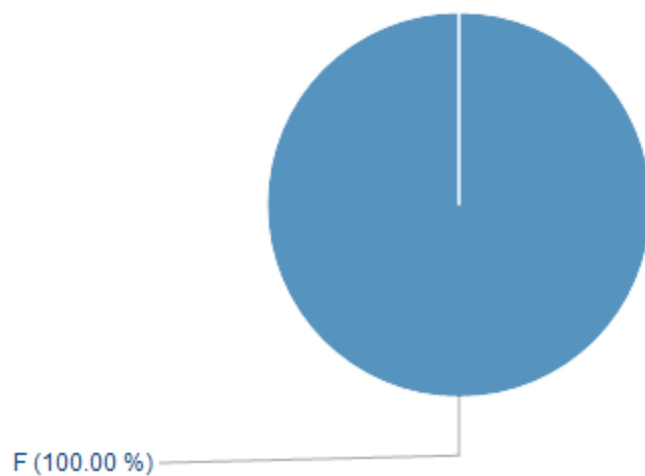
Interpretation guidelines

The value "4" represents "Strongly Agree" while the value "1" represents "Strongly Disagree".
No questions have been defined as mandatory, so students may skip answering certain questions.
An open ended comment field has been added to the end of the questionnaire

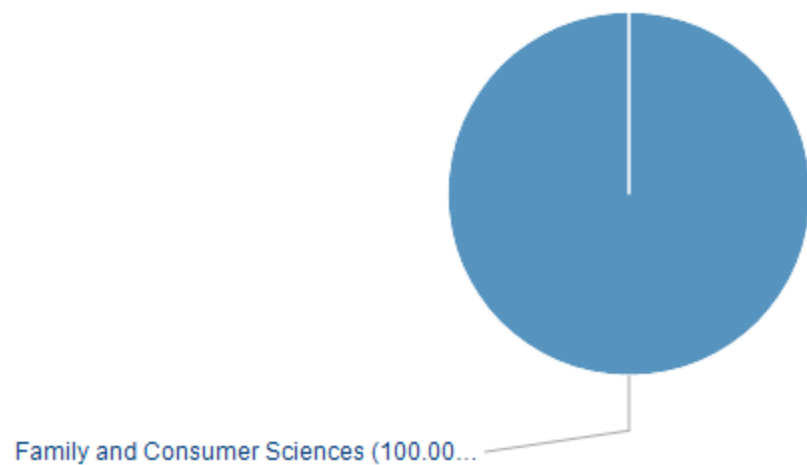
Teacher	Course
Kozma Naka	Biometry

Course Demographics

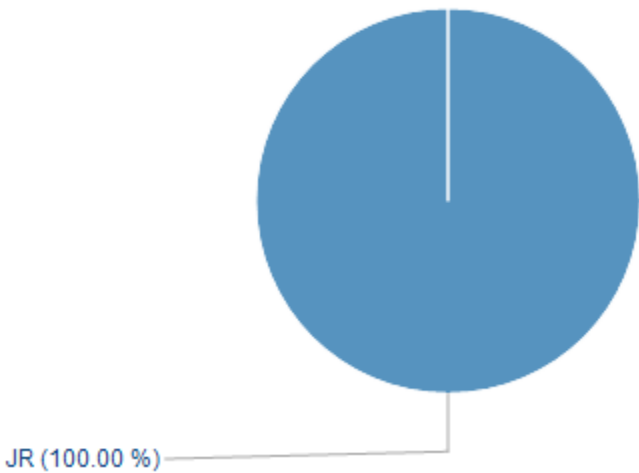
Gender Distribution



Disicipline Breakdown



Grade Breakdown



Competency Summary

Competency	Your Score	Standard Deviation	Min	Max
Instructor's Communication Skills	2.25	+/-0.50	2.00	3.00
Instructor's Support of Student Learning	2.71	+/-0.49	2.00	3.00
Instructor's Organization and Preparation	3.00	+/-0.00	3.00	3.00
Overall, I rate this as a good course.	3.00	+/-0.00	3.00	3.00
Total Score		2.74		

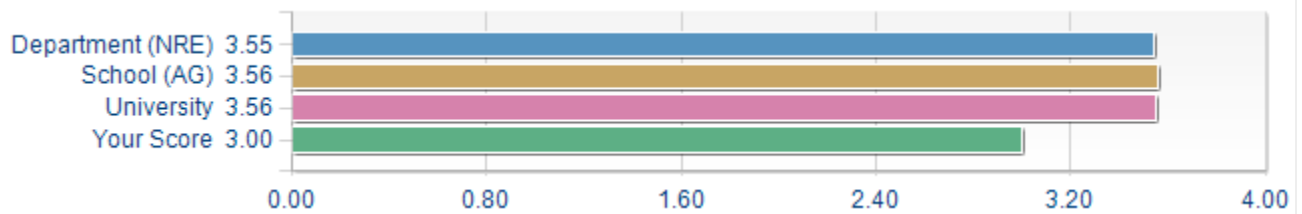
Instructor's Organization and Preparation

Frequency Distribution

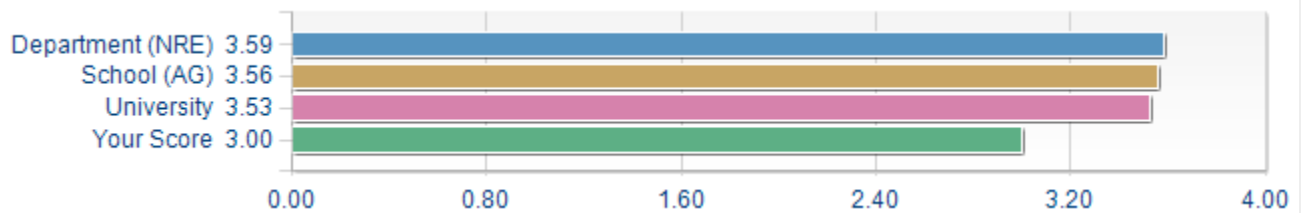
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor's objectives for the course have been made clear.	1	0	1	0	0	3.00	N/A
The instructor began and ended class on time.	1	0	1	0	0	3.00	N/A
The instructor has current professional knowledge and abilities.	1	0	1	0	0	3.00	N/A
The instructor was well-prepared for each class.	1	0	1	0	0	3.00	N/A
The instructor exhibits professional dispositions at all times.	1	0	1	0	0	3.00	N/A
The instructor seemed to enjoy teaching.	1	0	1	0	0	3.00	N/A
The instructor engages in continuous professional development.	1	0	1	0	0	3.00	N/A

Score Comparison

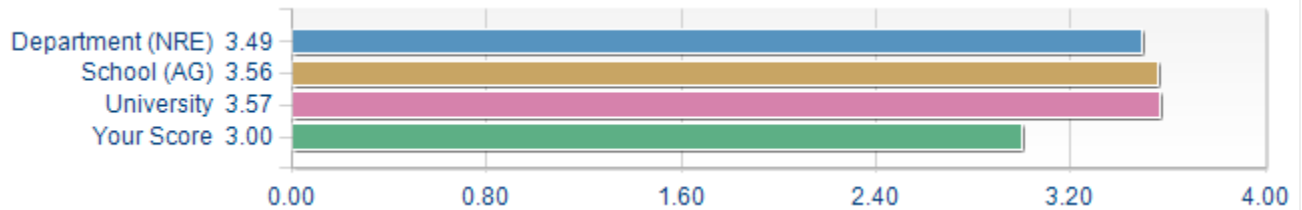
Overall



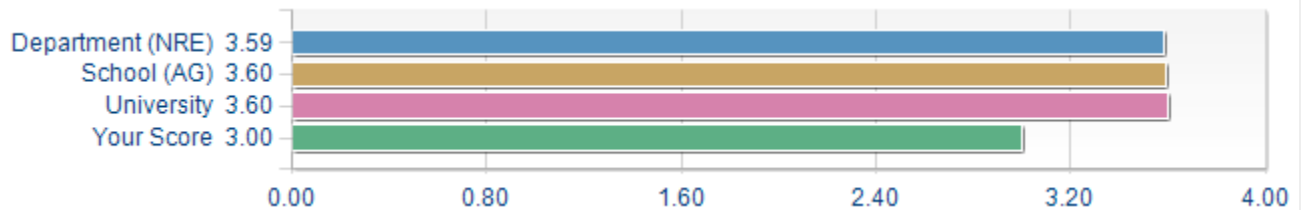
1. The instructor's objectives for the course have been made clear.



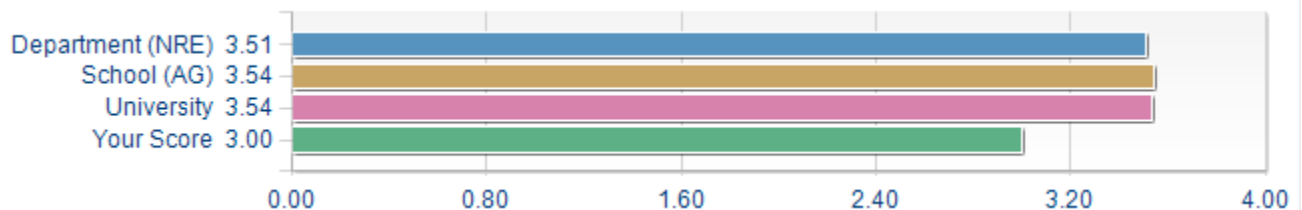
2. The instructor began and ended class on time.



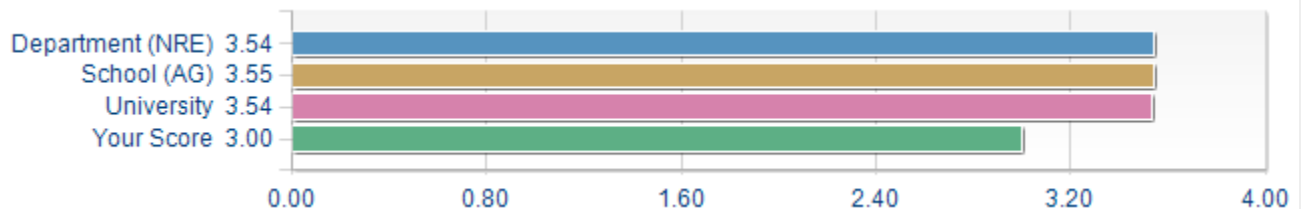
3. The instructor has current professional knowledge and abilities.



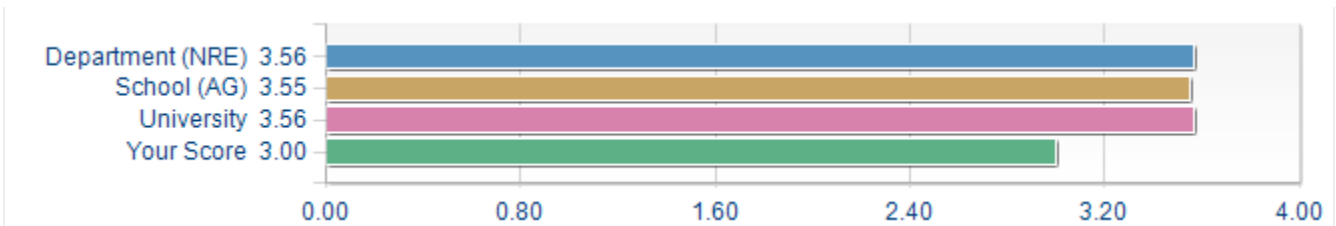
4. The instructor was well-prepared for each class.



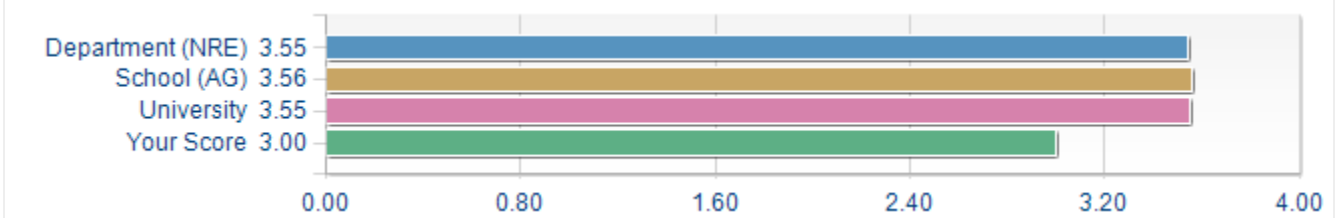
5. The instructor exhibits professional dispositions at all times.



6. The instructor seemed to enjoy teaching.



7. The instructor engages in continuous professional development.



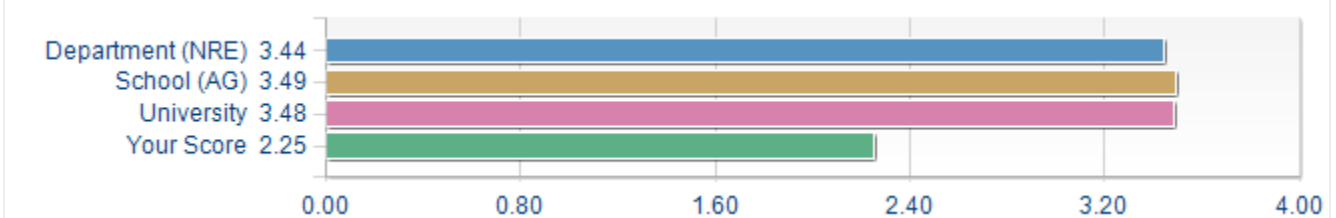
Instructor's Communication Skills

Frequency Distribution

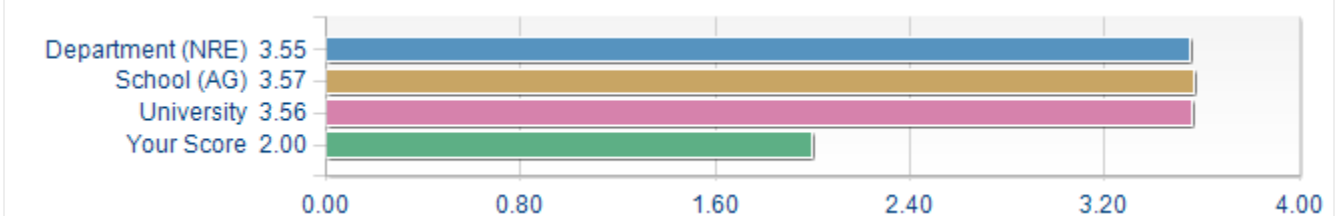
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.	1	0	0	1	0	2.00	N/A
The instructor presented the subject matter in a clear and organized manner.	1	0	0	1	0	2.00	N/A
The pace at which the instructor covered the subject matter was appropriate.	1	0	0	1	0	2.00	N/A
The instructor is a proficient and effective communicator.	1	0	1	0	0	3.00	N/A

Score Comparison

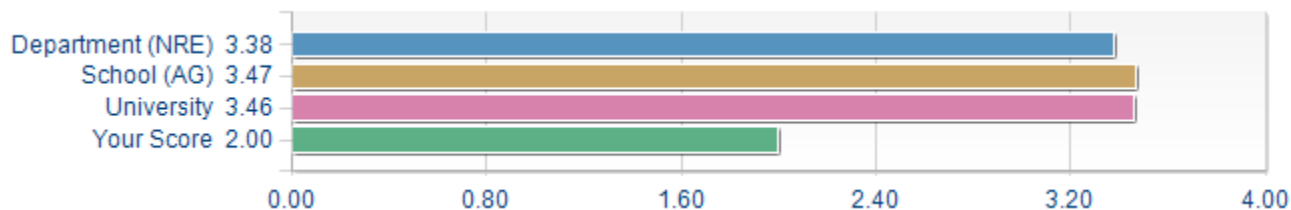
Overall



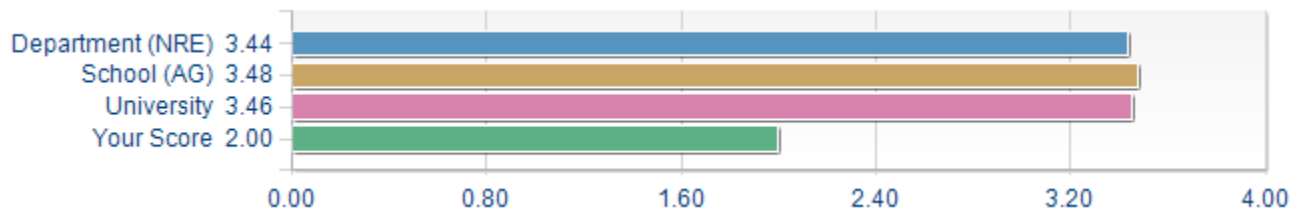
1. The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.



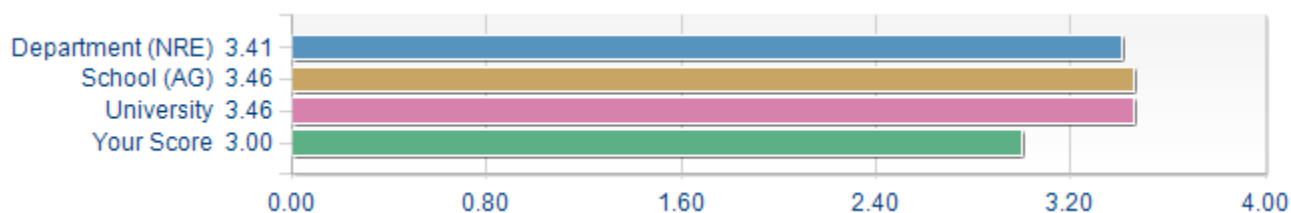
2. The instructor presented the subject matter in a clear and organized manner.



3. The pace at which the instructor covered the subject matter was appropriate.



4. The instructor is a proficient and effective communicator.



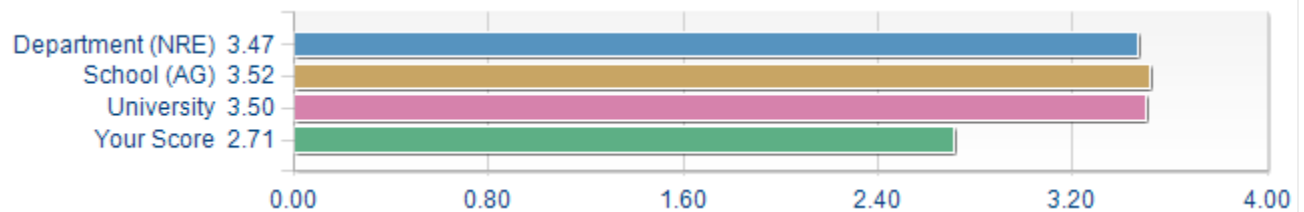
Instructor's Support of Student Learning

Frequency Distribution

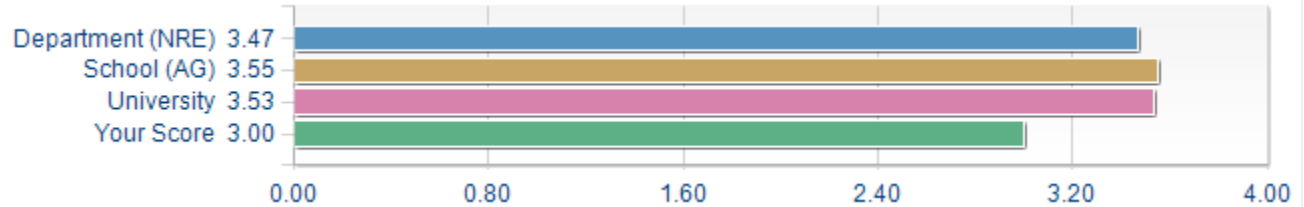
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor creates and maintains a positive and supportive learning environment.	1	0	1	0	0	3.00	N/A
The instructor effectively assesses the student learning.	1	0	1	0	0	3.00	N/A
The instructor returned tests and assignments within a reasonable amount of time.	1	0	1	0	0	3.00	N/A
The instructor effectively facilitates learning by all students.	1	0	1	0	0	3.00	N/A
The instructor was available for extra help.	1	0	1	0	0	3.00	N/A
The instructor seemed genuinely concerned with students' progress.	1	0	0	1	0	2.00	N/A
The instructor was open to students' viewpoints.	1	0	0	1	0	2.00	N/A
The instructor is available during office hours.	0	0	0	0	0	NRP	NRP

Score Comparison

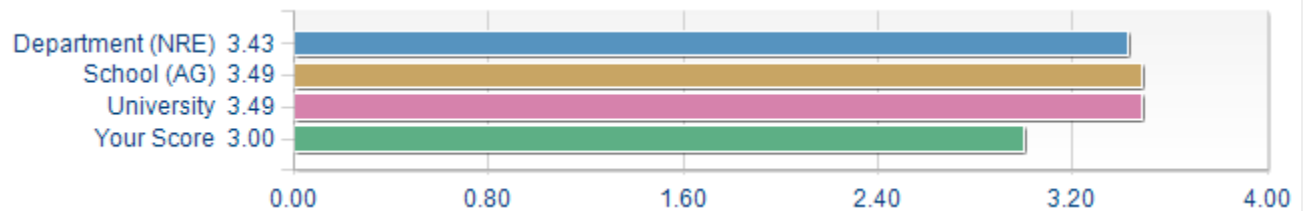
Overall



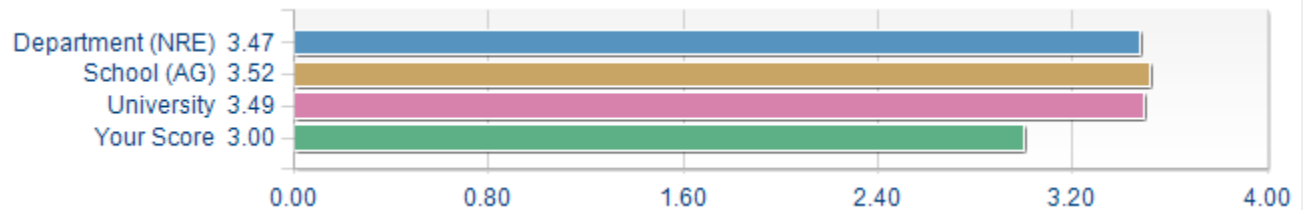
1. The instructor creates and maintains a positive and supportive learning environment.



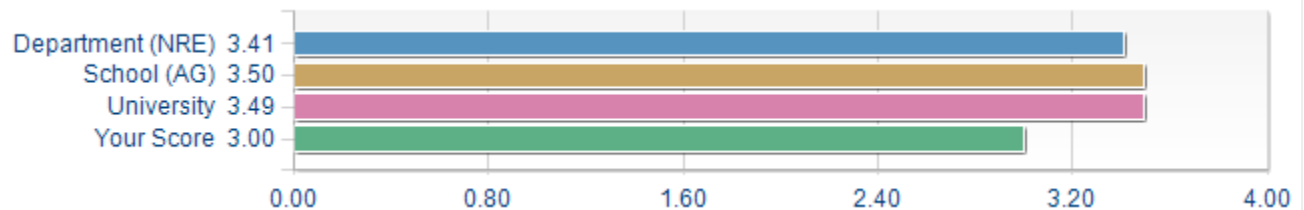
2. The instructor effectively assesses the student learning.



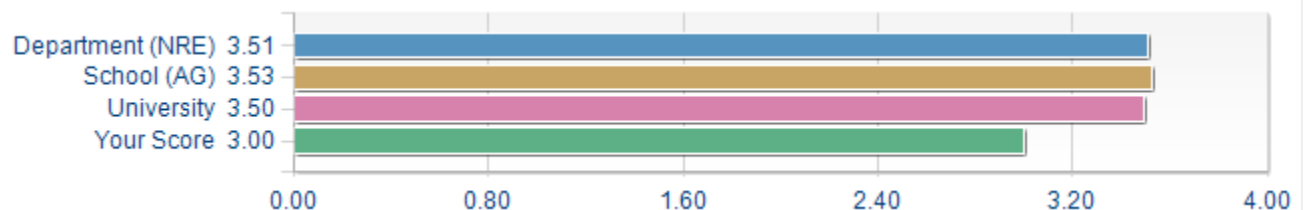
3. The instructor returned tests and assignments within a reasonable amount of time.



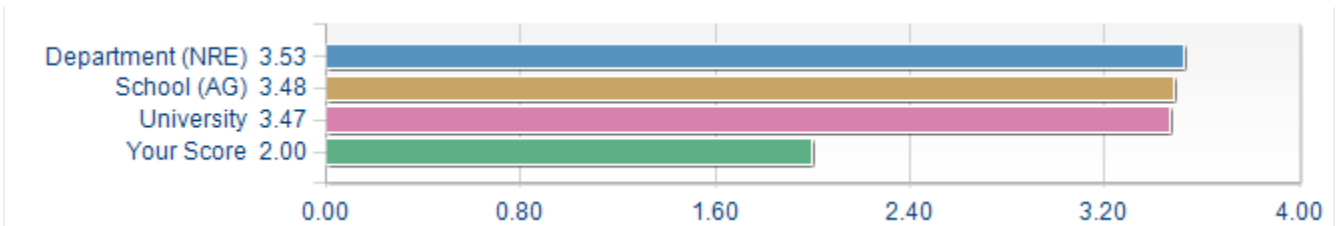
4. The instructor effectively facilitates learning by all students.



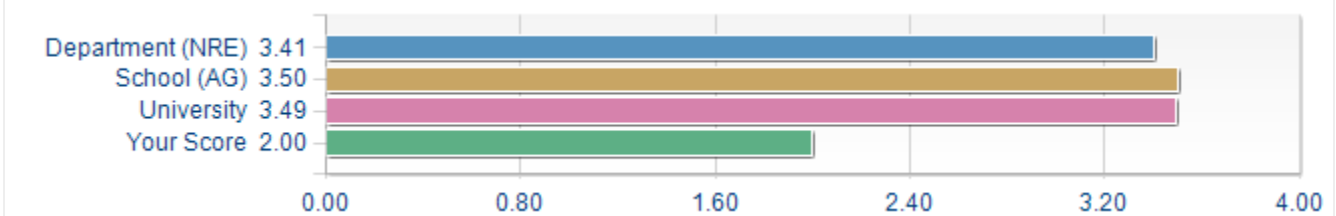
5. The instructor was available for extra help.



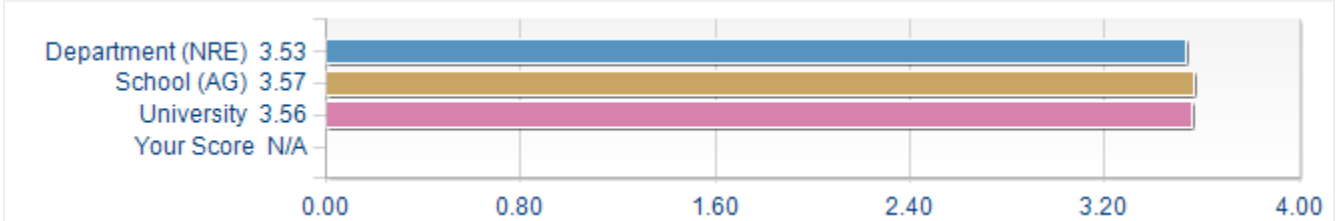
6. The instructor seemed genuinely concerned with students' progress.



7. The instructor was open to students' viewpoints.



8. The instructor is available during office hours.

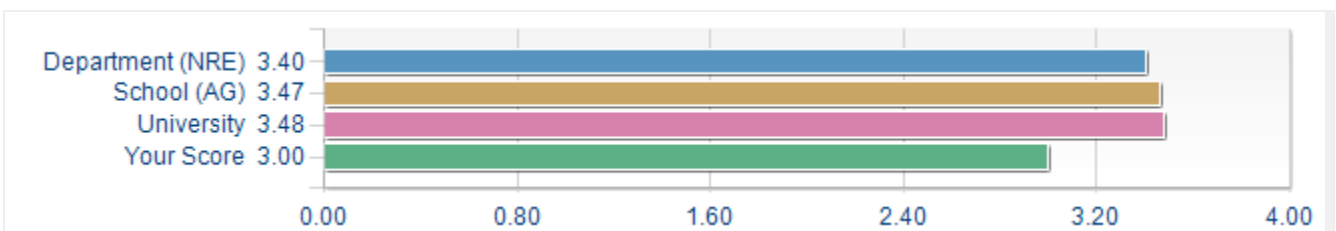


Overall Course Questions

Frequency Distribution

	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
Overall, I rate this as a good course.	1	0	1	0	0	3.00	N/A

Score Comparison



Rating scale questions, top and bottom ranks for Instructor Questions

Strengths		
1	The instructor's objectives for the course have been made clear.	3.00
2	The instructor began and ended class on time.	3.00
3	The instructor has current professional knowledge and abilities.	3.00

Areas for Improvement		
1	The instructor made class policies, such as attendance, grading, behavior, etc., clear at the beginning of the semester.	2.00

Instructor Report for Kozma Naka (Biometry)

2	The instructor presented the subject matter in a clear and organized manner.	2.00
3	The pace at which the instructor covered the subject matter was appropriate.	2.00



Copy of Instructor Report for Troy Bowman (Environmental Policy & Law)

Fall 2016 Course Evaluation

Project Audience 6

Responses Received 1

Response Ratio 17%

Report Comments

Department	NRE
School	AG
Level	UG

Prepared by eXplorance Support

Creation Date Thu, Mar 30, 2017



Alabama A&M University

Course Evaluations

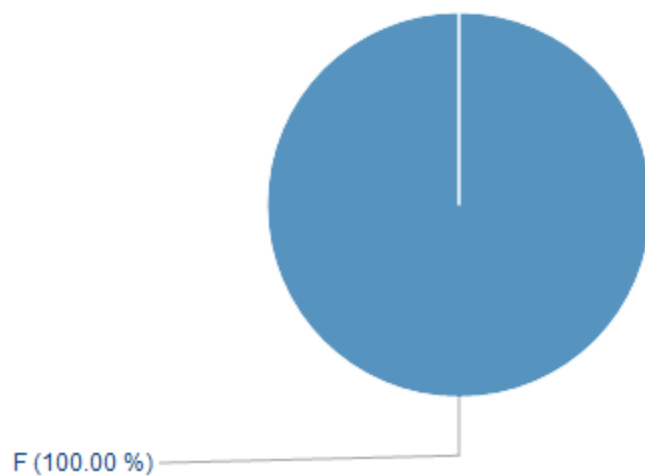
Interpretation guidelines

The value "4" represents "Strongly Agree" while the value "1" represents "Strongly Disagree".
No questions have been defined as mandatory, so students may skip answering certain questions.
An open ended comment field has been added to the end of the questionnaire

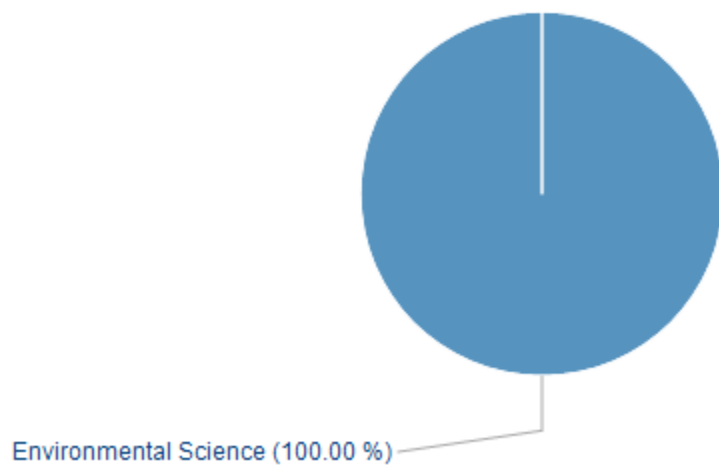
Teacher	Course
Troy Bowman	Environmental Policy & Law

Course Demographics

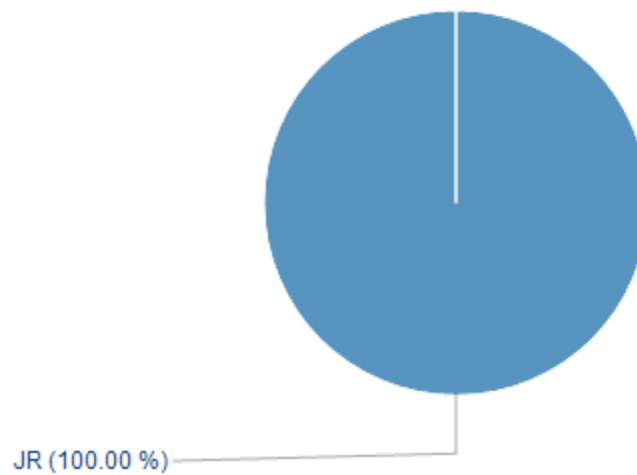
Gender Distribution



Disicipline Breakdown



Grade Breakdown



Competency Summary

Competency	Your Score	Standard Deviation	Min	Max
Instructor's Organization and Preparation	4.00	+/-0.00	4.00	4.00
Instructor's Communication Skills	4.00	+/-0.00	4.00	4.00
Instructor's Support of Student Learning	4.00	+/-0.00	4.00	4.00
Overall, I rate this as a good course.	4.00	+/-0.00	4.00	4.00
Total Score		4.00		

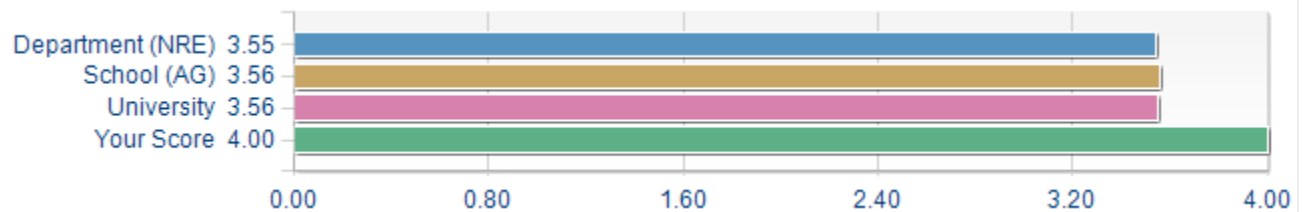
Instructor's Organization and Preparation

Frequency Distribution

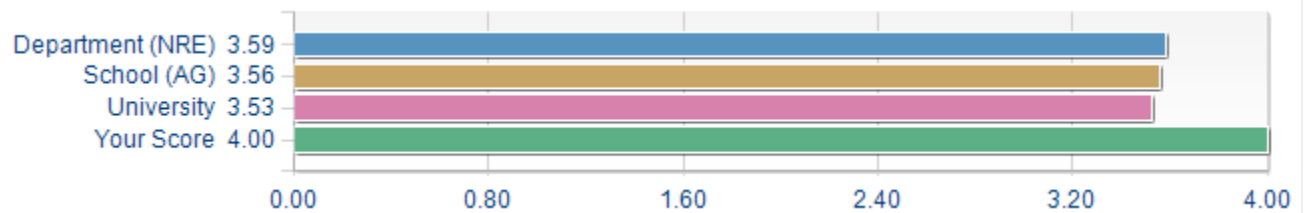
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor's objectives for the course have been made clear.	1	1	0	0	0	4.00	N/A
The instructor began and ended class on time.	1	1	0	0	0	4.00	N/A
The instructor has current professional knowledge and abilities.	1	1	0	0	0	4.00	N/A
The instructor was well-prepared for each class.	1	1	0	0	0	4.00	N/A
The instructor exhibits professional dispositions at all times.	1	1	0	0	0	4.00	N/A
The instructor seemed to enjoy teaching.	1	1	0	0	0	4.00	N/A
The instructor engages in continuous professional development.	1	1	0	0	0	4.00	N/A

Score Comparison

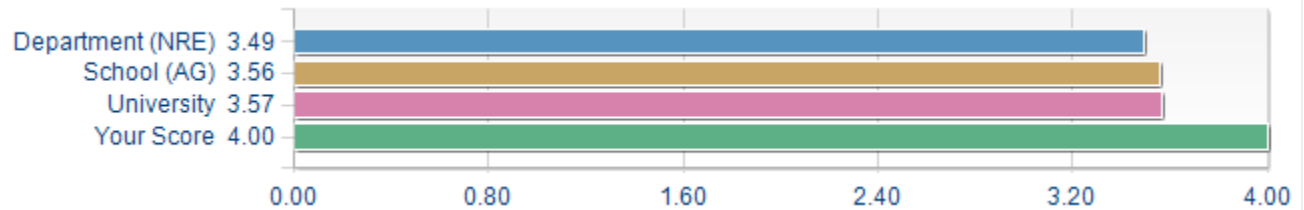
Overall



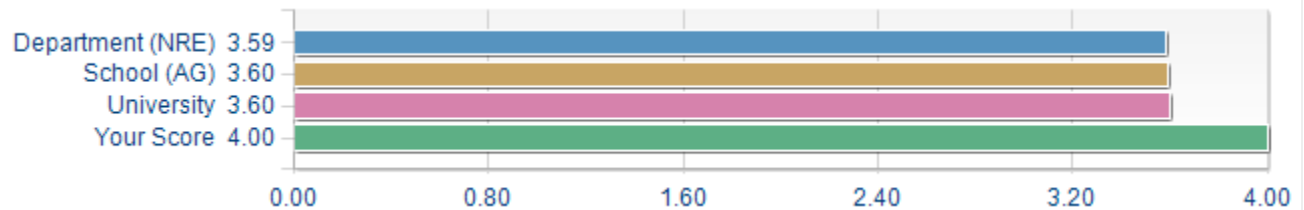
1. The instructor's objectives for the course have been made clear.



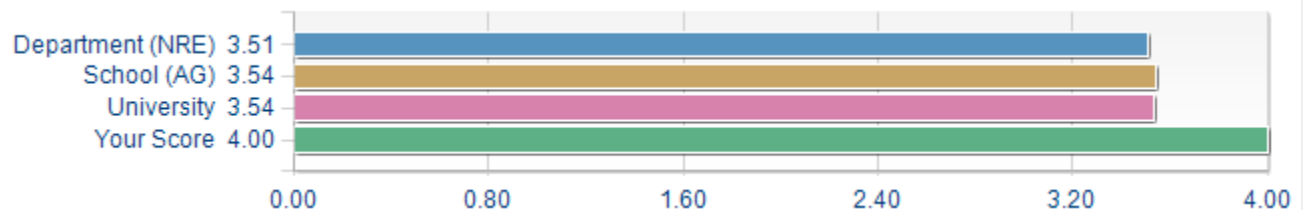
2. The instructor began and ended class on time.



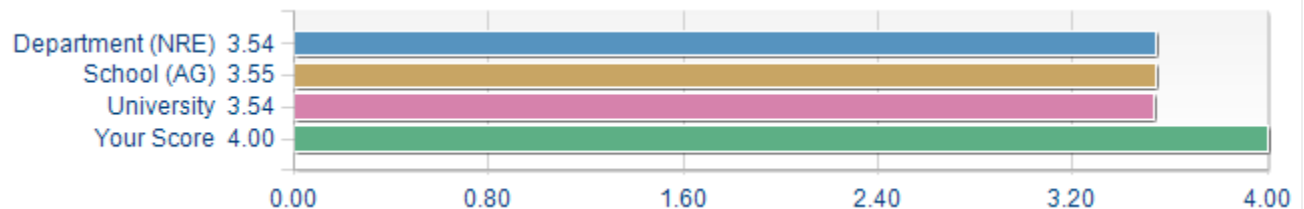
3. The instructor has current professional knowledge and abilities.



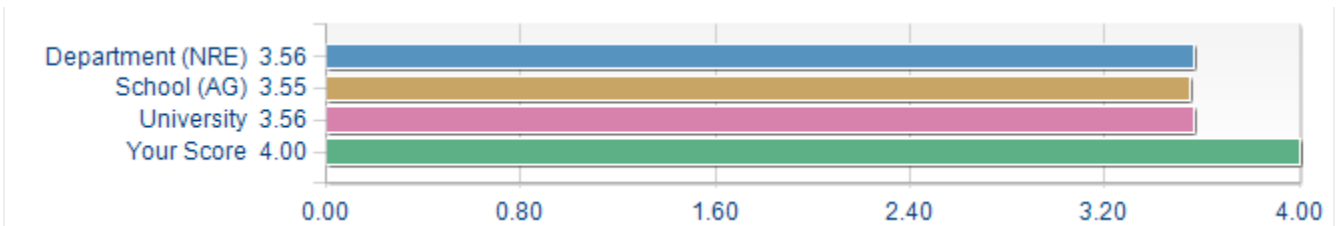
4. The instructor was well-prepared for each class.



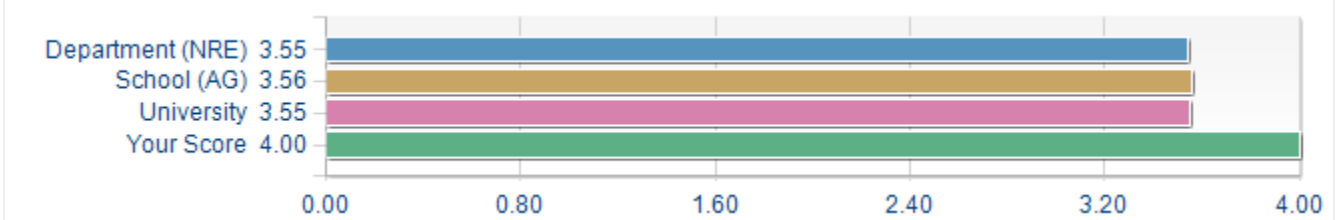
5. The instructor exhibits professional dispositions at all times.



6. The instructor seemed to enjoy teaching.



7. The instructor engages in continuous professional development.



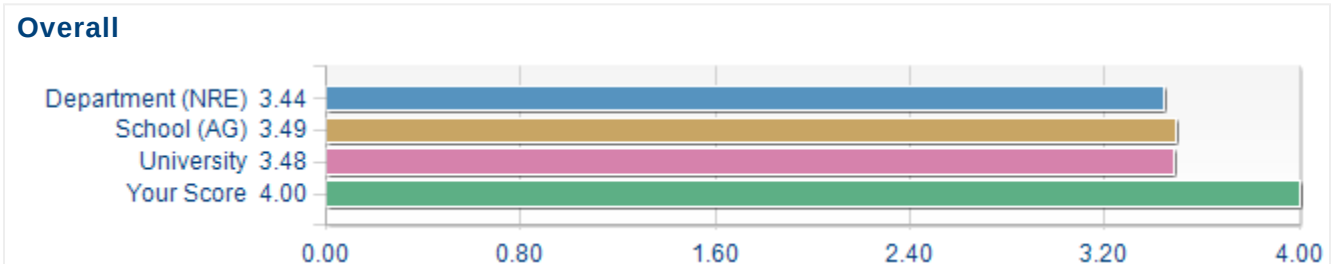
Instructor's Communication Skills

Frequency Distribution

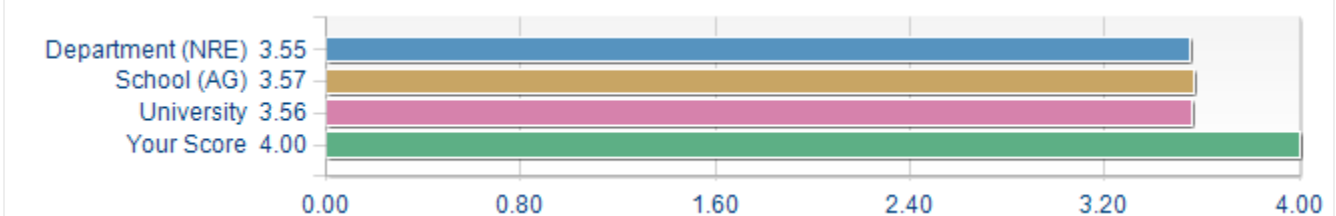
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.	1	1	0	0	0	4.00	N/A
The instructor presented the subject matter in a clear and organized manner.	1	1	0	0	0	4.00	N/A
The pace at which the instructor covered the subject matter was appropriate.	1	1	0	0	0	4.00	N/A
The instructor is a proficient and effective communicator.	1	1	0	0	0	4.00	N/A

Score Comparison

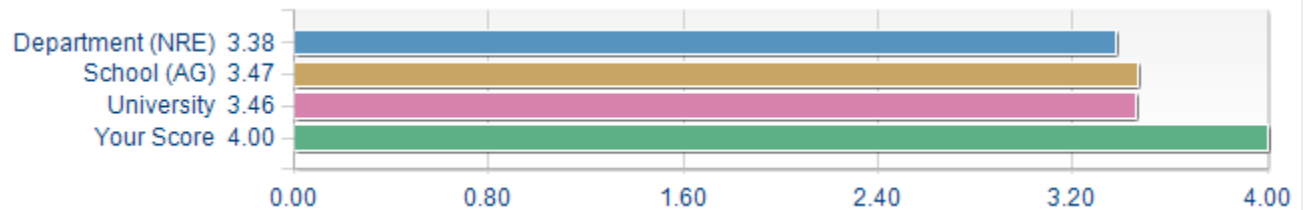
Overall



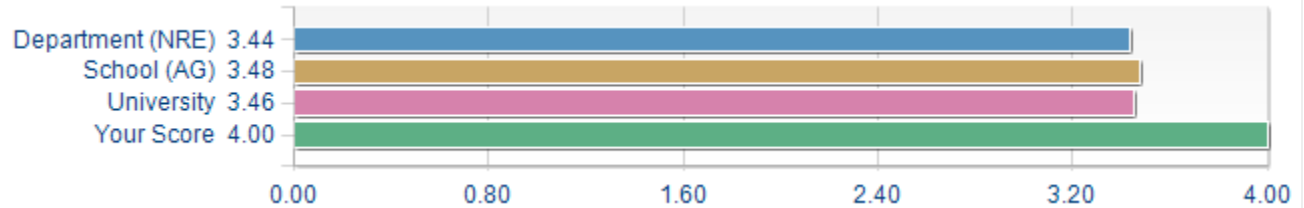
1. The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.



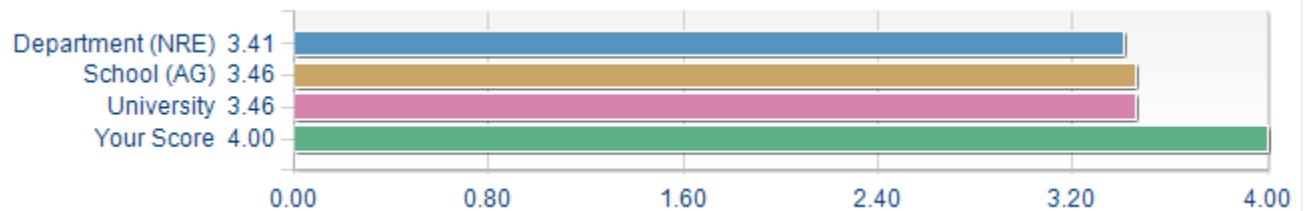
2. The instructor presented the subject matter in a clear and organized manner.



3. The pace at which the instructor covered the subject matter was appropriate.



4. The instructor is a proficient and effective communicator.



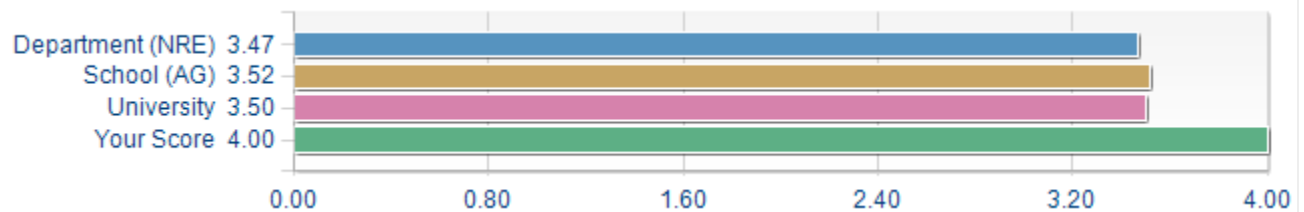
Instructor's Support of Student Learning

Frequency Distribution

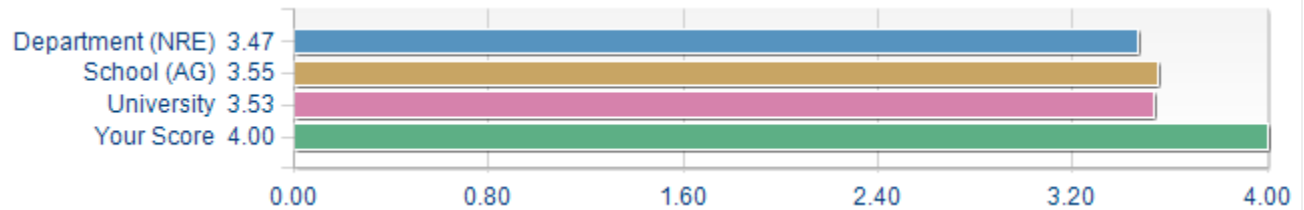
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor creates and maintains a positive and supportive learning environment.	1	1	0	0	0	4.00	N/A
The instructor effectively assesses the student learning.	1	1	0	0	0	4.00	N/A
The instructor returned tests and assignments within a reasonable amount of time.	1	1	0	0	0	4.00	N/A
The instructor effectively facilitates learning by all students.	1	1	0	0	0	4.00	N/A
The instructor was available for extra help.	1	1	0	0	0	4.00	N/A
The instructor seemed genuinely concerned with students' progress.	1	1	0	0	0	4.00	N/A
The instructor was open to students' viewpoints.	1	1	0	0	0	4.00	N/A
The instructor is available during office hours.	1	1	0	0	0	4.00	N/A

Score Comparison

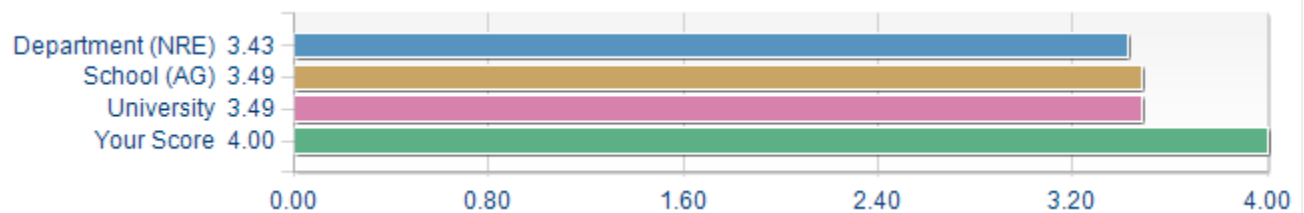
Overall



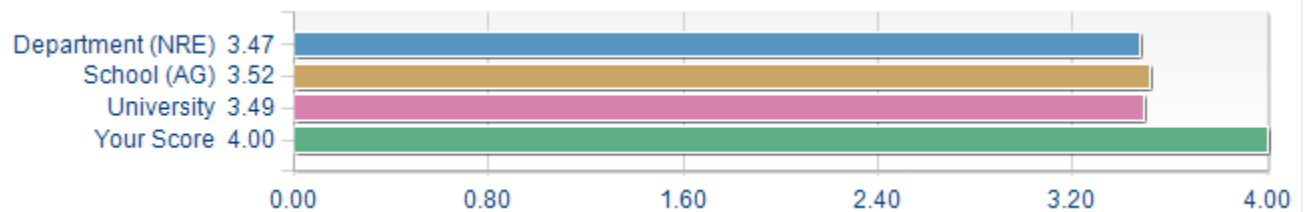
1. The instructor creates and maintains a positive and supportive learning environment.



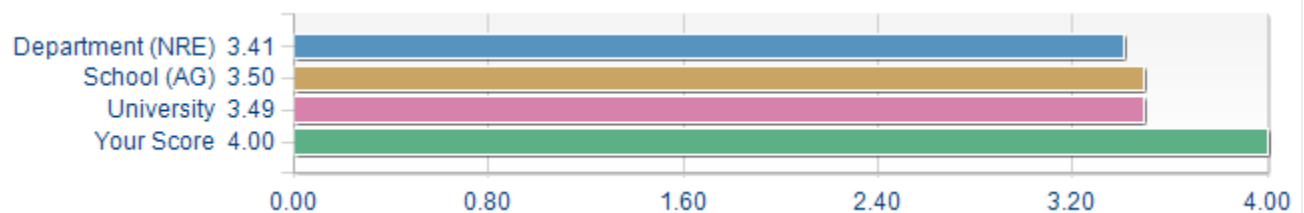
2. The instructor effectively assesses the student learning.



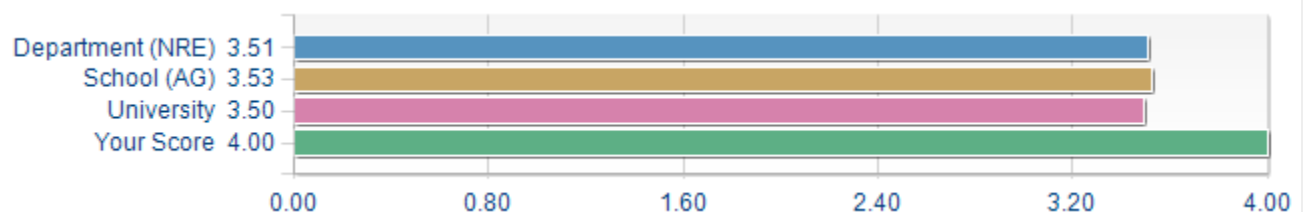
3. The instructor returned tests and assignments within a reasonable amount of time.



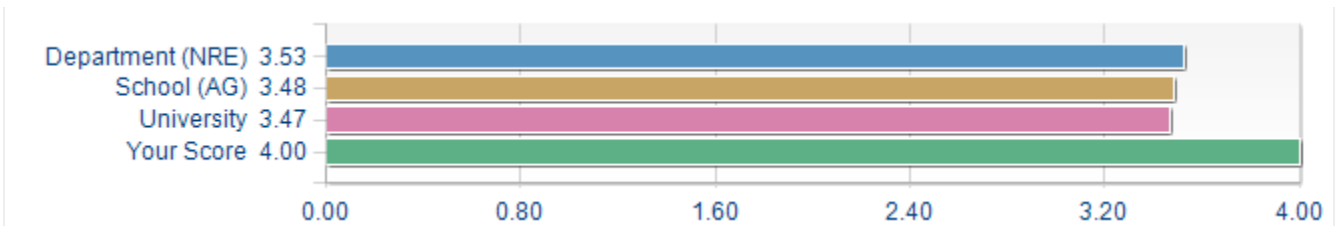
4. The instructor effectively facilitates learning by all students.



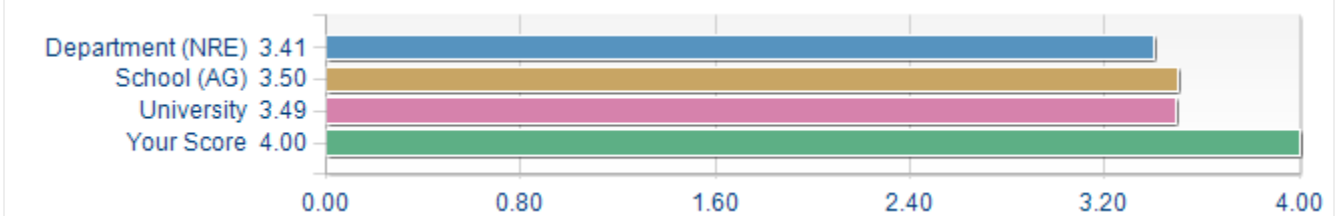
5. The instructor was available for extra help.



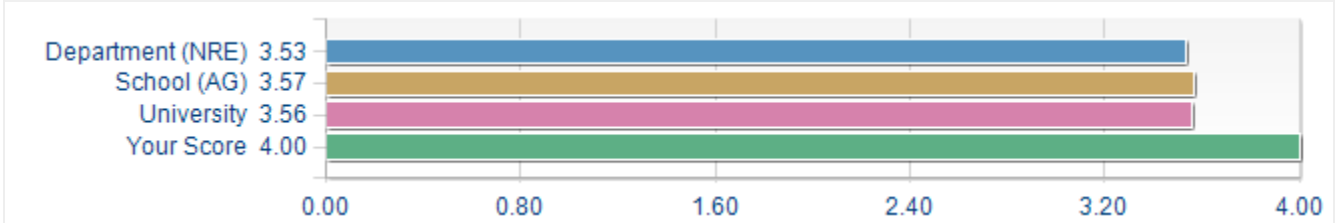
6. The instructor seemed genuinely concerned with students' progress.



7. The instructor was open to students' viewpoints.



8. The instructor is available during office hours.

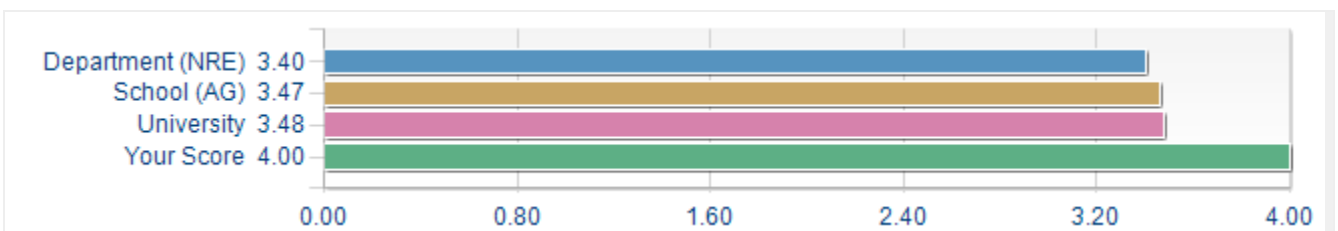


Overall Course Questions

Frequency Distribution

	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
Overall, I rate this as a good course.	1	1	0	0	0	4.00	N/A

Score Comparison



Rating scale questions, top and bottom ranks for Instructor Questions

Strengths		
1	The instructor's objectives for the course have been made clear.	4.00
2	The instructor began and ended class on time.	4.00
3	The instructor has current professional knowledge and abilities.	4.00

Areas for Improvement		
1	The instructor's objectives for the course have been made clear.	4.00
2	The instructor began and ended class on time.	4.00

3 The instructor has current professional knowledge and abilities.

4.00



Copy of Instructor Report for Luben Dimov (Forest Ecological Mgt)

Fall 2016 Course Evaluation

Project Audience 14

Responses Received 1

Response Ratio 7%

Report Comments

Department	NRE
School	AG
Level	UG

Prepared by eXplorance Support

Creation Date Thu, Mar 30, 2017



Alabama A&M University

Course Evaluations

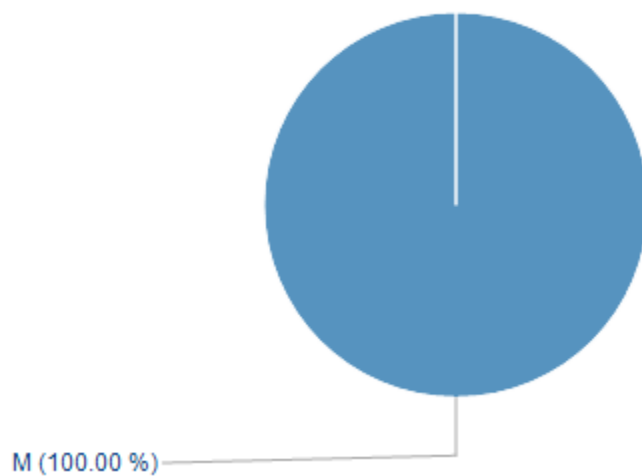
Interpretation guidelines

The value "4" represents "Strongly Agree" while the value "1" represents "Strongly Disagree".
No questions have been defined as mandatory, so students may skip answering certain questions.
An open ended comment field has been added to the end of the questionnaire

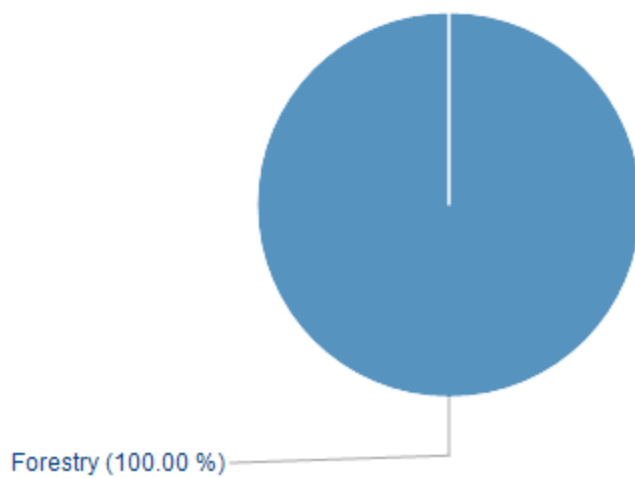
Teacher	Course
Luben Dimov	Forest Ecological Mgt

Course Demographics

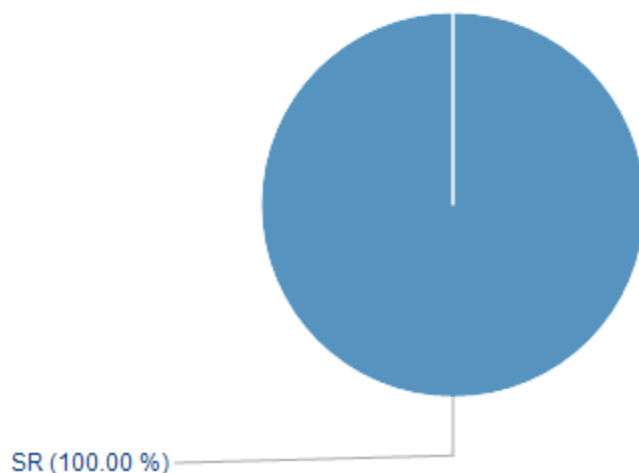
Gender Distribution



Disicipline Breakdown



Grade Breakdown



Competency Summary

Competency	Your Score	Standard Deviation	Min	Max
Instructor's Support of Student Learning	3.88	+/-0.35	3.00	4.00
Instructor's Organization and Preparation	4.00	+/-0.00	4.00	4.00
Instructor's Communication Skills	4.00	+/-0.00	4.00	4.00
Overall, I rate this as a good course.	4.00	+/-0.00	4.00	4.00
Total Score		3.97		

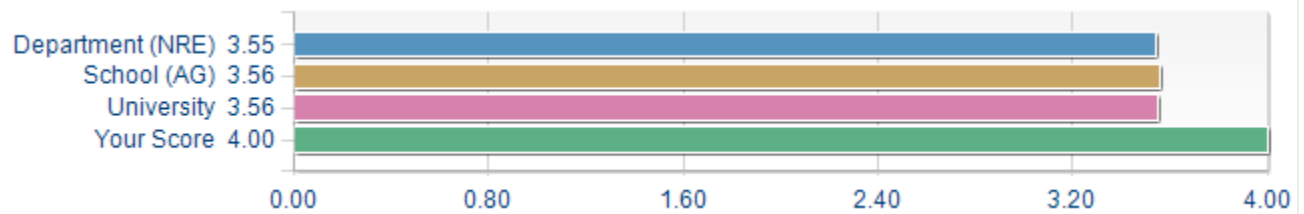
Instructor's Organization and Preparation

Frequency Distribution

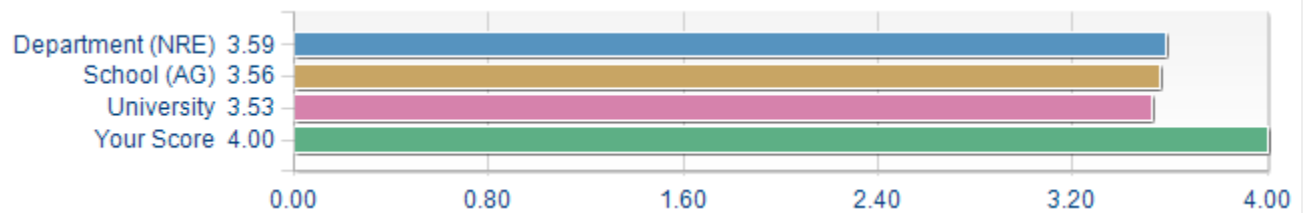
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor's objectives for the course have been made clear.	1	1	0	0	0	4.00	N/A
The instructor began and ended class on time.	1	1	0	0	0	4.00	N/A
The instructor has current professional knowledge and abilities.	1	1	0	0	0	4.00	N/A
The instructor was well-prepared for each class.	1	1	0	0	0	4.00	N/A
The instructor exhibits professional dispositions at all times.	1	1	0	0	0	4.00	N/A
The instructor seemed to enjoy teaching.	1	1	0	0	0	4.00	N/A
The instructor engages in continuous professional development.	1	1	0	0	0	4.00	N/A

Score Comparison

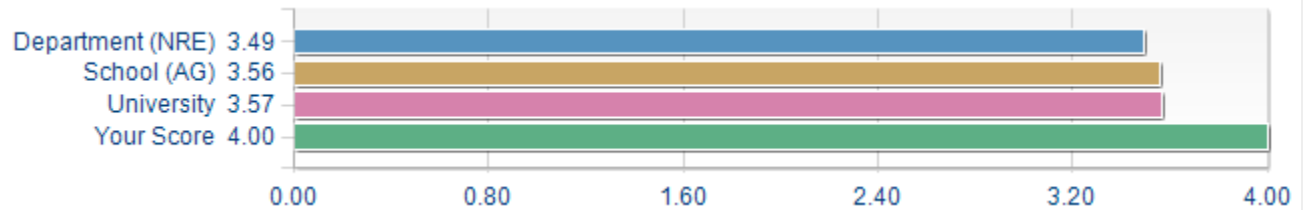
Overall



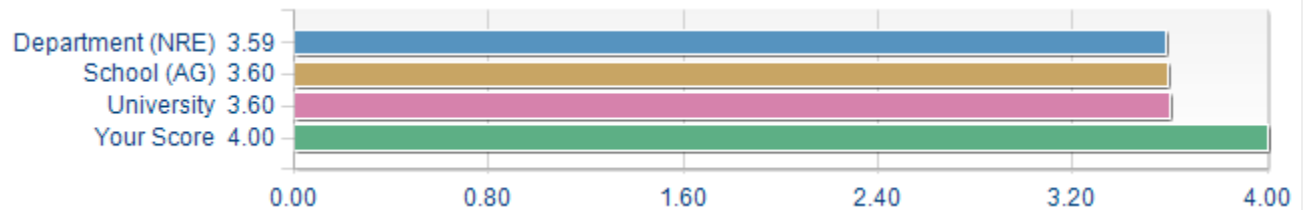
1. The instructor's objectives for the course have been made clear.



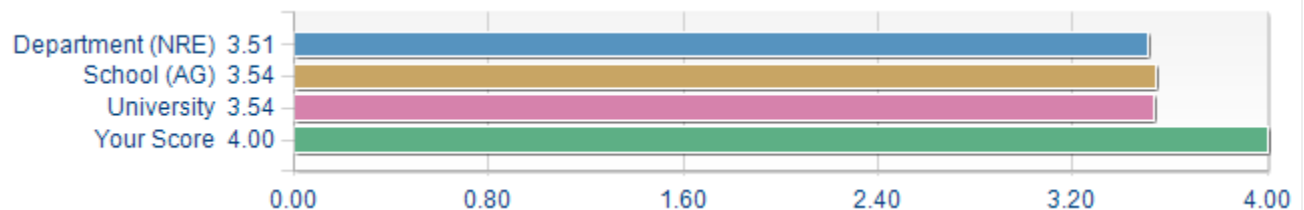
2. The instructor began and ended class on time.



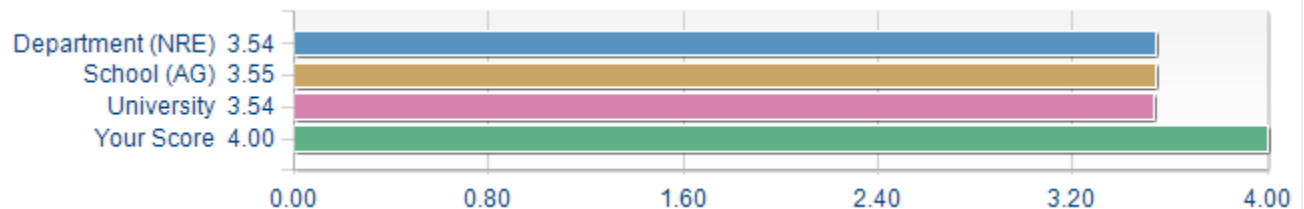
3. The instructor has current professional knowledge and abilities.



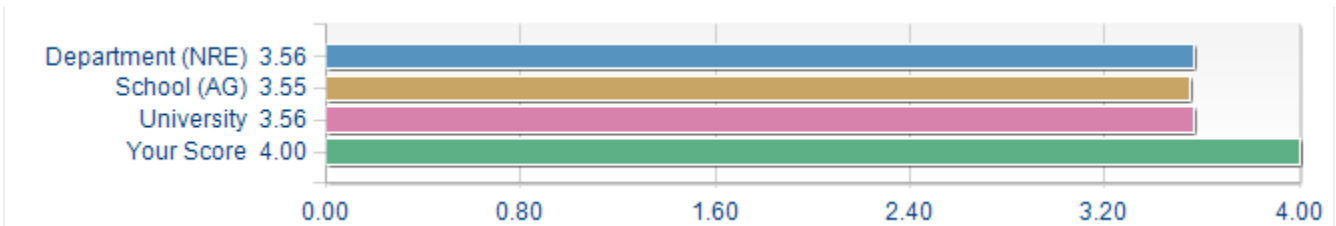
4. The instructor was well-prepared for each class.



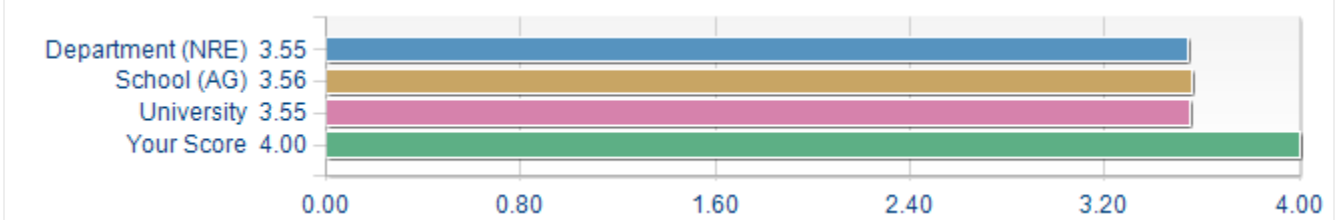
5. The instructor exhibits professional dispositions at all times.



6. The instructor seemed to enjoy teaching.



7. The instructor engages in continuous professional development.



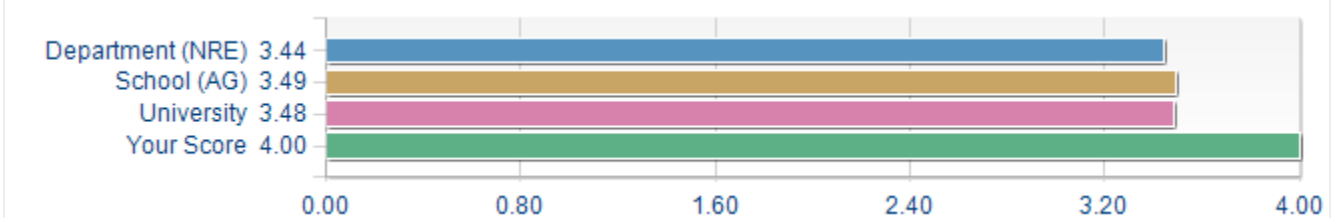
Instructor's Communication Skills

Frequency Distribution

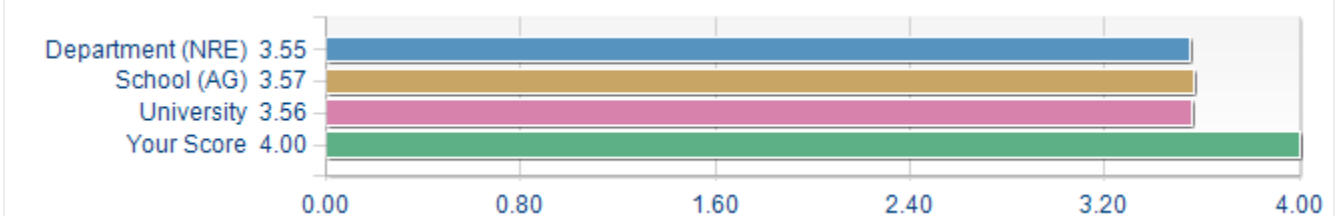
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor made class policies, such as attendance, grading, behavior, etc., clear at the beginning of the semester.	1	1	0	0	0	4.00	N/A
The instructor presented the subject matter in a clear and organized manner.	1	1	0	0	0	4.00	N/A
The pace at which the instructor covered the subject matter was appropriate.	1	1	0	0	0	4.00	N/A
The instructor is a proficient and effective communicator.	1	1	0	0	0	4.00	N/A

Score Comparison

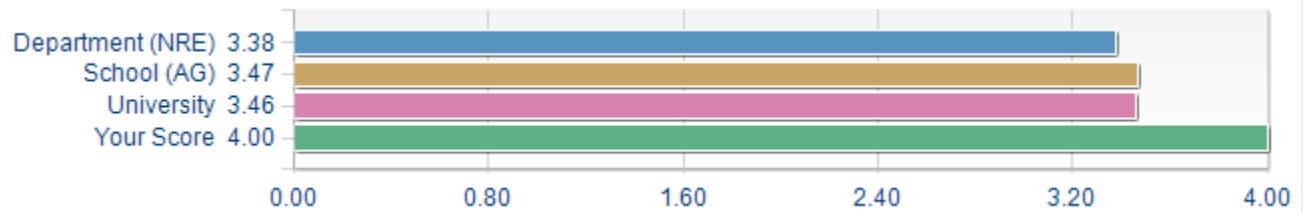
Overall



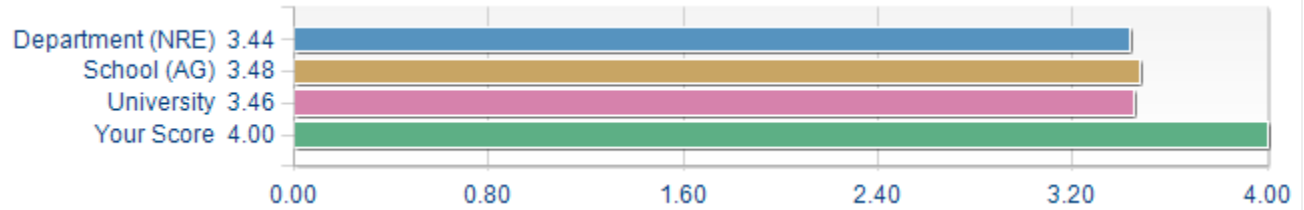
1. The instructor made class policies, such as attendance, grading, behavior, etc., clear at the beginning of the semester.



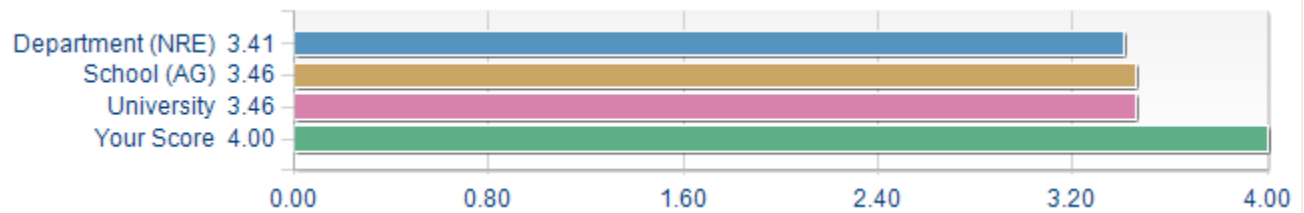
2. The instructor presented the subject matter in a clear and organized manner.



3. The pace at which the instructor covered the subject matter was appropriate.



4. The instructor is a proficient and effective communicator.



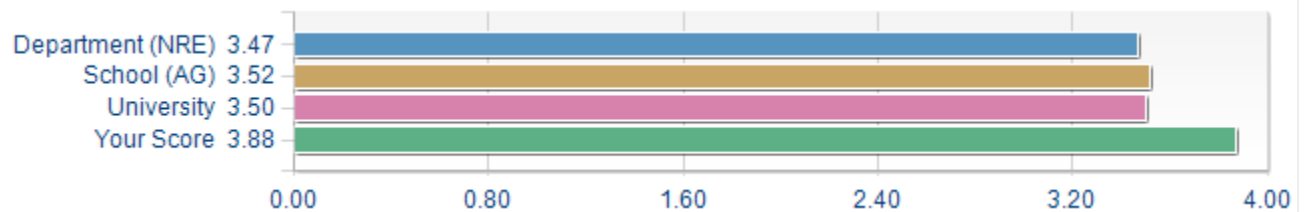
Instructor's Support of Student Learning

Frequency Distribution

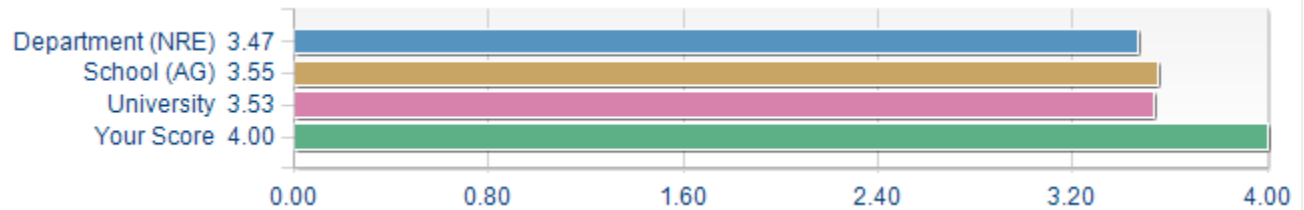
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor creates and maintains a positive and supportive learning environment.	1	1	0	0	0	4.00	N/A
The instructor effectively assesses the student learning.	1	1	0	0	0	4.00	N/A
The instructor returned tests and assignments within a reasonable amount of time.	1	0	1	0	0	3.00	N/A
The instructor effectively facilitates learning by all students.	1	1	0	0	0	4.00	N/A
The instructor was available for extra help.	1	1	0	0	0	4.00	N/A
The instructor seemed genuinely concerned with students' progress.	1	1	0	0	0	4.00	N/A
The instructor was open to students' viewpoints.	1	1	0	0	0	4.00	N/A
The instructor is available during office hours.	1	1	0	0	0	4.00	N/A

Score Comparison

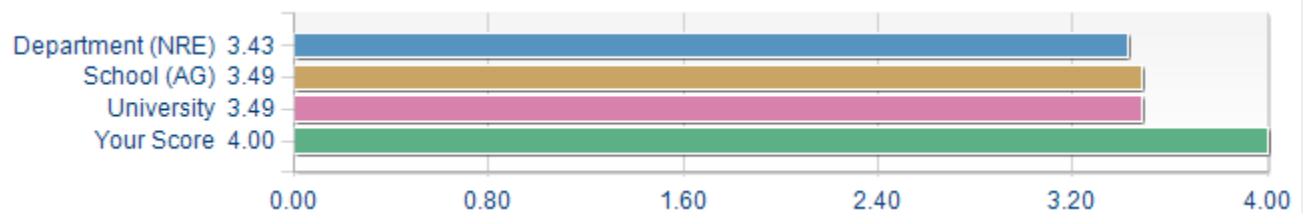
Overall



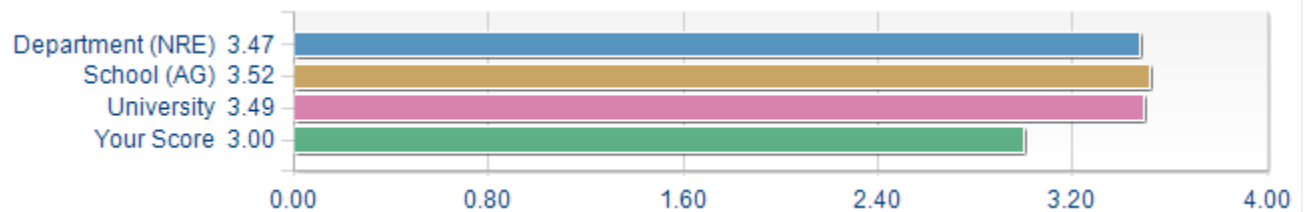
1. The instructor creates and maintains a positive and supportive learning environment.



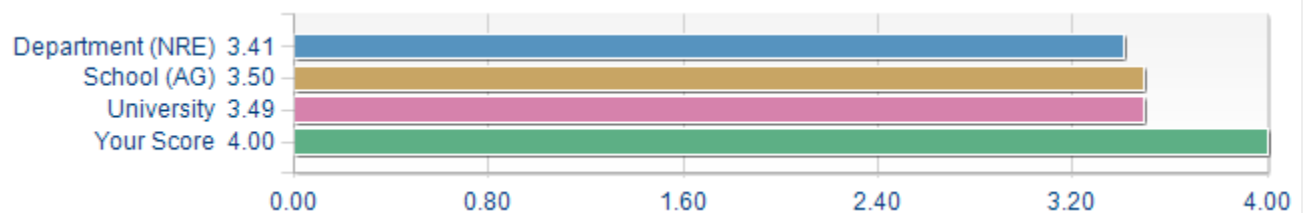
2. The instructor effectively assesses the student learning.



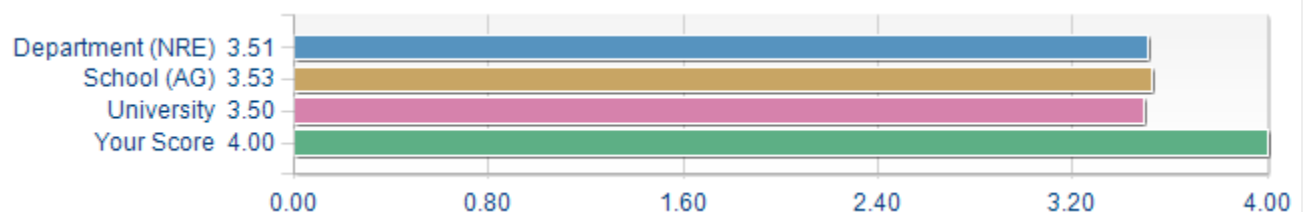
3. The instructor returned tests and assignments within a reasonable amount of time.



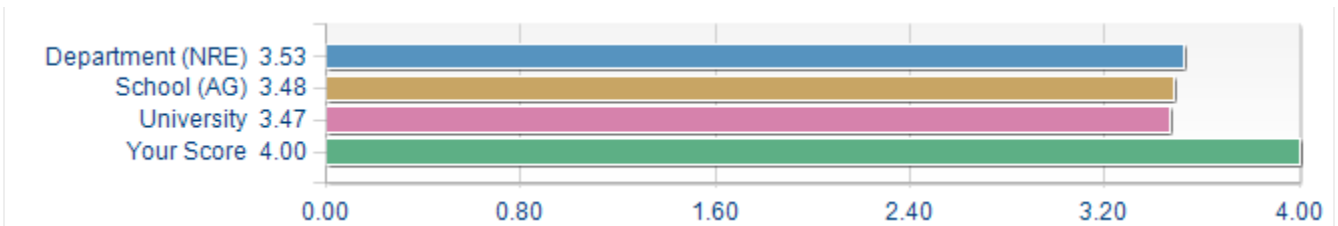
4. The instructor effectively facilitates learning by all students.



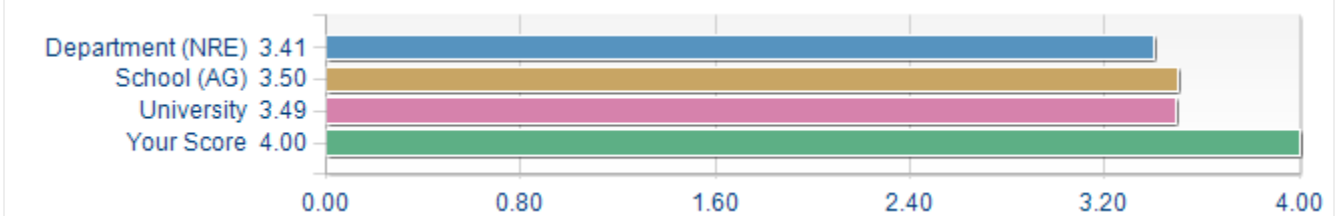
5. The instructor was available for extra help.



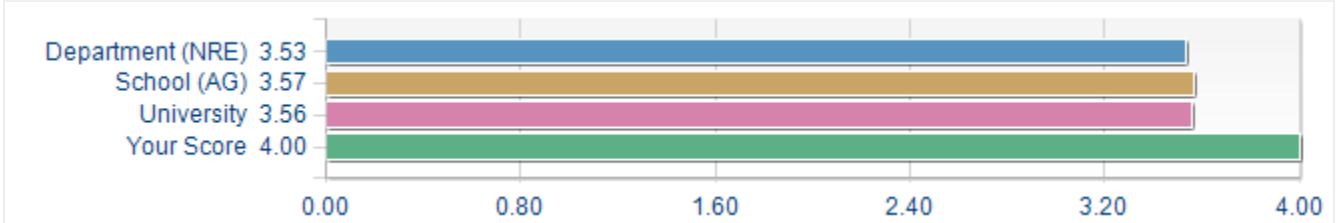
6. The instructor seemed genuinely concerned with students' progress.



7. The instructor was open to students' viewpoints.



8. The instructor is available during office hours.

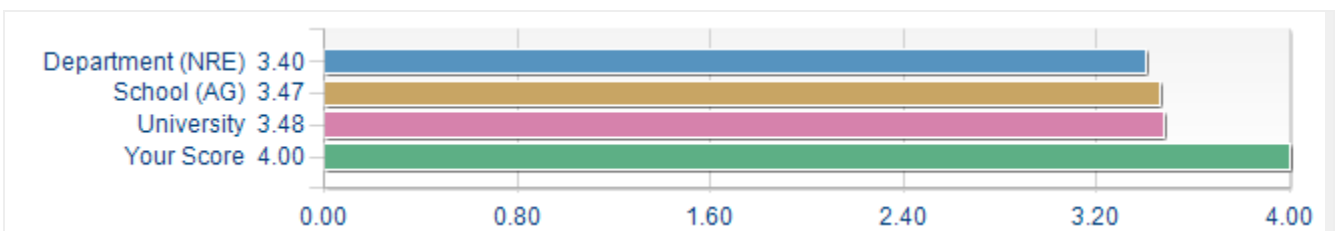


Overall Course Questions

Frequency Distribution

	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
Overall, I rate this as a good course.	1	1	0	0	0	4.00	N/A

Score Comparison



Rating scale questions, top and bottom ranks for Instructor Questions

Strengths		
1	The instructor's objectives for the course have been made clear.	4.00
2	The instructor began and ended class on time.	4.00
3	The instructor has current professional knowledge and abilities.	4.00

Areas for Improvement		
1	The instructor returned tests and assignments within a reasonable amount of time.	3.00
2	The instructor's objectives for the course have been made clear.	4.00

3 The instructor began and ended class on time.

4.00



Copy of Instructor Report for Luben Dimov (Forest Ecology)

Fall 2016 Course Evaluation

Project Audience 12

Responses Received 1

Response Ratio 8%

Report Comments

Department	NRE
School	AG
Level	UG

Prepared by eXplorance Support

Creation Date Thu, Mar 30, 2017



Alabama A&M University

Course Evaluations

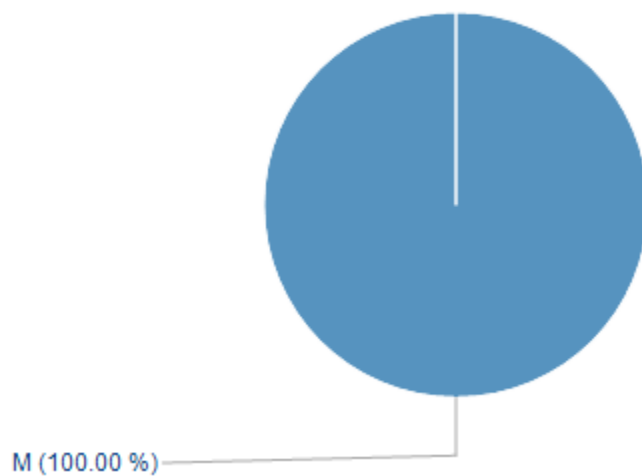
Interpretation guidelines

The value "4" represents "Strongly Agree" while the value "1" represents "Strongly Disagree".
No questions have been defined as mandatory, so students may skip answering certain questions.
An open ended comment field has been added to the end of the questionnaire

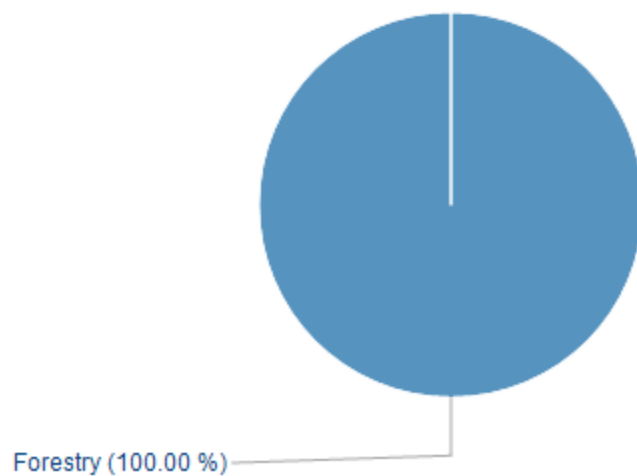
Teacher	Course
Luben Dimov	Forest Ecology

Course Demographics

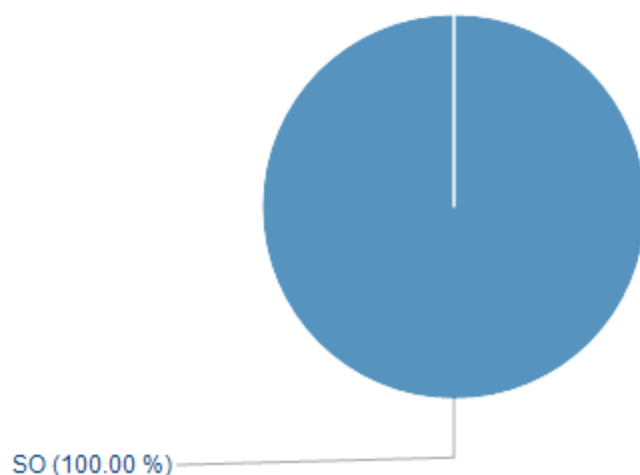
Gender Distribution



Disicipline Breakdown



Grade Breakdown



Competency Summary

Competency	Your Score	Standard Deviation	Min	Max
Instructor's Support of Student Learning	3.43	+/-0.53	3.00	4.00
Instructor's Organization and Preparation	3.71	+/-0.49	3.00	4.00
Instructor's Communication Skills	3.75	+/-0.50	3.00	4.00
Overall, I rate this as a good course.	4.00	+/-0.00	4.00	4.00
Total Score		3.72		

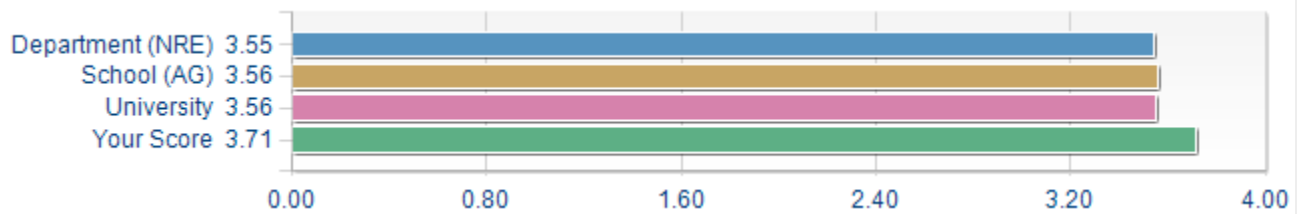
Instructor's Organization and Preparation

Frequency Distribution

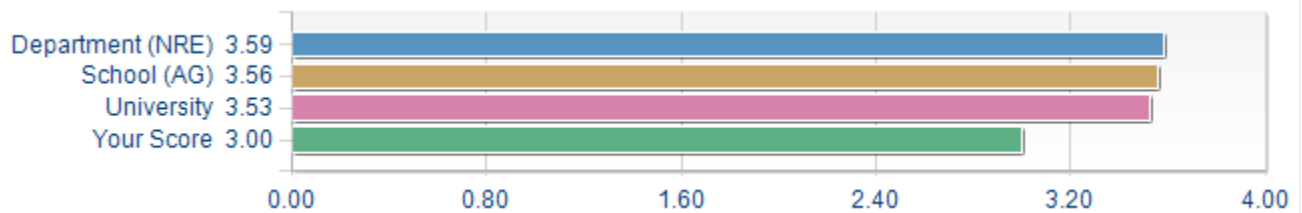
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor's objectives for the course have been made clear.	1	0	1	0	0	3.00	N/A
The instructor began and ended class on time.	1	0	1	0	0	3.00	N/A
The instructor has current professional knowledge and abilities.	1	1	0	0	0	4.00	N/A
The instructor was well-prepared for each class.	1	1	0	0	0	4.00	N/A
The instructor exhibits professional dispositions at all times.	1	1	0	0	0	4.00	N/A
The instructor seemed to enjoy teaching.	1	1	0	0	0	4.00	N/A
The instructor engages in continuous professional development.	1	1	0	0	0	4.00	N/A

Score Comparison

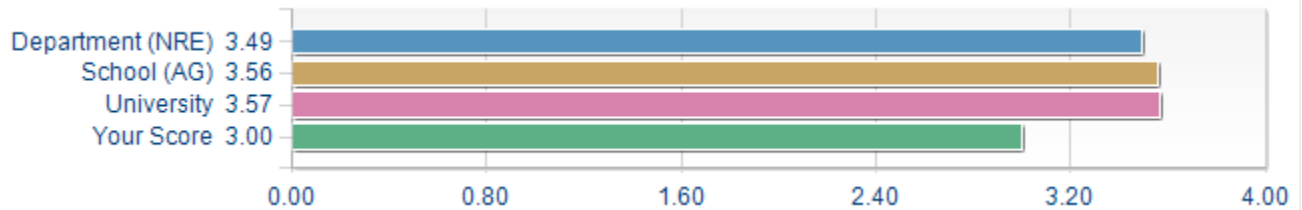
Overall



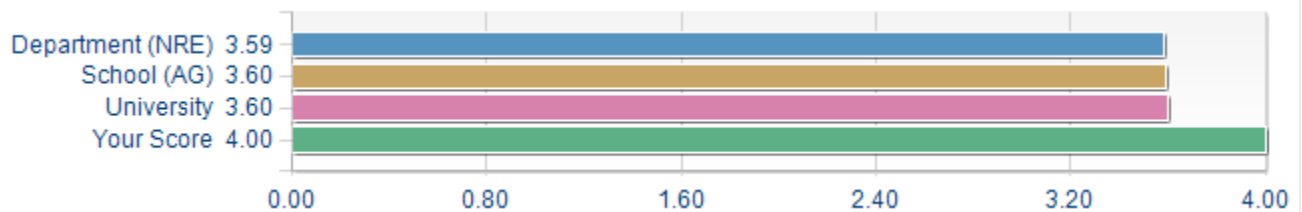
1. The instructor's objectives for the course have been made clear.



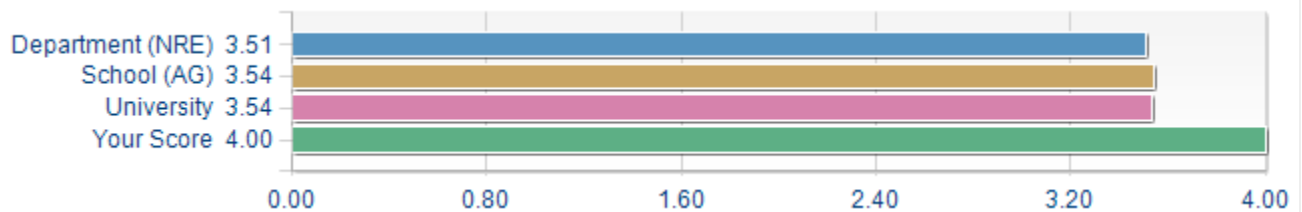
2. The instructor began and ended class on time.



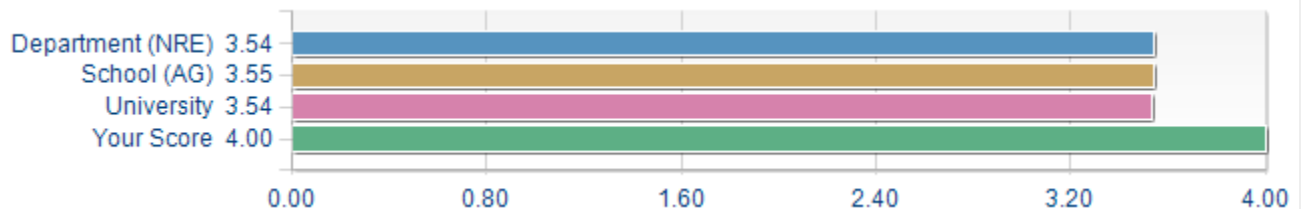
3. The instructor has current professional knowledge and abilities.



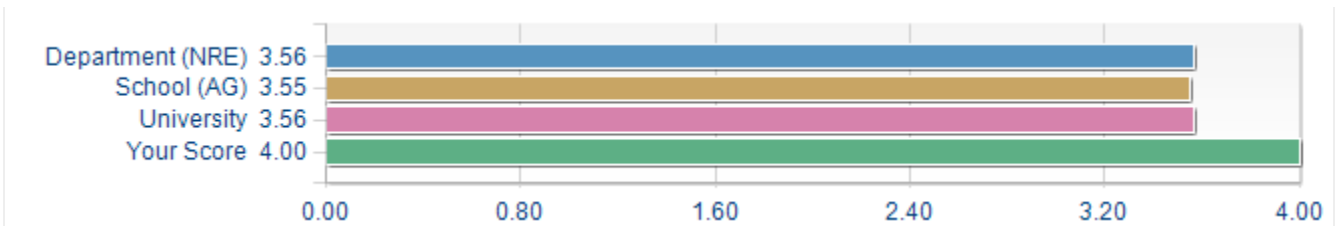
4. The instructor was well-prepared for each class.



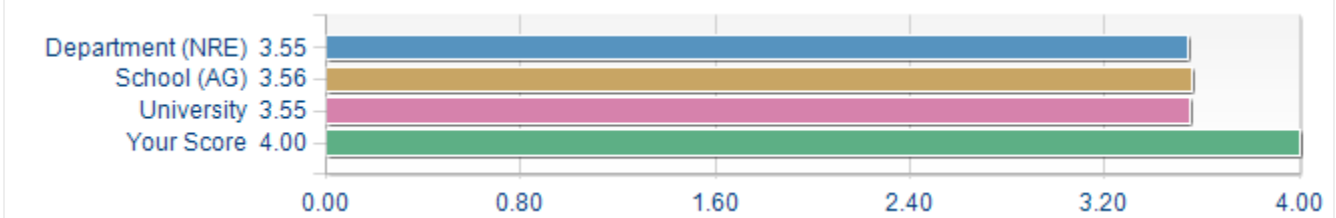
5. The instructor exhibits professional dispositions at all times.



6. The instructor seemed to enjoy teaching.



7. The instructor engages in continuous professional development.



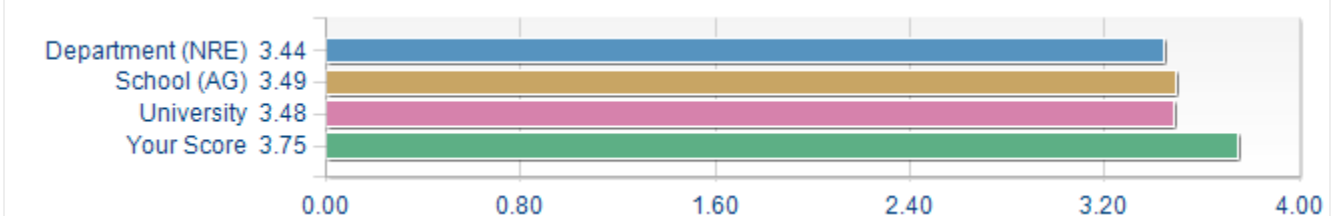
Instructor's Communication Skills

Frequency Distribution

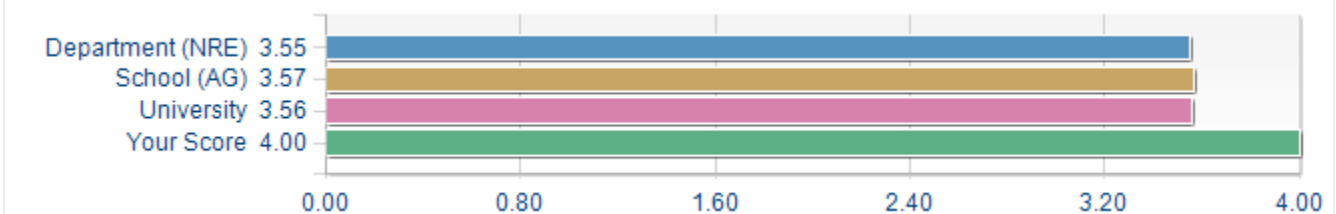
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor made class policies, such as attendance, grading, behavior, etc., clear at the beginning of the semester.	1	1	0	0	0	4.00	N/A
The instructor presented the subject matter in a clear and organized manner.	1	0	1	0	0	3.00	N/A
The pace at which the instructor covered the subject matter was appropriate.	1	1	0	0	0	4.00	N/A
The instructor is a proficient and effective communicator.	1	1	0	0	0	4.00	N/A

Score Comparison

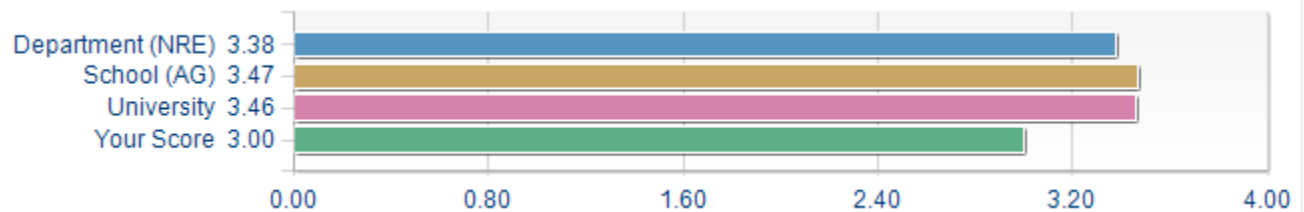
Overall



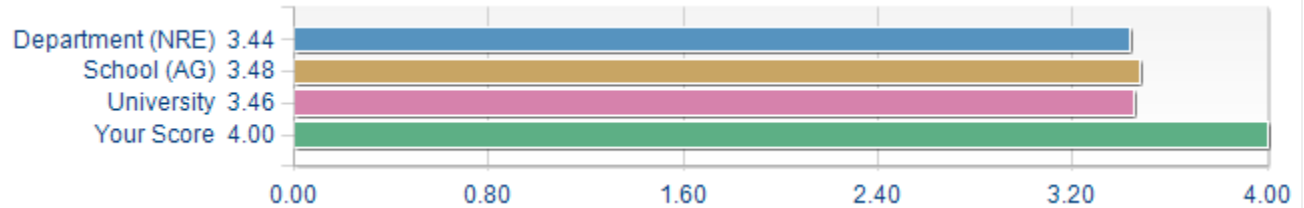
1. The instructor made class policies, such as attendance, grading, behavior, etc., clear at the beginning of the semester.



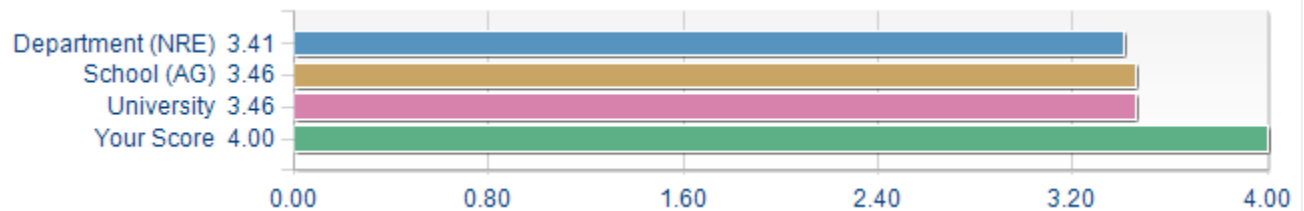
2. The instructor presented the subject matter in a clear and organized manner.



3. The pace at which the instructor covered the subject matter was appropriate.



4. The instructor is a proficient and effective communicator.



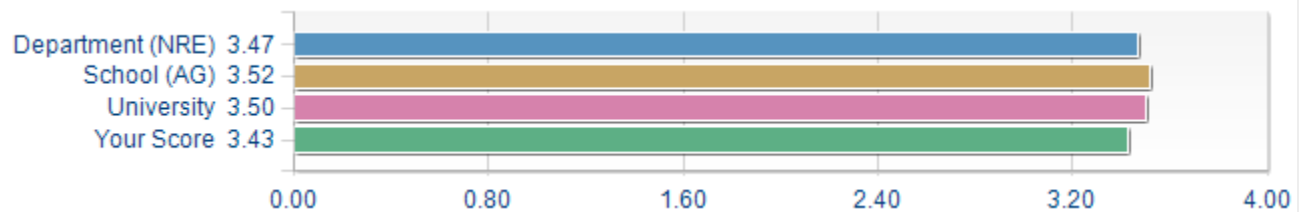
Instructor's Support of Student Learning

Frequency Distribution

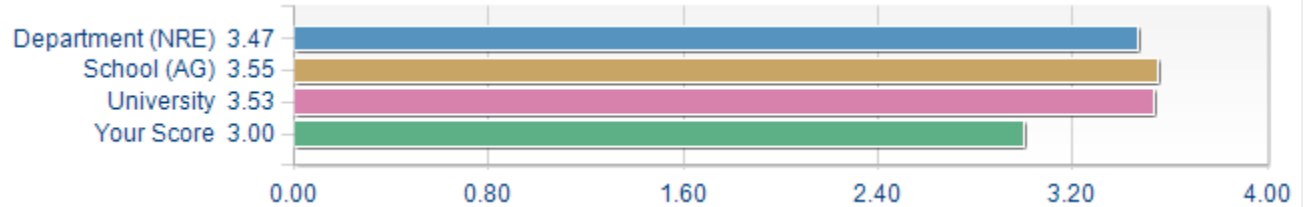
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor creates and maintains a positive and supportive learning environment.	1	0	1	0	0	3.00	N/A
The instructor effectively assesses the student learning.	1	0	1	0	0	3.00	N/A
The instructor returned tests and assignments within a reasonable amount of time.	1	0	1	0	0	3.00	N/A
The instructor effectively facilitates learning by all students.	1	1	0	0	0	4.00	N/A
The instructor was available for extra help.	1	1	0	0	0	4.00	N/A
The instructor seemed genuinely concerned with students' progress.	1	1	0	0	0	4.00	N/A
The instructor was open to students' viewpoints.	0	0	0	0	0	NRP	NRP
The instructor is available during office hours.	1	0	1	0	0	3.00	N/A

Score Comparison

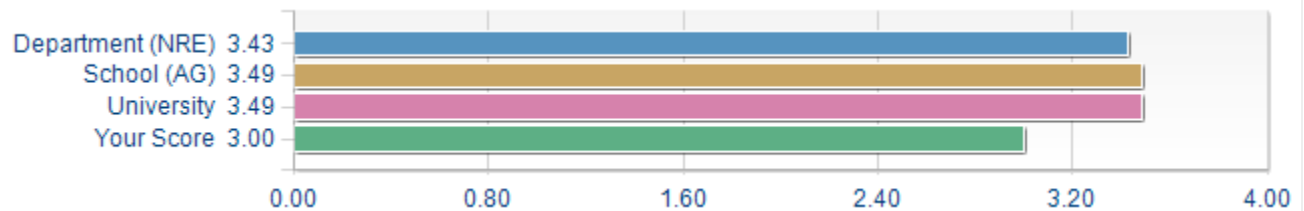
Overall



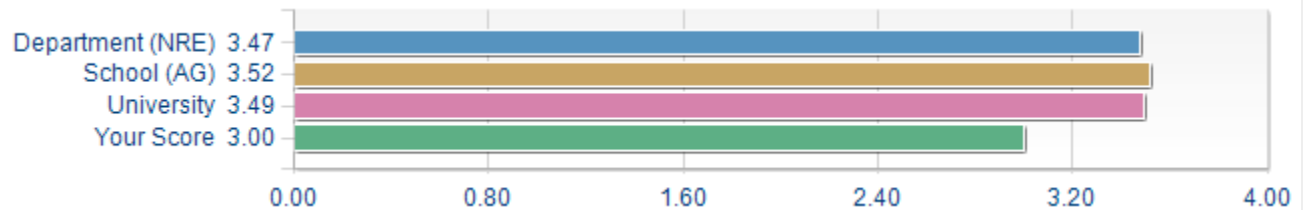
1. The instructor creates and maintains a positive and supportive learning environment.



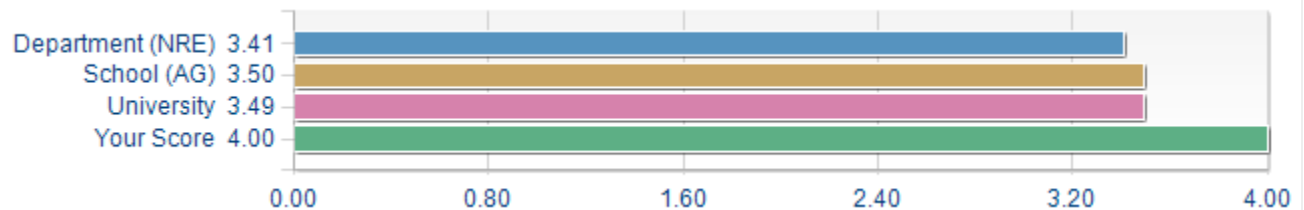
2. The instructor effectively assesses the student learning.



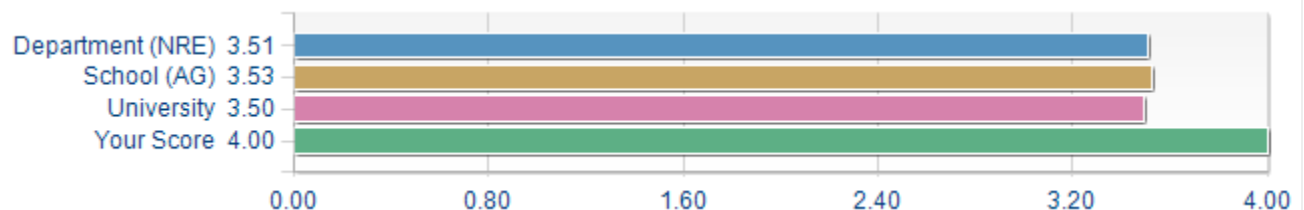
3. The instructor returned tests and assignments within a reasonable amount of time.



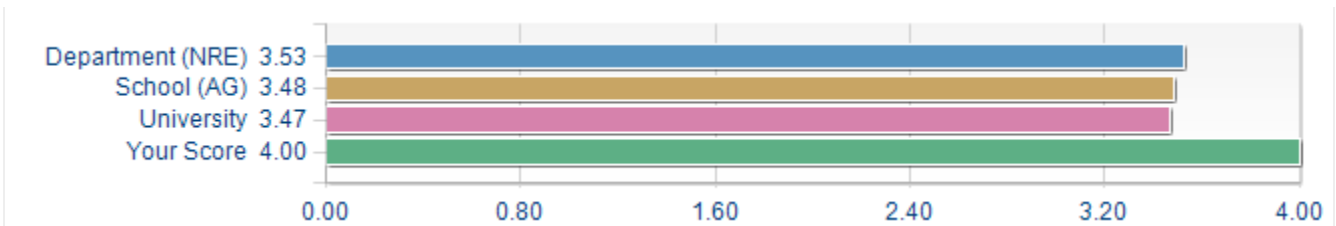
4. The instructor effectively facilitates learning by all students.



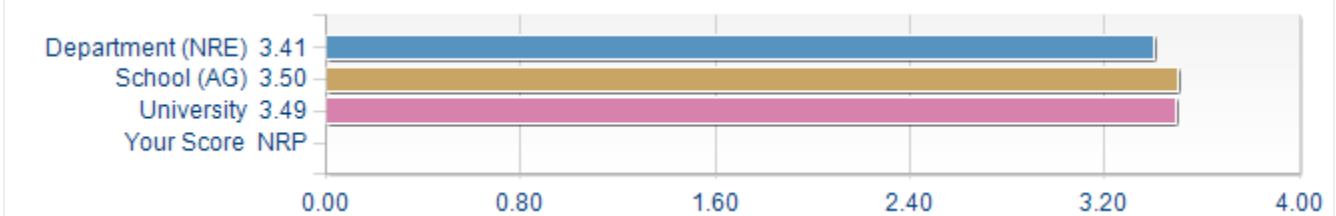
5. The instructor was available for extra help.



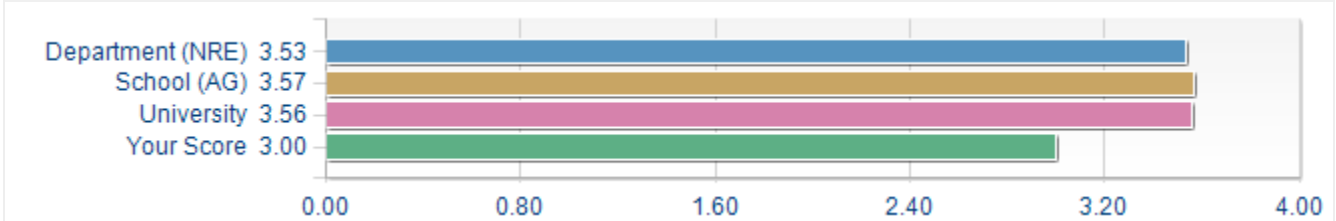
6. The instructor seemed genuinely concerned with students' progress.



7. The instructor was open to students' viewpoints.



8. The instructor is available during office hours.

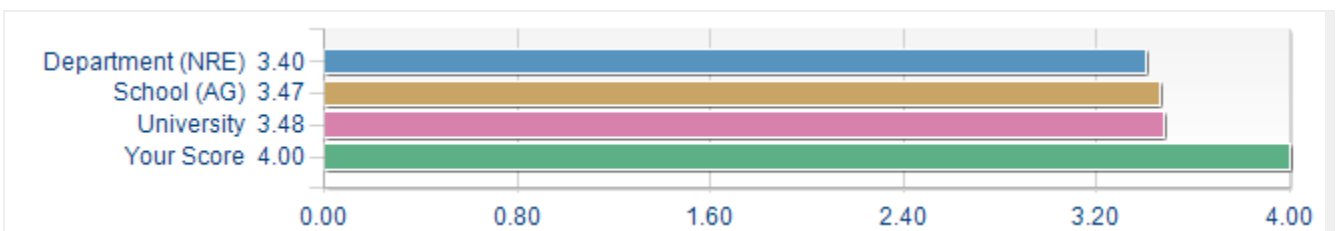


Overall Course Questions

Frequency Distribution

	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
Overall, I rate this as a good course.	1	1	0	0	0	4.00	N/A

Score Comparison



Rating scale questions, top and bottom ranks for Instructor Questions

Strengths	
1 The instructor has current professional knowledge and abilities.	4.00
2 The instructor was well-prepared for each class.	4.00
3 The instructor exhibits professional dispositions at all times.	4.00

Areas for Improvement	
1 The instructor's objectives for the course have been made clear.	3.00
2 The instructor began and ended class on time.	3.00

3 The instructor presented the subject matter in a clear and organized manner.

3.00



Copy of Instructor Report for Xiongwen Chen (Forest Ecology)

Fall 2016 Course Evaluation

Project Audience 10

Responses Received 1

Response Ratio 10%

Report Comments

Department	NRE
School	AG
Level	UG

Prepared by eXplorance Support

Creation Date Thu, Mar 30, 2017



Alabama A&M University

Course Evaluations

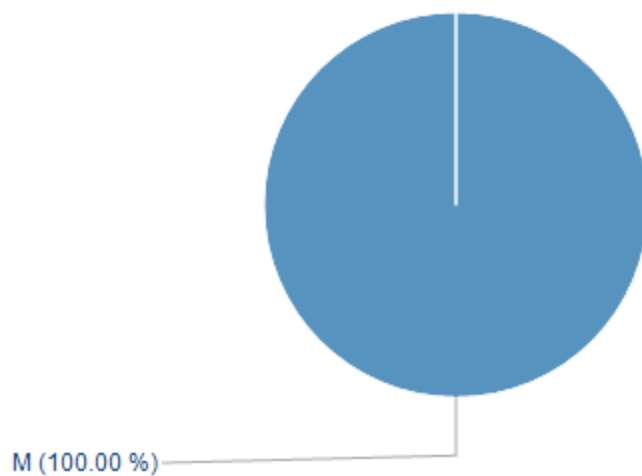
Interpretation guidelines

The value "4" represents "Strongly Agree" while the value "1" represents "Strongly Disagree".
No questions have been defined as mandatory, so students may skip answering certain questions.
An open ended comment field has been added to the end of the questionnaire

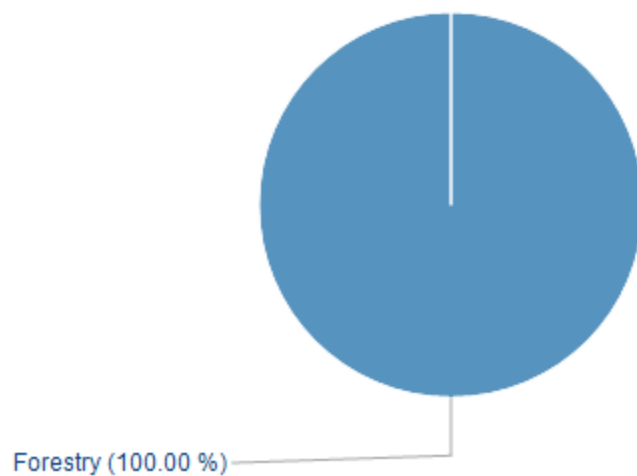
Teacher	Course
Xiongwen Chen	Forest Ecology

Course Demographics

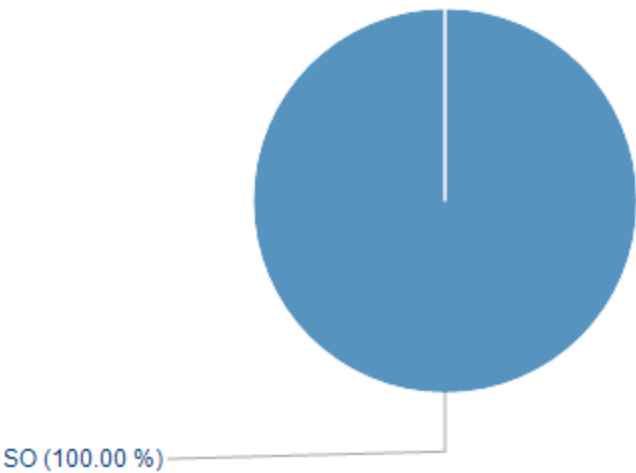
Gender Distribution



Disicipline Breakdown



Grade Breakdown



Competency Summary

Competency	Your Score	Standard Deviation	Min	Max
Overall, I rate this as a good course.	3.00	+/-0.00	3.00	3.00
Instructor's Organization and Preparation	4.00	+/-0.00	4.00	4.00
Instructor's Communication Skills	4.00	+/-0.00	4.00	4.00
Instructor's Support of Student Learning	4.00	+/-0.00	4.00	4.00
Total Score	3.75			

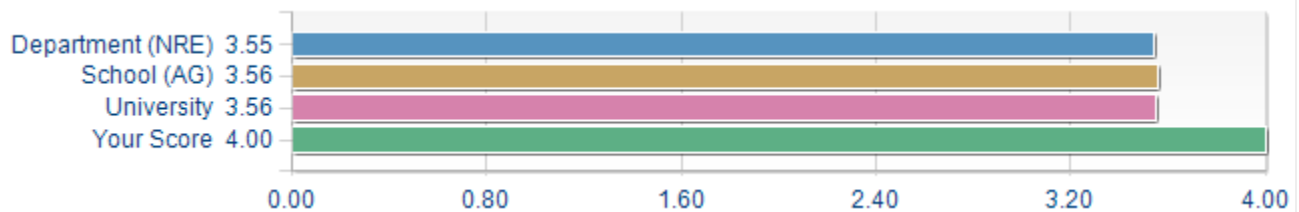
Instructor's Organization and Preparation

Frequency Distribution

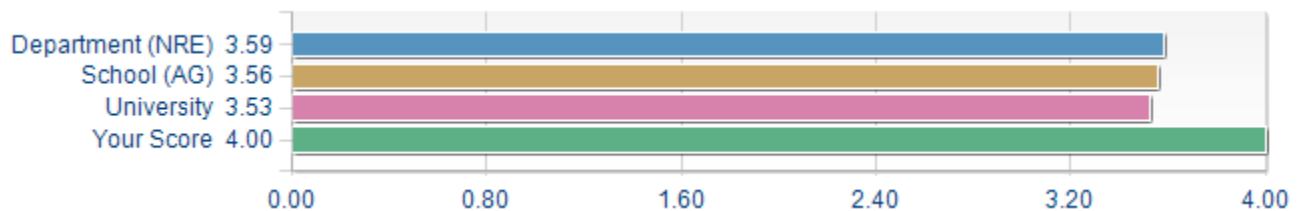
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor's objectives for the course have been made clear.	1	1	0	0	0	4.00	N/A
The instructor began and ended class on time.	1	1	0	0	0	4.00	N/A
The instructor has current professional knowledge and abilities.	1	1	0	0	0	4.00	N/A
The instructor was well-prepared for each class.	1	1	0	0	0	4.00	N/A
The instructor exhibits professional dispositions at all times.	1	1	0	0	0	4.00	N/A
The instructor seemed to enjoy teaching.	1	1	0	0	0	4.00	N/A
The instructor engages in continuous professional development.	1	1	0	0	0	4.00	N/A

Score Comparison

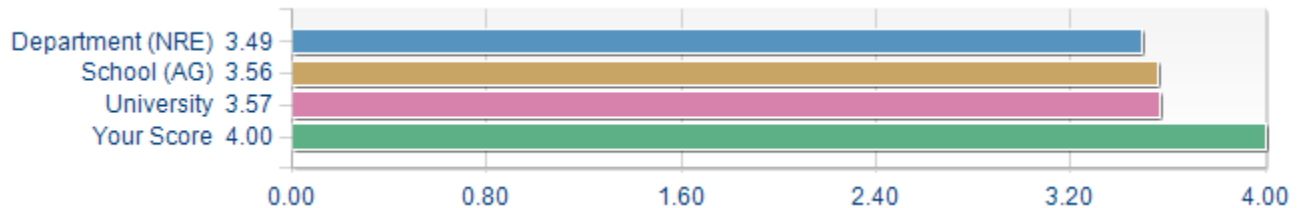
Overall



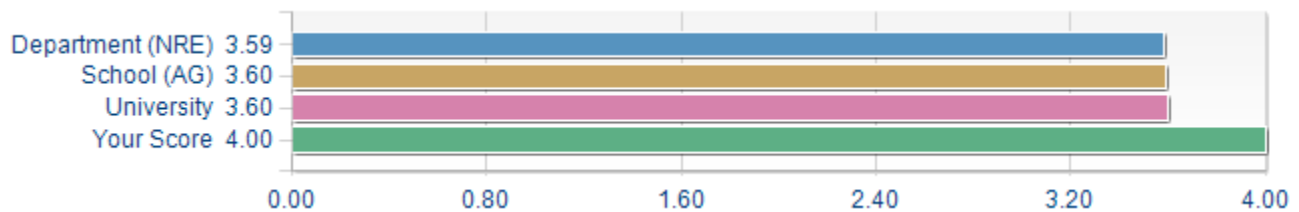
1. The instructor's objectives for the course have been made clear.



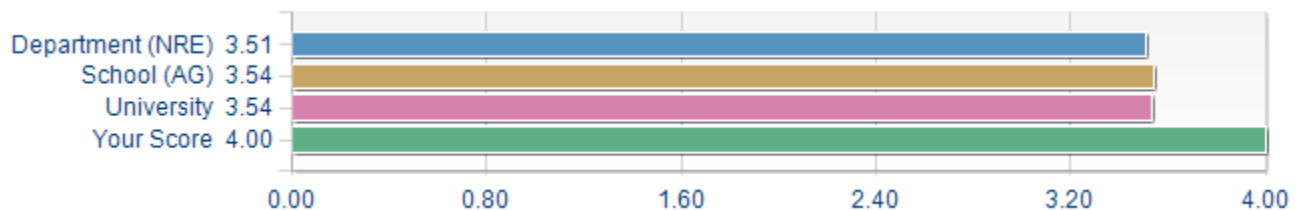
2. The instructor began and ended class on time.



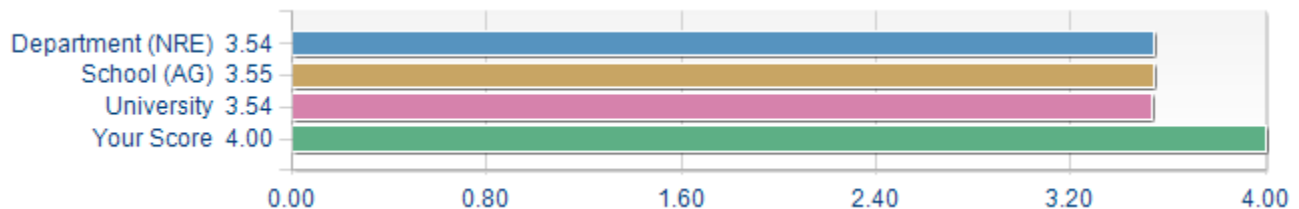
3. The instructor has current professional knowledge and abilities.



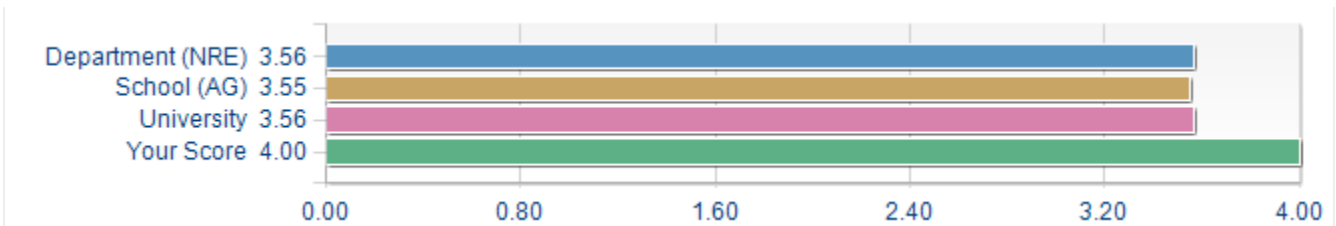
4. The instructor was well-prepared for each class.



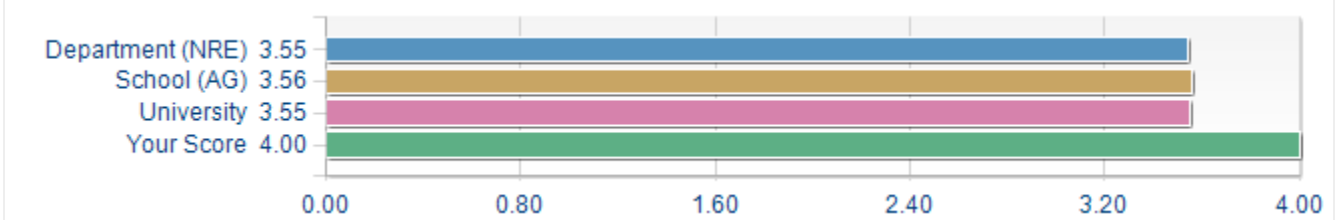
5. The instructor exhibits professional dispositions at all times.



6. The instructor seemed to enjoy teaching.



7. The instructor engages in continuous professional development.



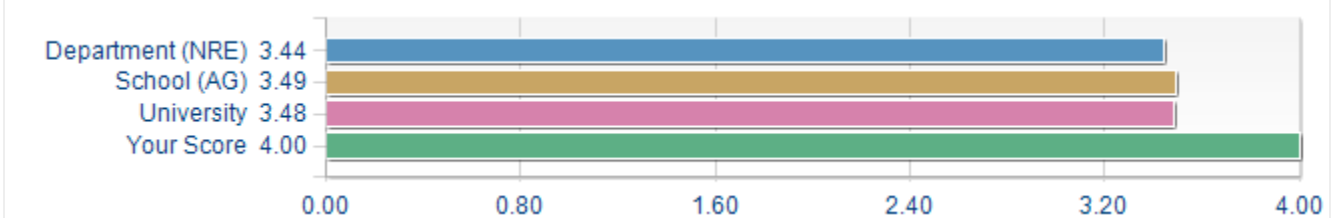
Instructor's Communication Skills

Frequency Distribution

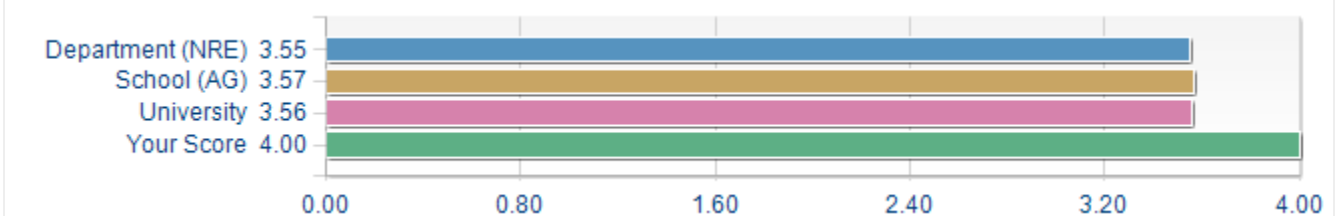
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor made class policies, such as attendance, grading, behavior, etc., clear at the beginning of the semester.	1	1	0	0	0	4.00	N/A
The instructor presented the subject matter in a clear and organized manner.	1	1	0	0	0	4.00	N/A
The pace at which the instructor covered the subject matter was appropriate.	1	1	0	0	0	4.00	N/A
The instructor is a proficient and effective communicator.	1	1	0	0	0	4.00	N/A

Score Comparison

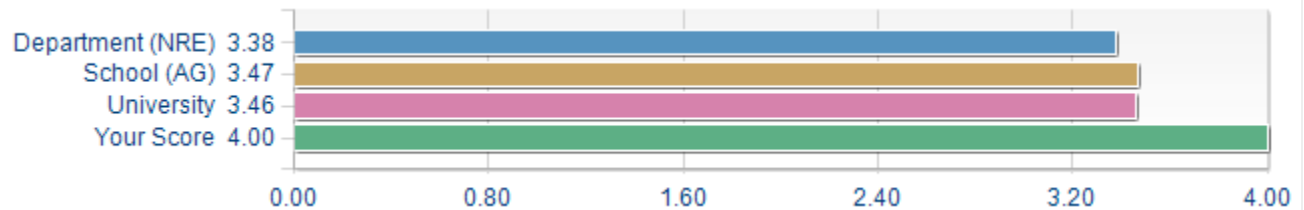
Overall



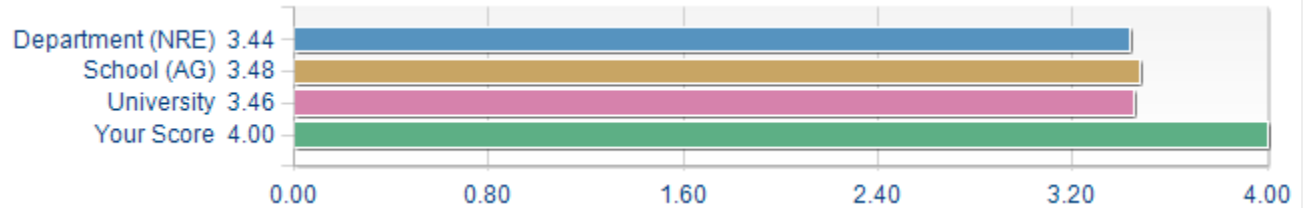
1. The instructor made class policies, such as attendance, grading, behavior, etc., clear at the beginning of the semester.



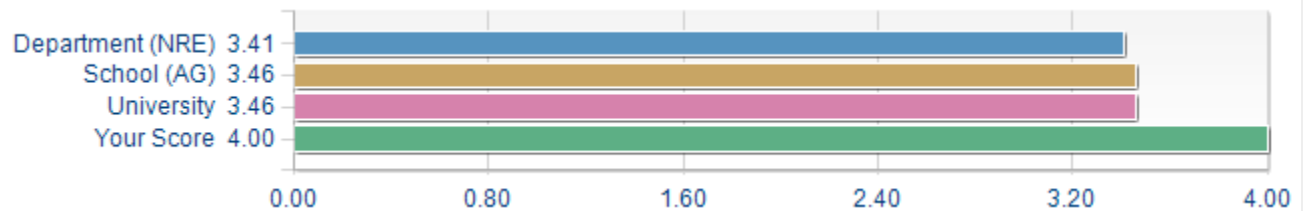
2. The instructor presented the subject matter in a clear and organized manner.



3. The pace at which the instructor covered the subject matter was appropriate.



4. The instructor is a proficient and effective communicator.



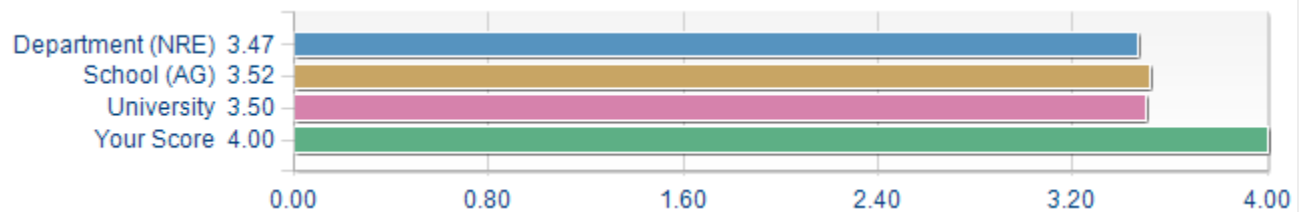
Instructor's Support of Student Learning

Frequency Distribution

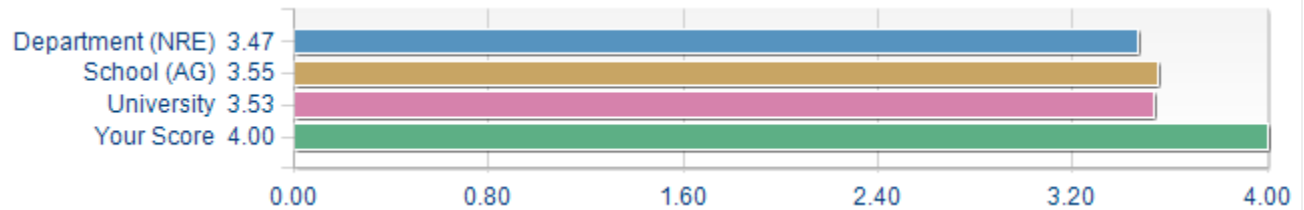
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor creates and maintains a positive and supportive learning environment.	1	1	0	0	0	4.00	N/A
The instructor effectively assesses the student learning.	1	1	0	0	0	4.00	N/A
The instructor returned tests and assignments within a reasonable amount of time.	1	1	0	0	0	4.00	N/A
The instructor effectively facilitates learning by all students.	1	1	0	0	0	4.00	N/A
The instructor was available for extra help.	1	1	0	0	0	4.00	N/A
The instructor seemed genuinely concerned with students' progress.	1	1	0	0	0	4.00	N/A
The instructor was open to students' viewpoints.	1	1	0	0	0	4.00	N/A
The instructor is available during office hours.	1	1	0	0	0	4.00	N/A

Score Comparison

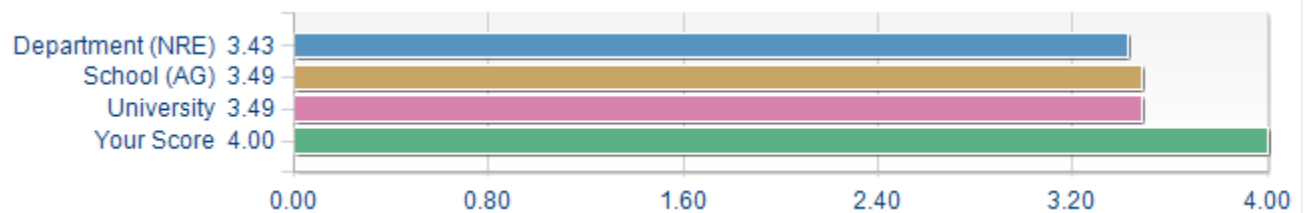
Overall



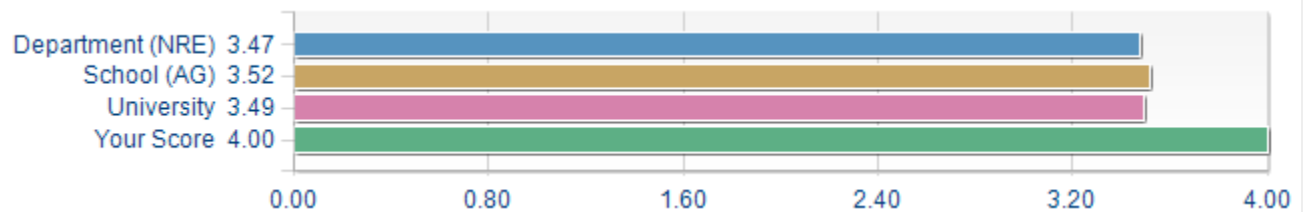
1. The instructor creates and maintains a positive and supportive learning environment.



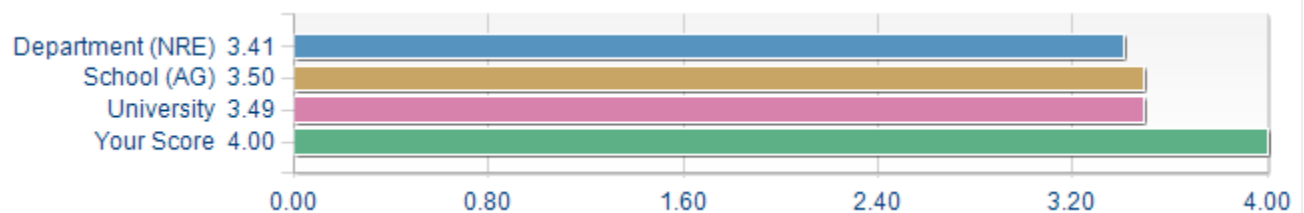
2. The instructor effectively assesses the student learning.



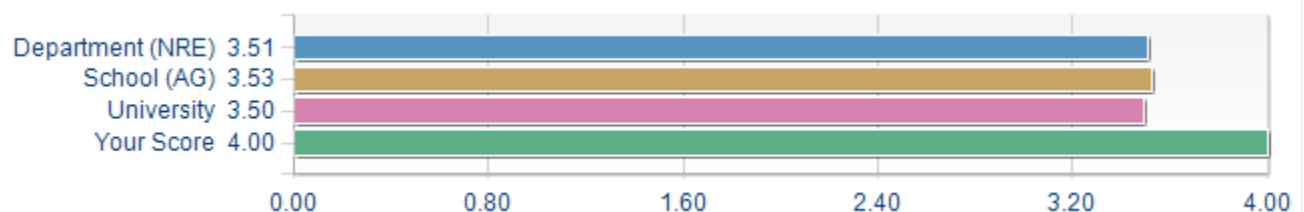
3. The instructor returned tests and assignments within a reasonable amount of time.



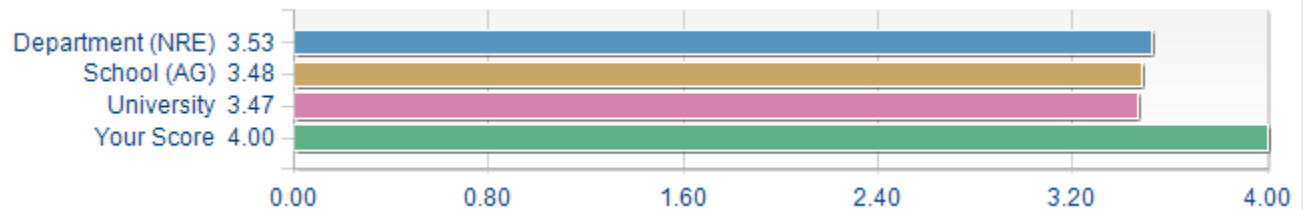
4. The instructor effectively facilitates learning by all students.



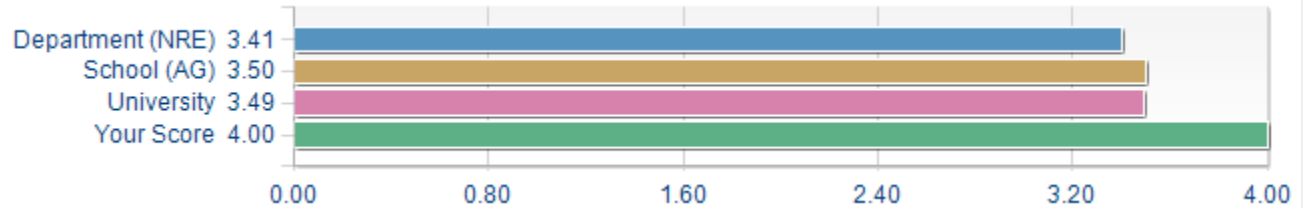
5. The instructor was available for extra help.



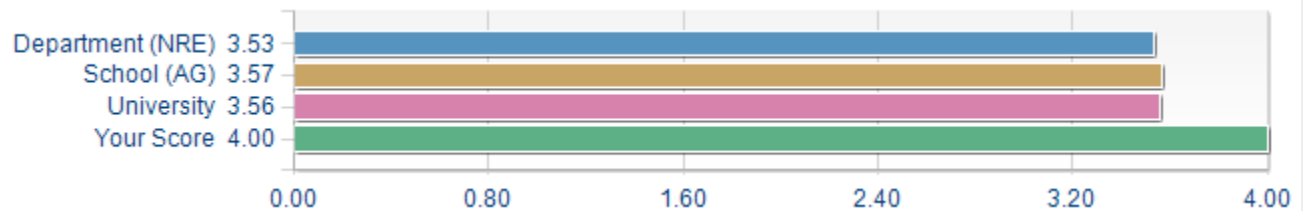
6. The instructor seemed genuinely concerned with students' progress.



7. The instructor was open to students' viewpoints.



8. The instructor is available during office hours.

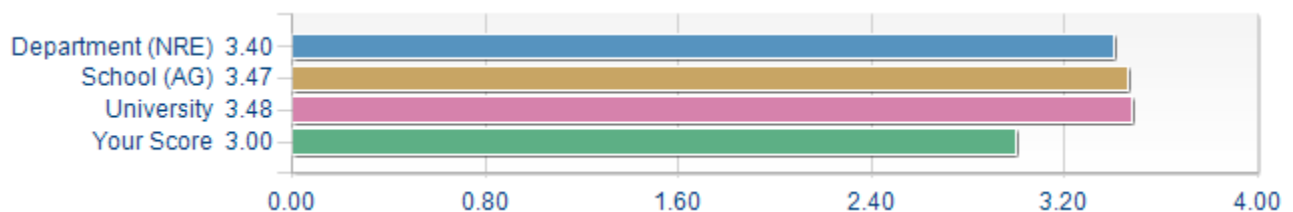


Overall Course Questions

Frequency Distribution

	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
Overall, I rate this as a good course.	1	0	1	0	0	3.00	N/A

Score Comparison



Rating scale questions, top and bottom ranks for Instructor Questions

Strengths

1	The instructor's objectives for the course have been made clear.	4.00
2	The instructor began and ended class on time.	4.00
3	The instructor has current professional knowledge and abilities.	4.00

Areas for Improvement

1	The instructor's objectives for the course have been made clear.	4.00
2	The instructor began and ended class on time.	4.00

3 The instructor has current professional knowledge and abilities.

4.00



Copy of Instructor Report for Xiongwen Chen (Forest Recreation)

Fall 2016 Course Evaluation

Project Audience 10

Responses Received 1

Response Ratio 10%

Report Comments

Department	NRE
School	AG
Level	UG

Prepared by eXplorance Support

Creation Date Thu, Mar 30, 2017



Alabama A&M University

Course Evaluations

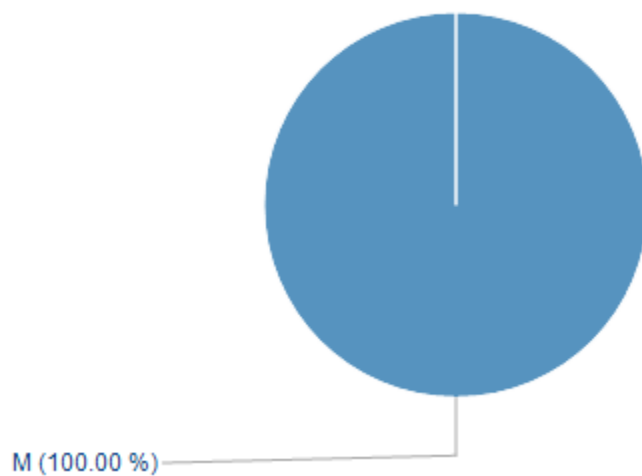
Interpretation guidelines

The value "4" represents "Strongly Agree" while the value "1" represents "Strongly Disagree".
No questions have been defined as mandatory, so students may skip answering certain questions.
An open ended comment field has been added to the end of the questionnaire

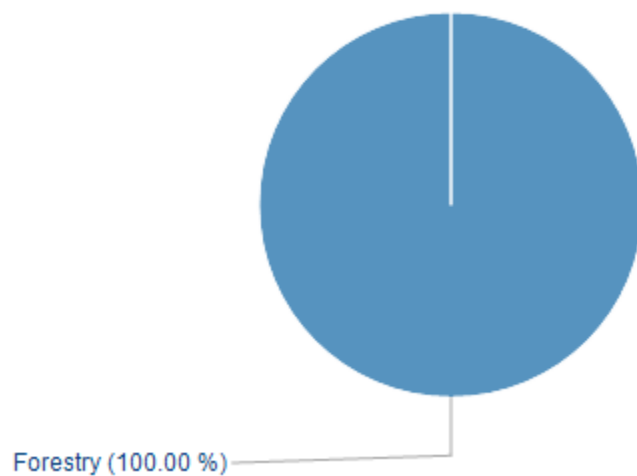
Teacher	Course
Xiongwen Chen	Forest Recreation

Course Demographics

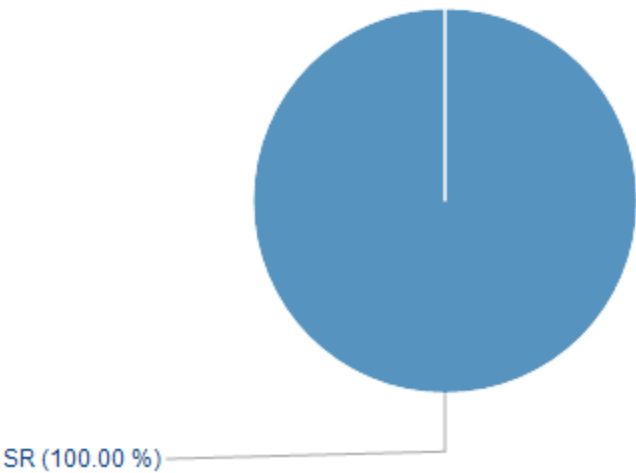
Gender Distribution



Disicipline Breakdown



Grade Breakdown



Competency Summary

Competency	Your Score	Standard Deviation	Min	Max
Instructor's Organization and Preparation	3.00	+/-0.00	3.00	3.00
Instructor's Communication Skills	3.00	+/-0.00	3.00	3.00
Instructor's Support of Student Learning	3.00	+/-0.00	3.00	3.00
Overall, I rate this as a good course.	3.00	+/-0.00	3.00	3.00
Total Score		3.00		

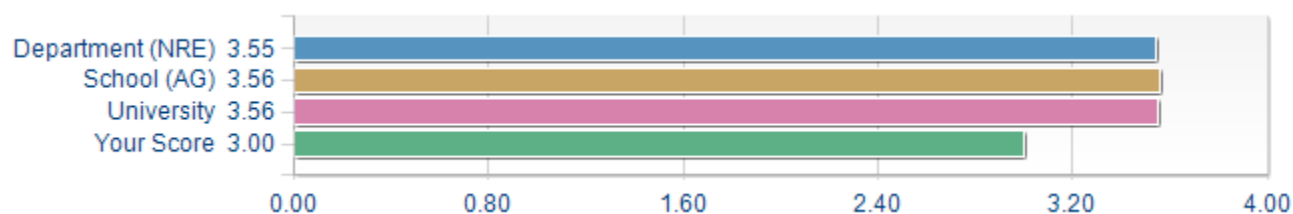
Instructor's Organization and Preparation

Frequency Distribution

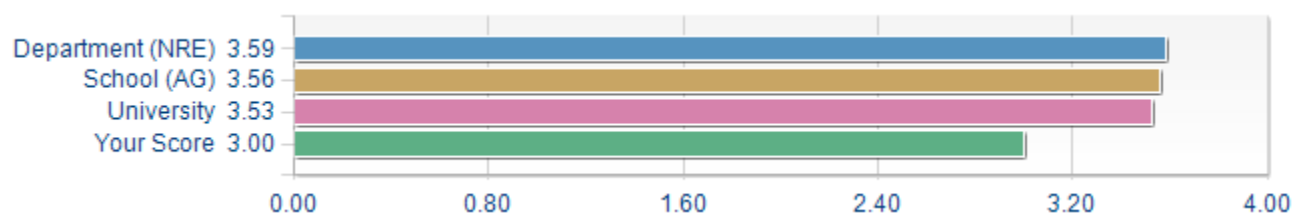
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor's objectives for the course have been made clear.	1	0	1	0	0	3.00	N/A
The instructor began and ended class on time.	1	0	1	0	0	3.00	N/A
The instructor has current professional knowledge and abilities.	1	0	1	0	0	3.00	N/A
The instructor was well-prepared for each class.	1	0	1	0	0	3.00	N/A
The instructor exhibits professional dispositions at all times.	1	0	1	0	0	3.00	N/A
The instructor seemed to enjoy teaching.	1	0	1	0	0	3.00	N/A
The instructor engages in continuous professional development.	1	0	1	0	0	3.00	N/A

Score Comparison

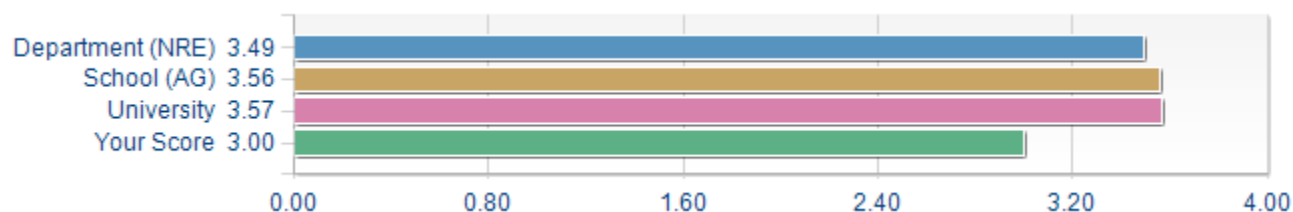
Overall



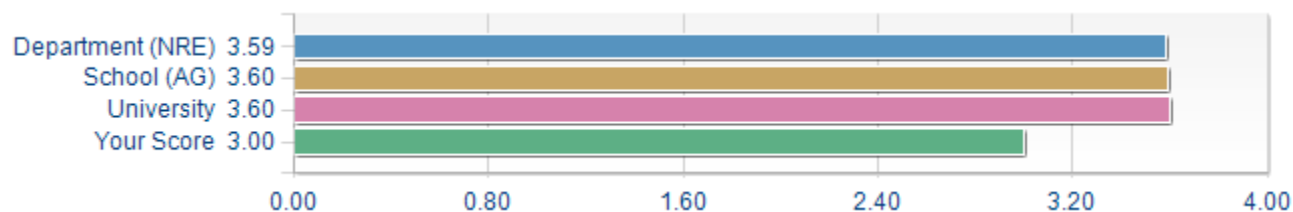
1. The instructor's objectives for the course have been made clear.



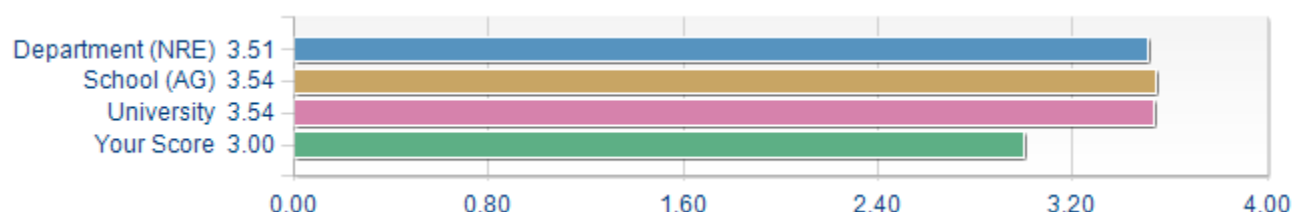
2. The instructor began and ended class on time.



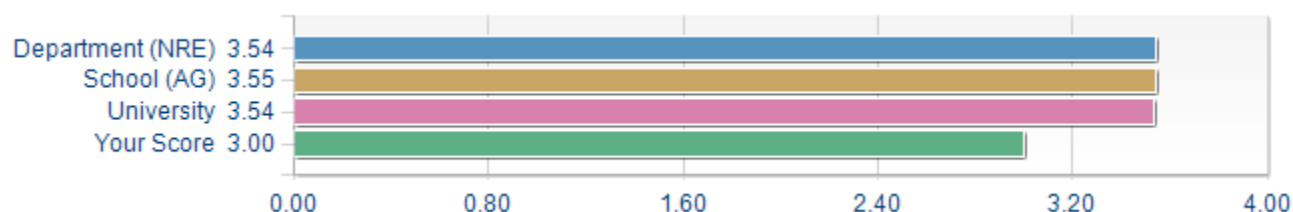
3. The instructor has current professional knowledge and abilities.



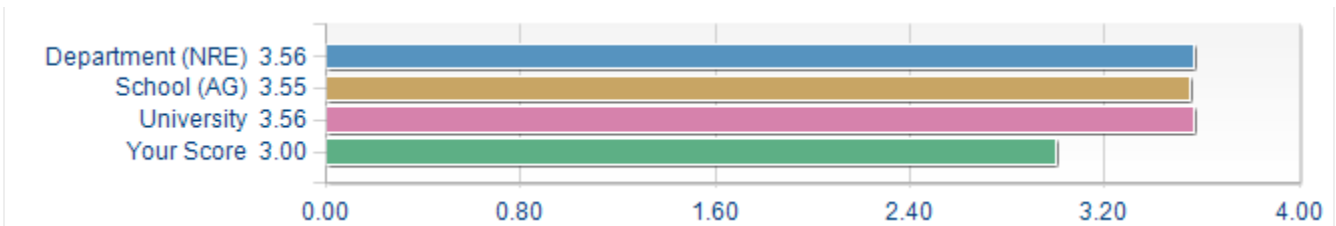
4. The instructor was well-prepared for each class.



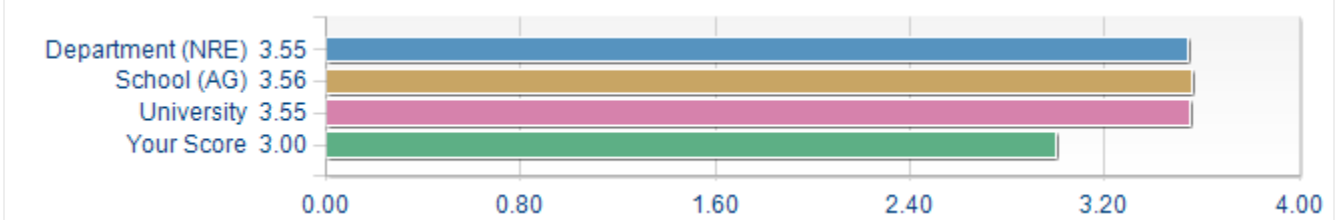
5. The instructor exhibits professional dispositions at all times.



6. The instructor seemed to enjoy teaching.



7. The instructor engages in continuous professional development.



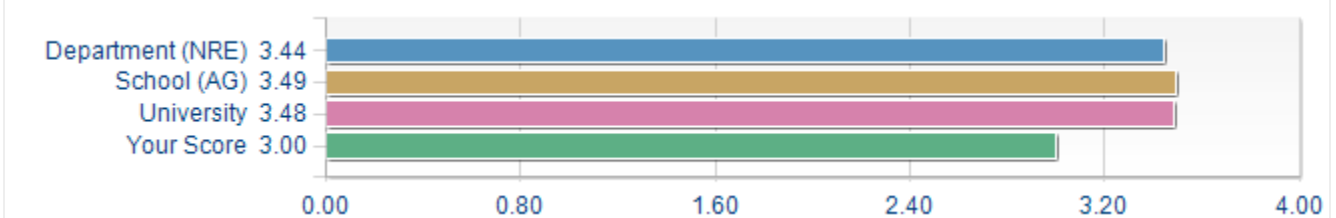
Instructor's Communication Skills

Frequency Distribution

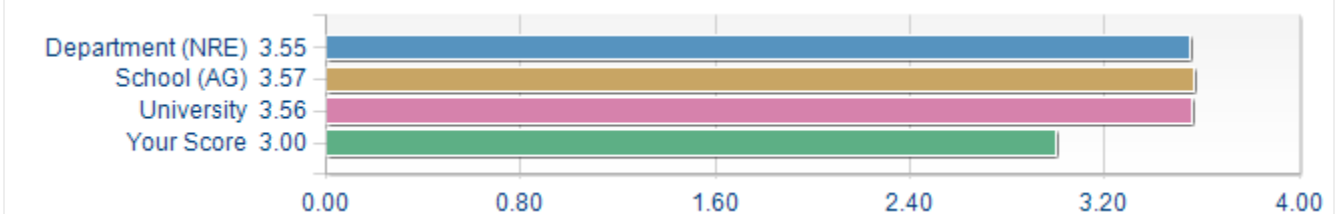
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor made class policies, such as attendance, grading, behavior, etc., clear at the beginning of the semester.	1	0	1	0	0	3.00	N/A
The instructor presented the subject matter in a clear and organized manner.	1	0	1	0	0	3.00	N/A
The pace at which the instructor covered the subject matter was appropriate.	1	0	1	0	0	3.00	N/A
The instructor is a proficient and effective communicator.	1	0	1	0	0	3.00	N/A

Score Comparison

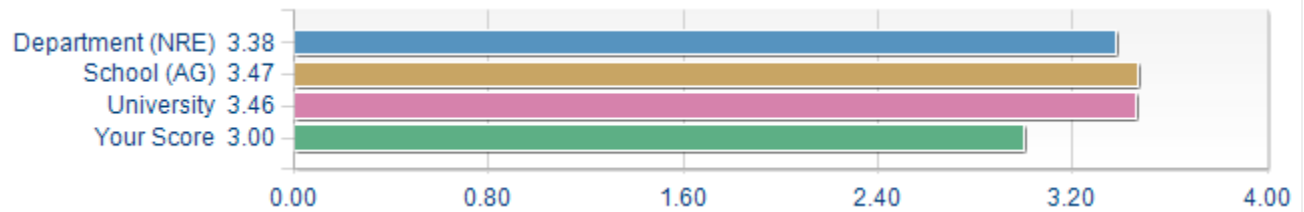
Overall



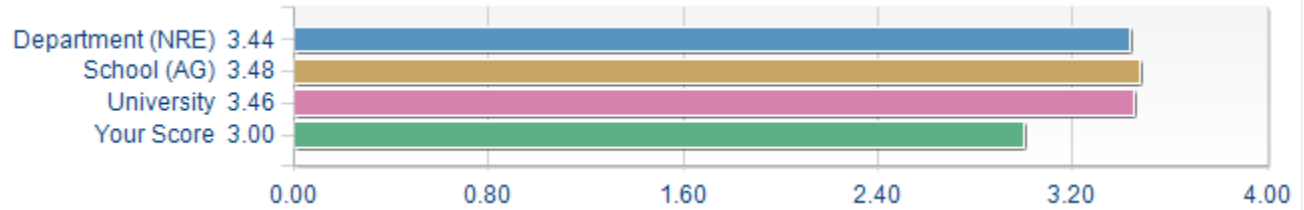
1. The instructor made class policies, such as attendance, grading, behavior, etc., clear at the beginning of the semester.



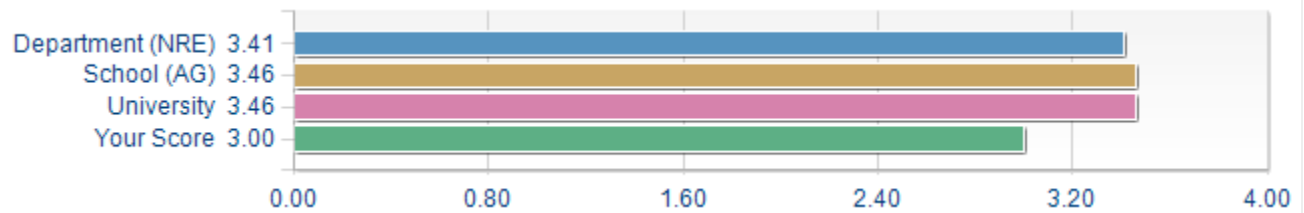
2. The instructor presented the subject matter in a clear and organized manner.



3. The pace at which the instructor covered the subject matter was appropriate.



4. The instructor is a proficient and effective communicator.



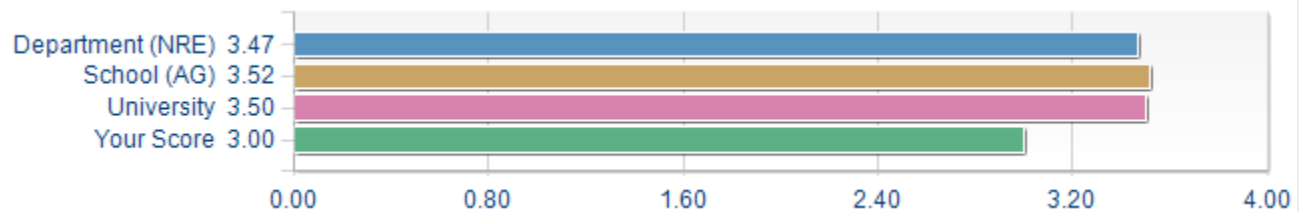
Instructor's Support of Student Learning

Frequency Distribution

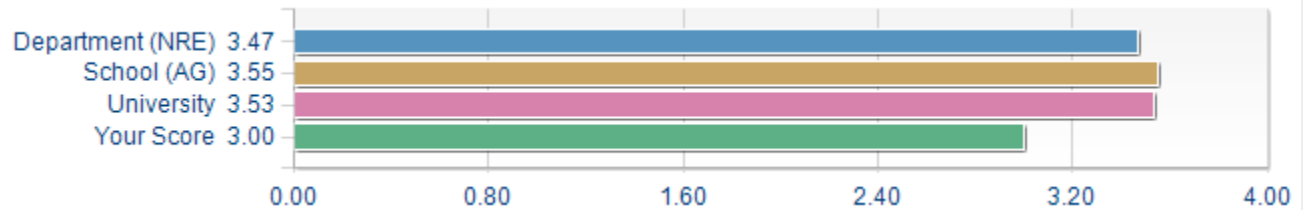
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor creates and maintains a positive and supportive learning environment.	1	0	1	0	0	3.00	N/A
The instructor effectively assesses the student learning.	1	0	1	0	0	3.00	N/A
The instructor returned tests and assignments within a reasonable amount of time.	1	0	1	0	0	3.00	N/A
The instructor effectively facilitates learning by all students.	1	0	1	0	0	3.00	N/A
The instructor was available for extra help.	1	0	1	0	0	3.00	N/A
The instructor seemed genuinely concerned with students' progress.	1	0	1	0	0	3.00	N/A
The instructor was open to students' viewpoints.	1	0	1	0	0	3.00	N/A
The instructor is available during office hours.	1	0	1	0	0	3.00	N/A

Score Comparison

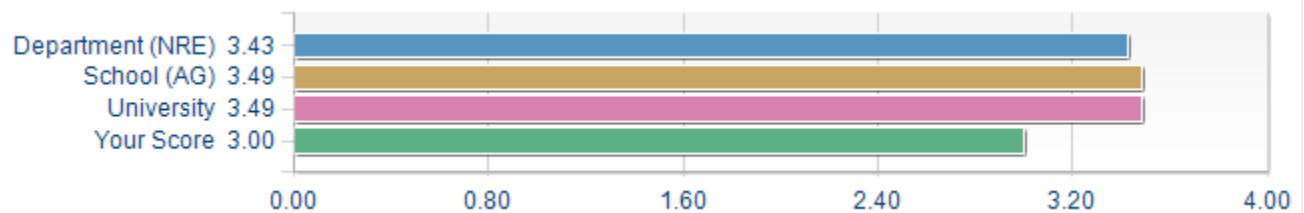
Overall



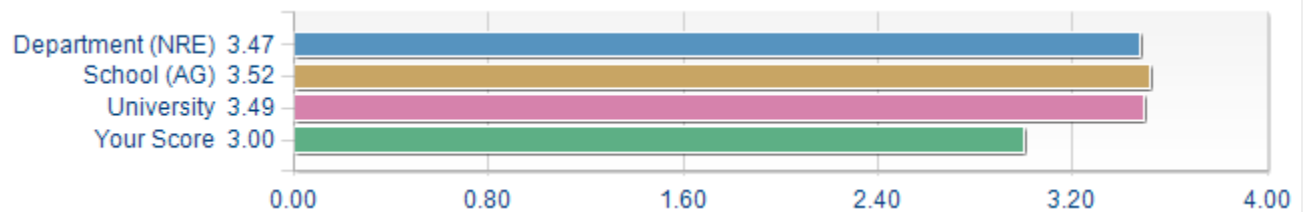
1. The instructor creates and maintains a positive and supportive learning environment.



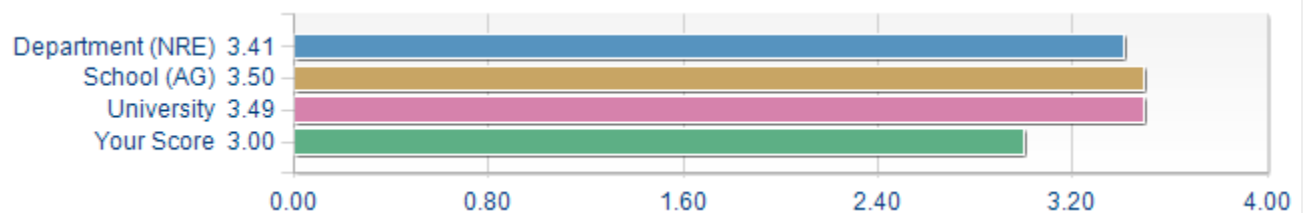
2. The instructor effectively assesses the student learning.



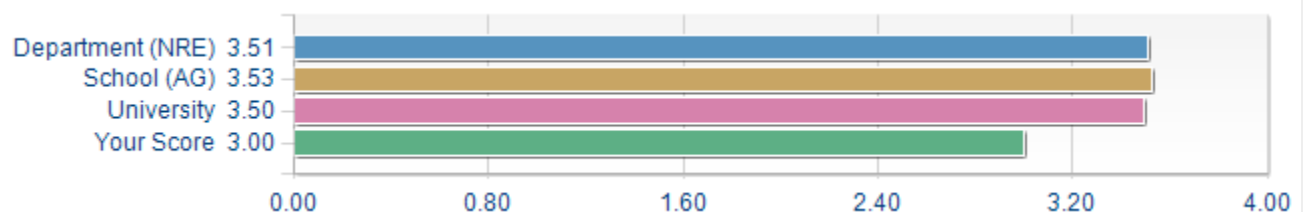
3. The instructor returned tests and assignments within a reasonable amount of time.



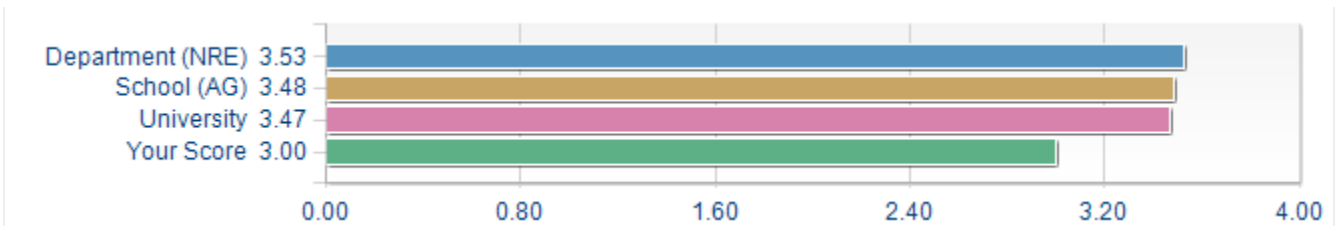
4. The instructor effectively facilitates learning by all students.



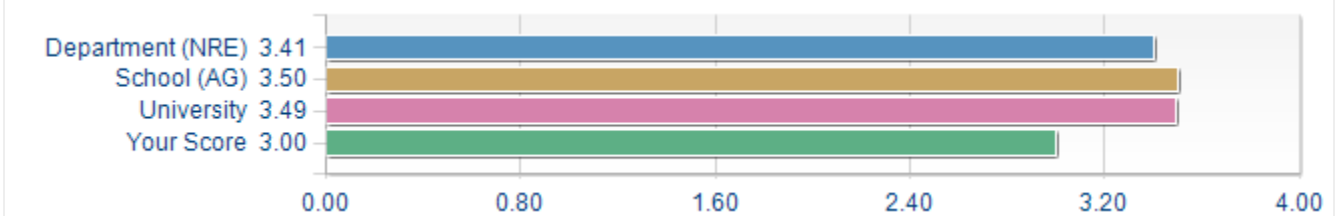
5. The instructor was available for extra help.



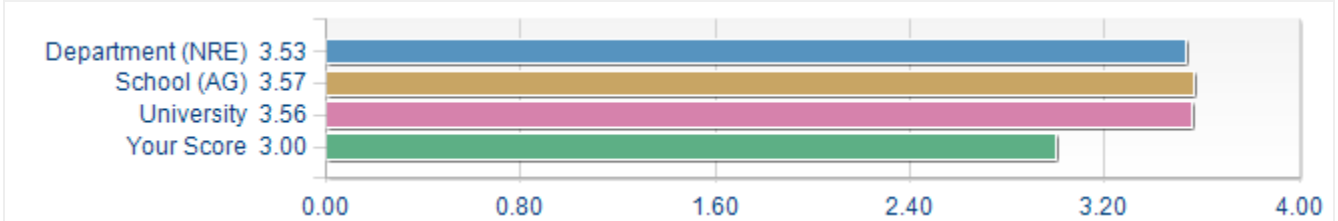
6. The instructor seemed genuinely concerned with students' progress.



7. The instructor was open to students' viewpoints.



8. The instructor is available during office hours.

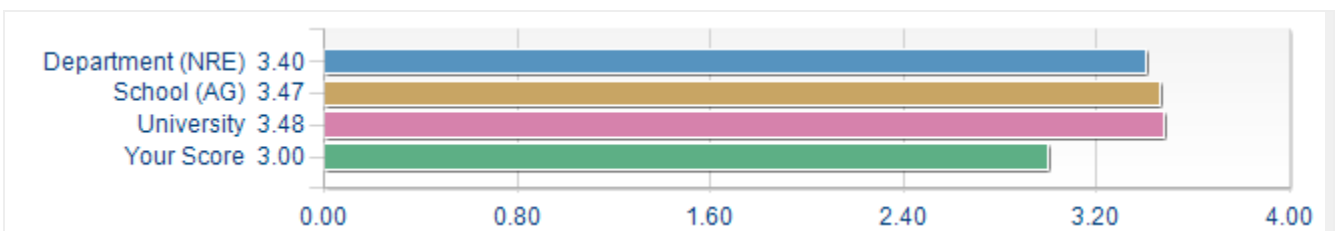


Overall Course Questions

Frequency Distribution

	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
Overall, I rate this as a good course.	1	0	1	0	0	3.00	N/A

Score Comparison



Rating scale questions, top and bottom ranks for Instructor Questions

Strengths		
1	The instructor's objectives for the course have been made clear.	3.00
2	The instructor began and ended class on time.	3.00
3	The instructor has current professional knowledge and abilities.	3.00

Areas for Improvement		
1	The instructor's objectives for the course have been made clear.	3.00
2	The instructor began and ended class on time.	3.00

3 The instructor has current professional knowledge and abilities.

3.00



Copy of Instructor Report for Troy Bowman (Forest Res Economics)

Fall 2016 Course Evaluation

Project Audience 15

Responses Received 0

Response Ratio 0%

Report Comments

Department	NRE
School	AG
Level	UG

Prepared by eXplorance Support

Creation Date Thu, Mar 30, 2017



Alabama A&M University

Course Evaluations

Interpretation guidelines

The value "4" represents "Strongly Agree" while the value "1" represents "Strongly Disagree".
No questions have been defined as mandatory, so students may skip answering certain questions.
An open ended comment field has been added to the end of the questionnaire

Teacher	Course
Troy Bowman	Forest Res Economics



Copy of Instructor Report for Kozma Naka (Forestry Field Techniques I)

Fall 2016 Course Evaluation

Project Audience 16

Responses Received 2

Response Ratio 12%

Report Comments

Department	NRE
School	AG
Level	UG

Prepared by eXplorance Support

Creation Date Thu, Mar 30, 2017



Alabama A&M University

Course Evaluations

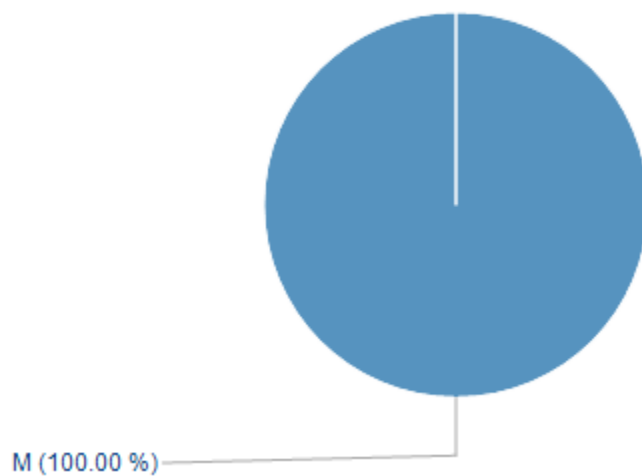
Interpretation guidelines

The value "4" represents "Strongly Agree" while the value "1" represents "Strongly Disagree".
No questions have been defined as mandatory, so students may skip answering certain questions.
An open ended comment field has been added to the end of the questionnaire

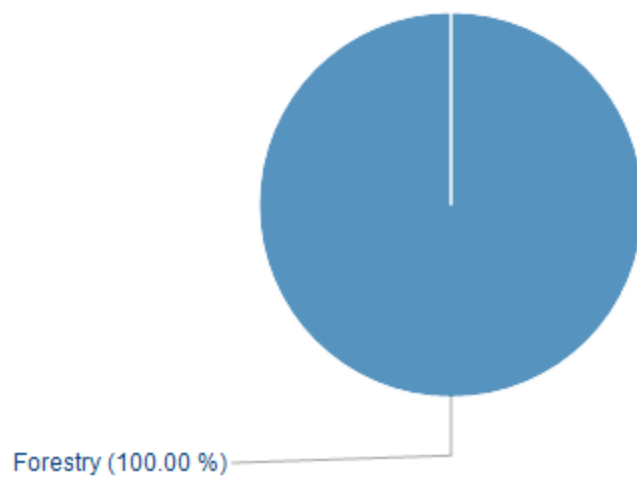
Teacher	Course
Kozma Naka	Forestry Field Techniques I

Course Demographics

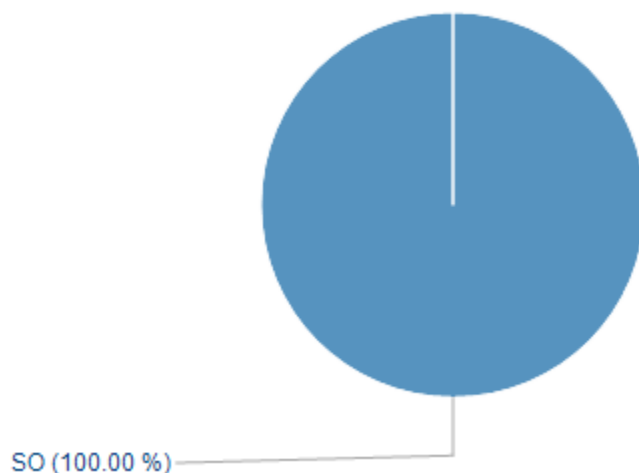
Gender Distribution



Disicipline Breakdown



Grade Breakdown



Competency Summary

Competency	Your Score	Standard Deviation	Min	Max
Overall, I rate this as a good course.	3.50	+/-0.71	3.00	4.00
Instructor's Organization and Preparation	3.64	+/-0.51	3.00	4.00
Instructor's Communication Skills	3.75	+/-0.49	3.00	4.00
Instructor's Support of Student Learning	3.75	+/-0.49	3.00	4.00
Total Score	3.66			

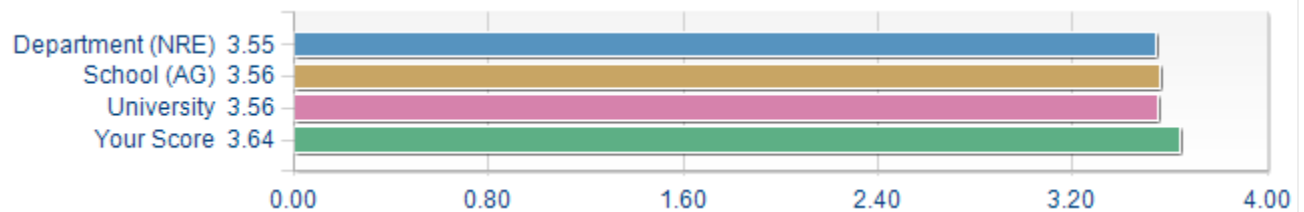
Instructor's Organization and Preparation

Frequency Distribution

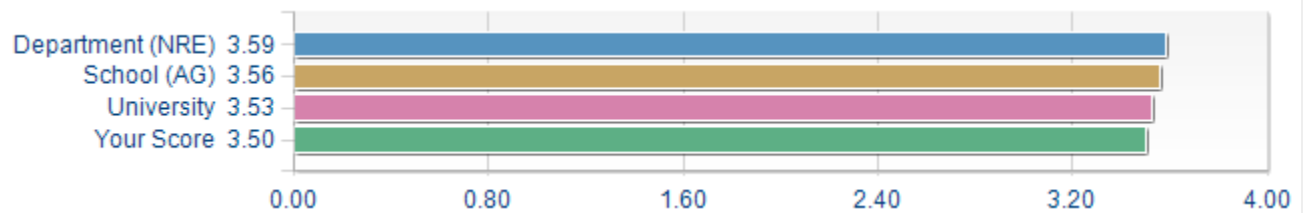
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor's objectives for the course have been made clear.	2	1	1	0	0	3.50	0.71
The instructor began and ended class on time.	1	1	0	0	0	4.00	N/A
The instructor has current professional knowledge and abilities.	2	1	1	0	0	3.50	0.71
The instructor was well-prepared for each class.	2	1	1	0	0	3.50	0.71
The instructor exhibits professional dispositions at all times.	2	1	1	0	0	3.50	0.71
The instructor seemed to enjoy teaching.	1	1	0	0	0	4.00	N/A
The instructor engages in continuous professional development.	2	1	1	0	0	3.50	0.71

Score Comparison

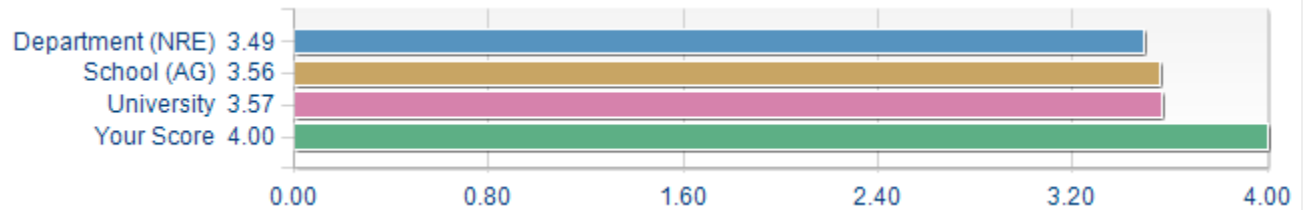
Overall



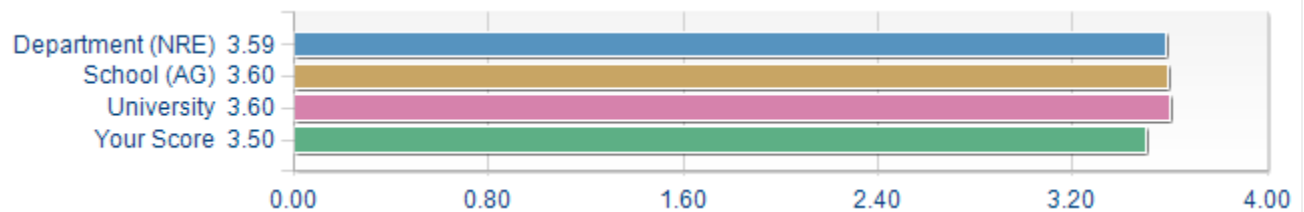
1. The instructor's objectives for the course have been made clear.



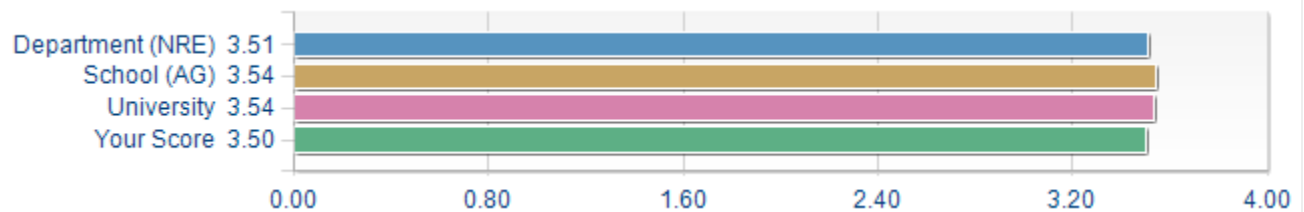
2. The instructor began and ended class on time.



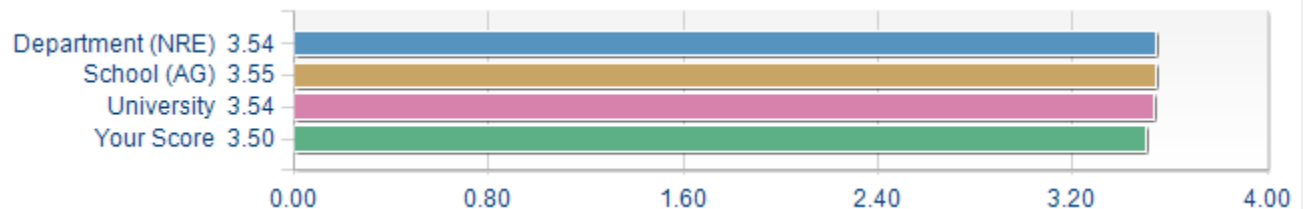
3. The instructor has current professional knowledge and abilities.



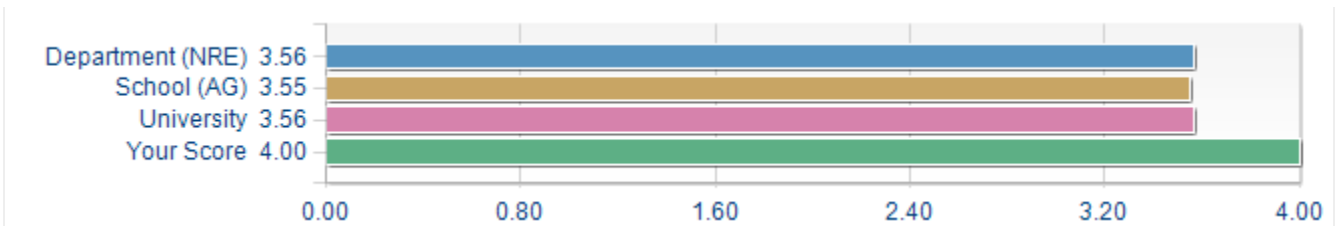
4. The instructor was well-prepared for each class.



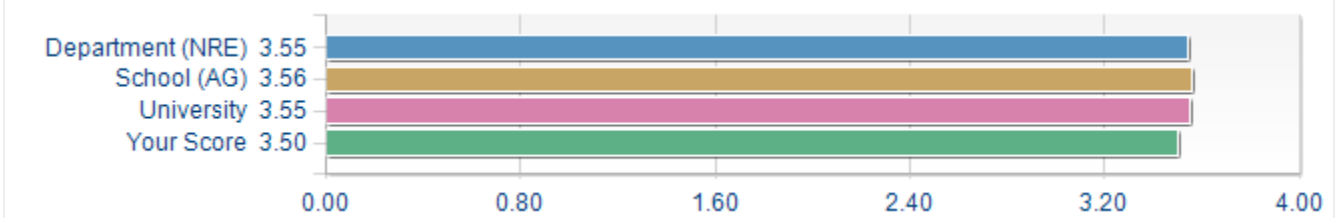
5. The instructor exhibits professional dispositions at all times.



6. The instructor seemed to enjoy teaching.



7. The instructor engages in continuous professional development.



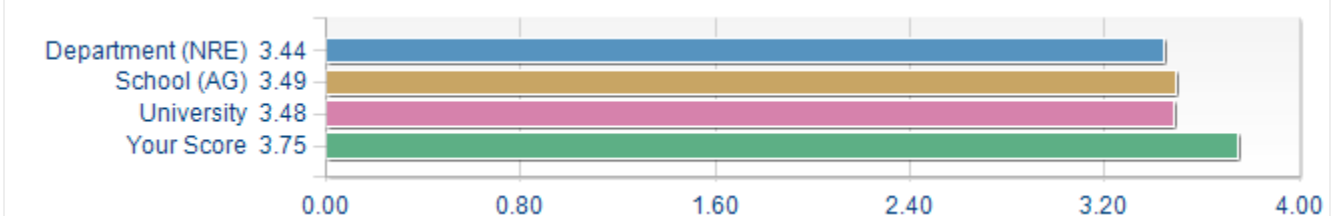
Instructor's Communication Skills

Frequency Distribution

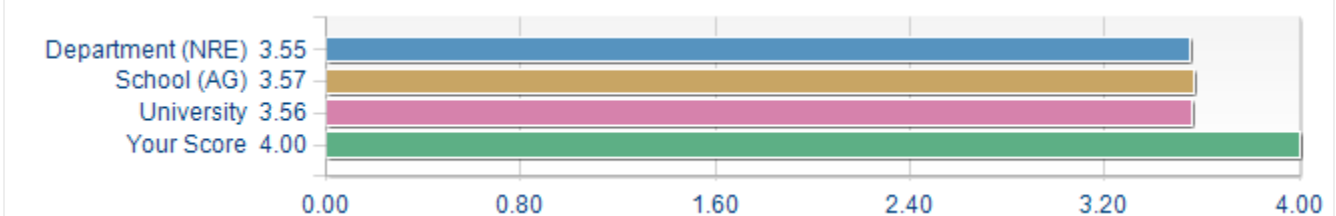
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.	2	2	0	0	0	4.00	0.00
The instructor presented the subject matter in a clear and organized manner.	2	1	1	0	0	3.50	0.71
The pace at which the instructor covered the subject matter was appropriate.	1	1	0	0	0	4.00	N/A
The instructor is a proficient and effective communicator.	2	1	1	0	0	3.50	0.71

Score Comparison

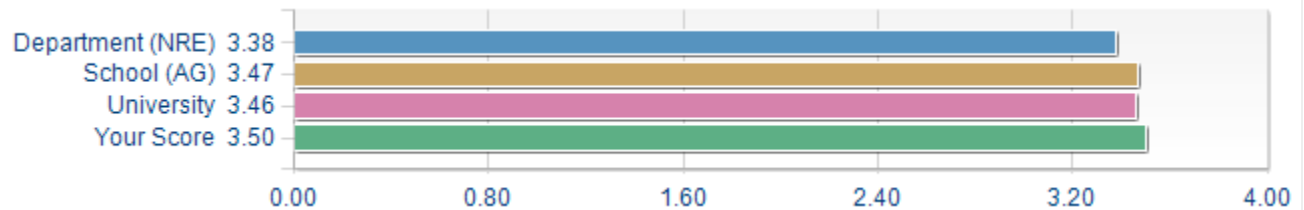
Overall



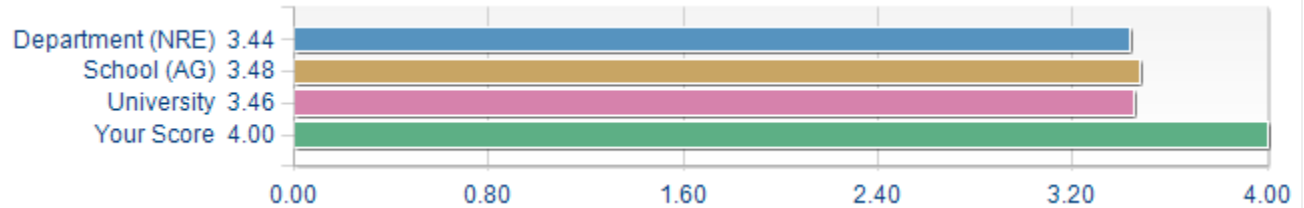
1. The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.



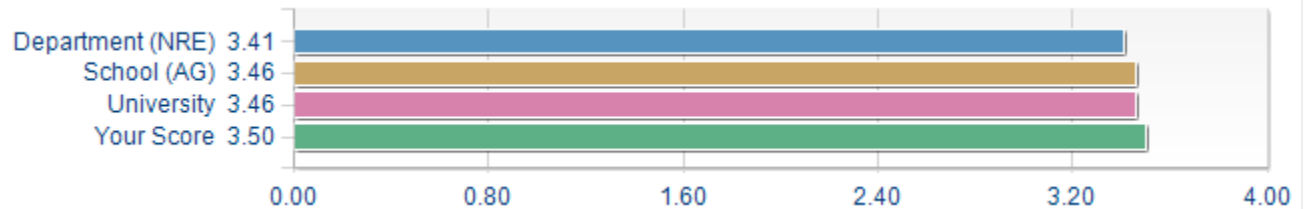
2. The instructor presented the subject matter in a clear and organized manner.



3. The pace at which the instructor covered the subject matter was appropriate.



4. The instructor is a proficient and effective communicator.



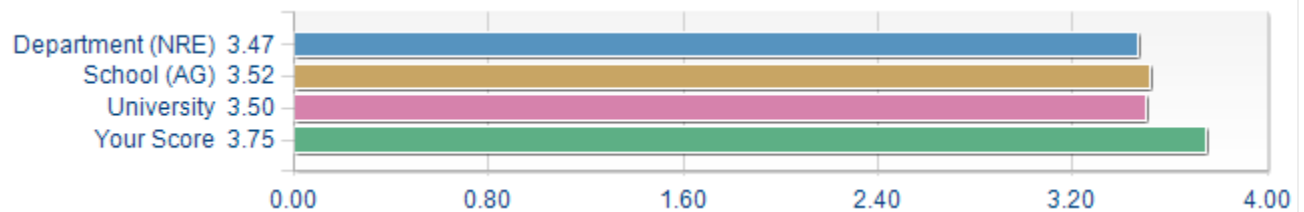
Instructor's Support of Student Learning

Frequency Distribution

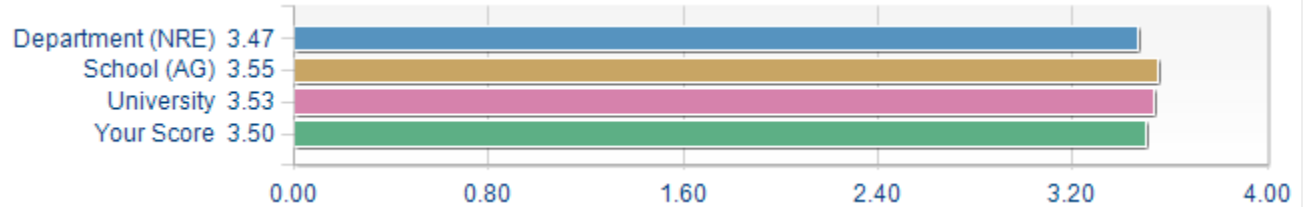
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor creates and maintains a positive and supportive learning environment.	2	1	1	0	0	3.50	0.71
The instructor effectively assesses the student learning.	2	1	1	0	0	3.50	0.71
The instructor returned tests and assignments within a reasonable amount of time.	1	1	0	0	0	4.00	N/A
The instructor effectively facilitates learning by all students.	1	1	0	0	0	4.00	N/A
The instructor was available for extra help.	2	1	1	0	0	3.50	0.71
The instructor seemed genuinely concerned with students' progress.	1	1	0	0	0	4.00	N/A
The instructor was open to students' viewpoints.	1	1	0	0	0	4.00	N/A
The instructor is available during office hours.	2	1	1	0	0	3.50	0.71

Score Comparison

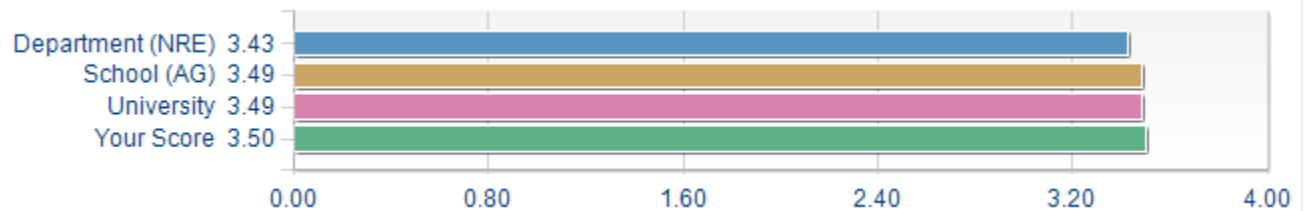
Overall



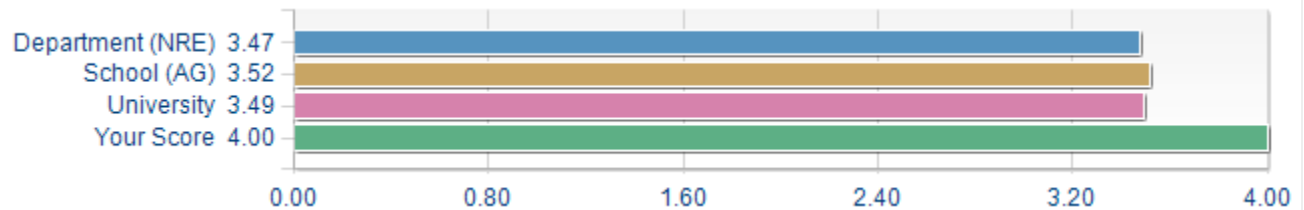
1. The instructor creates and maintains a positive and supportive learning environment.



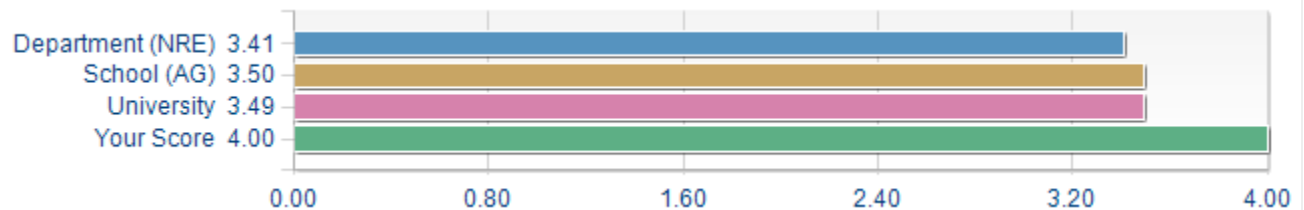
2. The instructor effectively assesses the student learning.



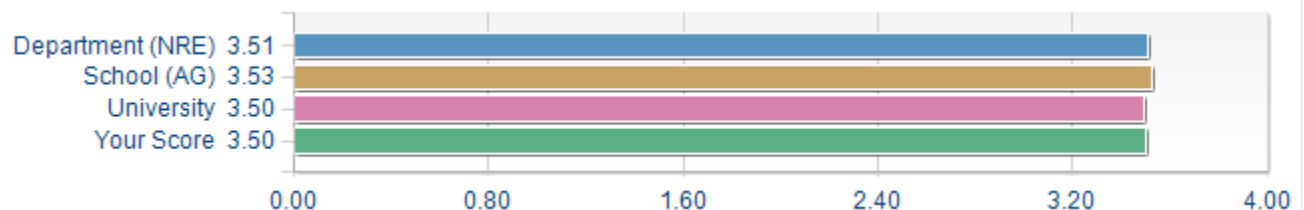
3. The instructor returned tests and assignments within a reasonable amount of time.



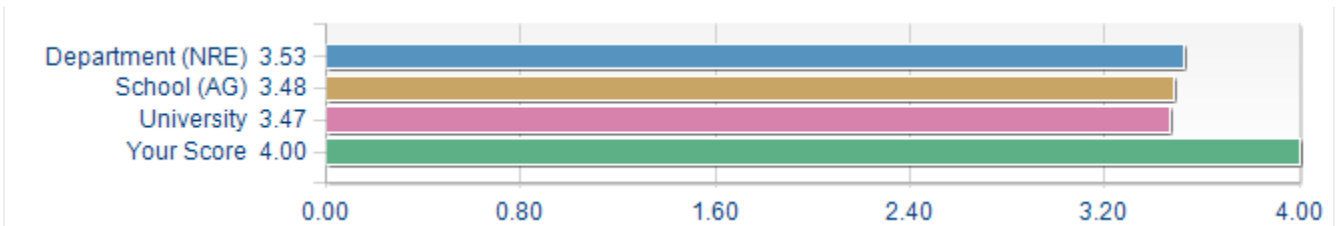
4. The instructor effectively facilitates learning by all students.



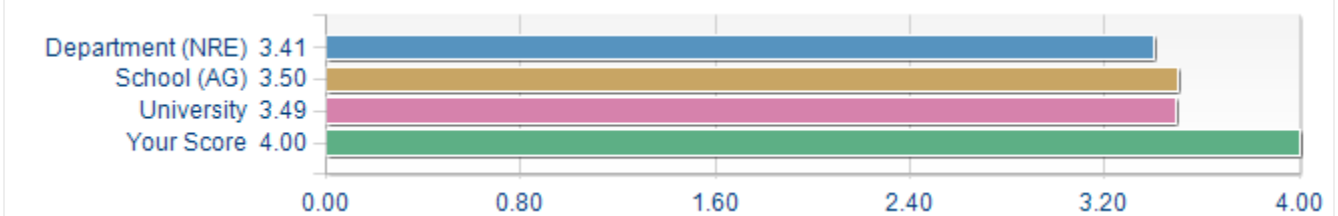
5. The instructor was available for extra help.



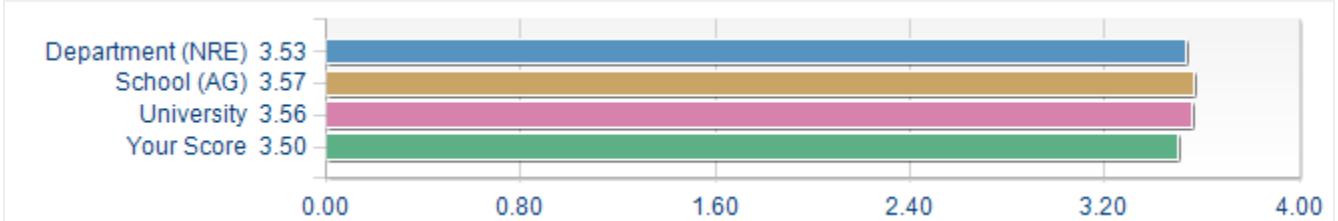
6. The instructor seemed genuinely concerned with students' progress.



7. The instructor was open to students' viewpoints.



8. The instructor is available during office hours.

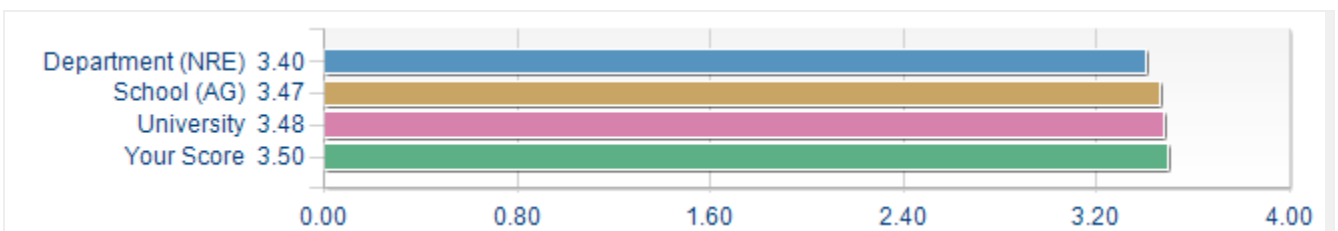


Overall Course Questions

Frequency Distribution

	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
Overall, I rate this as a good course.	2	1	1	0	0	3.50	0.71

Score Comparison



Rating scale questions, top and bottom ranks for Instructor Questions

Strengths		
1	The instructor began and ended class on time.	4.00
2	The instructor seemed to enjoy teaching.	4.00
3	The instructor made class policies, such as attendance, grading, behavior, etc., clear at the beginning of the semester.	4.00

Areas for Improvement		
1	The instructor's objectives for the course have been made clear.	3.50

Instructor Report for Kozma Naka (Forestry Field Techniques I)

2	The instructor has current professional knowledge and abilities.	3.50
3	The instructor was well-prepared for each class.	3.50



Copy of Instructor Report for Luben Dimov (Introduction to Forestry)

Fall 2016 Course Evaluation

Project Audience 13

Responses Received 3

Response Ratio 23%

Report Comments

Department	NRE
School	AG
Level	UG

Prepared by eXplorance Support

Creation Date Thu, Mar 30, 2017



Alabama A&M University

Course Evaluations

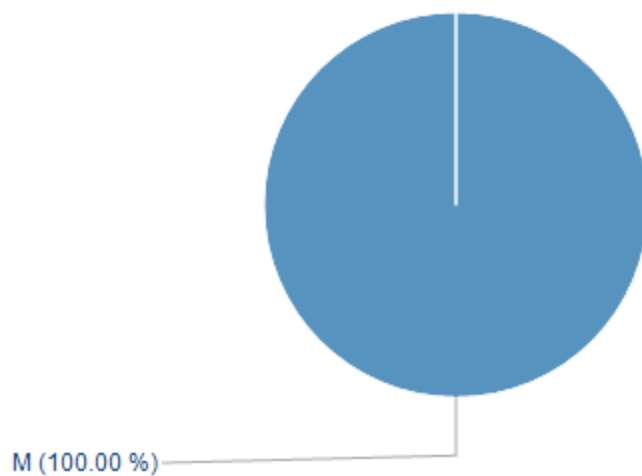
Interpretation guidelines

The value "4" represents "Strongly Agree" while the value "1" represents "Strongly Disagree".
No questions have been defined as mandatory, so students may skip answering certain questions.
An open ended comment field has been added to the end of the questionnaire

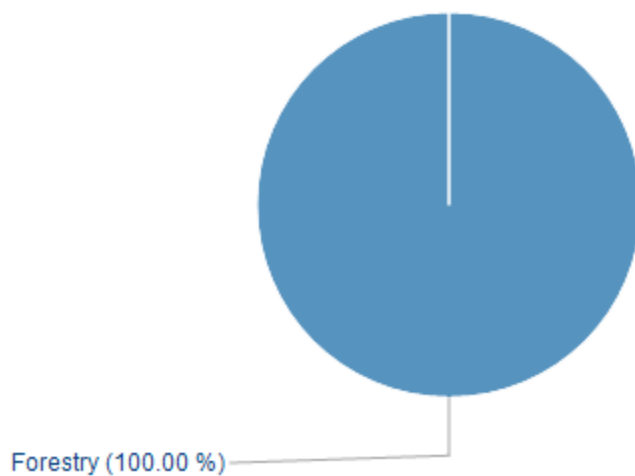
Teacher	Course
Luben Dimov	Introduction to Forestry

Course Demographics

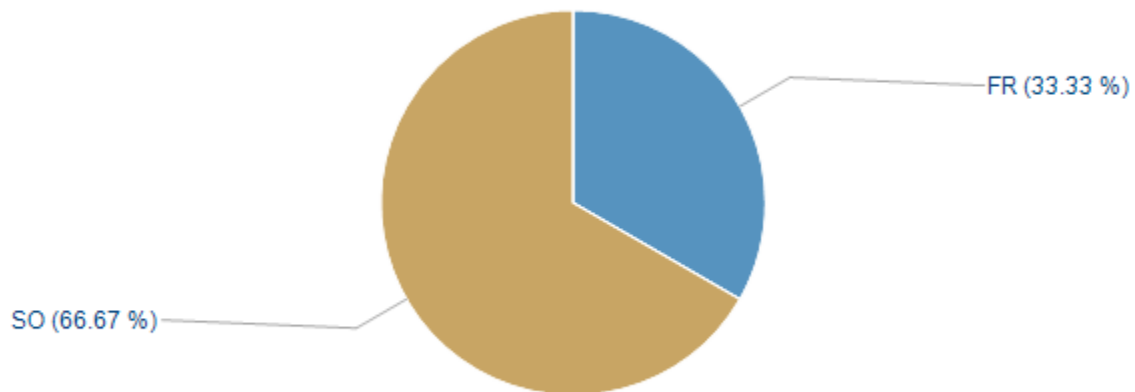
Gender Distribution



Disicipline Breakdown



Grade Breakdown



Competency Summary

Competency	Your Score	Standard Deviation	Min	Max
Overall, I rate this as a good course.	3.00	+/-0.00	3.00	3.00
Instructor's Communication Skills	3.33	+/-0.49	3.00	4.00
Instructor's Support of Student Learning	3.58	+/-0.50	3.00	4.00
Instructor's Organization and Preparation	3.62	+/-0.50	3.00	4.00
Total Score	3.38			

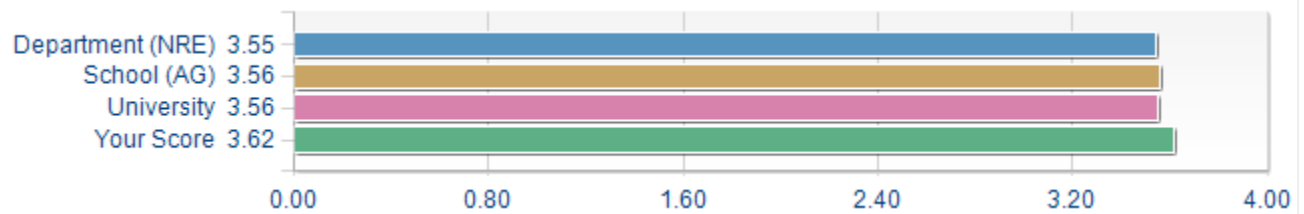
Instructor's Organization and Preparation

Frequency Distribution

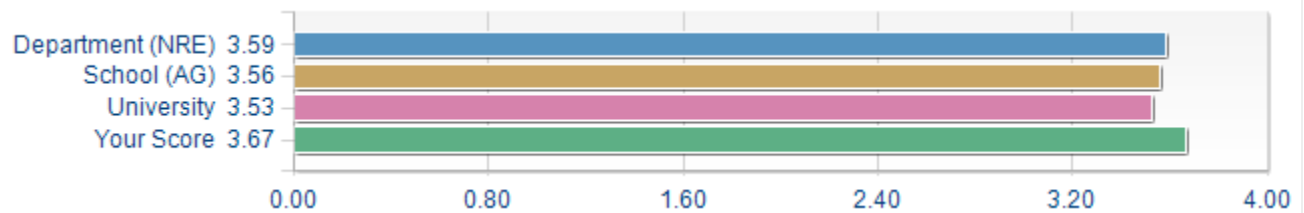
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor's objectives for the course have been made clear.	3	2	1	0	0	3.67	0.58
The instructor began and ended class on time.	3	2	1	0	0	3.67	0.58
The instructor has current professional knowledge and abilities.	3	2	1	0	0	3.67	0.58
The instructor was well-prepared for each class.	3	1	2	0	0	3.33	0.58
The instructor exhibits professional dispositions at all times.	3	2	1	0	0	3.67	0.58
The instructor seemed to enjoy teaching.	3	2	1	0	0	3.67	0.58
The instructor engages in continuous professional development.	3	2	1	0	0	3.67	0.58

Score Comparison

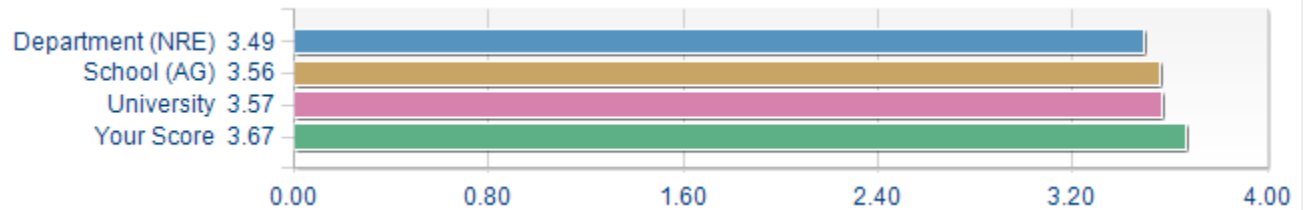
Overall



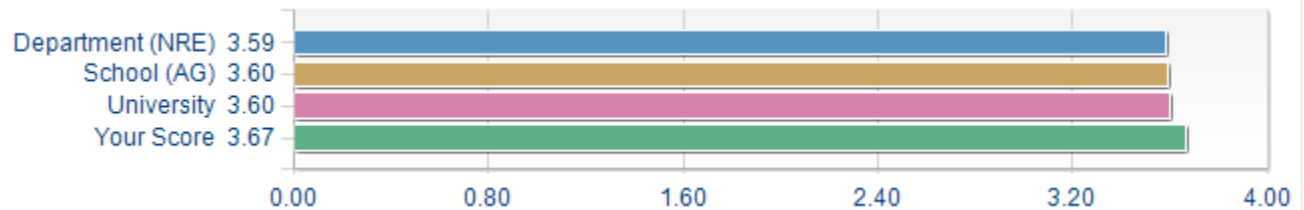
1. The instructor's objectives for the course have been made clear.



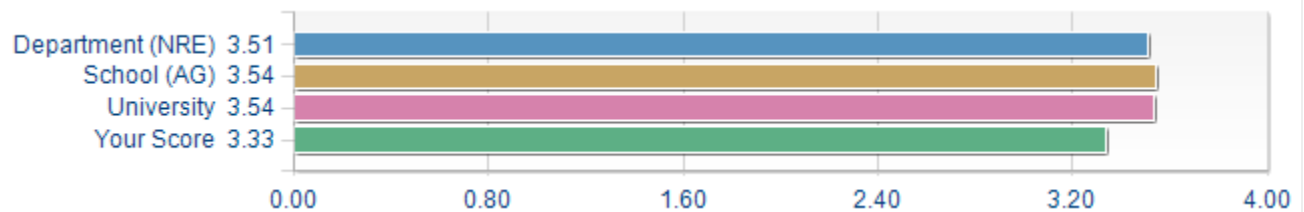
2. The instructor began and ended class on time.



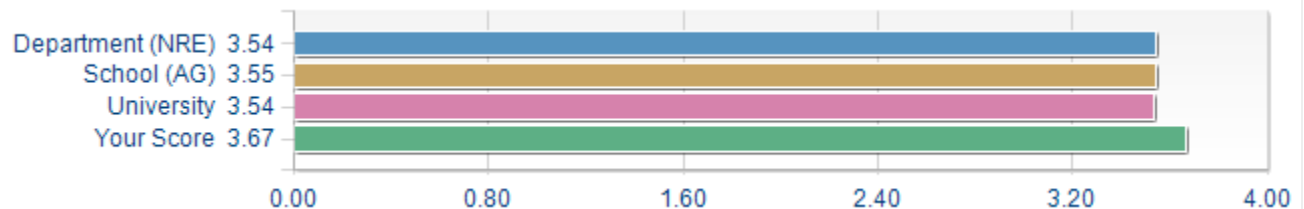
3. The instructor has current professional knowledge and abilities.



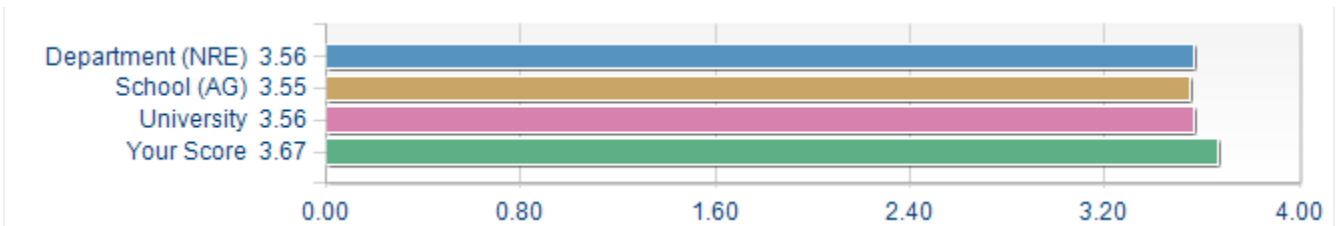
4. The instructor was well-prepared for each class.



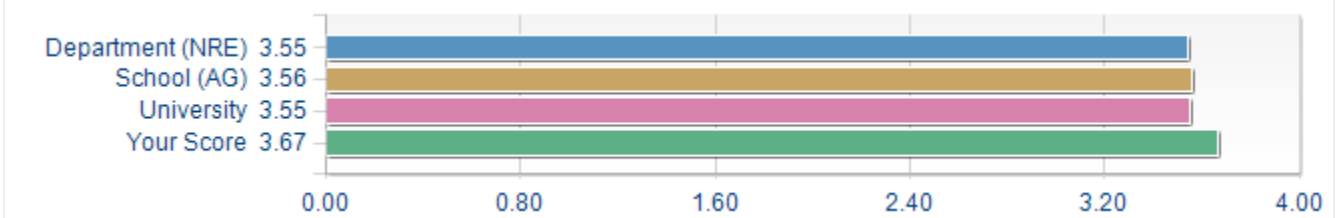
5. The instructor exhibits professional dispositions at all times.



6. The instructor seemed to enjoy teaching.



7. The instructor engages in continuous professional development.



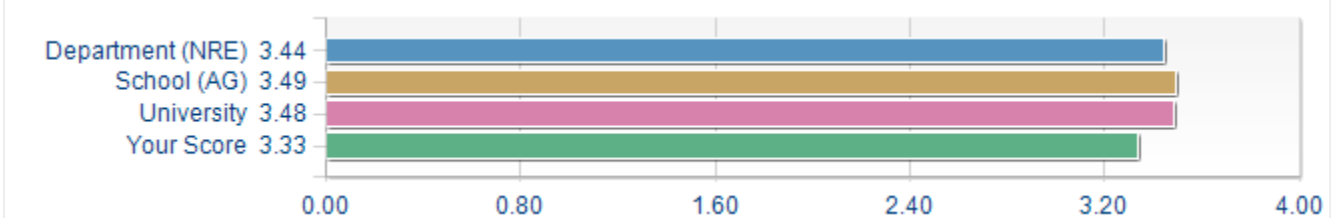
Instructor's Communication Skills

Frequency Distribution

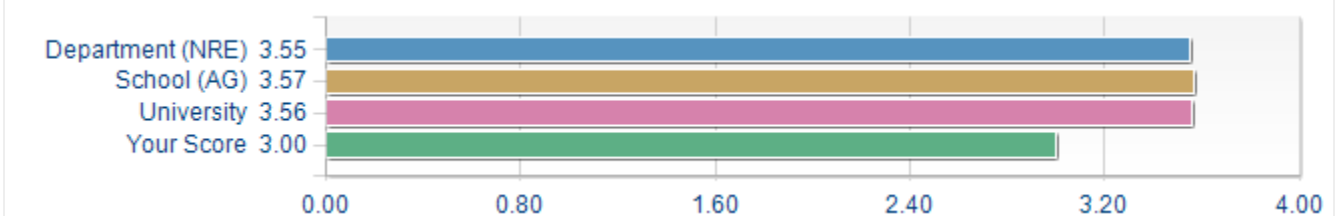
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.	3	0	3	0	0	3.00	0.00
The instructor presented the subject matter in a clear and organized manner.	3	1	2	0	0	3.33	0.58
The pace at which the instructor covered the subject matter was appropriate.	3	2	1	0	0	3.67	0.58
The instructor is a proficient and effective communicator.	3	1	2	0	0	3.33	0.58

Score Comparison

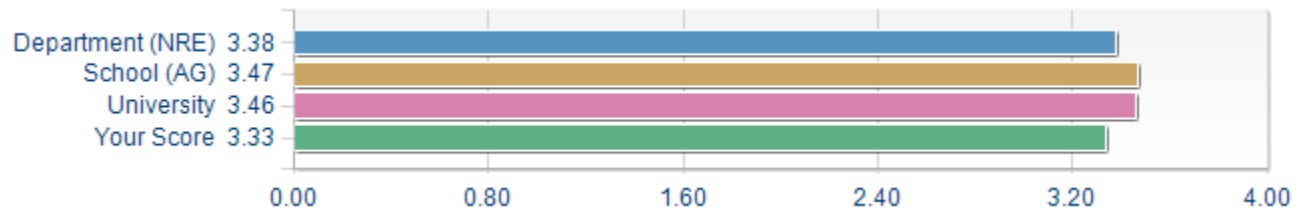
Overall



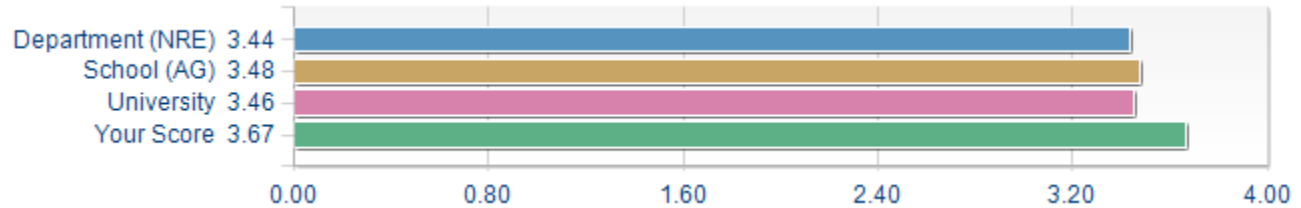
1. The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.



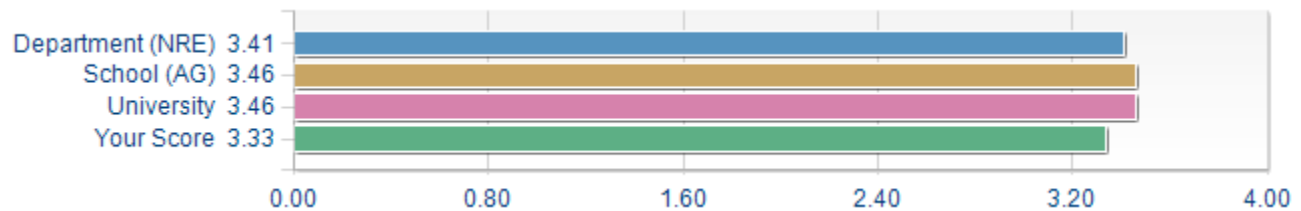
2. The instructor presented the subject matter in a clear and organized manner.



3. The pace at which the instructor covered the subject matter was appropriate.



4. The instructor is a proficient and effective communicator.



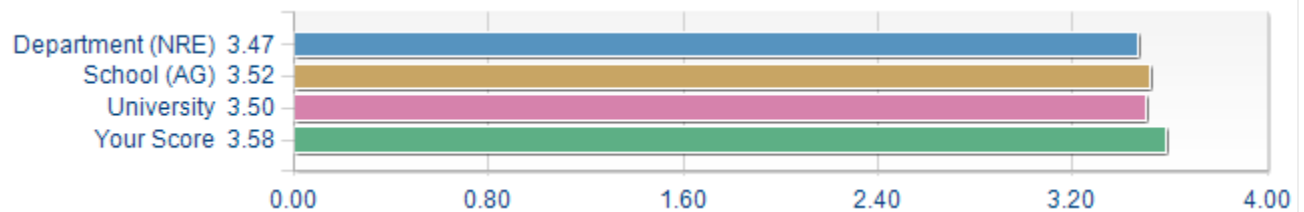
Instructor's Support of Student Learning

Frequency Distribution

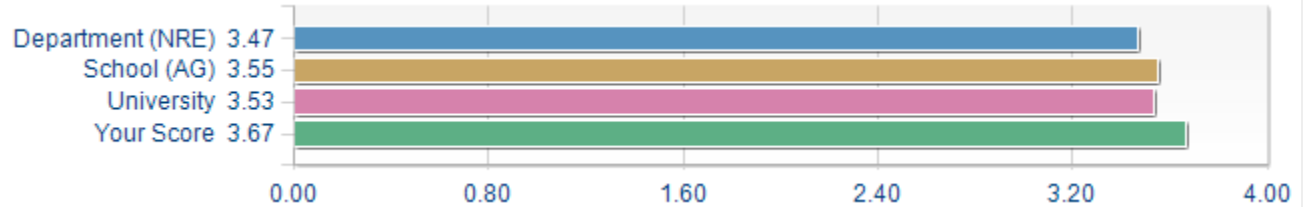
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor creates and maintains a positive and supportive learning environment.	3	2	1	0	0	3.67	0.58
The instructor effectively assesses the student learning.	3	1	2	0	0	3.33	0.58
The instructor returned tests and assignments within a reasonable amount of time.	3	1	2	0	0	3.33	0.58
The instructor effectively facilitates learning by all students.	3	2	1	0	0	3.67	0.58
The instructor was available for extra help.	3	2	1	0	0	3.67	0.58
The instructor seemed genuinely concerned with students' progress.	3	2	1	0	0	3.67	0.58
The instructor was open to students' viewpoints.	3	2	1	0	0	3.67	0.58
The instructor is available during office hours.	3	2	1	0	0	3.67	0.58

Score Comparison

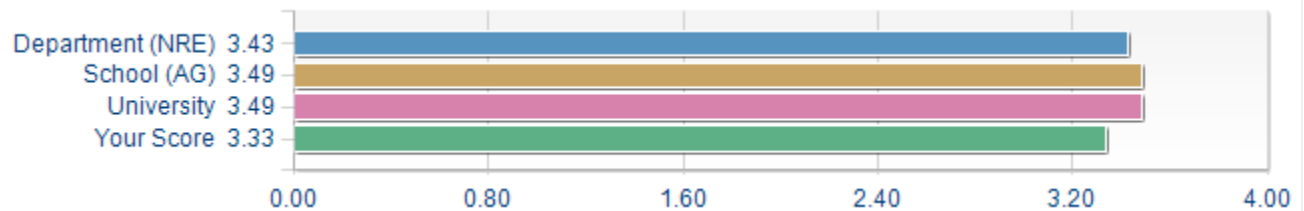
Overall



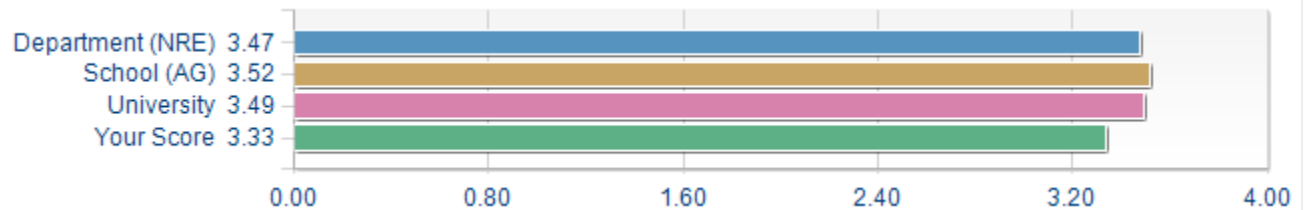
1. The instructor creates and maintains a positive and supportive learning environment.



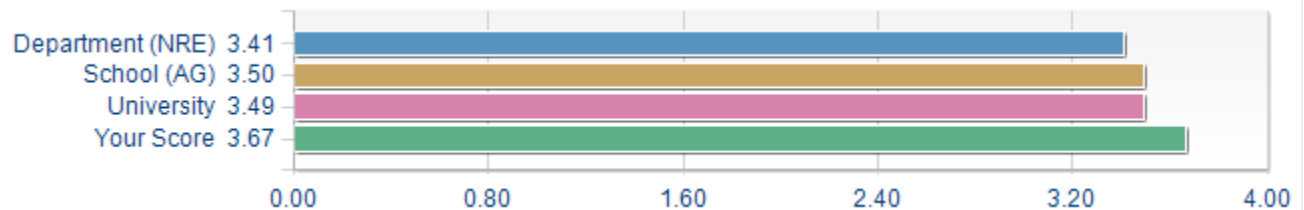
2. The instructor effectively assesses the student learning.



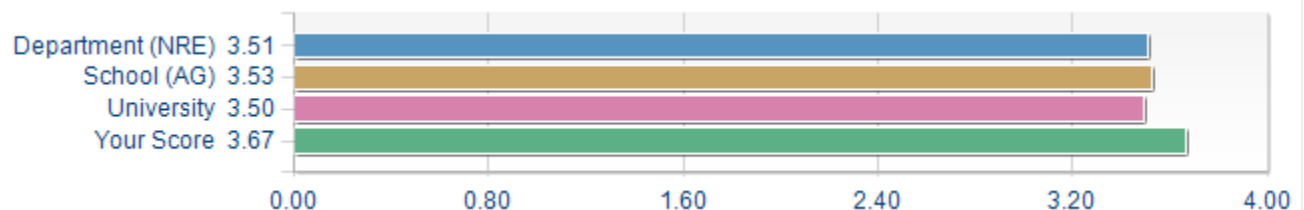
3. The instructor returned tests and assignments within a reasonable amount of time.



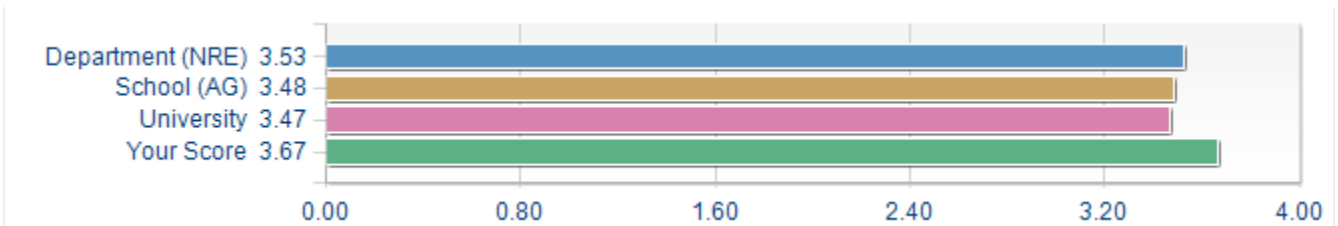
4. The instructor effectively facilitates learning by all students.



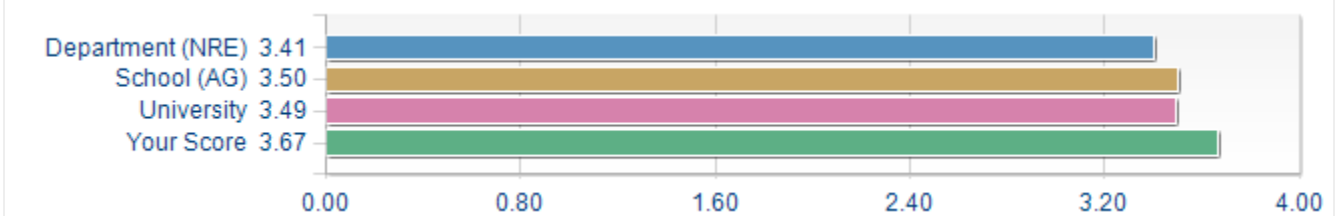
5. The instructor was available for extra help.



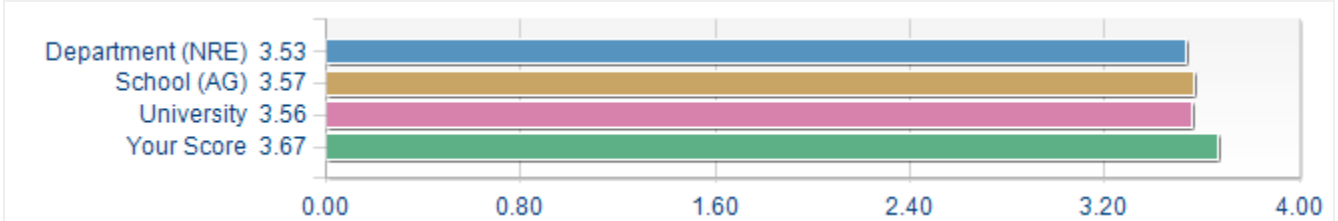
6. The instructor seemed genuinely concerned with students' progress.



7. The instructor was open to students' viewpoints.



8. The instructor is available during office hours.

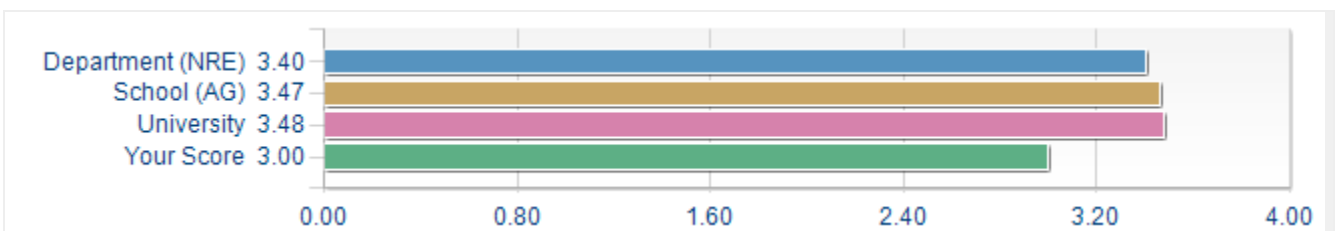


Overall Course Questions

Frequency Distribution

	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
Overall, I rate this as a good course.	3	0	3	0	0	3.00	0.00

Score Comparison



Rating scale questions, top and bottom ranks for Instructor Questions

Strengths		
1	The instructor's objectives for the course have been made clear.	3.67
2	The instructor began and ended class on time.	3.67
3	The instructor has current professional knowledge and abilities.	3.67

Areas for Improvement		
1	The instructor made class policies, such as attendance, grading, behavior, etc., clear at the beginning of the semester.	3.00

Instructor Report for Luben Dimov (Introduction to Forestry)

2	The instructor was well-prepared for each class.	3.33
3	The instructor presented the subject matter in a clear and organized manner.	3.33



Copy of Instructor Report for William Stone (Principles of Wildlife Mgt)

Fall 2016 Course Evaluation

Project Audience 8

Responses Received 1

Response Ratio 12%

Report Comments

Department	NRE
School	AG
Level	UG

Prepared by eXplorance Support

Creation Date Thu, Mar 30, 2017



Alabama A&M University

Course Evaluations

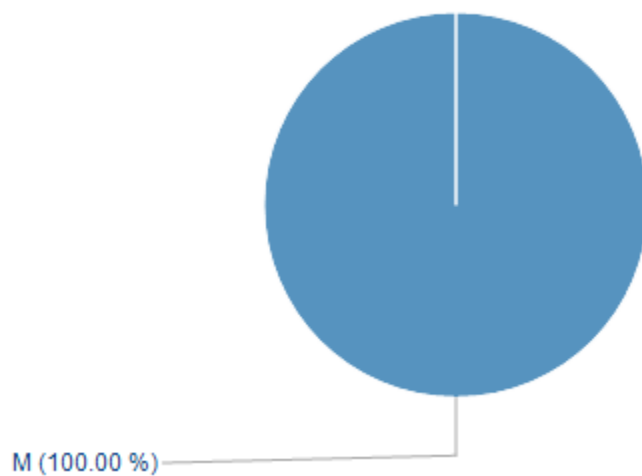
Interpretation guidelines

The value "4" represents "Strongly Agree" while the value "1" represents "Strongly Disagree".
No questions have been defined as mandatory, so students may skip answering certain questions.
An open ended comment field has been added to the end of the questionnaire

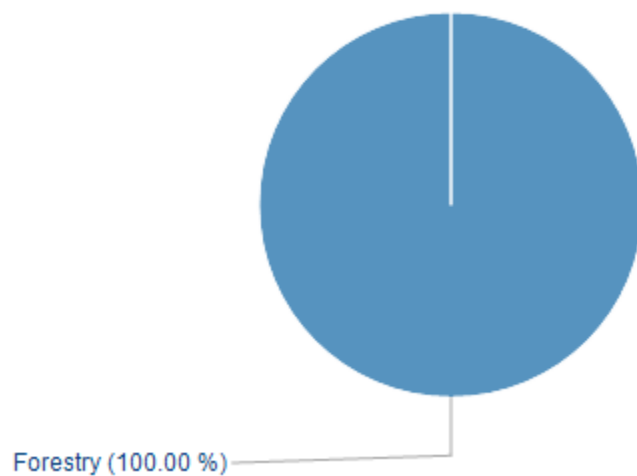
Teacher	Course
William Stone	Principles of Wildlife Mgt

Course Demographics

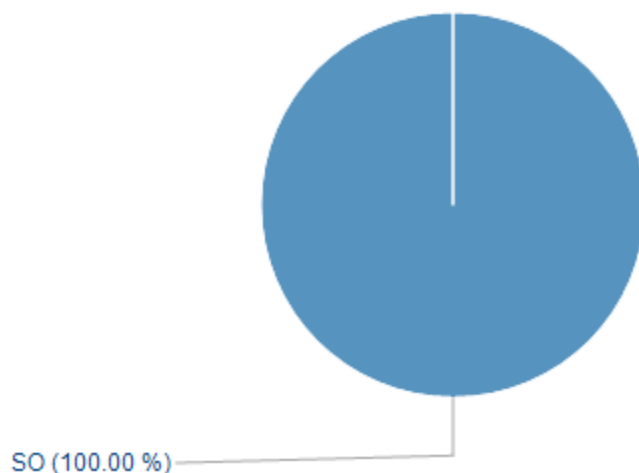
Gender Distribution



Disicipline Breakdown



Grade Breakdown



Competency Summary

Competency	Your Score	Standard Deviation	Min	Max
Instructor's Communication Skills	3.75	+/-0.50	3.00	4.00
Instructor's Organization and Preparation	3.86	+/-0.38	3.00	4.00
Instructor's Support of Student Learning	4.00	+/-0.00	4.00	4.00
Overall, I rate this as a good course.	4.00	+/-0.00	4.00	4.00
Total Score		3.90		

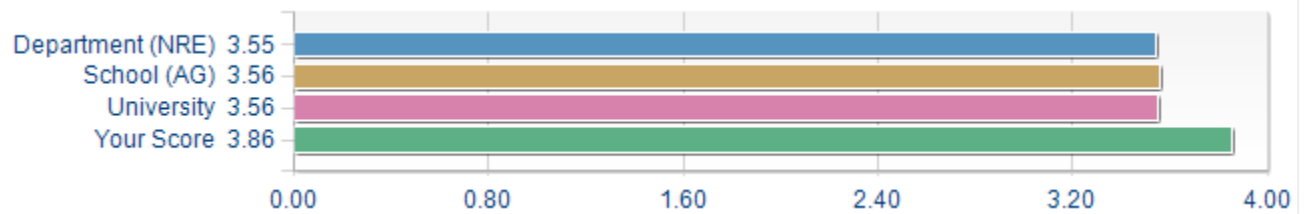
Instructor's Organization and Preparation

Frequency Distribution

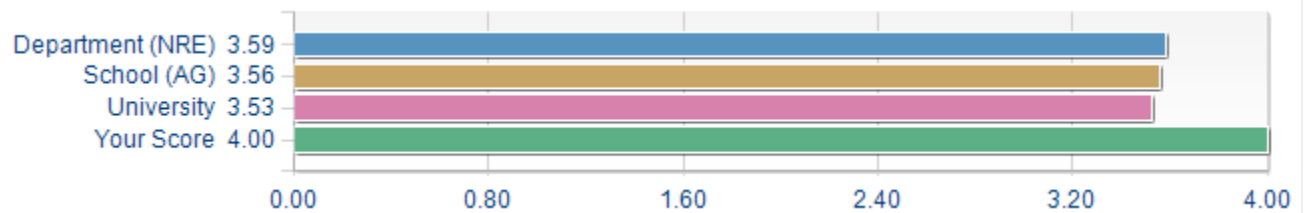
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor's objectives for the course have been made clear.	1	1	0	0	0	4.00	N/A
The instructor began and ended class on time.	1	0	1	0	0	3.00	N/A
The instructor has current professional knowledge and abilities.	1	1	0	0	0	4.00	N/A
The instructor was well-prepared for each class.	1	1	0	0	0	4.00	N/A
The instructor exhibits professional dispositions at all times.	1	1	0	0	0	4.00	N/A
The instructor seemed to enjoy teaching.	1	1	0	0	0	4.00	N/A
The instructor engages in continuous professional development.	1	1	0	0	0	4.00	N/A

Score Comparison

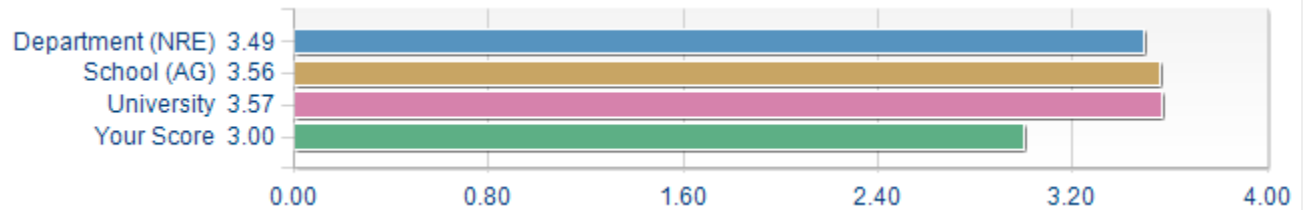
Overall



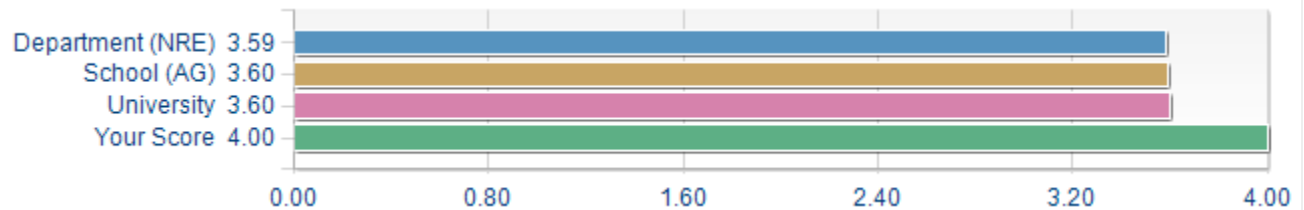
1. The instructor's objectives for the course have been made clear.



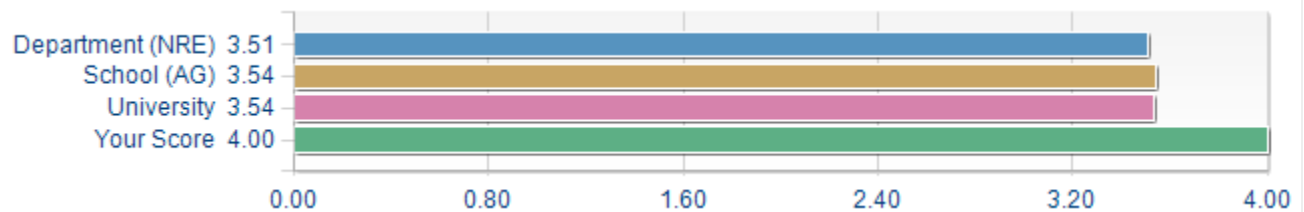
2. The instructor began and ended class on time.



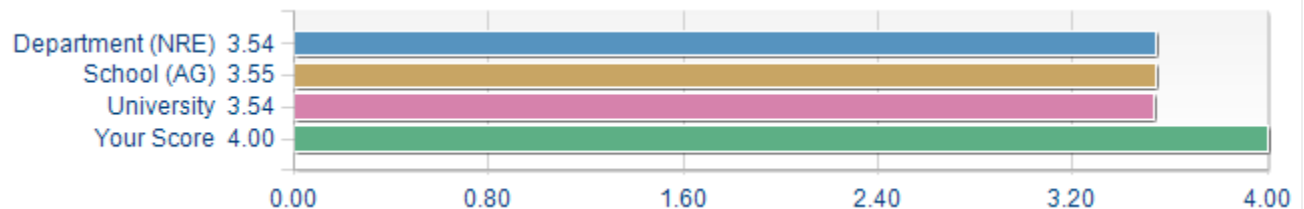
3. The instructor has current professional knowledge and abilities.



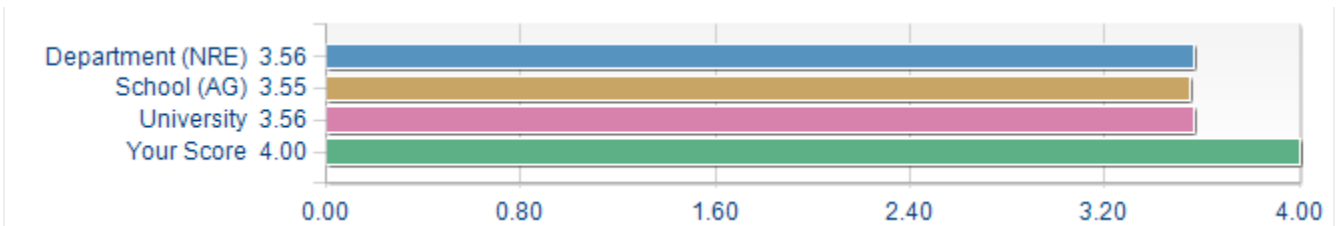
4. The instructor was well-prepared for each class.



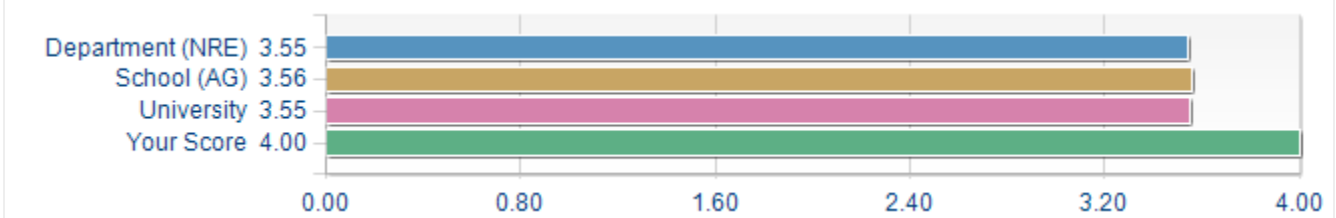
5. The instructor exhibits professional dispositions at all times.



6. The instructor seemed to enjoy teaching.



7. The instructor engages in continuous professional development.



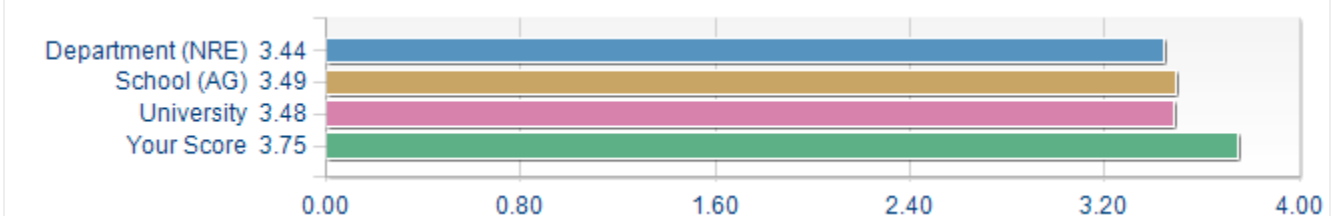
Instructor's Communication Skills

Frequency Distribution

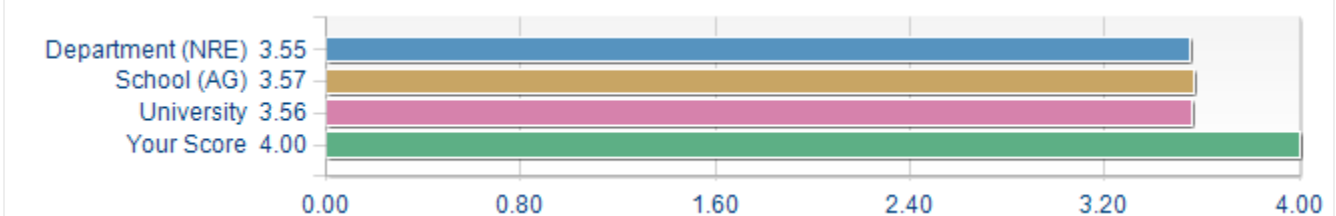
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor made class policies, such as attendance, grading, behavior, etc., clear at the beginning of the semester.	1	1	0	0	0	4.00	N/A
The instructor presented the subject matter in a clear and organized manner.	1	1	0	0	0	4.00	N/A
The pace at which the instructor covered the subject matter was appropriate.	1	1	0	0	0	4.00	N/A
The instructor is a proficient and effective communicator.	1	0	1	0	0	3.00	N/A

Score Comparison

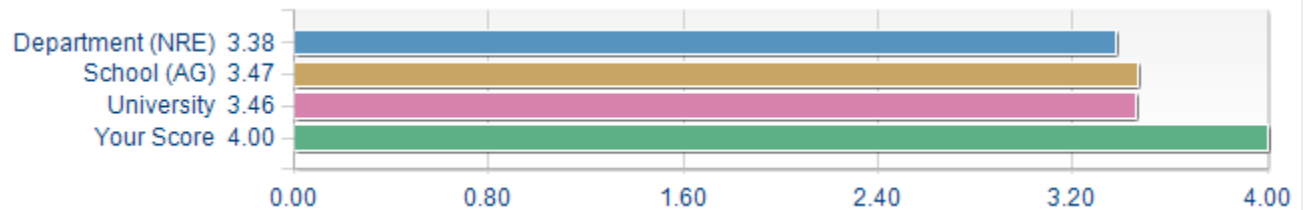
Overall



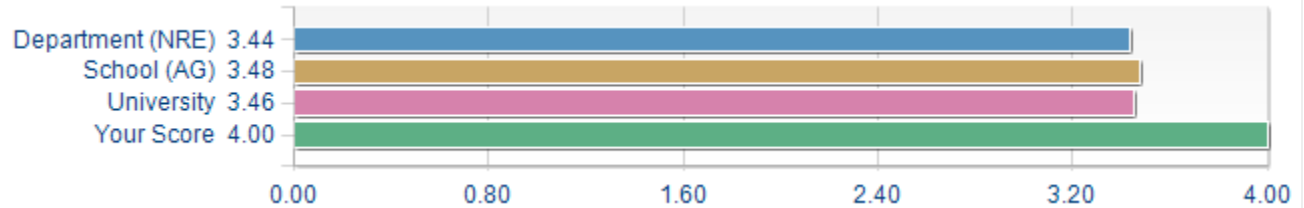
1. The instructor made class policies, such as attendance, grading, behavior, etc., clear at the beginning of the semester.



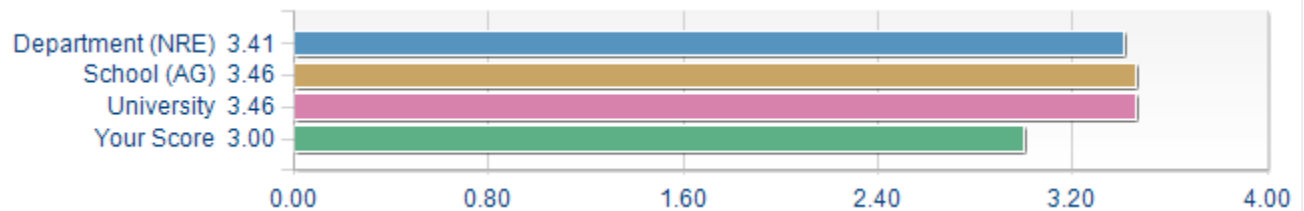
2. The instructor presented the subject matter in a clear and organized manner.



3. The pace at which the instructor covered the subject matter was appropriate.



4. The instructor is a proficient and effective communicator.



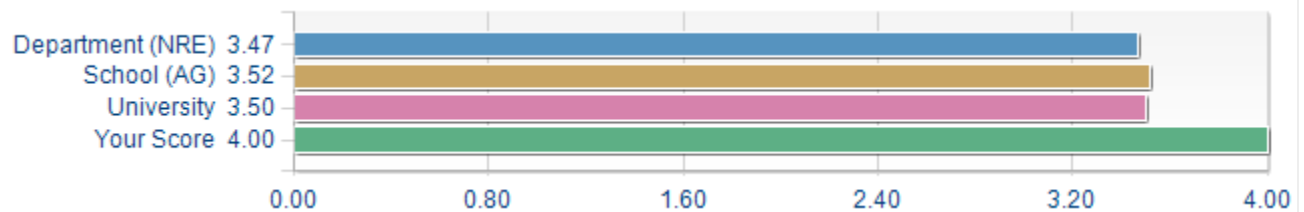
Instructor's Support of Student Learning

Frequency Distribution

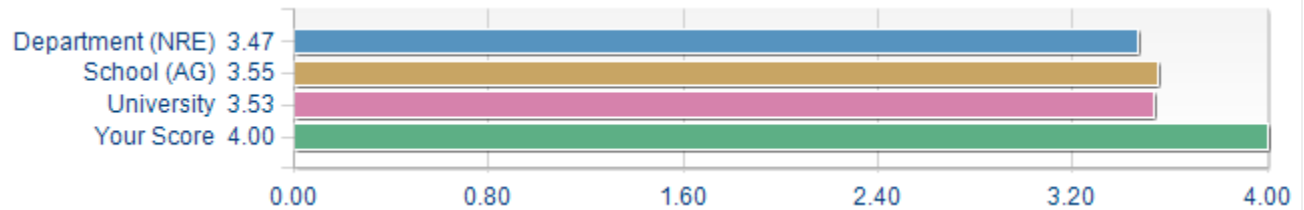
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor creates and maintains a positive and supportive learning environment.	1	1	0	0	0	4.00	N/A
The instructor effectively assesses the student learning.	1	1	0	0	0	4.00	N/A
The instructor returned tests and assignments within a reasonable amount of time.	1	1	0	0	0	4.00	N/A
The instructor effectively facilitates learning by all students.	1	1	0	0	0	4.00	N/A
The instructor was available for extra help.	1	1	0	0	0	4.00	N/A
The instructor seemed genuinely concerned with students' progress.	1	1	0	0	0	4.00	N/A
The instructor was open to students' viewpoints.	1	1	0	0	0	4.00	N/A
The instructor is available during office hours.	1	1	0	0	0	4.00	N/A

Score Comparison

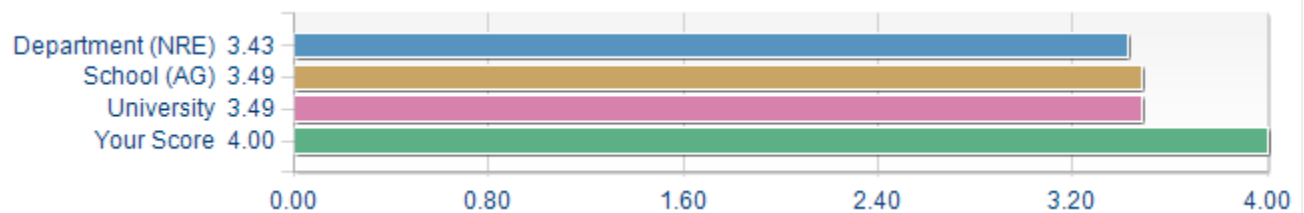
Overall



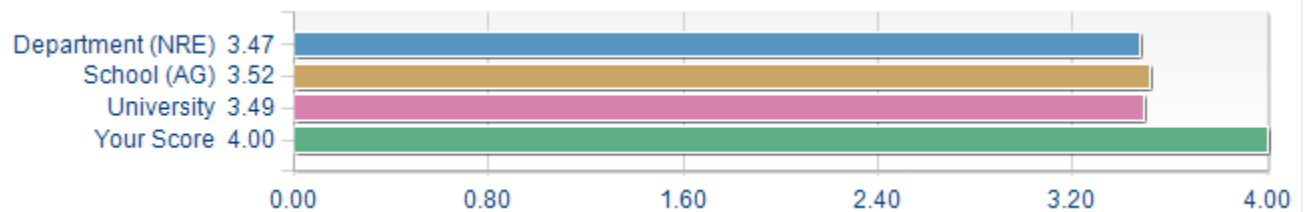
1. The instructor creates and maintains a positive and supportive learning environment.



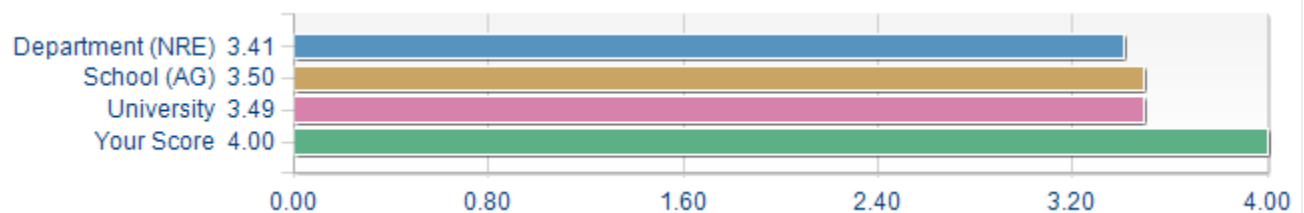
2. The instructor effectively assesses the student learning.



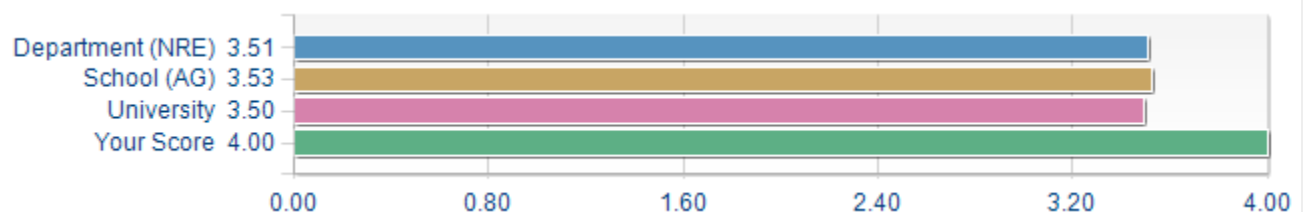
3. The instructor returned tests and assignments within a reasonable amount of time.



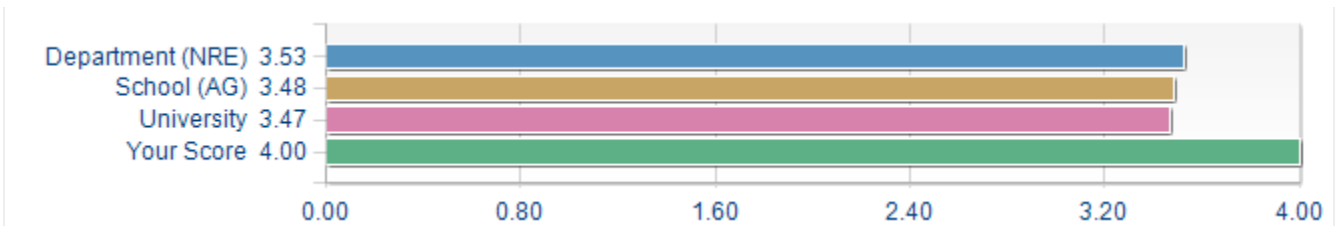
4. The instructor effectively facilitates learning by all students.



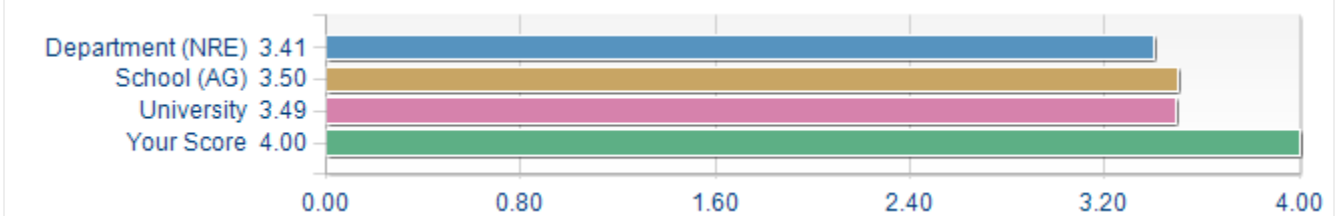
5. The instructor was available for extra help.



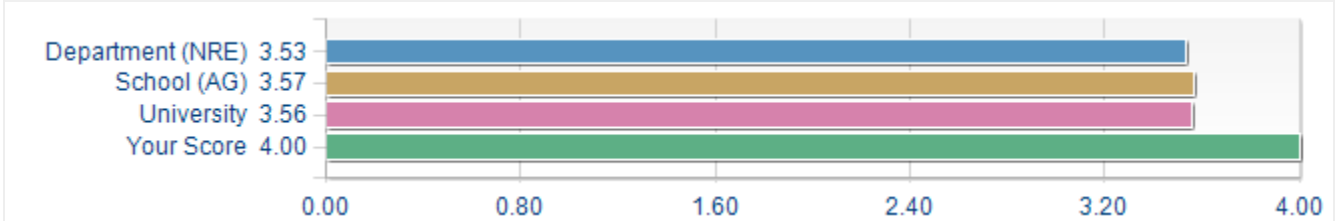
6. The instructor seemed genuinely concerned with students' progress.



7. The instructor was open to students' viewpoints.



8. The instructor is available during office hours.

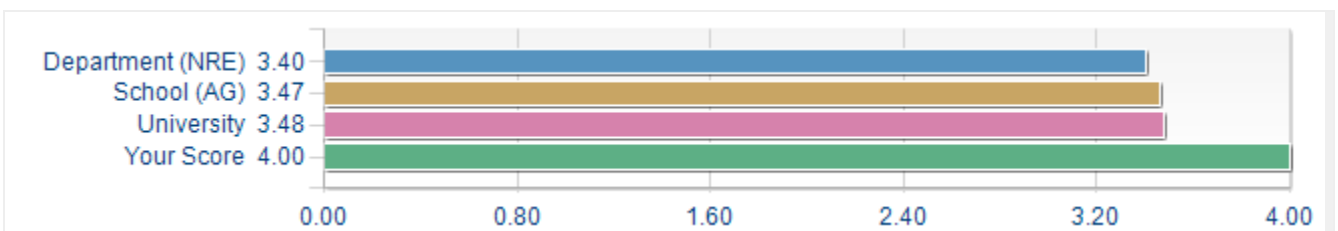


Overall Course Questions

Frequency Distribution

	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
Overall, I rate this as a good course.	1	1	0	0	0	4.00	N/A

Score Comparison



Rating scale questions, top and bottom ranks for Instructor Questions

Strengths	
1 The instructor's objectives for the course have been made clear.	4.00
2 The instructor has current professional knowledge and abilities.	4.00
3 The instructor was well-prepared for each class.	4.00

Areas for Improvement	
1 The instructor began and ended class on time.	3.00
2 The instructor is a proficient and effective communicator.	3.00

3 The instructor's objectives for the course have been made clear.

4.00



Copy of Instructor Report for William Stone (WildlifeTech)

Fall 2016 Course Evaluation

Project Audience 6

Responses Received 1

Response Ratio 17%

Report Comments

Department	NRE
School	AG
Level	UG

Prepared by eXplorance Support

Creation Date Thu, Mar 30, 2017



Alabama A&M University

Course Evaluations

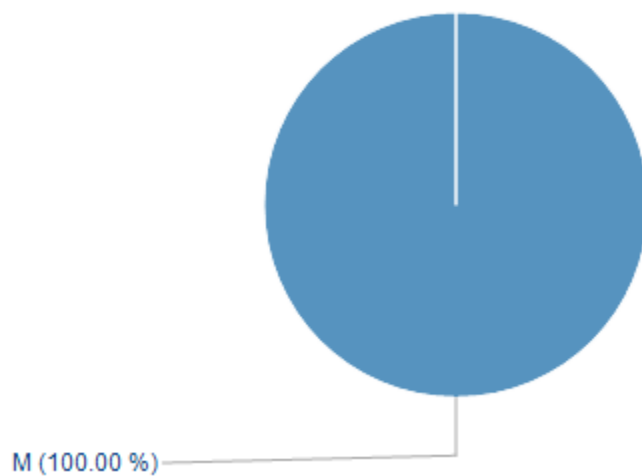
Interpretation guidelines

The value "4" represents "Strongly Agree" while the value "1" represents "Strongly Disagree".
No questions have been defined as mandatory, so students may skip answering certain questions.
An open ended comment field has been added to the end of the questionnaire

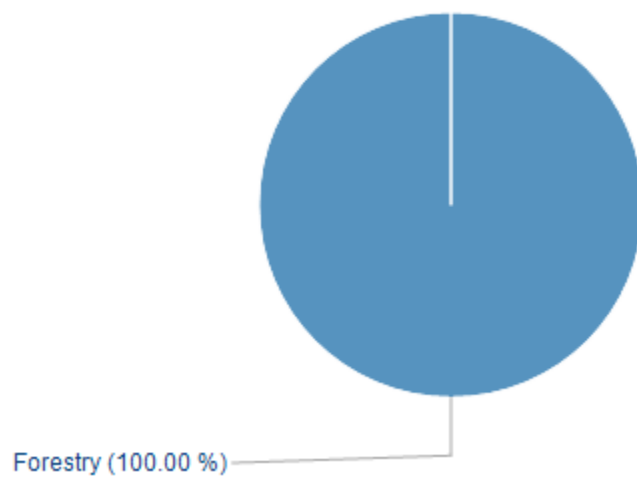
Teacher	Course
William Stone	WildlifeTech

Course Demographics

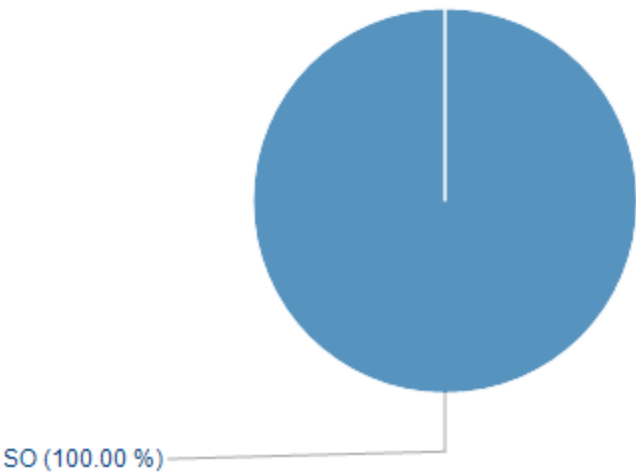
Gender Distribution



Disicipline Breakdown



Grade Breakdown



Competency Summary

Competency	Your Score	Standard Deviation	Min	Max
Instructor's Organization and Preparation	4.00	+/-0.00	4.00	4.00
Instructor's Communication Skills	4.00	+/-0.00	4.00	4.00
Instructor's Support of Student Learning	4.00	+/-0.00	4.00	4.00
Overall, I rate this as a good course.	4.00	+/-0.00	4.00	4.00
Total Score		4.00		

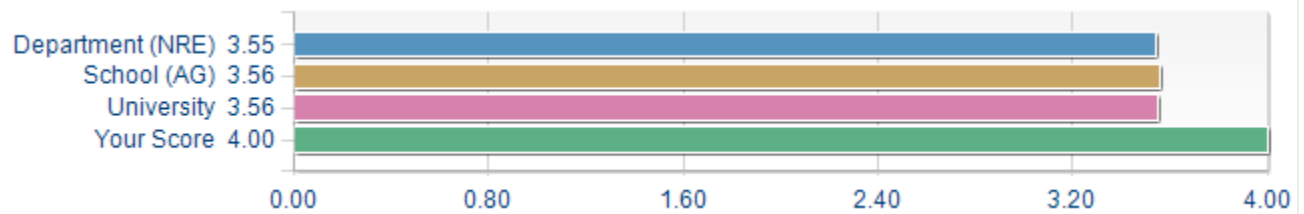
Instructor's Organization and Preparation

Frequency Distribution

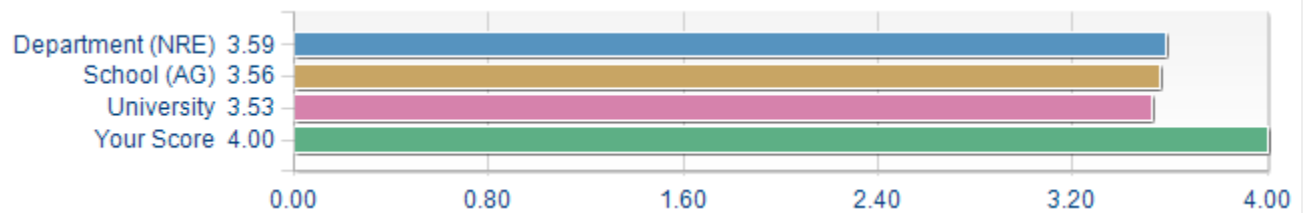
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor's objectives for the course have been made clear.	1	1	0	0	0	4.00	N/A
The instructor began and ended class on time.	1	1	0	0	0	4.00	N/A
The instructor has current professional knowledge and abilities.	1	1	0	0	0	4.00	N/A
The instructor was well-prepared for each class.	1	1	0	0	0	4.00	N/A
The instructor exhibits professional dispositions at all times.	1	1	0	0	0	4.00	N/A
The instructor seemed to enjoy teaching.	1	1	0	0	0	4.00	N/A
The instructor engages in continuous professional development.	1	1	0	0	0	4.00	N/A

Score Comparison

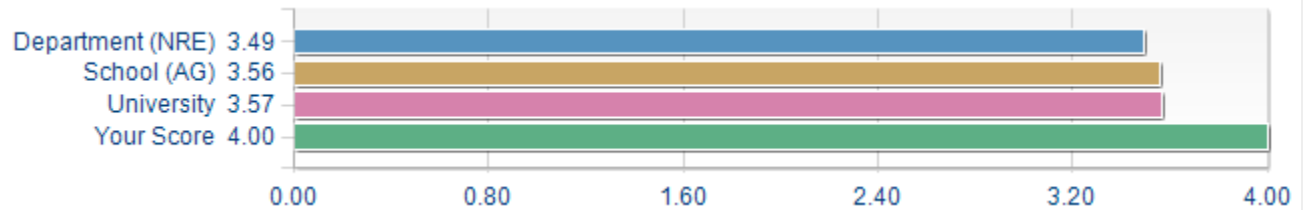
Overall



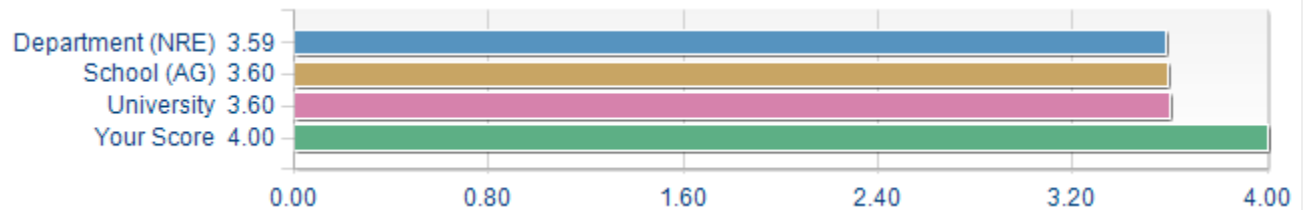
1. The instructor's objectives for the course have been made clear.



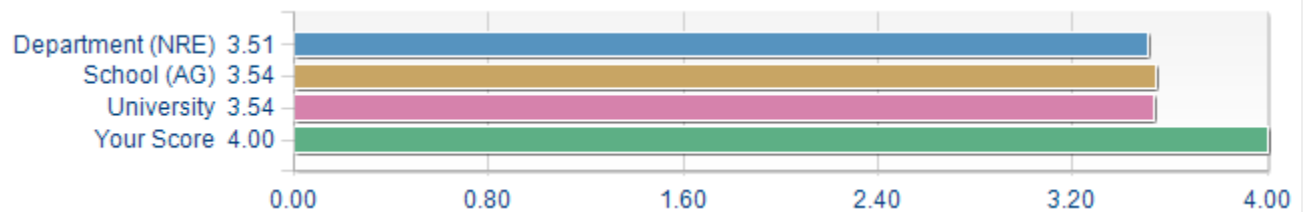
2. The instructor began and ended class on time.



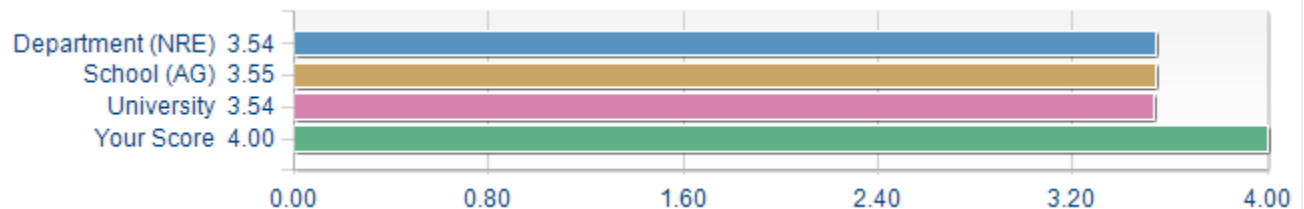
3. The instructor has current professional knowledge and abilities.



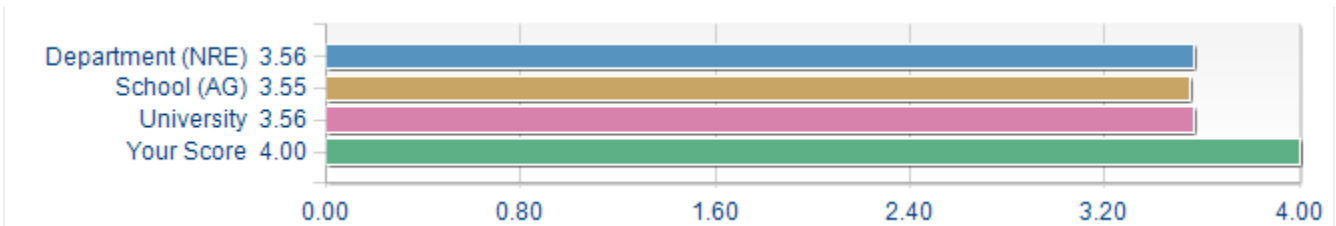
4. The instructor was well-prepared for each class.



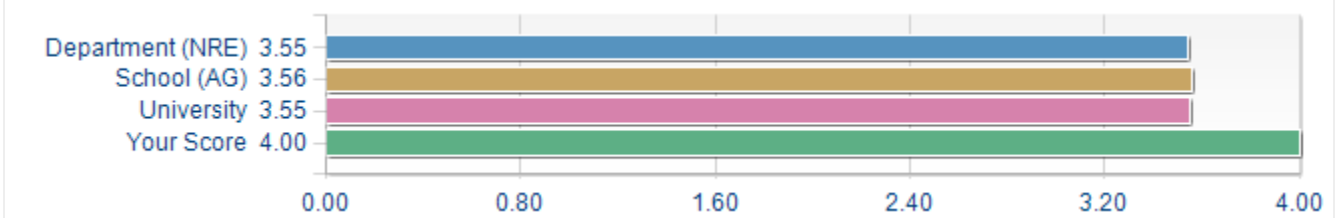
5. The instructor exhibits professional dispositions at all times.



6. The instructor seemed to enjoy teaching.



7. The instructor engages in continuous professional development.



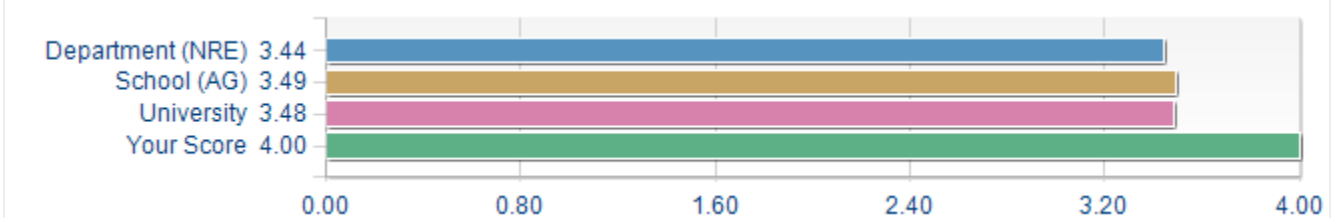
Instructor's Communication Skills

Frequency Distribution

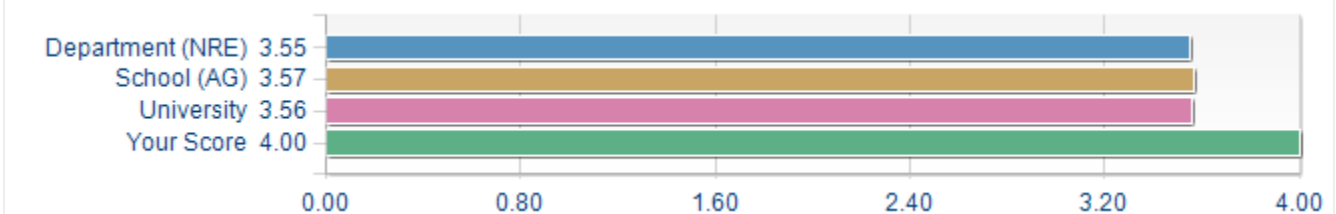
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.	1	1	0	0	0	4.00	N/A
The instructor presented the subject matter in a clear and organized manner.	1	1	0	0	0	4.00	N/A
The pace at which the instructor covered the subject matter was appropriate.	1	1	0	0	0	4.00	N/A
The instructor is a proficient and effective communicator.	1	1	0	0	0	4.00	N/A

Score Comparison

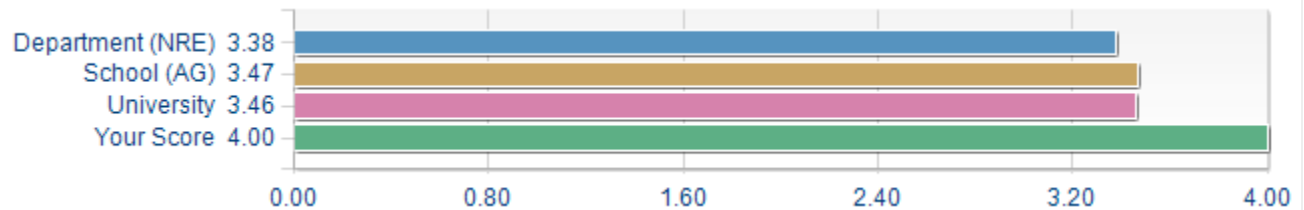
Overall



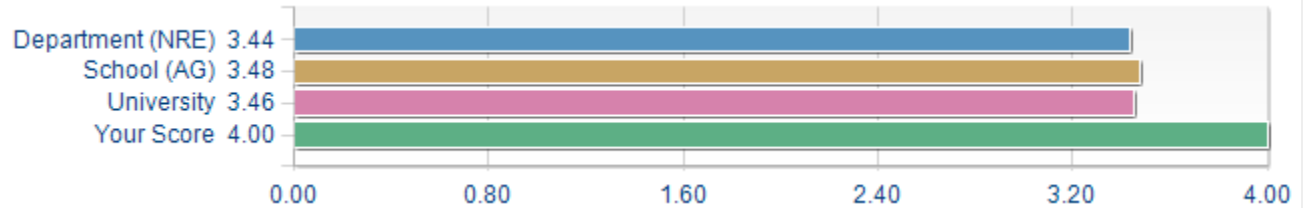
1. The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.



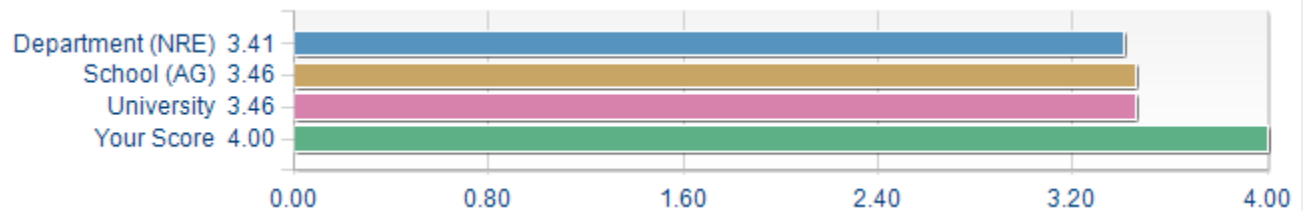
2. The instructor presented the subject matter in a clear and organized manner.



3. The pace at which the instructor covered the subject matter was appropriate.



4. The instructor is a proficient and effective communicator.



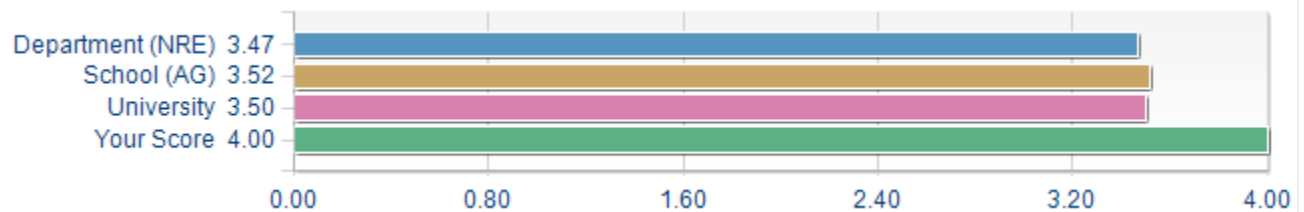
Instructor's Support of Student Learning

Frequency Distribution

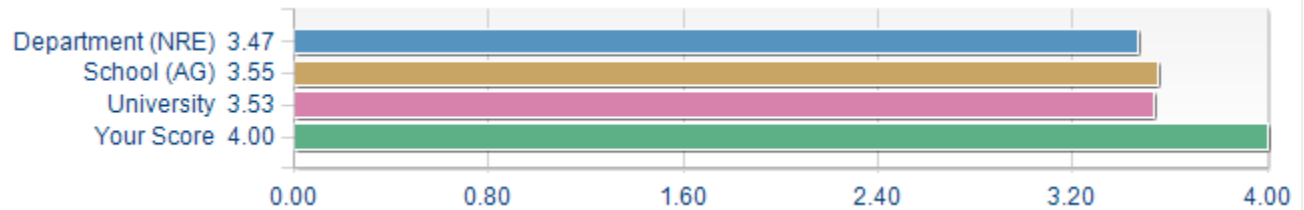
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor creates and maintains a positive and supportive learning environment.	1	1	0	0	0	4.00	N/A
The instructor effectively assesses the student learning.	1	1	0	0	0	4.00	N/A
The instructor returned tests and assignments within a reasonable amount of time.	1	1	0	0	0	4.00	N/A
The instructor effectively facilitates learning by all students.	1	1	0	0	0	4.00	N/A
The instructor was available for extra help.	1	1	0	0	0	4.00	N/A
The instructor seemed genuinely concerned with students' progress.	1	1	0	0	0	4.00	N/A
The instructor was open to students' viewpoints.	1	1	0	0	0	4.00	N/A
The instructor is available during office hours.	1	1	0	0	0	4.00	N/A

Score Comparison

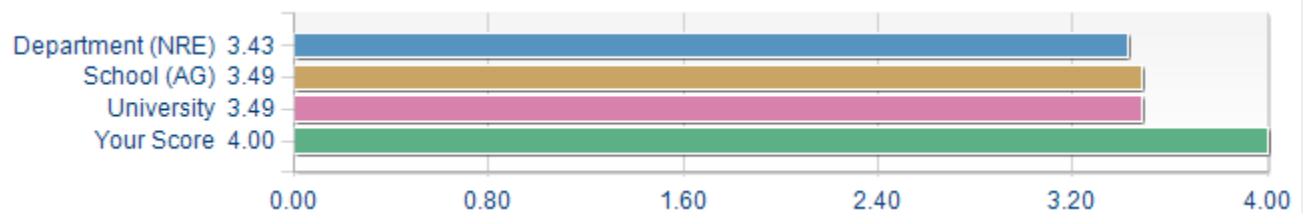
Overall



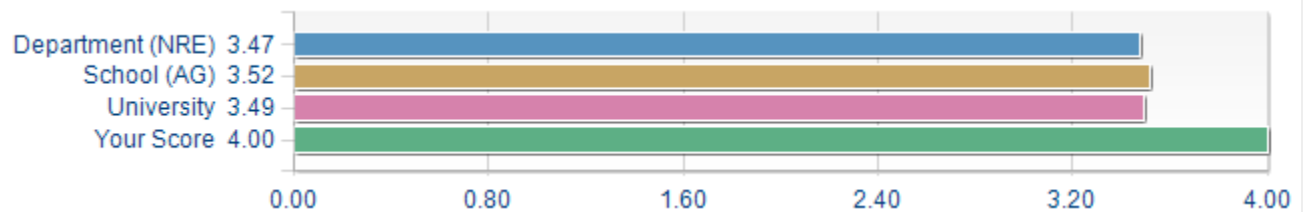
1. The instructor creates and maintains a positive and supportive learning environment.



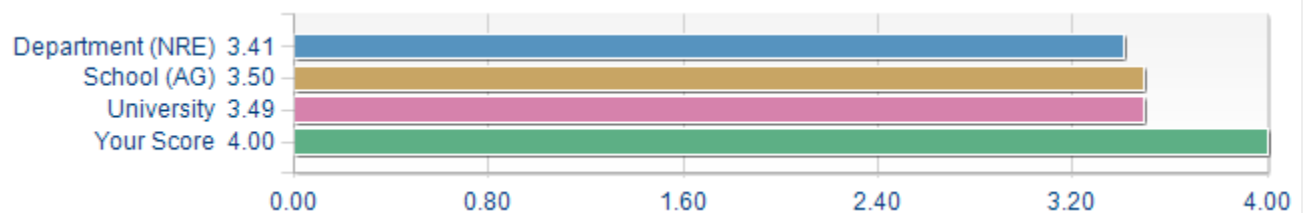
2. The instructor effectively assesses the student learning.



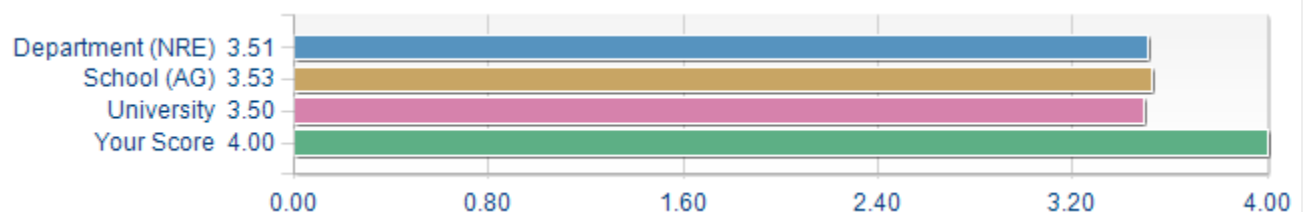
3. The instructor returned tests and assignments within a reasonable amount of time.



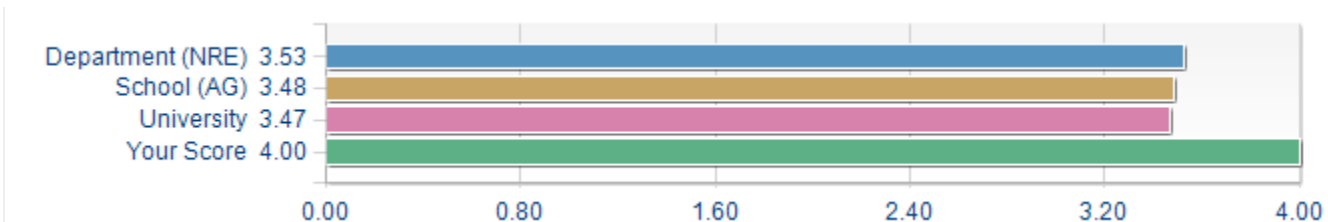
4. The instructor effectively facilitates learning by all students.



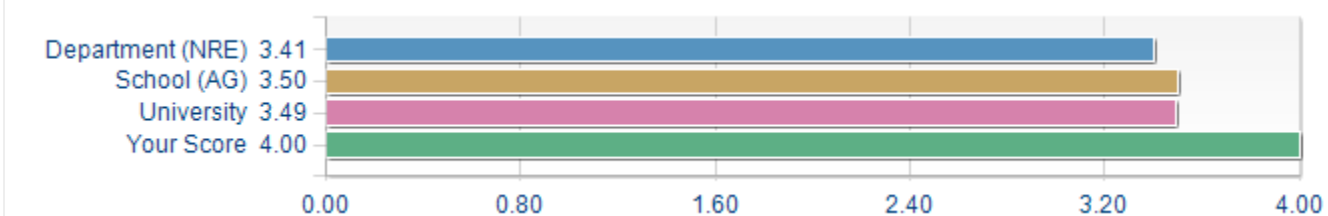
5. The instructor was available for extra help.



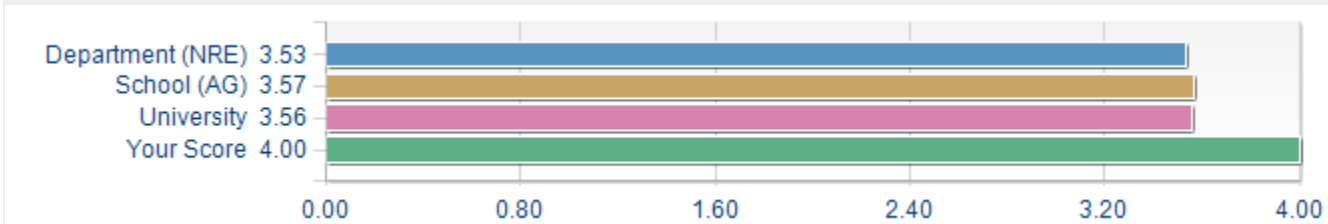
6. The instructor seemed genuinely concerned with students' progress.



7. The instructor was open to students' viewpoints.



8. The instructor is available during office hours.

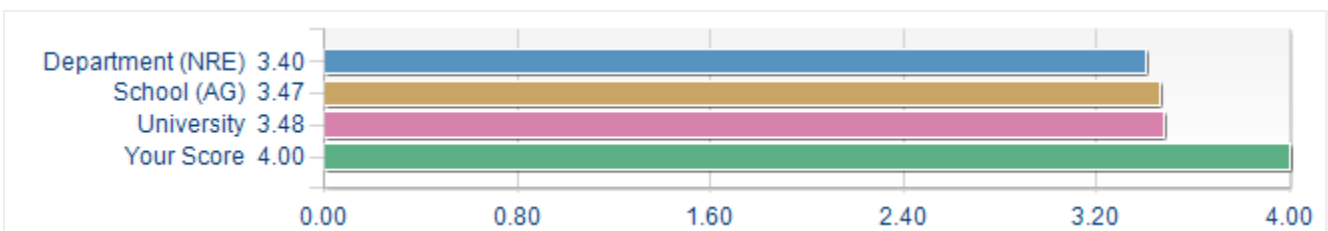


Overall Course Questions

Frequency Distribution

	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
Overall, I rate this as a good course.	1	1	0	0	0	4.00	N/A

Score Comparison



Rating scale questions, top and bottom ranks for Instructor Questions

Strengths		
1	The instructor's objectives for the course have been made clear.	4.00
2	The instructor began and ended class on time.	4.00
3	The instructor has current professional knowledge and abilities.	4.00

Areas for Improvement		
1	The instructor's objectives for the course have been made clear.	4.00
2	The instructor began and ended class on time.	4.00

3 The instructor has current professional knowledge and abilities.

4.00



Copy of Instructor Report for Kozma Naka (Wood Products)

Fall 2016 Course Evaluation

Project Audience 9

Responses Received 0

Response Ratio 0%

Report Comments

Department	NRE
School	AG
Level	UG

Prepared by eXplorance Support

Creation Date Thu, Mar 30, 2017



Alabama A&M University

Course Evaluations

Interpretation guidelines

The value "4" represents "Strongly Agree" while the value "1" represents "Strongly Disagree".
No questions have been defined as mandatory, so students may skip answering certain questions.
An open ended comment field has been added to the end of the questionnaire

Teacher	Course
Kozma Naka	Wood Products



Fall 2016 Course Evaluation for Subject (Secondary Subject)

Feedback For Instructor [C\$FN] [C\$LN]

Instructor's Organization and Preparation

	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Applicable
The instructor's objectives for the course have been made clear.	☐	☐	☐	☐	☐
The instructor began and ended class on time.	☐	☐	☐	☐	☐
The instructor has current professional knowledge and abilities.	☐	☐	☐	☐	☐
The instructor was well-prepared for each class.	☐	☐	☐	☐	☐
The instructor exhibits professional dispositions at all times.	☐	☐	☐	☐	☐
The instructor seemed to enjoy teaching.	☐	☐	☐	☐	☐
The instructor engages in continuous professional development.	☐	☐	☐	☐	☐

Instructor's Communication Skills

	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Applicable
The instructor made class policies, such as attendance, grading, behavior, etc., clear at the beginning of the semester.	☐	☐	☐	☐	☐
The instructor presented the subject matter in a clear and organized manner.	☐	☐	☐	☐	☐
The pace at which the instructor covered the subject matter was appropriate.	☐	☐	☐	☐	☐
The instructor is a proficient and effective communicator.	☐	☐	☐	☐	☐

Instructor's Support of Student Learning

Strongly Agree	Agree	Disagree	Strongly Disagree	Not Applicable

The instructor creates and maintains a positive and supportive learning environment.	☐	☐	☐	☐	☐
The instructor effectively assesses the student learning.	☐	☐	☐	☐	☐
The instructor returned tests and assignments within a reasonable amount of time.	☐	☐	☐	☐	☐
The instructor effectively facilitates learning by all students.	☐	☐	☐	☐	☐
The instructor was available for extra help.	☐	☐	☐	☐	☐
The instructor seemed genuinely concerned with students' progress.	☐	☐	☐	☐	☐
The instructor was open to students' viewpoints.	☐	☐	☐	☐	☐
The instructor is available during office hours.	☐	☐	☐	☐	☐

[Previous](#)[Next](#)[Save](#)[Submit](#)Progress 50%[Mobile Version](#) | [Standard Version](#)



Fall 2016 Course Evaluation for Subject (Secondary Subject)

Feedback For Course [S\$NAME]

Overall, I rate this as a good course.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree
- ☐ Not Applicable

Please, include here any comments you might have about this course.

[Previous](#)[Next](#)[Save](#)[Submit](#)

Progress 100%

[Mobile Version](#) | [Standard Version](#)





Instructor Report for Xiongwen Chen (Biometry)

Spring 2017 Course Evaluation

Project Audience 12

Responses Received 4

Response Ratio 33%

Report Comments

Department	NRE
School	AG
Level	UG

Prepared by Dianne Bozeman

Creation Date Wed, Aug 16, 2017

Alabama A&M University

Course Evaluations

Interpretation guidelines

The value "4" represents "Strongly Agree" while the value "1" represents "Strongly Disagree".
No questions have been defined as mandatory, so students may skip answering certain questions.
An open ended comment field has been added to the end of the questionnaire

Teacher	Course
Xiongwen Chen	Biometry

Course Demographics

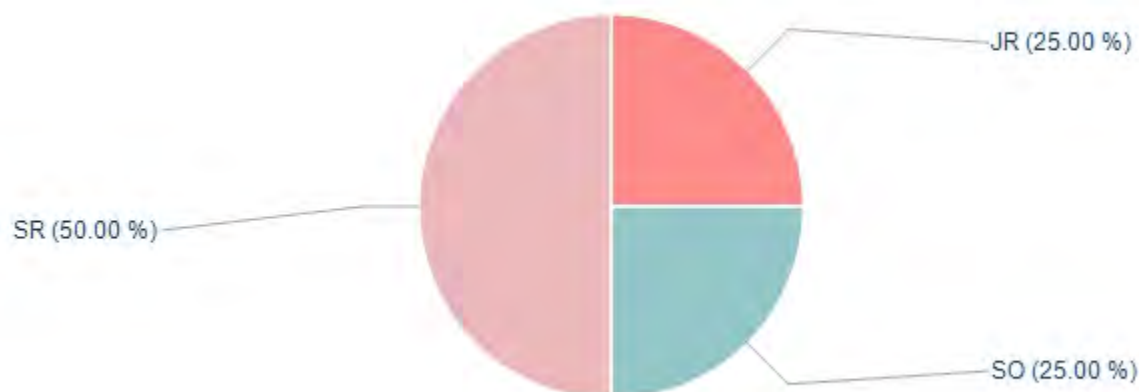
Gender Distribution



Disicipline Breakdown



Grade Breakdown



Competency Summary

Competency	Your Score	Standard Deviation	Min	Max
Instructor's Communication Skills	2.19	+/-0.83	1.00	4.00
Overall, I rate this as a good course.	2.33	+/-0.58	2.00	3.00
Instructor's Support of Student Learning	2.84	+/-0.58	2.00	4.00
Instructor's Organization and Preparation	2.95	+/-0.65	2.00	4.00
Total Score	2.58			

Instructor's Organization and Preparation

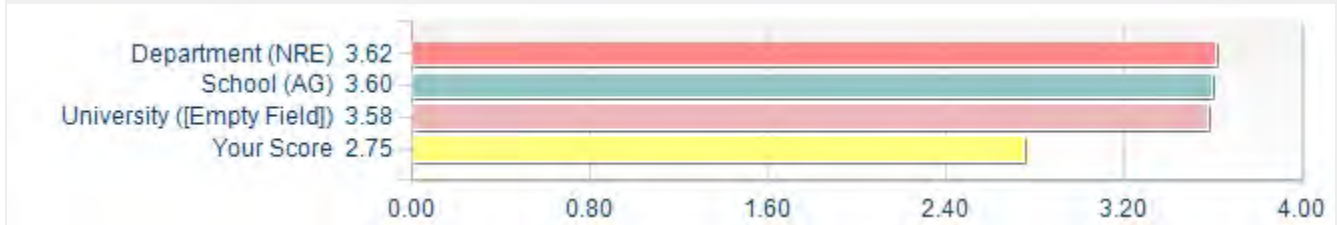
Frequency Distribution

	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor's objectives for the course have been made clear.	4	0	1	3	0	2.25	0.50
The instructor began and ended class on time.	4	2	2	0	0	3.50	0.58
The instructor has current professional knowledge and abilities.	4	1	3	0	0	3.25	0.50
The instructor was well-prepared for each class.	4	1	3	0	0	3.25	0.50
The instructor exhibits professional dispositions at all times.	4	1	2	1	0	3.00	0.82
The instructor seemed to enjoy teaching.	4	0	3	1	0	2.75	0.50
The instructor engages in continuous professional development.	3	0	2	1	0	2.67	0.58

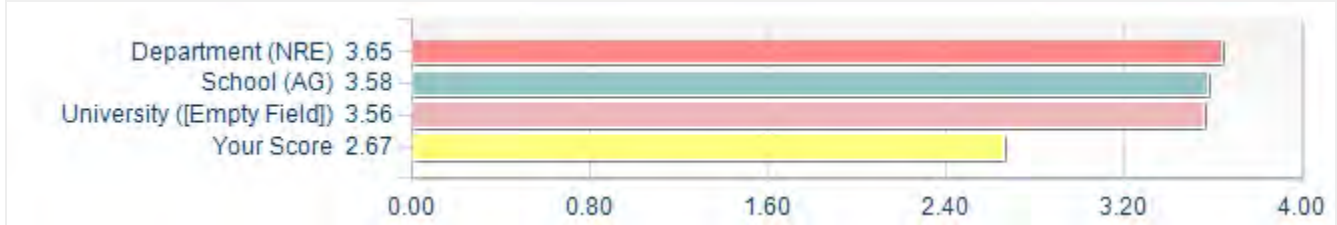
Score Comparison



6. The instructor seemed to enjoy teaching.



7. The instructor engages in continuous professional development.



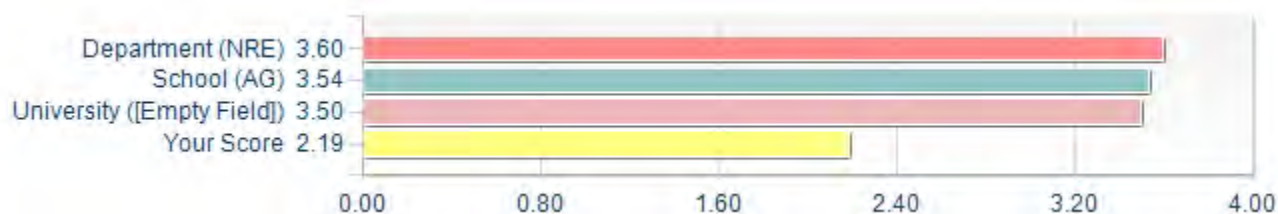
Instructor's Communication Skills

Frequency Distribution

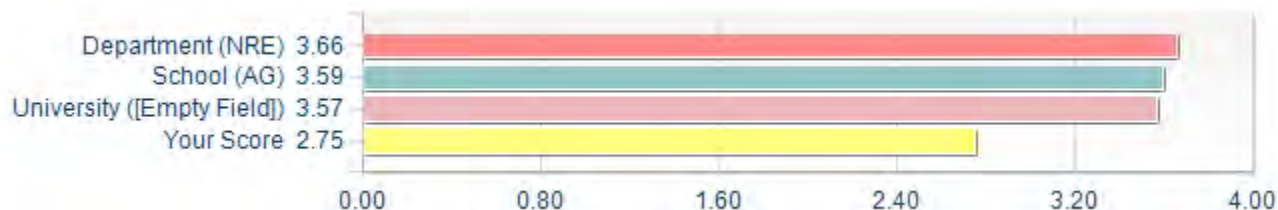
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.	4	1	1	2	0	2.75	0.96
The instructor presented the subject matter in a clear and organized manner.	4	0	1	2	1	2.00	0.82
The pace at which the instructor covered the subject matter was appropriate.	4	0	2	2	0	2.50	0.58
The instructor is a proficient and effective communicator.	4	0	0	2	2	1.50	0.58

Score Comparison

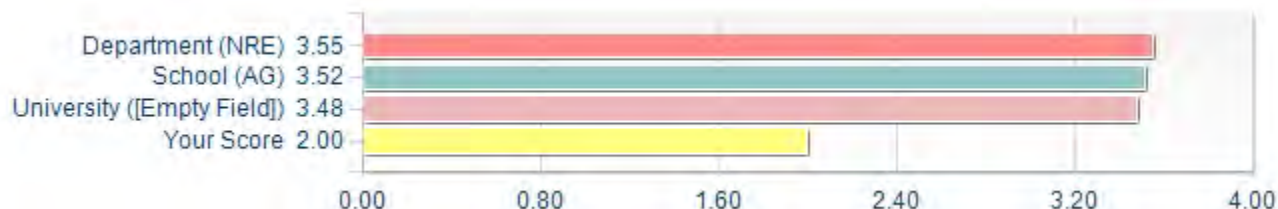
Overall



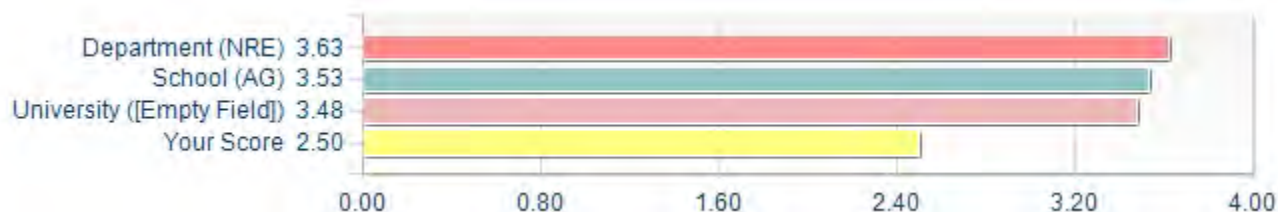
1. The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.



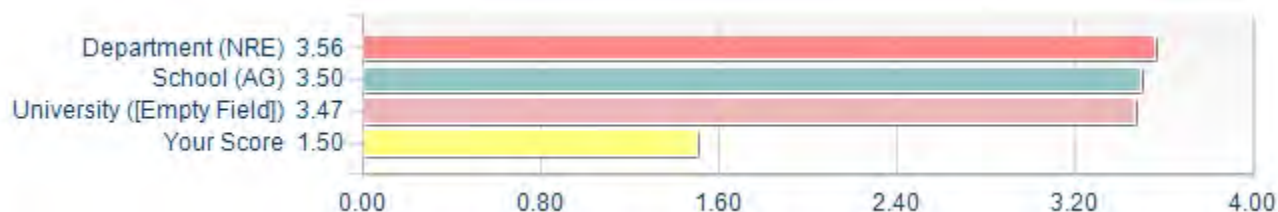
2. The instructor presented the subject matter in a clear and organized manner.



3. The pace at which the instructor covered the subject matter was appropriate.



4. The instructor is a proficient and effective communicator.



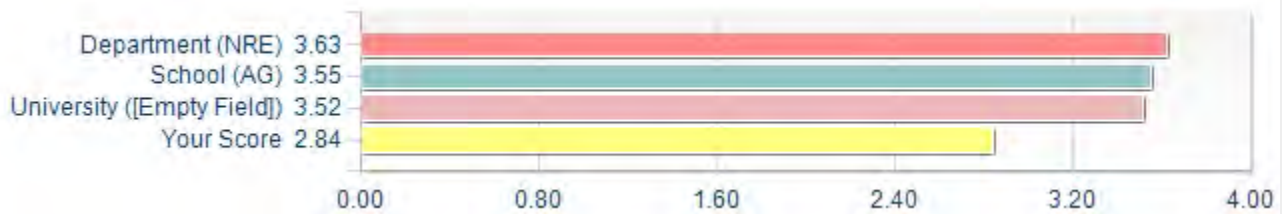
Instructor's Support of Student Learning

Frequency Distribution

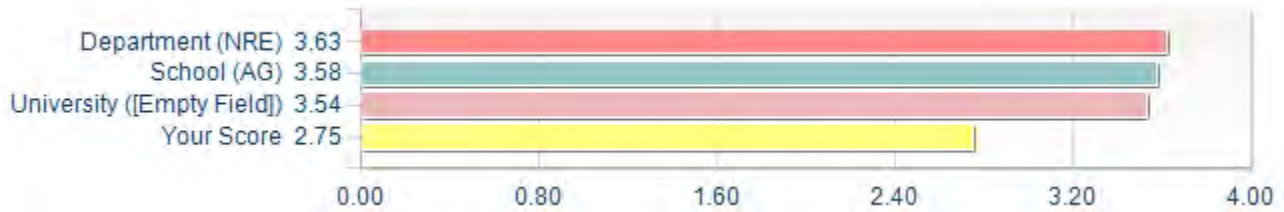
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor creates and maintains a positive and supportive learning environment.	4	0	3	1	0	2.75	0.50
The instructor effectively assesses the student learning.	4	0	4	0	0	3.00	0.00
The instructor returned tests and assignments within a reasonable amount of time.	4	1	3	0	0	3.25	0.50
The instructor effectively facilitates learning by all students.	4	0	3	1	0	2.75	0.50
The instructor was available for extra help.	4	0	3	1	0	2.75	0.50
The instructor seemed genuinely concerned with students' progress.	4	1	0	3	0	2.50	1.00
The instructor was open to students' viewpoints.	4	1	1	2	0	2.75	0.96
The instructor is available during office hours.	3	0	3	0	0	3.00	0.00

Score Comparison

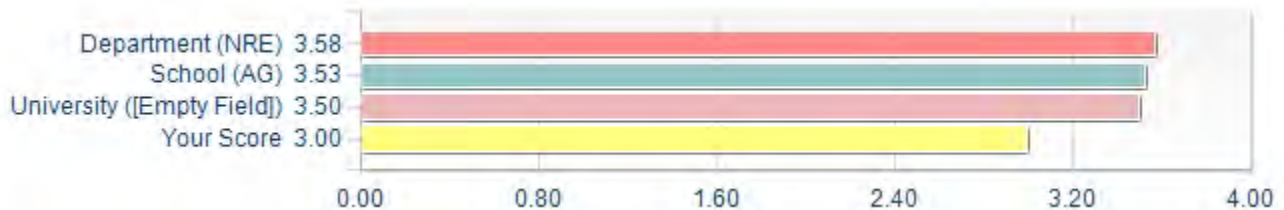
Overall



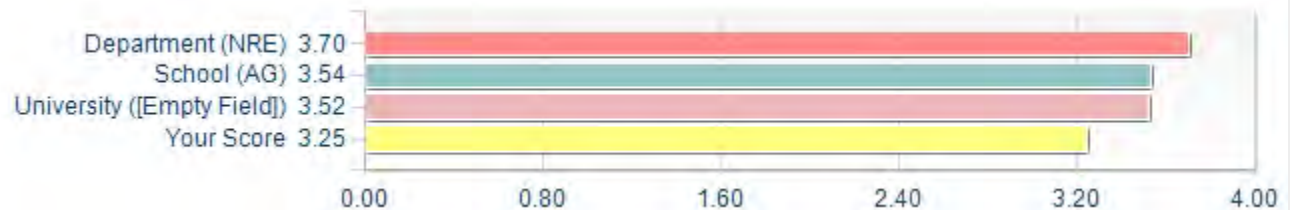
1. The instructor creates and maintains a positive and supportive learning environment.



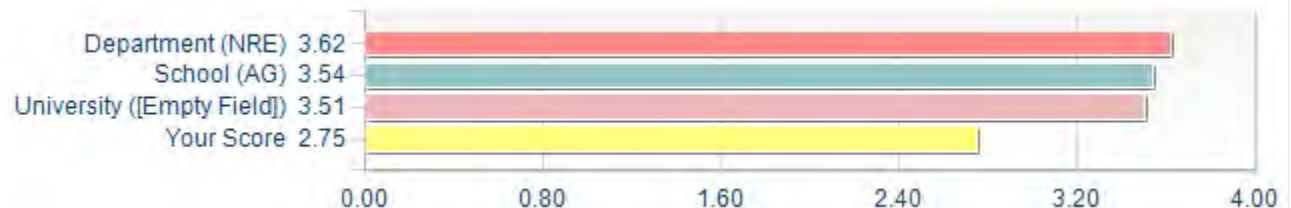
2. The instructor effectively assesses the student learning.



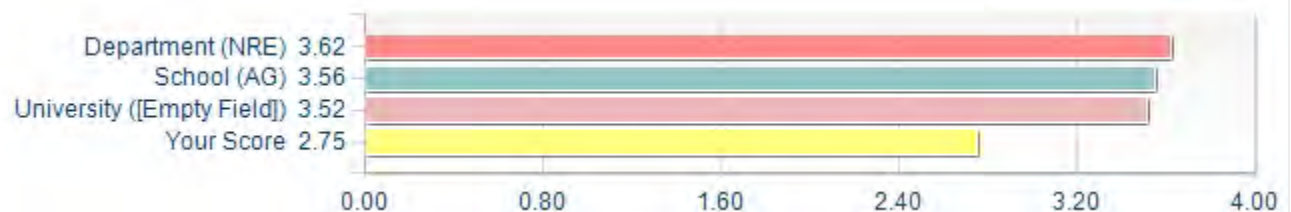
3. The instructor returned tests and assignments within a reasonable amount of time.



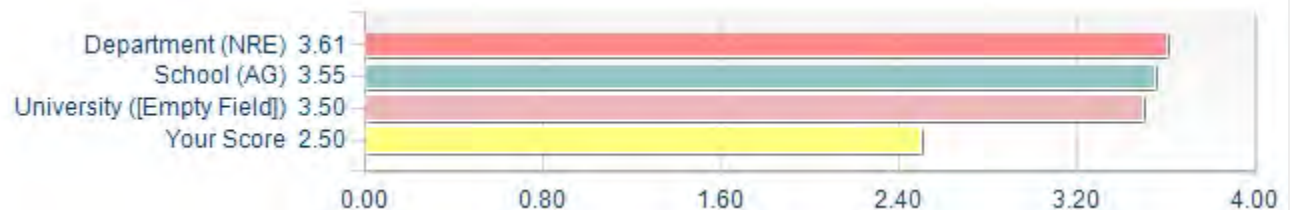
4. The instructor effectively facilitates learning by all students.



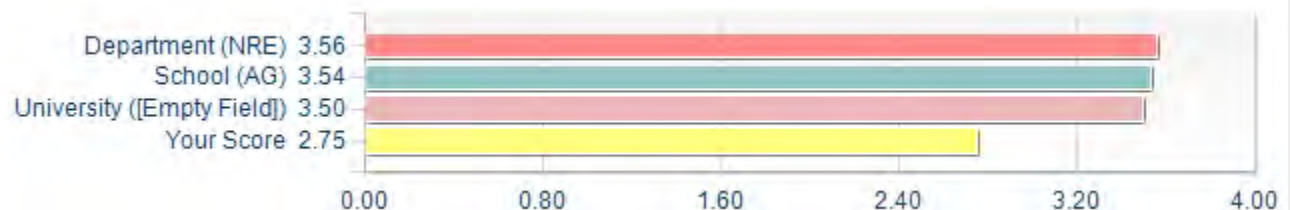
5. The instructor was available for extra help.



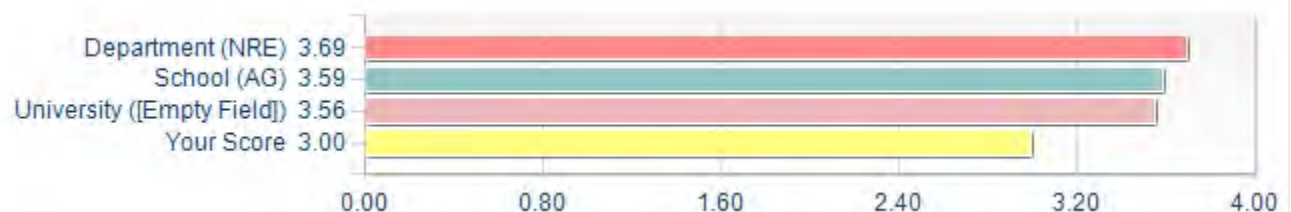
6. The instructor seemed genuinely concerned with students' progress.



7. The instructor was open to students' viewpoints.



8. The instructor is available during office hours.

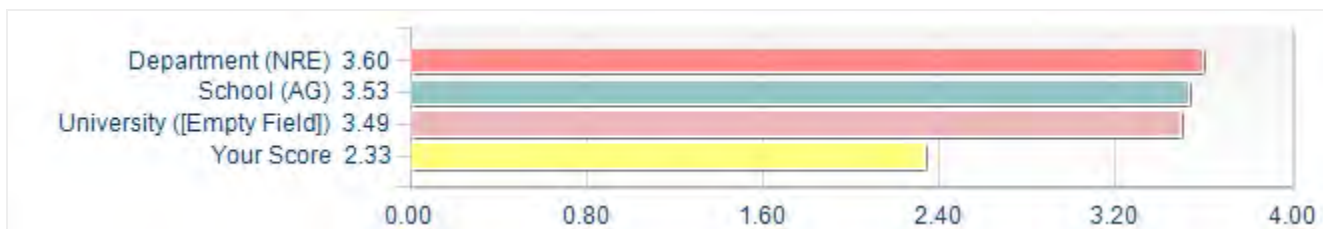


Overall Course Questions

Frequency Distribution

	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
Overall, I rate this as a good course.	3	0	1	2	0	2.33	0.58

Score Comparison



Rating scale questions, top and bottom ranks for Instructor Questions

Strengths		
1	The instructor began and ended class on time.	3.50
2	The instructor has current professional knowledge and abilities.	3.25
3	The instructor was well-prepared for each class.	3.25

Areas for Improvement		
1	The instructor is a proficient and effective communicator.	1.50
2	The instructor presented the subject matter in a clear and organized manner.	2.00
3	The instructor's objectives for the course have been made clear.	2.25

Please, include here any comments you might have about this course.

Comments
The course is good but the teacher is hard to understand. His communication skill are horrible. He doesn't grade by a rubric so you never know what he wants you to do, and he doesn't make it clear on what he wants but takes off points when the assignment is turned in. He's not a flexible teacher, he doesn't have different ways in explaining things for those with different learning style. He doesn't provide enough examples in class, even when asked.



Instructor Report for Luben Dimov (Forest Ecol Mgmt Project)

Spring 2017 Course Evaluation

Project Audience 13

Responses Received 11

Response Ratio 85%

Report Comments

Department	NRE
School	AG
Level	UG

Prepared by Dianne Bozeman

Creation Date Wed, Aug 16, 2017



Alabama A&M University

Course Evaluations

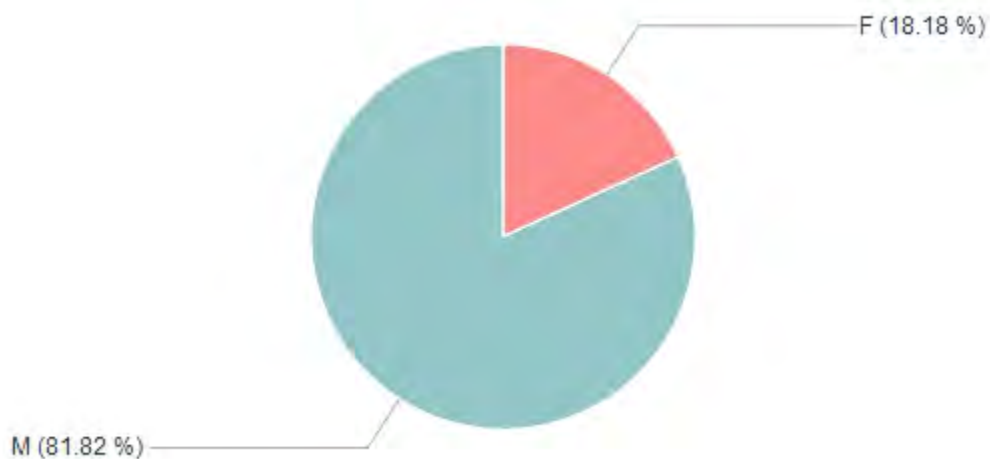
Interpretation guidelines

The value "4" represents "Strongly Agree" while the value "1" represents "Strongly Disagree".
No questions have been defined as mandatory, so students may skip answering certain questions.
An open ended comment field has been added to the end of the questionnaire

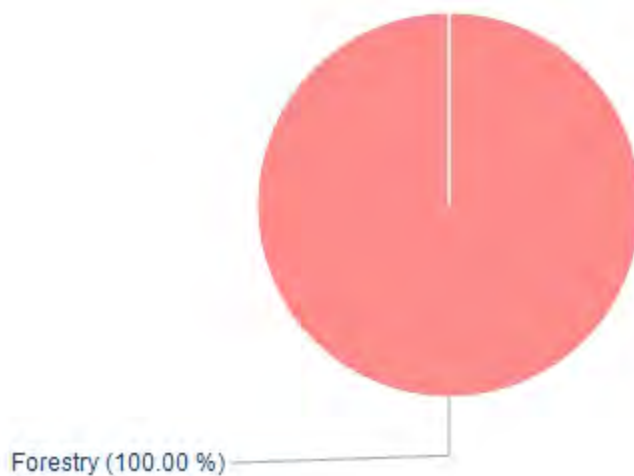
Teacher	Course
Luben Dimov	Forest Ecol Mgmt Project

Course Demographics

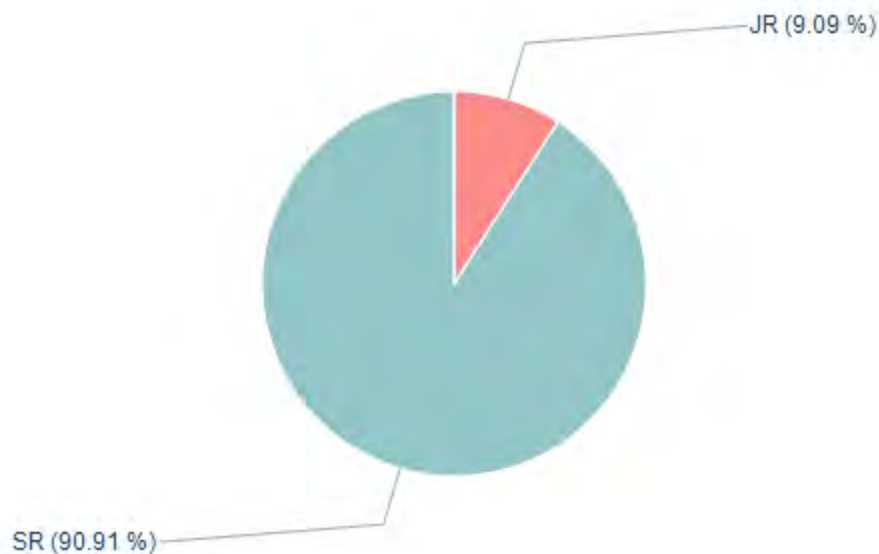
Gender Distribution



Disicipline Breakdown



Grade Breakdown



Competency Summary

Competency	Your Score	Standard Deviation	Min	Max
Overall, I rate this as a good course.	3.55	+/-0.69	2.00	4.00
Instructor's Organization and Preparation	3.63	+/-0.65	1.00	4.00
Instructor's Support of Student Learning	3.64	+/-0.63	1.00	4.00
Instructor's Communication Skills	3.80	+/-0.46	2.00	4.00
Total Score	3.65			

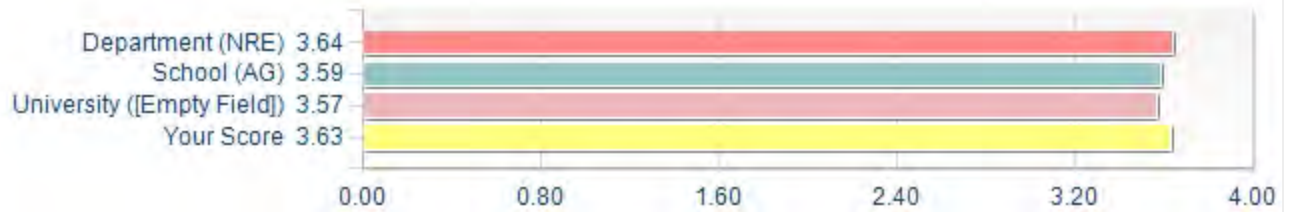
Instructor's Organization and Preparation

Frequency Distribution

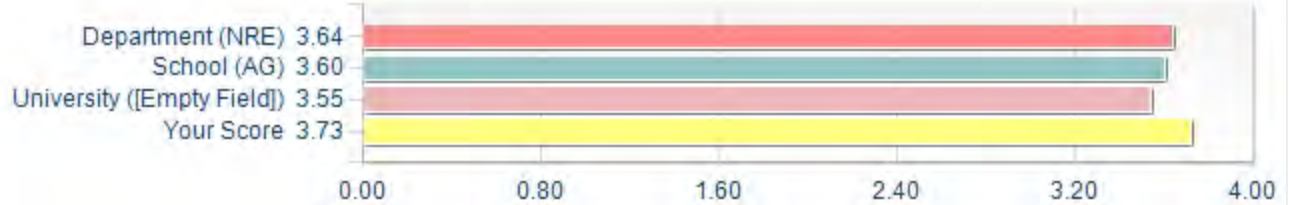
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor's objectives for the course have been made clear.	11	8	3	0	0	3.73	0.47
The instructor began and ended class on time.	10	7	3	0	0	3.70	0.48
The instructor has current professional knowledge and abilities.	11	8	2	1	0	3.64	0.67
The instructor was well-prepared for each class.	11	8	2	1	0	3.64	0.67
The instructor exhibits professional dispositions at all times.	11	8	2	1	0	3.64	0.67
The instructor seemed to enjoy teaching.	11	8	2	0	1	3.55	0.93
The instructor engages in continuous professional development.	11	7	3	1	0	3.55	0.69

Score Comparison

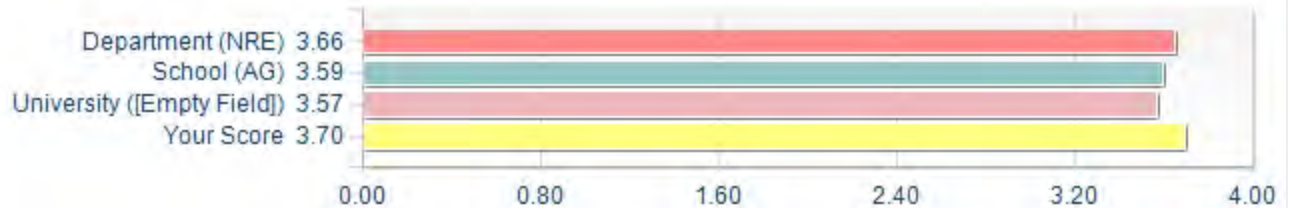
Overall



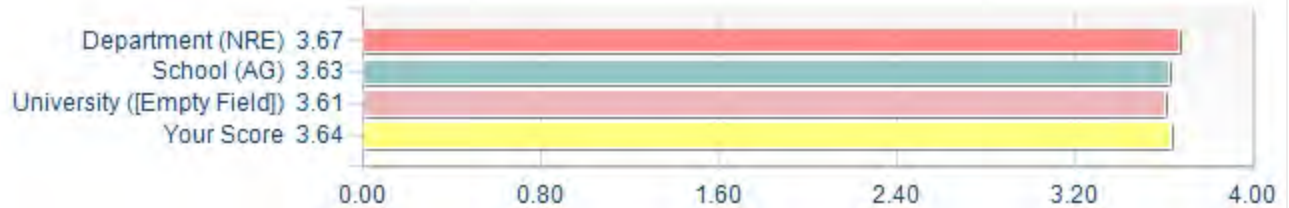
1. The instructor's objectives for the course have been made clear.



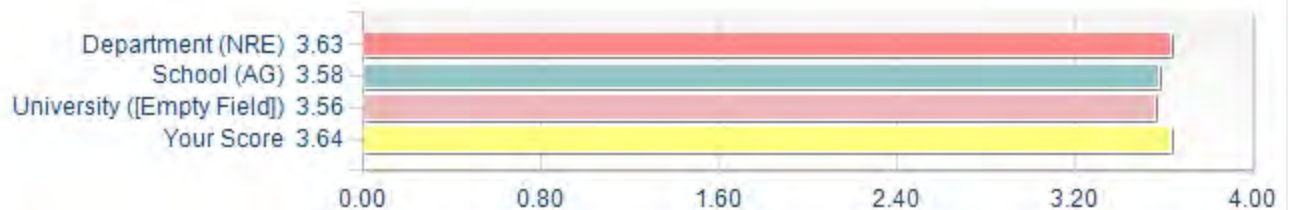
2. The instructor began and ended class on time.



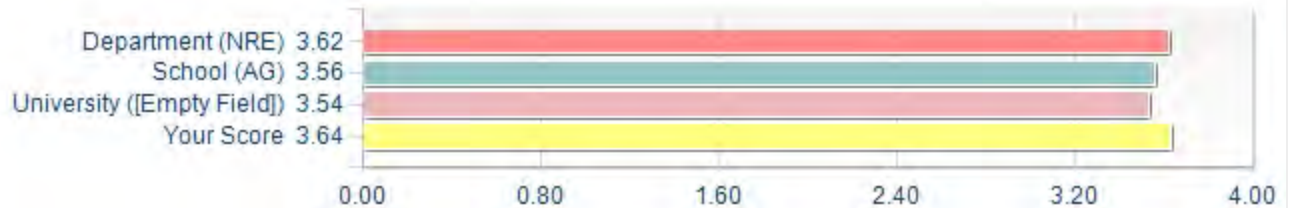
3. The instructor has current professional knowledge and abilities.



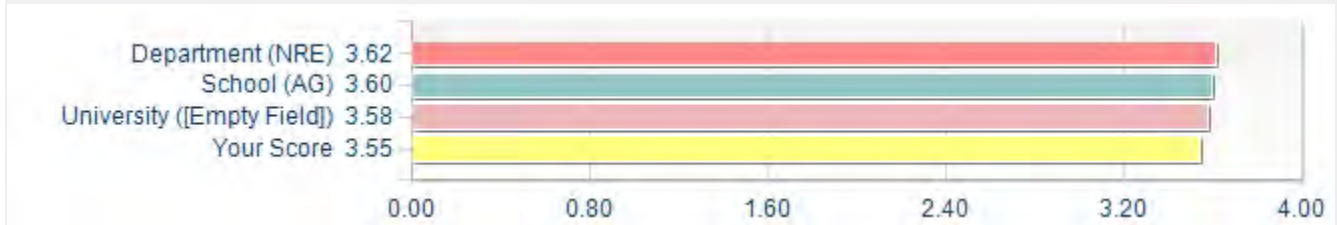
4. The instructor was well-prepared for each class.



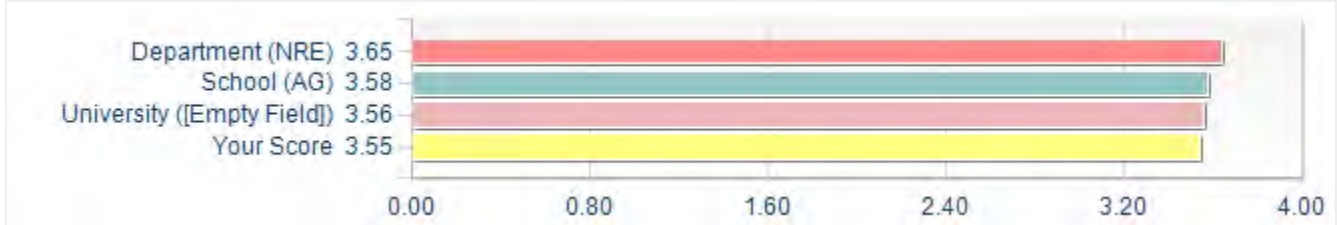
5. The instructor exhibits professional dispositions at all times.



6. The instructor seemed to enjoy teaching.



7. The instructor engages in continuous professional development.



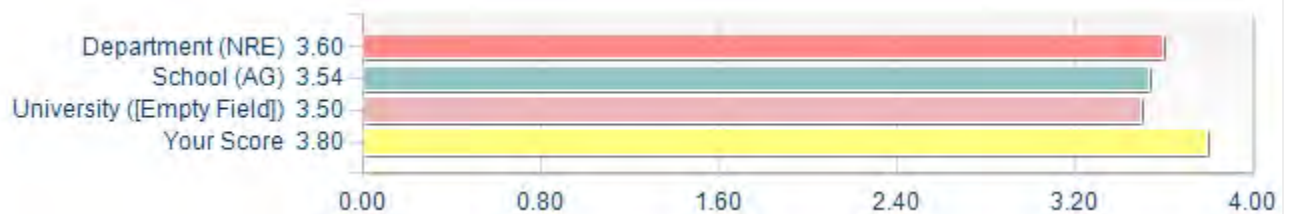
Instructor's Communication Skills

Frequency Distribution

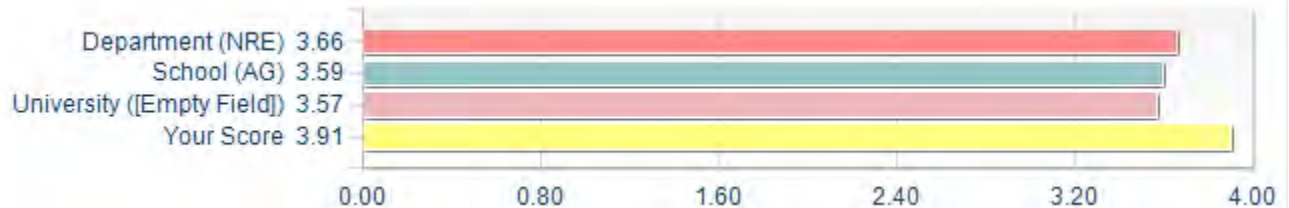
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.	11	10	1	0	0	3.91	0.30
The instructor presented the subject matter in a clear and organized manner.	11	8	2	1	0	3.64	0.67
The pace at which the instructor covered the subject matter was appropriate.	11	9	2	0	0	3.82	0.40
The instructor is a proficient and effective communicator.	11	9	2	0	0	3.82	0.40

Score Comparison

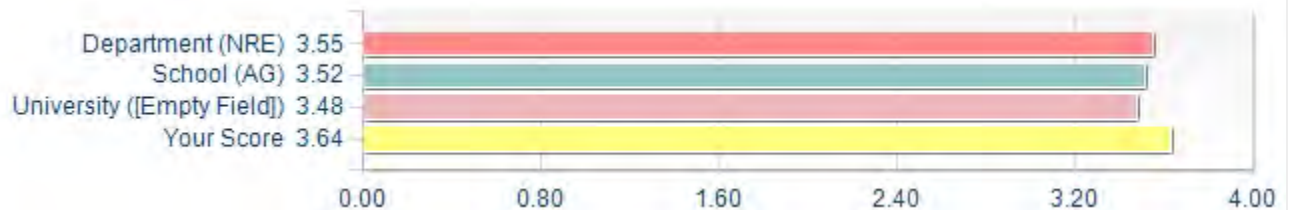
Overall



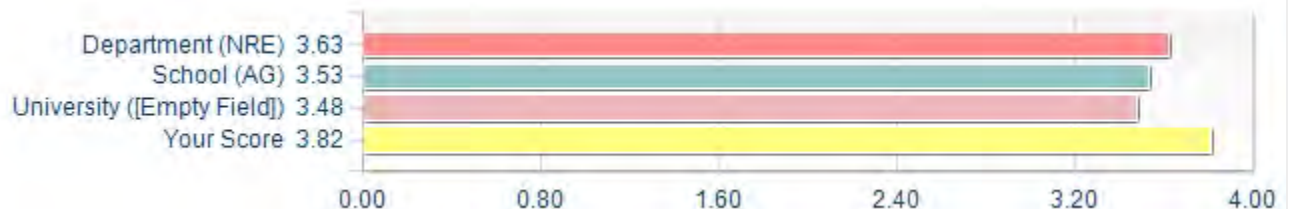
1. The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.



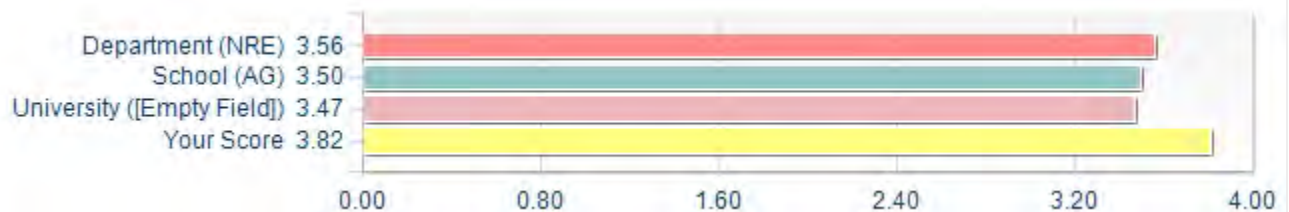
2. The instructor presented the subject matter in a clear and organized manner.



3. The pace at which the instructor covered the subject matter was appropriate.



4. The instructor is a proficient and effective communicator.



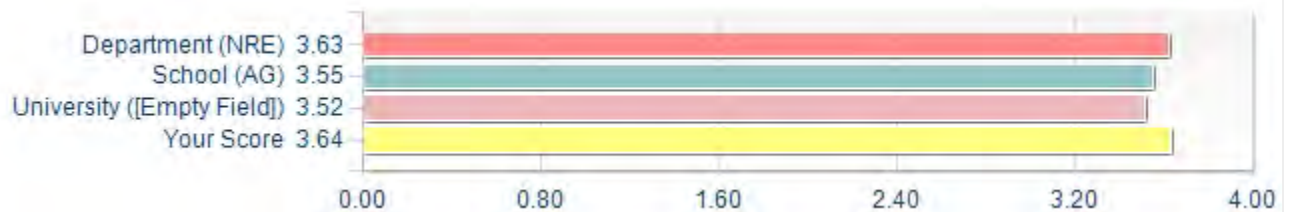
Instructor's Support of Student Learning

Frequency Distribution

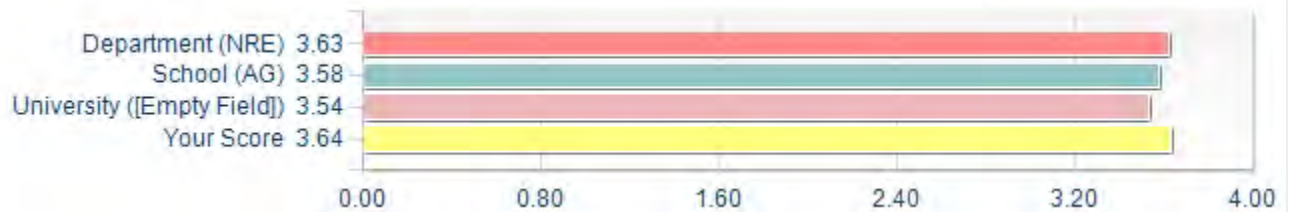
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor creates and maintains a positive and supportive learning environment.	11	8	2	1	0	3.64	0.67
The instructor effectively assesses the student learning.	11	7	3	1	0	3.55	0.69
The instructor returned tests and assignments within a reasonable amount of time.	11	8	3	0	0	3.73	0.47
The instructor effectively facilitates learning by all students.	11	8	2	1	0	3.64	0.67
The instructor was available for extra help.	11	8	3	0	0	3.73	0.47
The instructor seemed genuinely concerned with students' progress.	11	7	3	1	0	3.55	0.69
The instructor was open to students' viewpoints.	11	8	2	0	1	3.55	0.93
The instructor is available during office hours.	11	8	3	0	0	3.73	0.47

Score Comparison

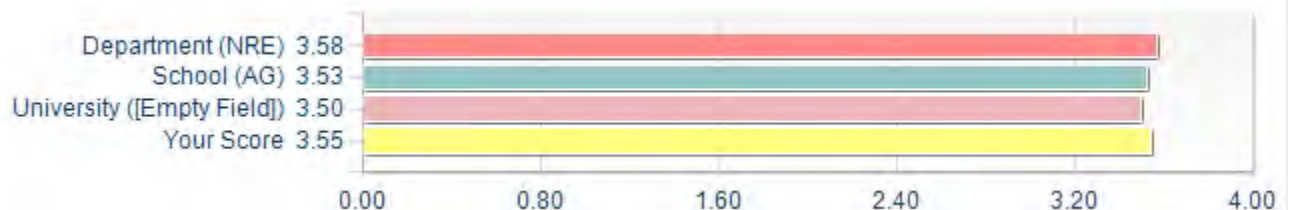
Overall



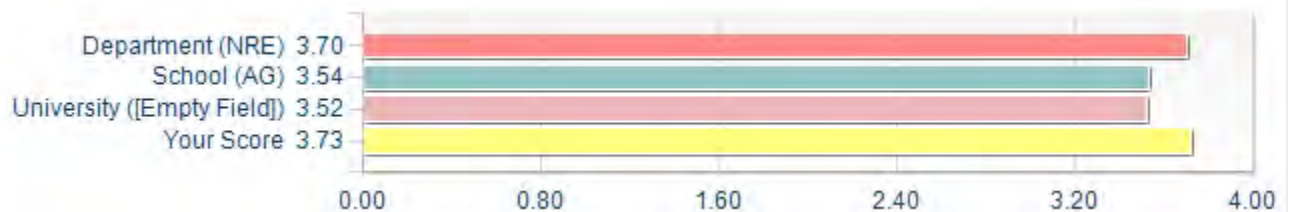
1. The instructor creates and maintains a positive and supportive learning environment.



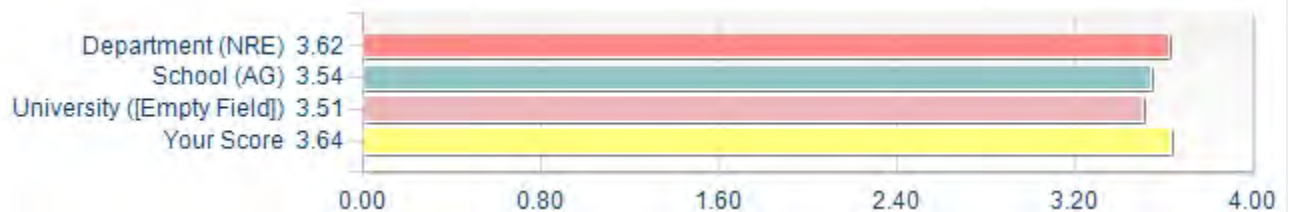
2. The instructor effectively assesses the student learning.



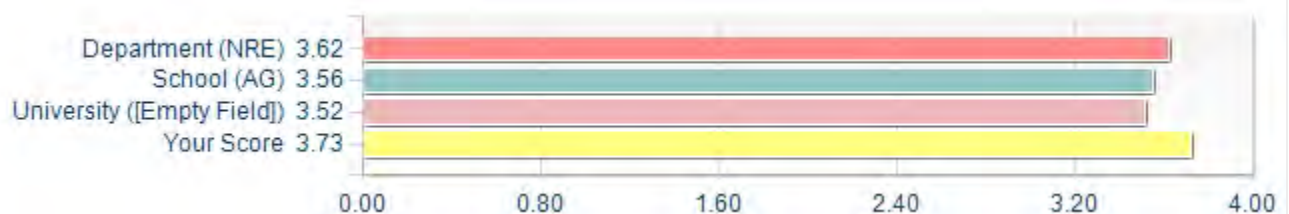
3. The instructor returned tests and assignments within a reasonable amount of time.



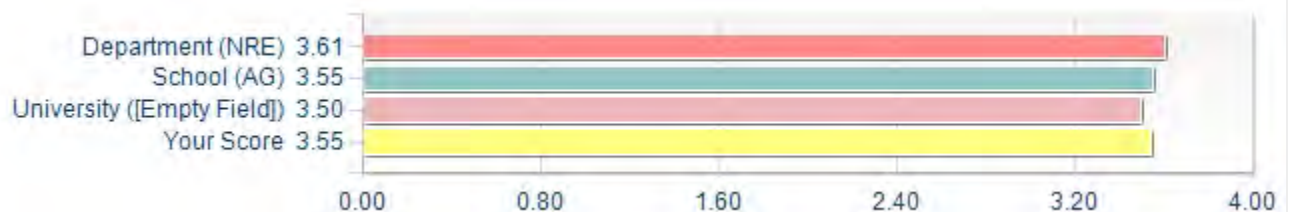
4. The instructor effectively facilitates learning by all students.



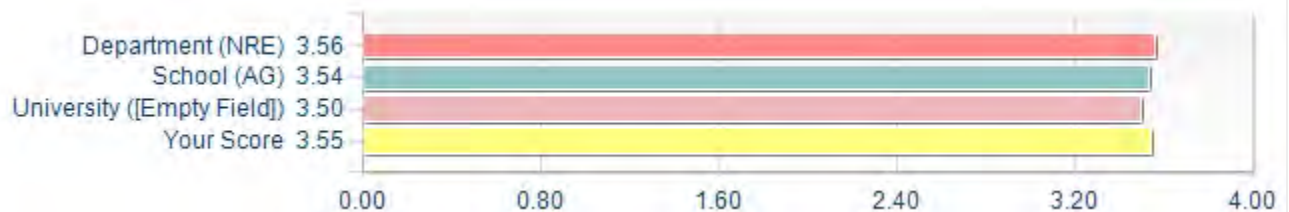
5. The instructor was available for extra help.



6. The instructor seemed genuinely concerned with students' progress.



7. The instructor was open to students' viewpoints.



8. The instructor is available during office hours.

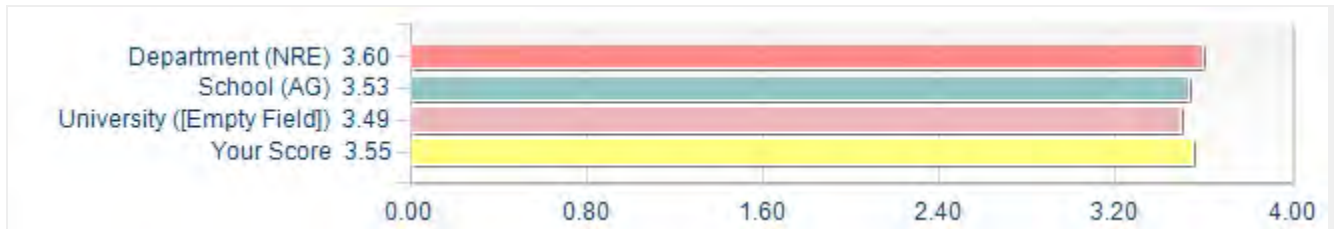


Overall Course Questions

Frequency Distribution

	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
Overall, I rate this as a good course.	11	7	3	1	0	3.55	0.69

Score Comparison



Rating scale questions, top and bottom ranks for Instructor Questions

Strengths		
1	The instructor made class policies, such as attendance, grading, behavior, etc., clear at the beginning of the semester.	3.91
2	The pace at which the instructor covered the subject matter was appropriate.	3.82
3	The instructor is a proficient and effective communicator.	3.82

Areas for Improvement		
1	The instructor seemed to enjoy teaching.	3.55
2	The instructor engages in continuous professional development.	3.55
3	The instructor effectively assesses the student learning.	3.55

Please, include here any comments you might have about this course.

Comments
Instructor had a strictly professional demeanor that was beneficial to the entire class
Great teacher glad that he is apart of the departement.
Dr. Dimov is a great teacher!



Instructor Report for Xiongwen Chen (Forest Fire Ecology & Mgt)

Spring 2017 Course Evaluation

Project Audience 18

Responses Received 13

Response Ratio 72%

Report Comments

Department	NRE
School	AG
Level	UG

Prepared by Dianne Bozeman

Creation Date Wed, Aug 16, 2017



Alabama A&M University

Course Evaluations

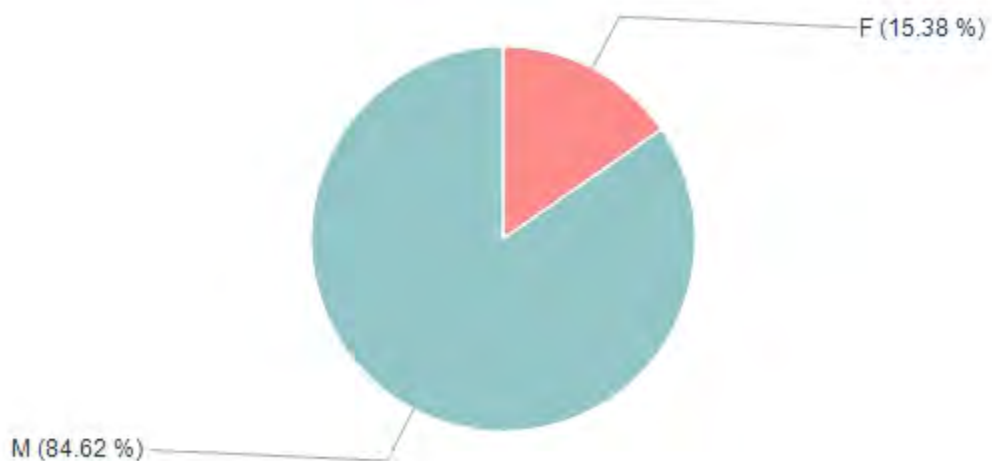
Interpretation guidelines

The value "4" represents "Strongly Agree" while the value "1" represents "Strongly Disagree".
No questions have been defined as mandatory, so students may skip answering certain questions.
An open ended comment field has been added to the end of the questionnaire

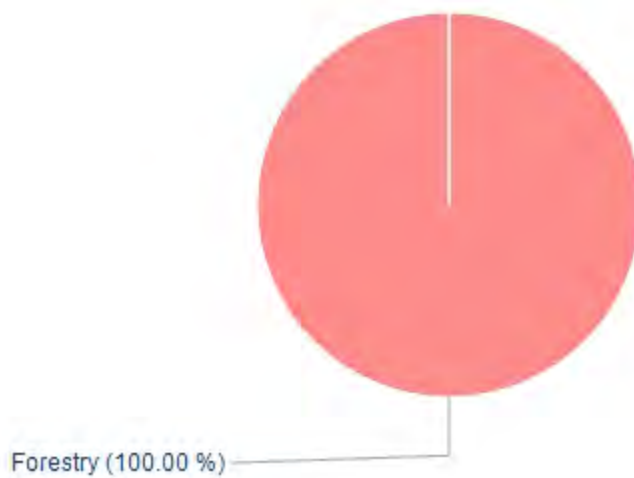
Teacher	Course
Xiongwen Chen	Forest Fire Ecology & Mgt

Course Demographics

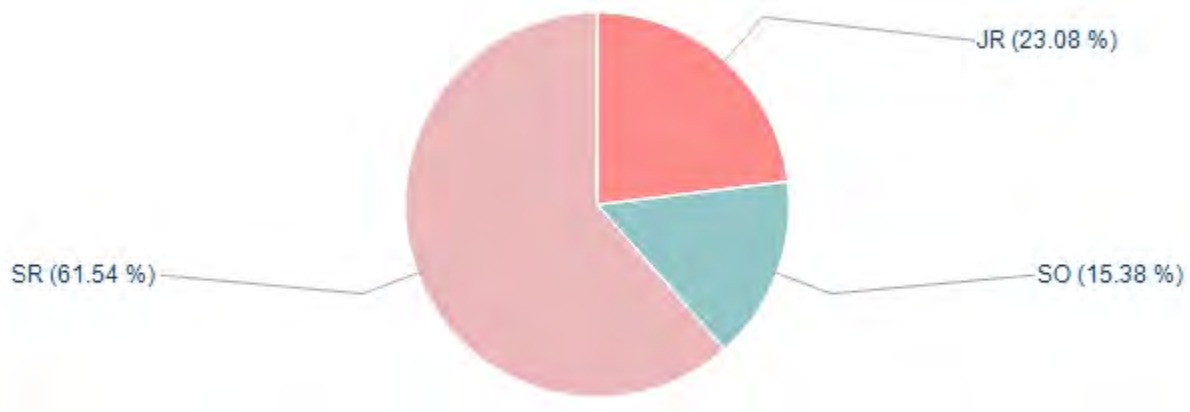
Gender Distribution



Disicipline Breakdown



Grade Breakdown



Competency Summary

Competency	Your Score	Standard Deviation	Min	Max
Instructor's Communication Skills	3.17	+/-0.88	1.00	4.00
Overall, I rate this as a good course.	3.33	+/-0.65	2.00	4.00
Instructor's Organization and Preparation	3.47	+/-0.62	2.00	4.00
Instructor's Support of Student Learning	3.49	+/-0.61	2.00	4.00
Total Score	3.37			

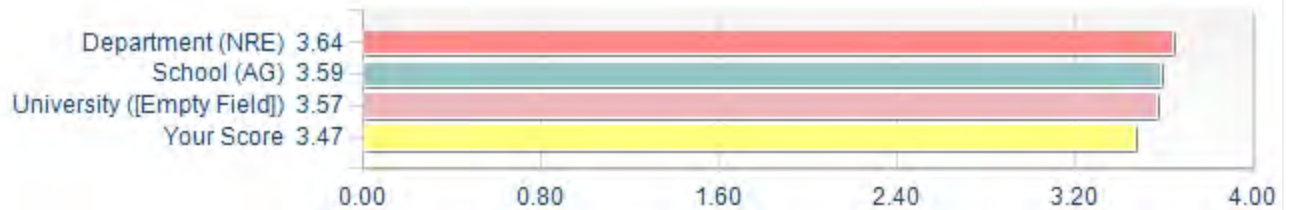
Instructor's Organization and Preparation

Frequency Distribution

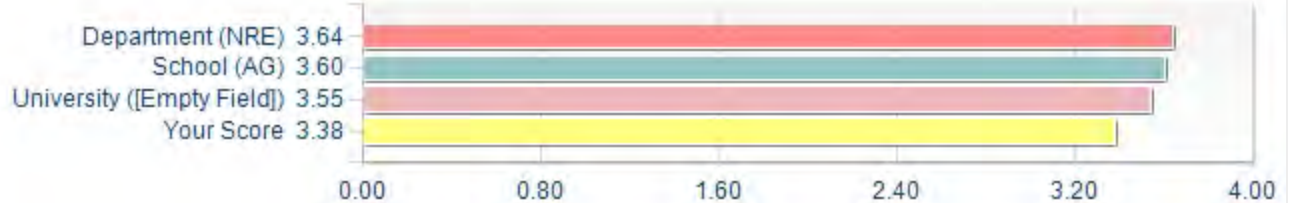
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor's objectives for the course have been made clear.	13	6	6	1	0	3.38	0.65
The instructor began and ended class on time.	13	8	3	2	0	3.46	0.78
The instructor has current professional knowledge and abilities.	13	6	4	3	0	3.23	0.83
The instructor was well-prepared for each class.	13	7	6	0	0	3.54	0.52
The instructor exhibits professional dispositions at all times.	13	8	5	0	0	3.62	0.51
The instructor seemed to enjoy teaching.	13	7	6	0	0	3.54	0.52
The instructor engages in continuous professional development.	13	7	6	0	0	3.54	0.52

Score Comparison

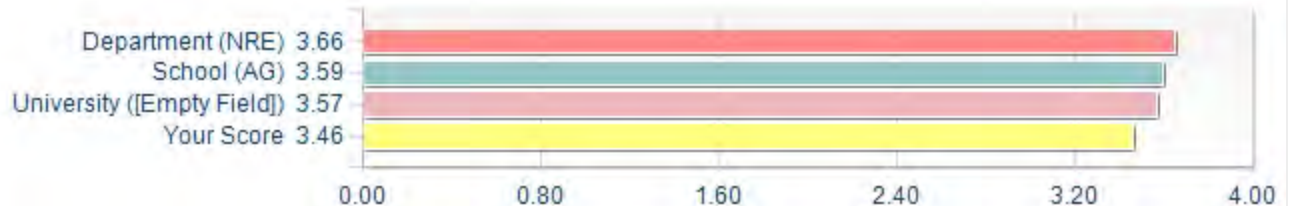
Overall



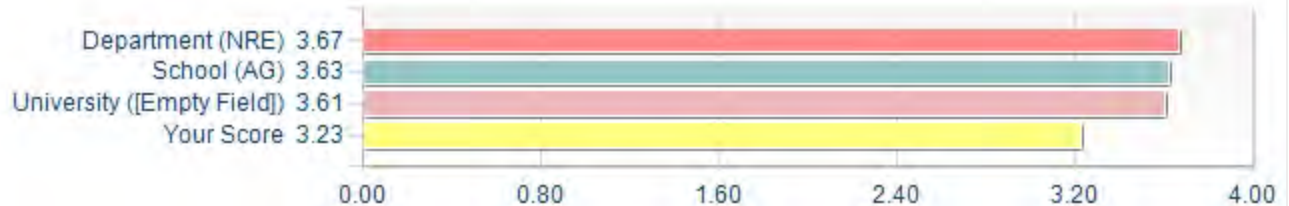
1. The instructor's objectives for the course have been made clear.



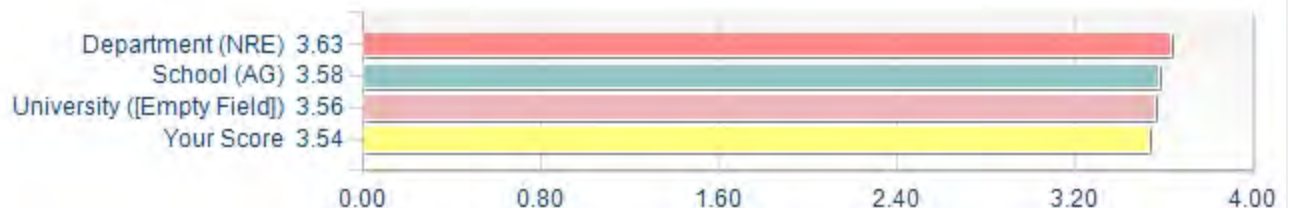
2. The instructor began and ended class on time.



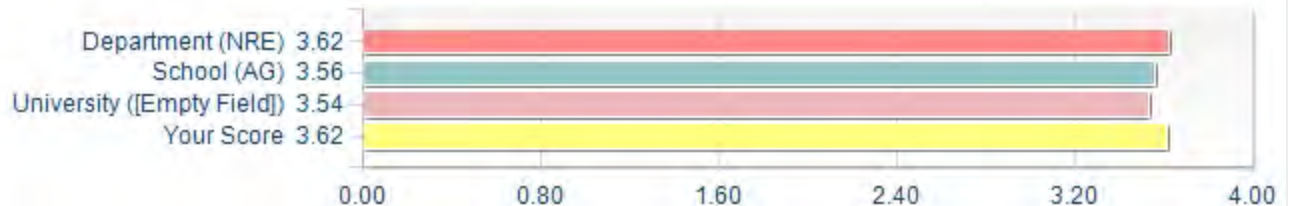
3. The instructor has current professional knowledge and abilities.



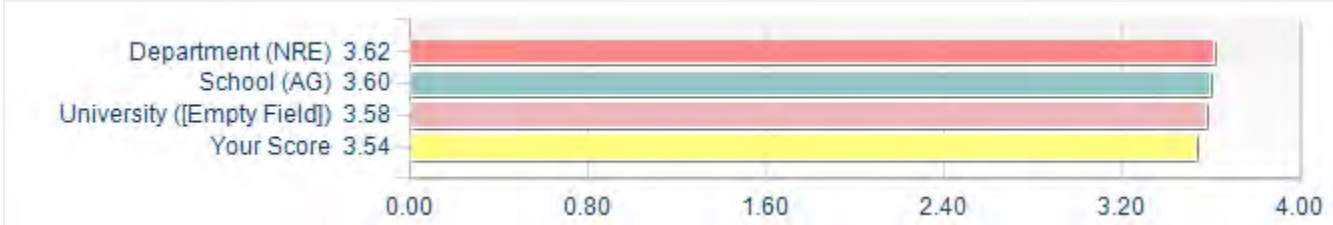
4. The instructor was well-prepared for each class.



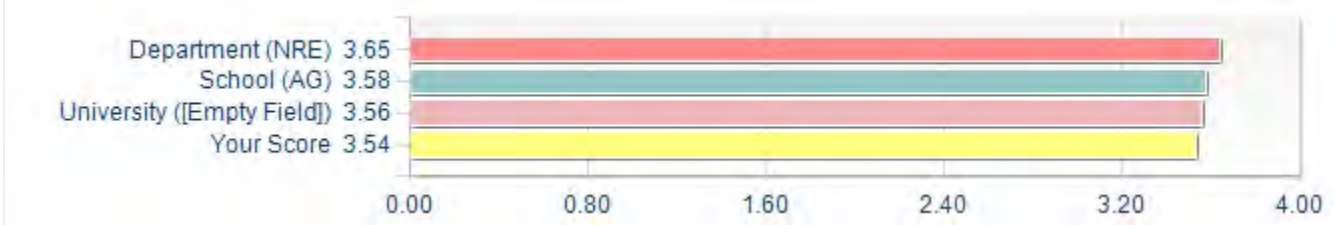
5. The instructor exhibits professional dispositions at all times.



6. The instructor seemed to enjoy teaching.



7. The instructor engages in continuous professional development.



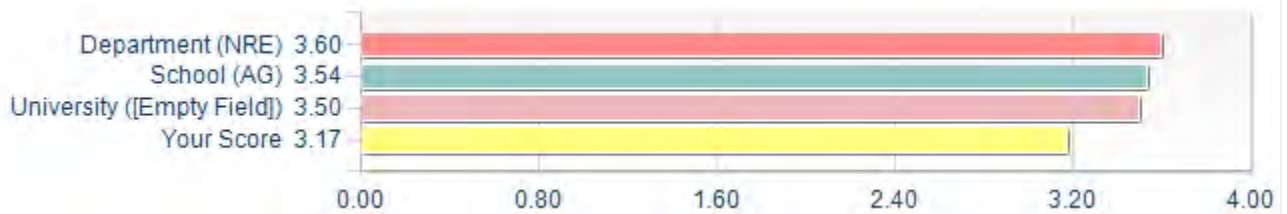
Instructor's Communication Skills

Frequency Distribution

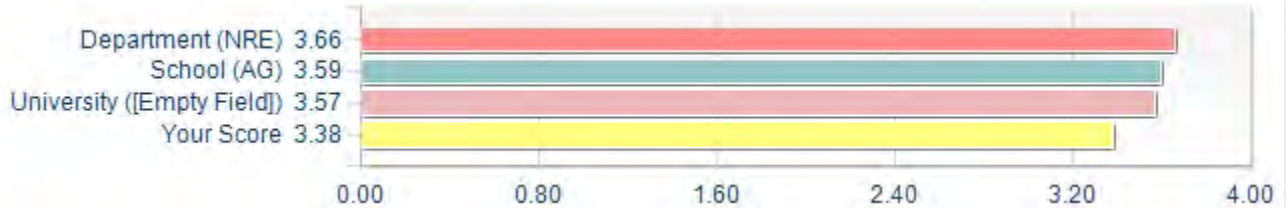
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.	13	6	6	1	0	3.38	0.65
The instructor presented the subject matter in a clear and organized manner.	13	5	3	4	1	2.92	1.04
The pace at which the instructor covered the subject matter was appropriate.	13	7	5	1	0	3.46	0.66
The instructor is a proficient and effective communicator.	13	5	3	4	1	2.92	1.04

Score Comparison

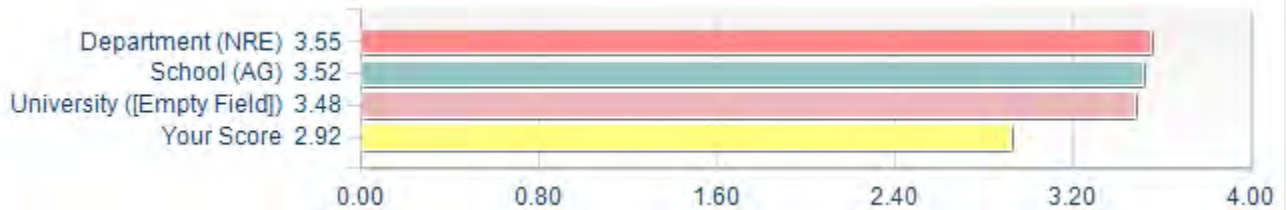
Overall



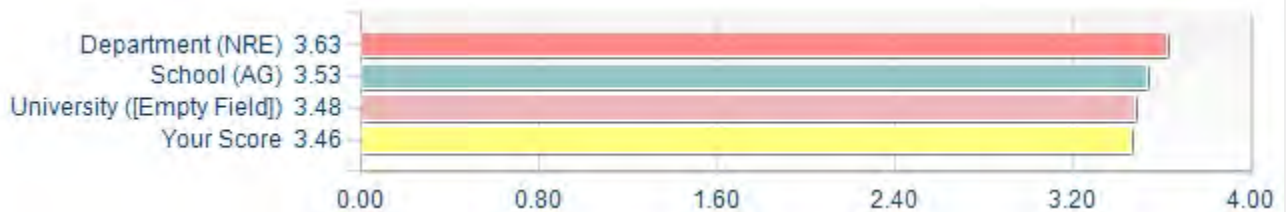
1. The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.



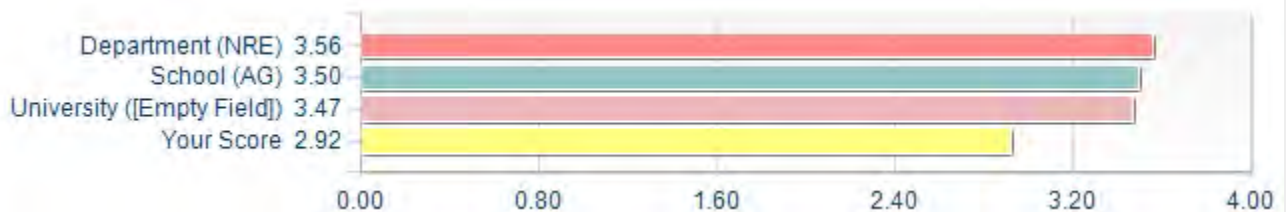
2. The instructor presented the subject matter in a clear and organized manner.



3. The pace at which the instructor covered the subject matter was appropriate.



4. The instructor is a proficient and effective communicator.



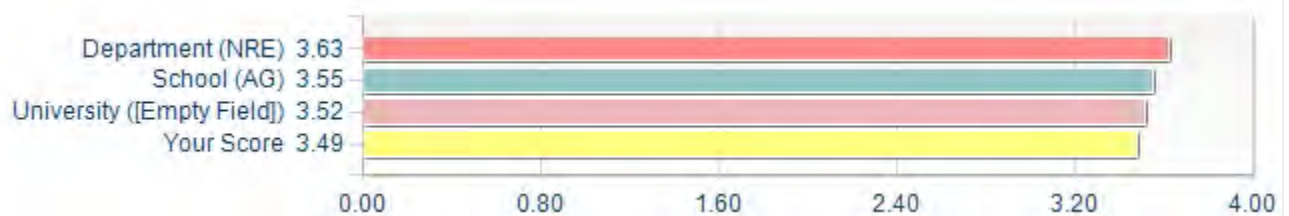
Instructor's Support of Student Learning

Frequency Distribution

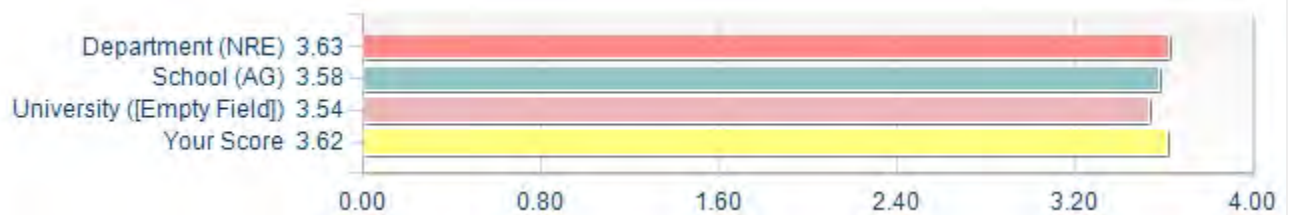
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor creates and maintains a positive and supportive learning environment.	13	8	5	0	0	3.62	0.51
The instructor effectively assesses the student learning.	13	6	6	1	0	3.38	0.65
The instructor returned tests and assignments within a reasonable amount of time.	13	8	5	0	0	3.62	0.51
The instructor effectively facilitates learning by all students.	13	6	6	1	0	3.38	0.65
The instructor was available for extra help.	12	8	3	1	0	3.58	0.67
The instructor seemed genuinely concerned with students' progress.	13	7	4	2	0	3.38	0.77
The instructor was open to students' viewpoints.	13	6	6	1	0	3.38	0.65
The instructor is available during office hours.	13	7	6	0	0	3.54	0.52

Score Comparison

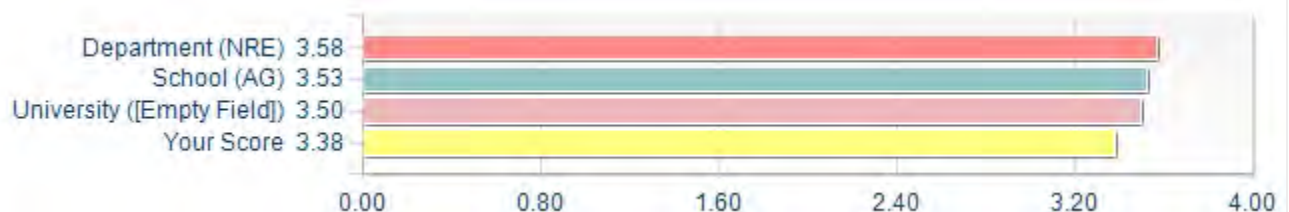
Overall



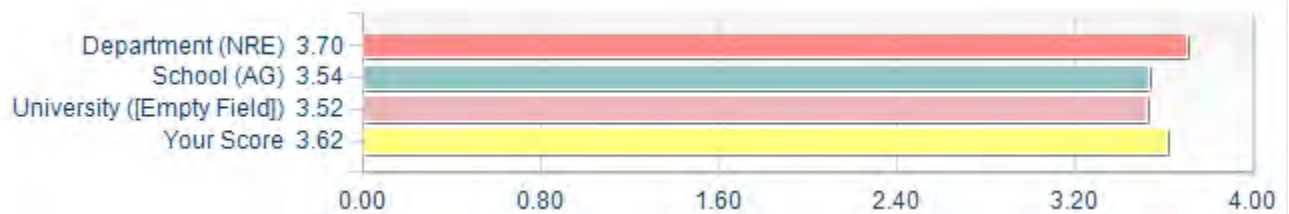
1. The instructor creates and maintains a positive and supportive learning environment.



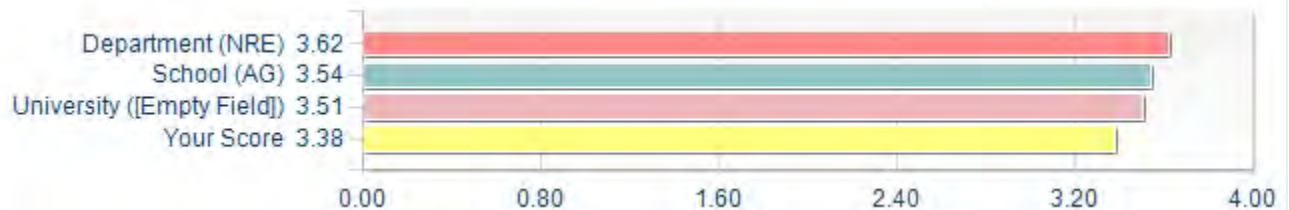
2. The instructor effectively assesses the student learning.



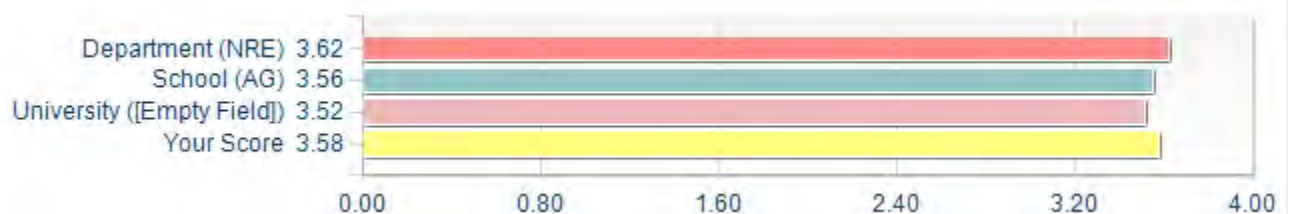
3. The instructor returned tests and assignments within a reasonable amount of time.



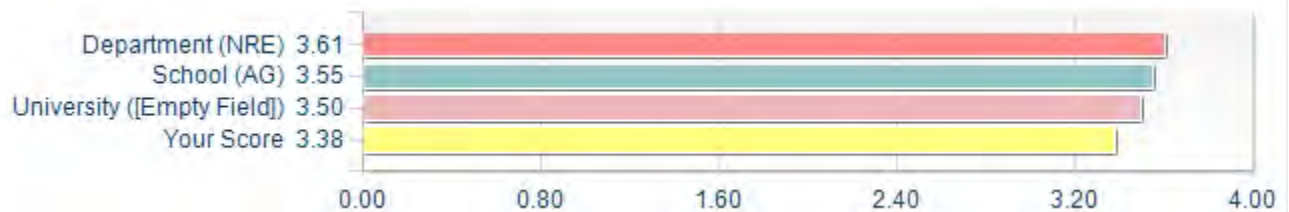
4. The instructor effectively facilitates learning by all students.



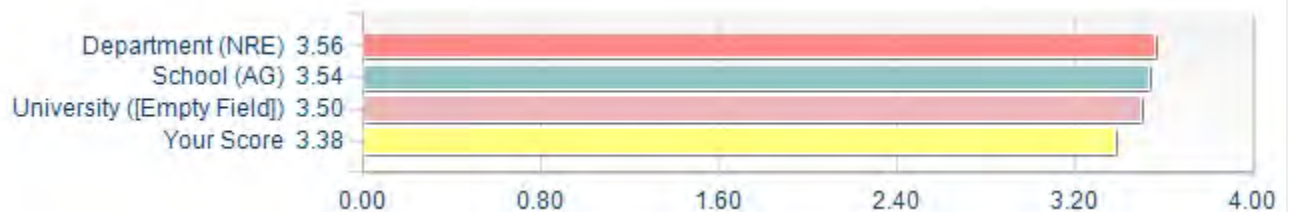
5. The instructor was available for extra help.



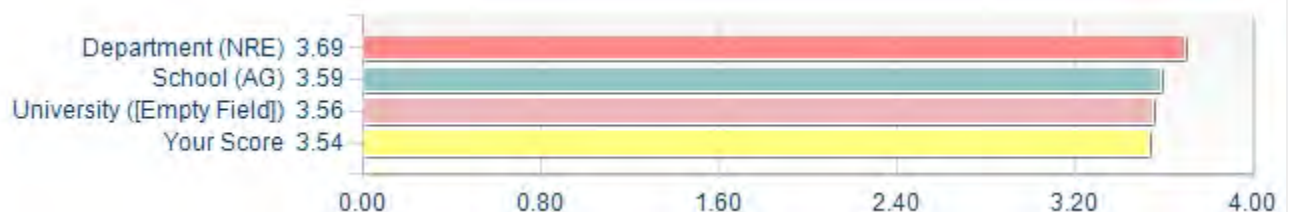
6. The instructor seemed genuinely concerned with students' progress.



7. The instructor was open to students' viewpoints.



8. The instructor is available during office hours.



Overall Course Questions

Frequency Distribution

	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
Overall, I rate this as a good course.	12	5	6	1	0	3.33	0.65

Score Comparison



Rating scale questions, top and bottom ranks for Instructor Questions

Strengths		
1	The instructor exhibits professional dispositions at all times.	3.62
2	The instructor creates and maintains a positive and supportive learning environment.	3.62
3	The instructor returned tests and assignments within a reasonable amount of time.	3.62

Areas for Improvement		
1	The instructor presented the subject matter in a clear and organized manner.	2.92
2	The instructor is a proficient and effective communicator.	2.92
3	The instructor has current professional knowledge and abilities.	3.23

Please, include here any comments you might have about this course.

Comments
The lab was perfect and we'll taught. The main class is hard to understand anything in. Learned more with 10 min in the lab then 2 class periods.
Great



Instructor Report for Kozma Naka (Forest Mensuration & Lab)

Spring 2017 Course Evaluation

Project Audience 18

Responses Received 13

Response Ratio 72%

Report Comments

Department	NRE
School	AG
Level	UG

Prepared by Dianne Bozeman

Creation Date Wed, Aug 16, 2017



Alabama A&M University

Course Evaluations

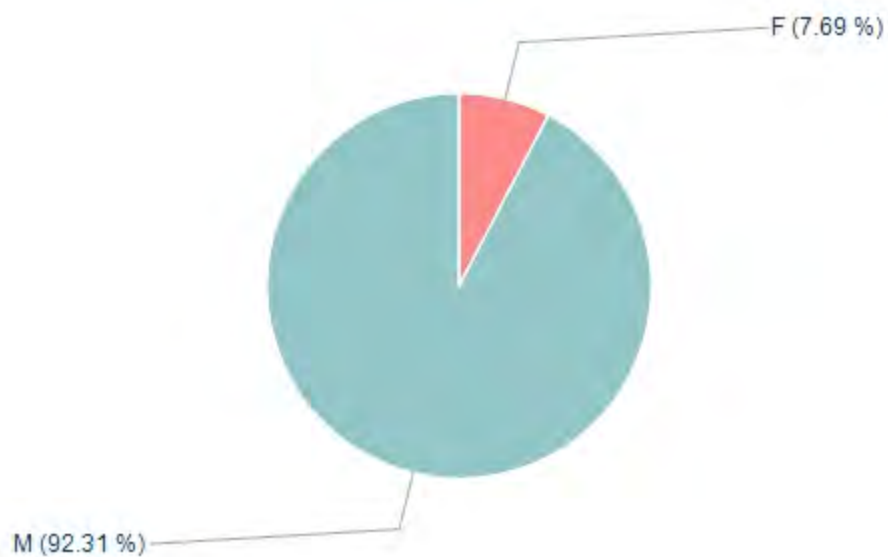
Interpretation guidelines

The value "4" represents "Strongly Agree" while the value "1" represents "Strongly Disagree".
No questions have been defined as mandatory, so students may skip answering certain questions.
An open ended comment field has been added to the end of the questionnaire

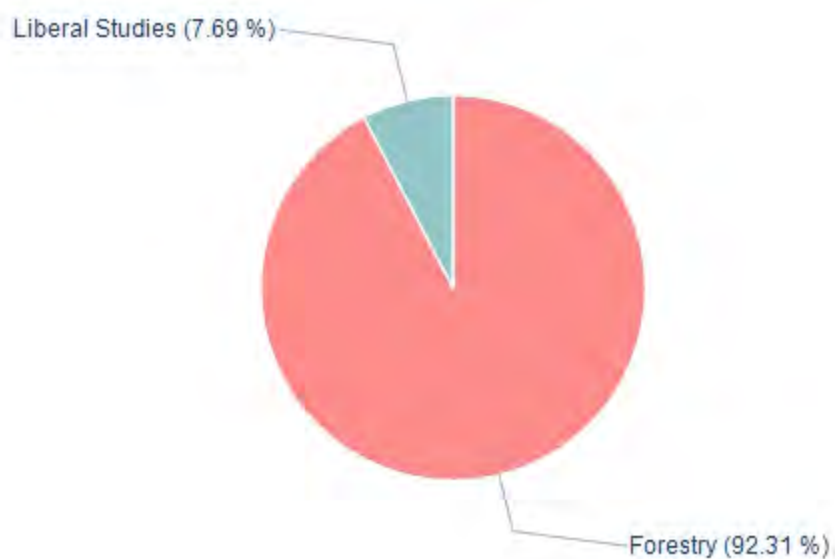
Teacher	Course
Kozma Naka	Forest Mensuration & Lab

Course Demographics

Gender Distribution



Disicipline Breakdown



Grade Breakdown



Competency Summary

Competency	Your Score	Standard Deviation	Min	Max
Instructor's Communication Skills	3.69	+/-0.83	1.00	4.00
Instructor's Support of Student Learning	3.69	+/-0.83	1.00	4.00
Overall, I rate this as a good course.	3.69	+/-0.85	1.00	4.00
Instructor's Organization and Preparation	3.73	+/-0.78	1.00	4.00
Total Score	3.70			

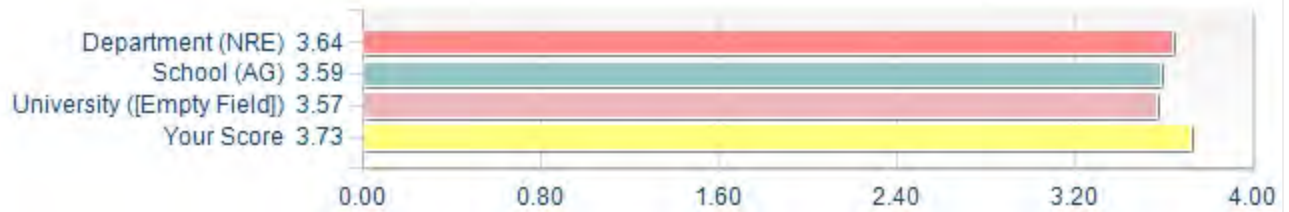
Instructor's Organization and Preparation

Frequency Distribution

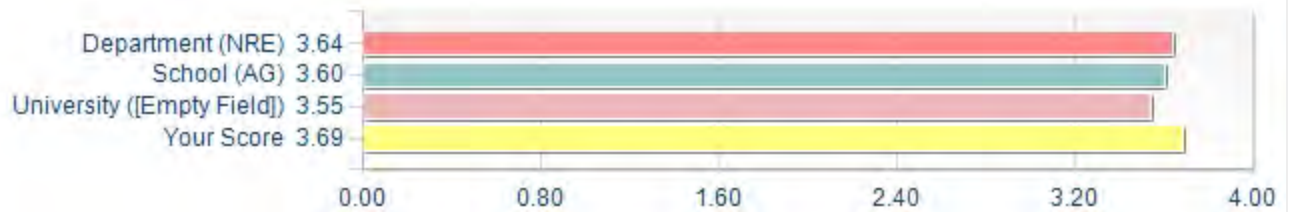
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor's objectives for the course have been made clear.	13	11	1	0	1	3.69	0.85
The instructor began and ended class on time.	13	11	1	0	1	3.69	0.85
The instructor has current professional knowledge and abilities.	13	12	1	0	0	3.92	0.28
The instructor was well-prepared for each class.	13	11	1	0	1	3.69	0.85
The instructor exhibits professional dispositions at all times.	13	11	1	0	1	3.69	0.85
The instructor seemed to enjoy teaching.	13	11	1	0	1	3.69	0.85
The instructor engages in continuous professional development.	13	11	1	0	1	3.69	0.85

Score Comparison

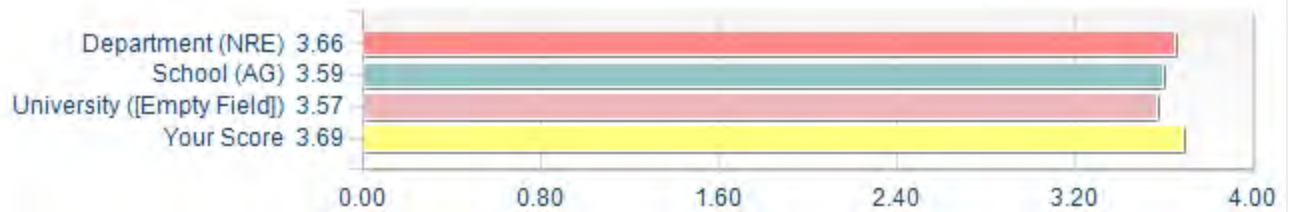
Overall



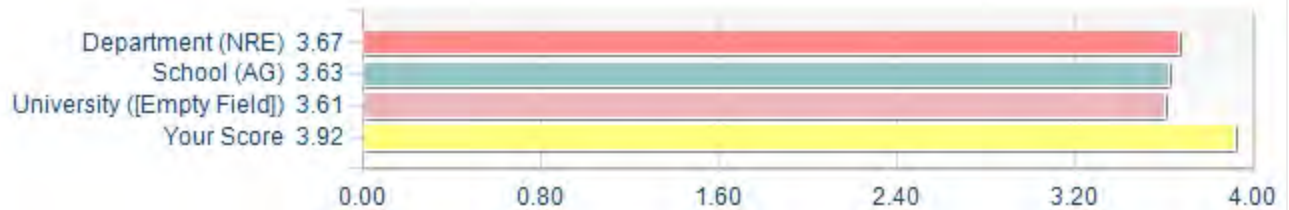
1. The instructor's objectives for the course have been made clear.



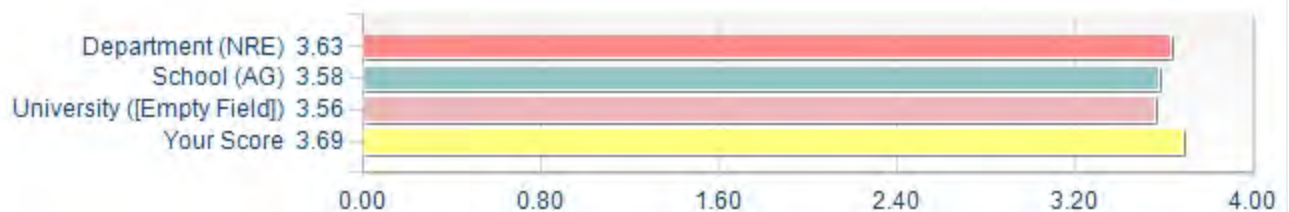
2. The instructor began and ended class on time.



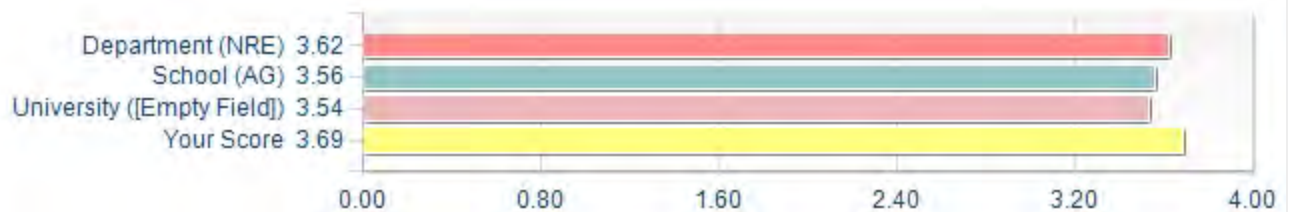
3. The instructor has current professional knowledge and abilities.



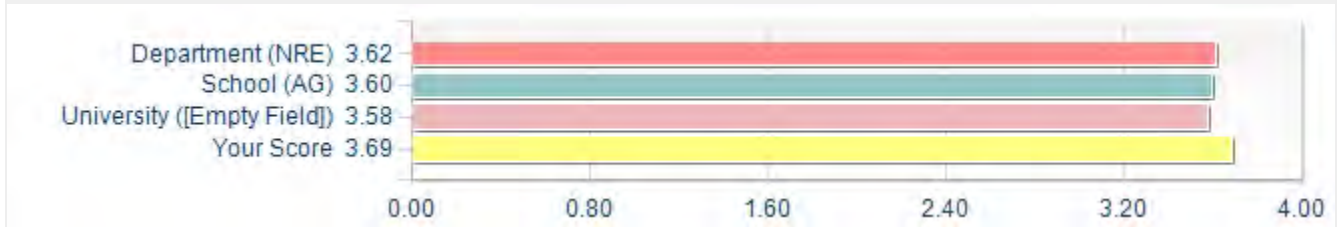
4. The instructor was well-prepared for each class.



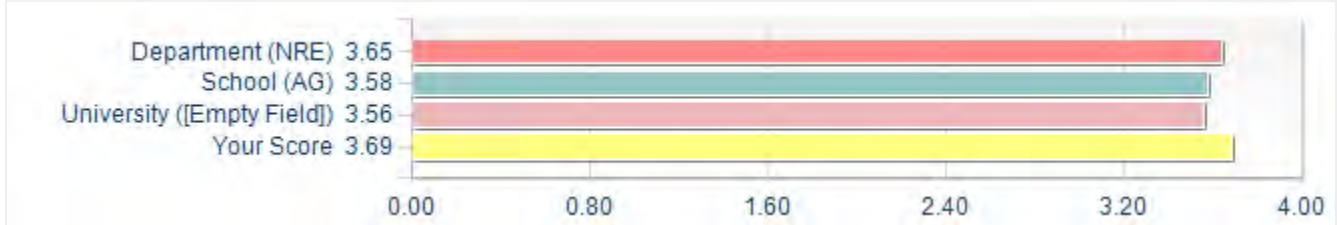
5. The instructor exhibits professional dispositions at all times.



6. The instructor seemed to enjoy teaching.



7. The instructor engages in continuous professional development.



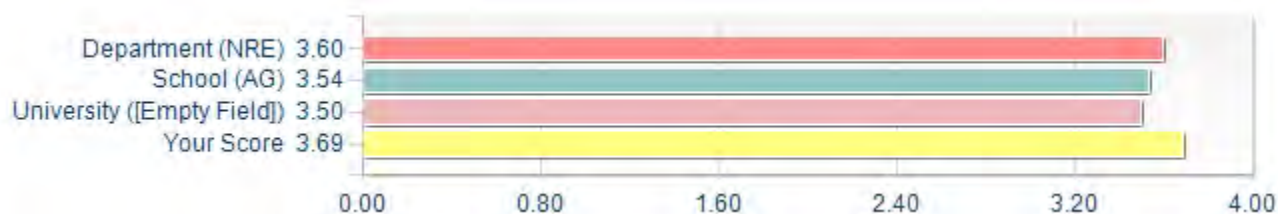
Instructor's Communication Skills

Frequency Distribution

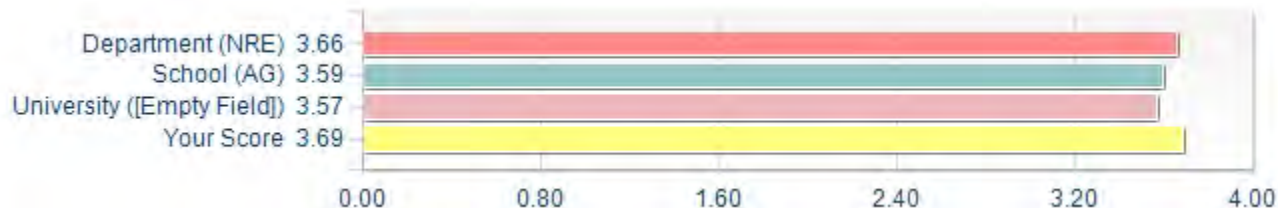
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.	13	11	1	0	1	3.69	0.85
The instructor presented the subject matter in a clear and organized manner.	13	11	1	0	1	3.69	0.85
The pace at which the instructor covered the subject matter was appropriate.	13	11	1	0	1	3.69	0.85
The instructor is a proficient and effective communicator.	13	11	1	0	1	3.69	0.85

Score Comparison

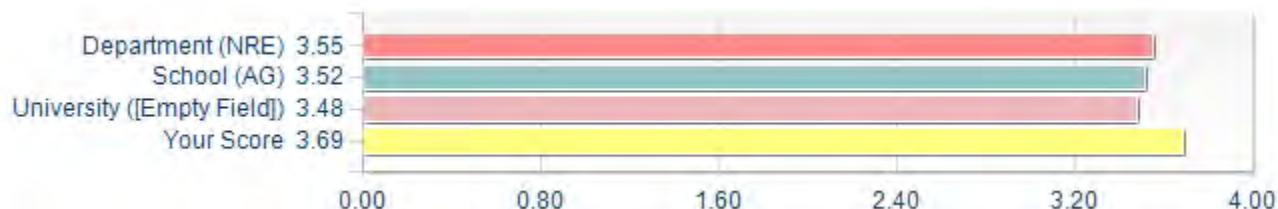
Overall



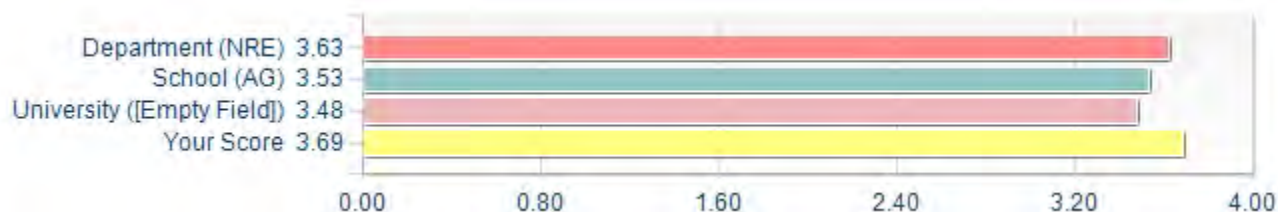
1. The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.



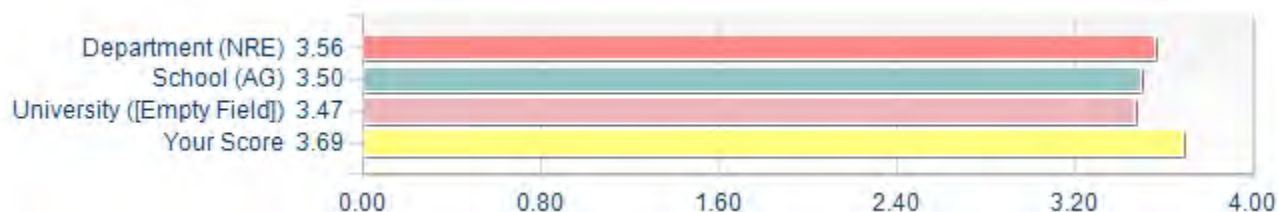
2. The instructor presented the subject matter in a clear and organized manner.



3. The pace at which the instructor covered the subject matter was appropriate.



4. The instructor is a proficient and effective communicator.



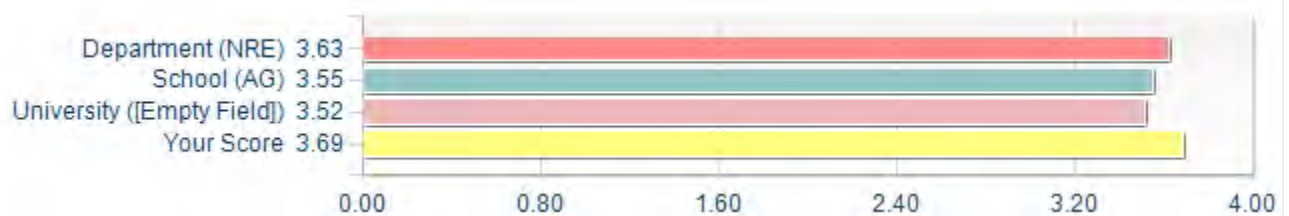
Instructor's Support of Student Learning

Frequency Distribution

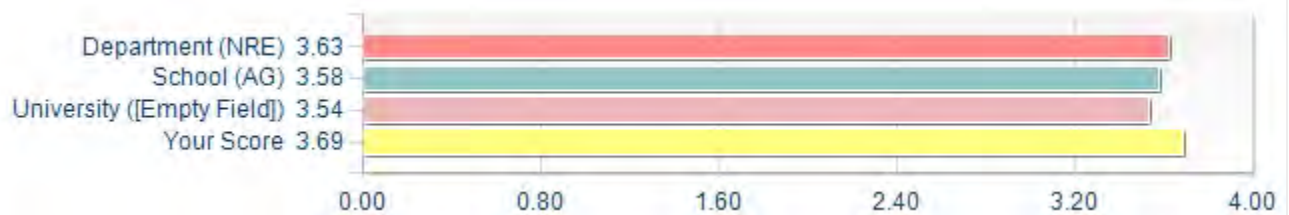
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor creates and maintains a positive and supportive learning environment.	13	11	1	0	1	3.69	0.85
The instructor effectively assesses the student learning.	13	11	1	0	1	3.69	0.85
The instructor returned tests and assignments within a reasonable amount of time.	13	11	1	0	1	3.69	0.85
The instructor effectively facilitates learning by all students.	13	11	1	0	1	3.69	0.85
The instructor was available for extra help.	13	11	1	0	1	3.69	0.85
The instructor seemed genuinely concerned with students' progress.	13	11	1	0	1	3.69	0.85
The instructor was open to students' viewpoints.	13	11	1	0	1	3.69	0.85
The instructor is available during office hours.	13	11	1	0	1	3.69	0.85

Score Comparison

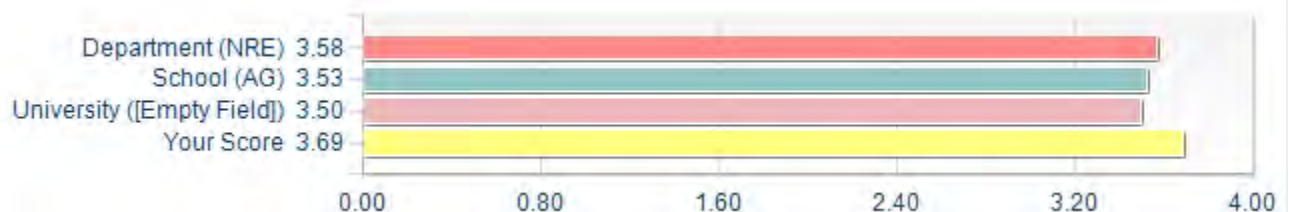
Overall



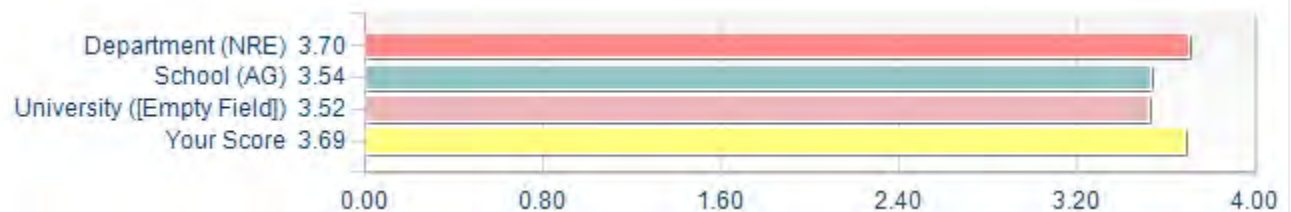
1. The instructor creates and maintains a positive and supportive learning environment.



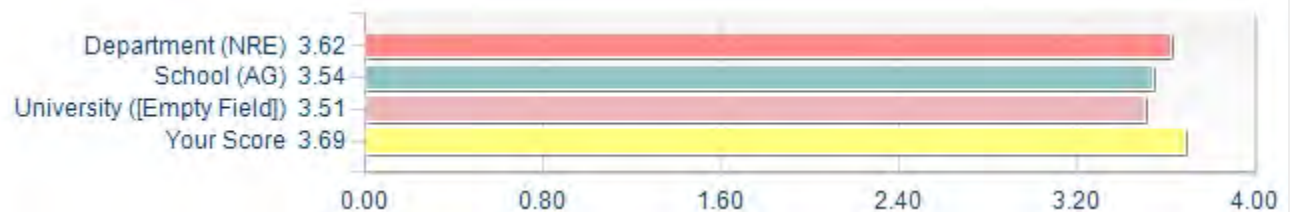
2. The instructor effectively assesses the student learning.



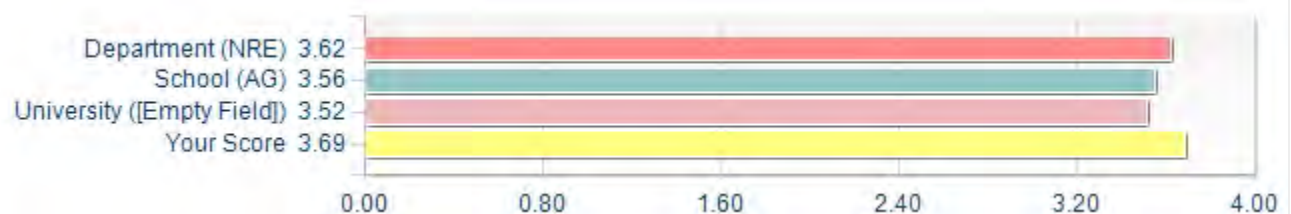
3. The instructor returned tests and assignments within a reasonable amount of time.



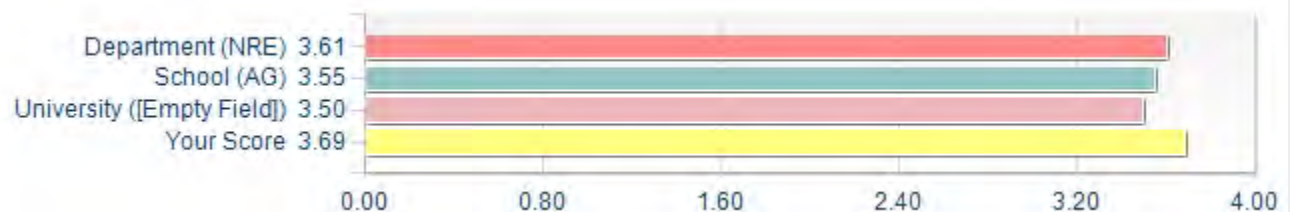
4. The instructor effectively facilitates learning by all students.



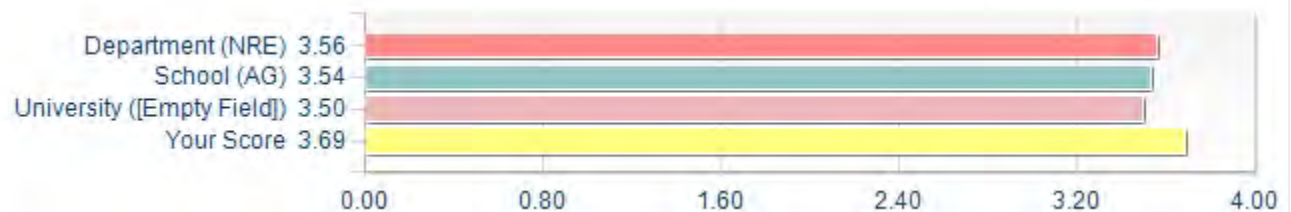
5. The instructor was available for extra help.



6. The instructor seemed genuinely concerned with students' progress.



7. The instructor was open to students' viewpoints.



8. The instructor is available during office hours.

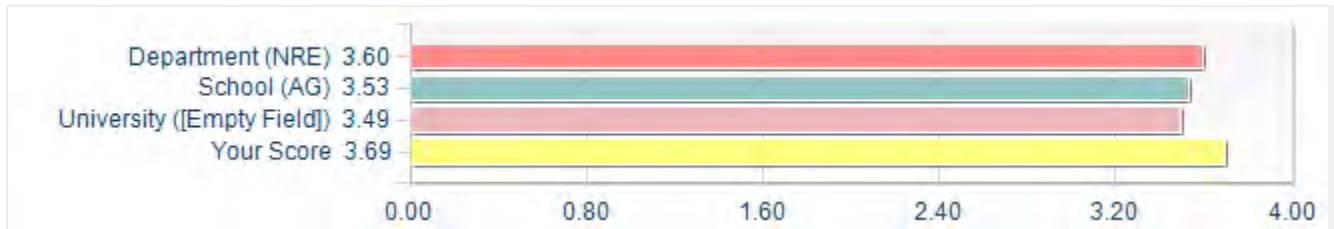


Overall Course Questions

Frequency Distribution

	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
Overall, I rate this as a good course.	13	11	1	0	1	3.69	0.85

Score Comparison



Rating scale questions, top and bottom ranks for Instructor Questions

Strengths		
1	The instructor has current professional knowledge and abilities.	3.92
2	The instructor's objectives for the course have been made clear.	3.69
3	The instructor began and ended class on time.	3.69

Areas for Improvement		
1	The instructor's objectives for the course have been made clear.	3.69
2	The instructor began and ended class on time.	3.69
3	The instructor was well-prepared for each class.	3.69

Please, include here any comments you might have about this course.

Comments
Dr. Naka is an Incredible professor! I look ford to his class!
Great course very well taught
Some people couldn't understand him at some times, but this course is like practical math with game theory, so I can understand that.
Great instructor did a great job!
Great
Would be nice if he actually taught.



Instructor Report for Kozma Naka (Forest Operations)

Spring 2017 Course Evaluation

Project Audience 7

Responses Received 3

Response Ratio 43%

Report Comments

Department	NRE
School	AG
Level	UG

Prepared by Dianne Bozeman

Creation Date Wed, Aug 16, 2017



Alabama A&M University

Course Evaluations

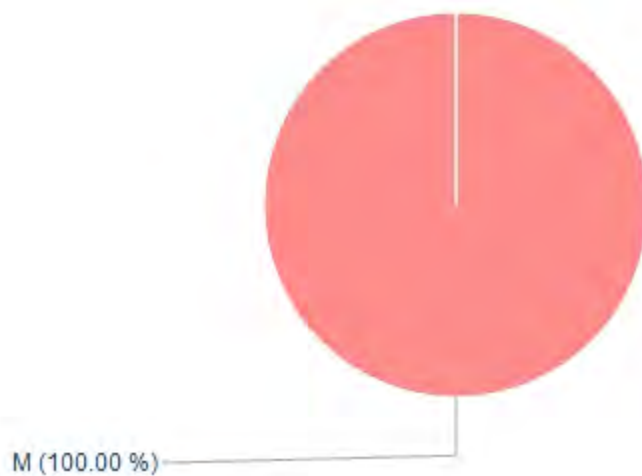
Interpretation guidelines

The value "4" represents "Strongly Agree" while the value "1" represents "Strongly Disagree".
No questions have been defined as mandatory, so students may skip answering certain questions.
An open ended comment field has been added to the end of the questionnaire

Teacher	Course
Kozma Naka	Forest Operations

Course Demographics

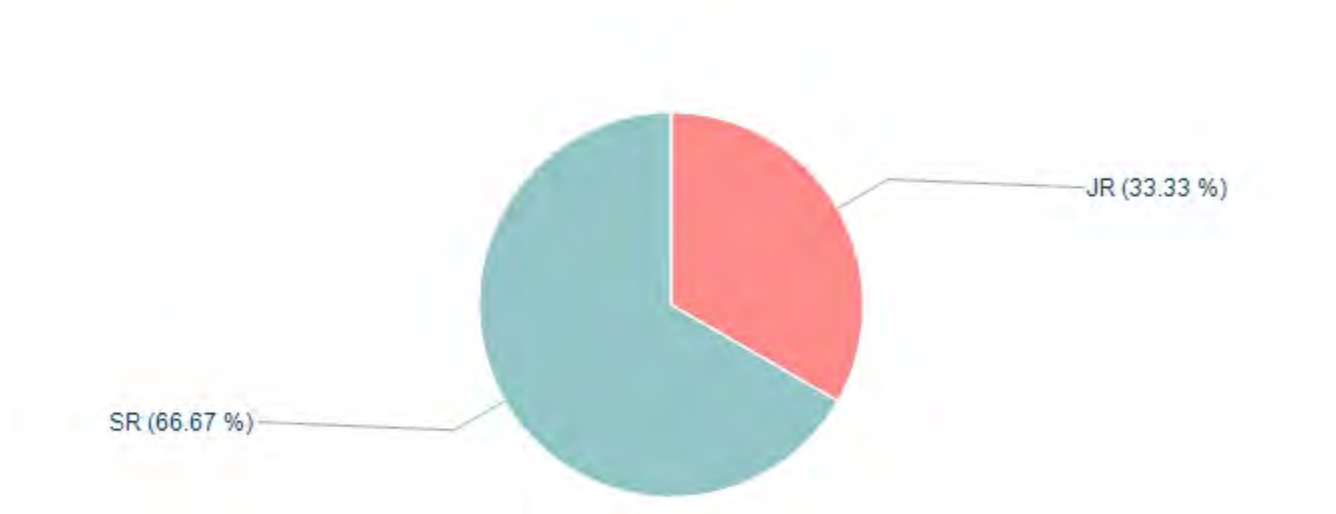
Gender Distribution



Disicipline Breakdown



Grade Breakdown



Competency Summary

Competency	Your Score	Standard Deviation	Min	Max
Instructor's Support of Student Learning	3.46	+/-0.83	2.00	4.00
Instructor's Communication Skills	3.58	+/-0.82	2.00	4.00
Instructor's Organization and Preparation	3.62	+/-0.75	2.00	4.00
Overall, I rate this as a good course.	3.67	+/-0.58	3.00	4.00
Total Score	3.58			

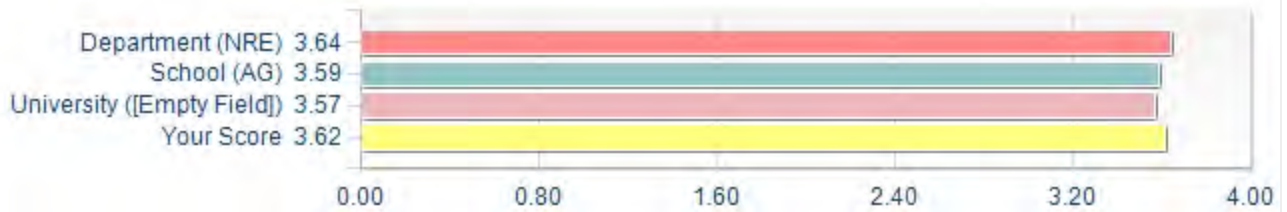
Instructor's Organization and Preparation

Frequency Distribution

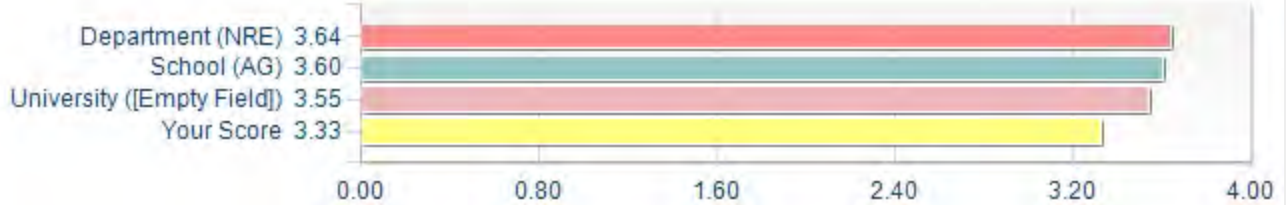
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor's objectives for the course have been made clear.	3	2	0	1	0	3.33	1.15
The instructor began and ended class on time.	3	2	0	1	0	3.33	1.15
The instructor has current professional knowledge and abilities.	3	3	0	0	0	4.00	0.00
The instructor was well-prepared for each class.	3	2	0	1	0	3.33	1.15
The instructor exhibits professional dispositions at all times.	3	2	1	0	0	3.67	0.58
The instructor seemed to enjoy teaching.	3	2	1	0	0	3.67	0.58
The instructor engages in continuous professional development.	2	2	0	0	0	4.00	0.00

Score Comparison

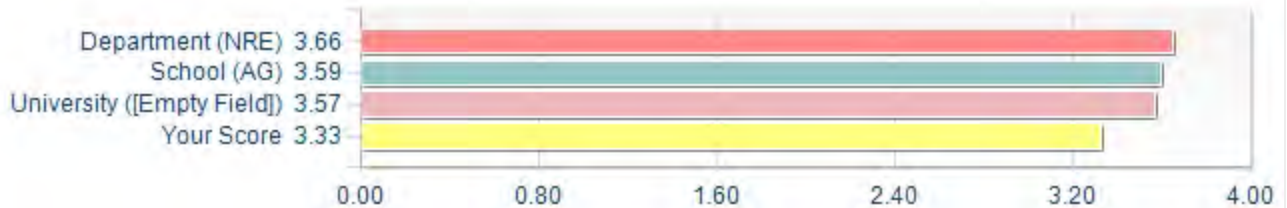
Overall



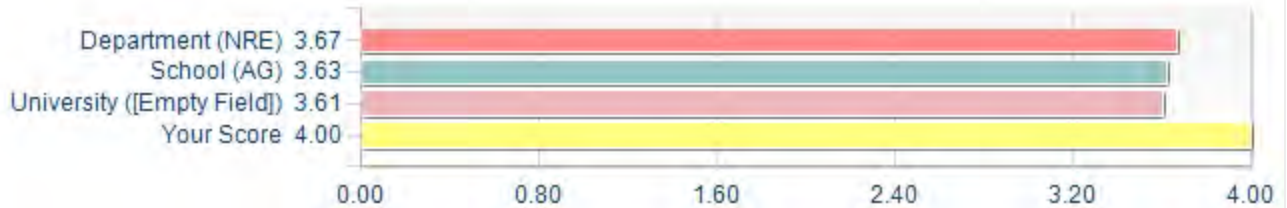
1. The instructor's objectives for the course have been made clear.



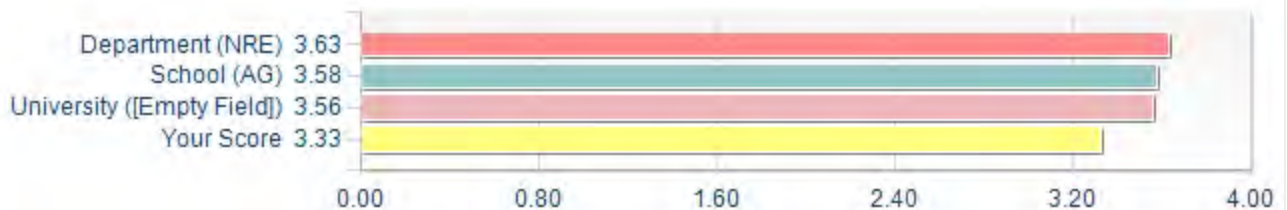
2. The instructor began and ended class on time.



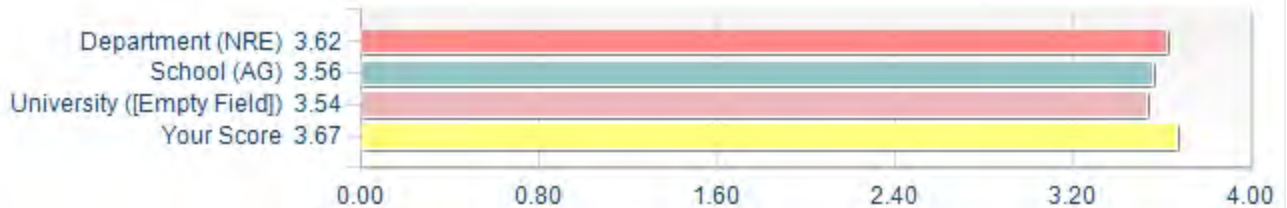
3. The instructor has current professional knowledge and abilities.



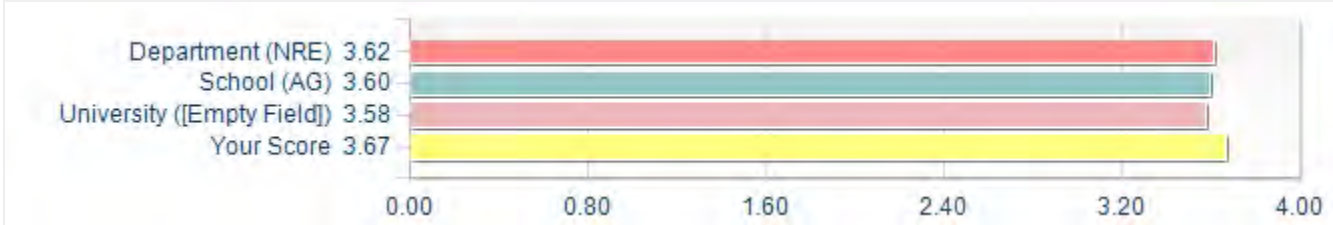
4. The instructor was well-prepared for each class.



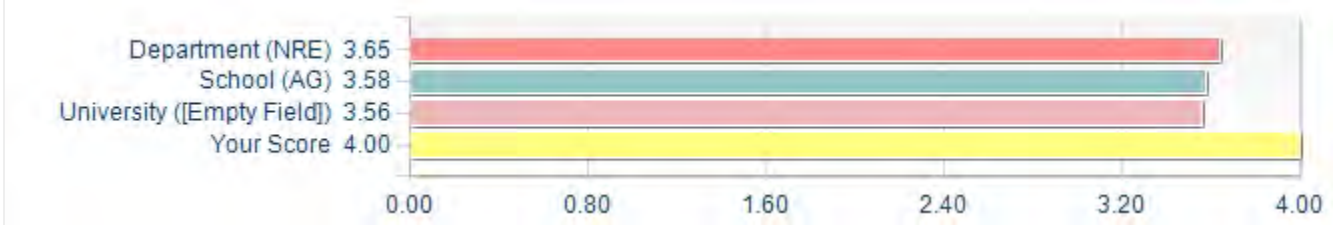
5. The instructor exhibits professional dispositions at all times.



6. The instructor seemed to enjoy teaching.



7. The instructor engages in continuous professional development.



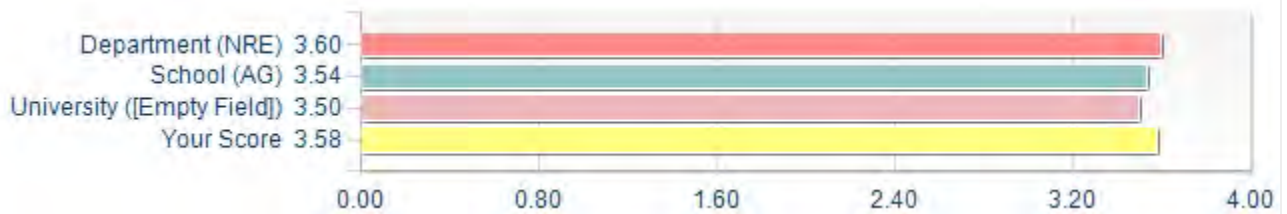
Instructor's Communication Skills

Frequency Distribution

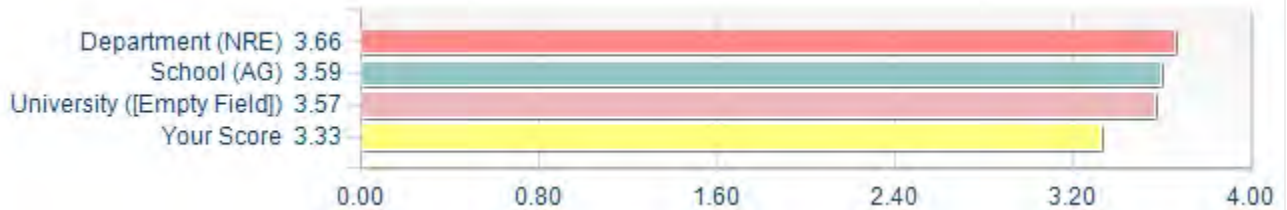
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.	3	2	0	1	0	3.33	1.15
The instructor presented the subject matter in a clear and organized manner.	3	2	0	1	0	3.33	1.15
The pace at which the instructor covered the subject matter was appropriate.	3	2	1	0	0	3.67	0.58
The instructor is a proficient and effective communicator.	2	2	0	0	0	4.00	0.00

Score Comparison

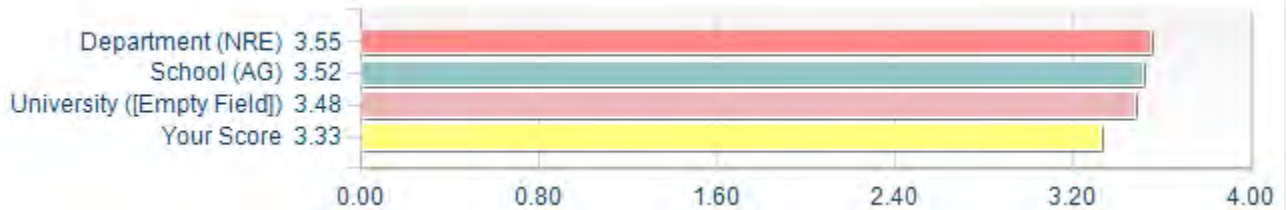
Overall



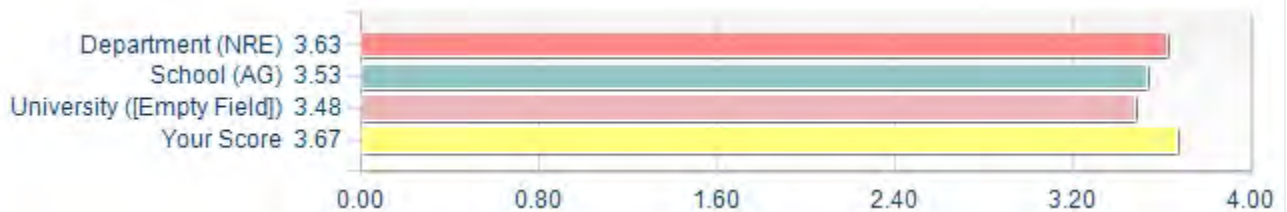
1. The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.



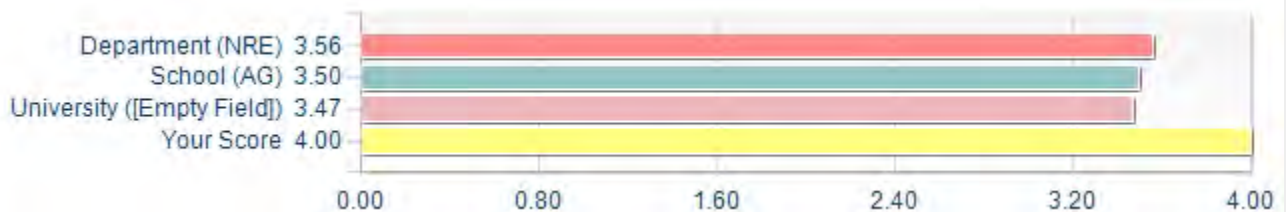
2. The instructor presented the subject matter in a clear and organized manner.



3. The pace at which the instructor covered the subject matter was appropriate.



4. The instructor is a proficient and effective communicator.



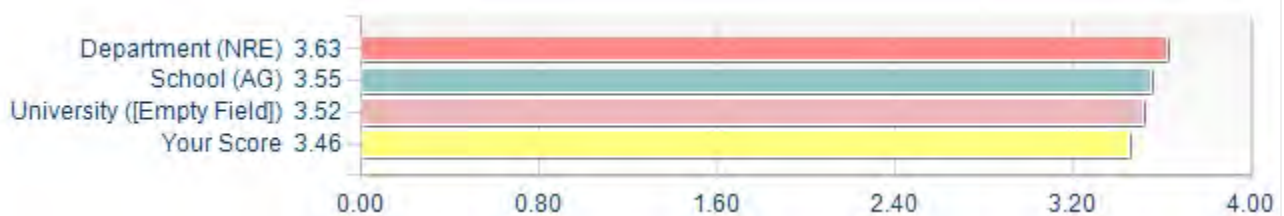
Instructor's Support of Student Learning

Frequency Distribution

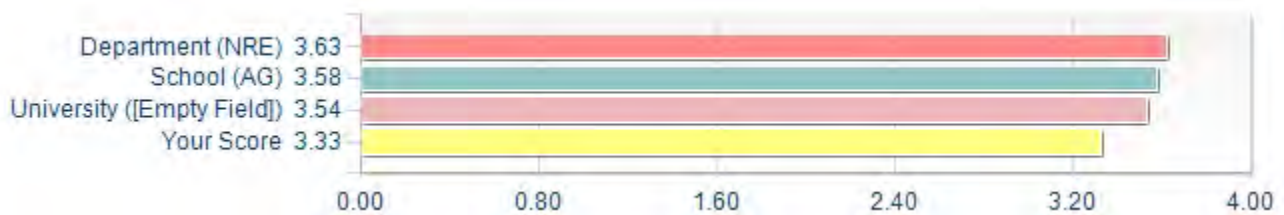
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor creates and maintains a positive and supportive learning environment.	3	2	0	1	0	3.33	1.15
The instructor effectively assesses the student learning.	3	2	0	1	0	3.33	1.15
The instructor returned tests and assignments within a reasonable amount of time.	3	2	1	0	0	3.67	0.58
The instructor effectively facilitates learning by all students.	3	2	0	1	0	3.33	1.15
The instructor was available for extra help.	3	2	0	1	0	3.33	1.15
The instructor seemed genuinely concerned with students' progress.	3	2	1	0	0	3.67	0.58
The instructor was open to students' viewpoints.	3	2	1	0	0	3.67	0.58
The instructor is available during office hours.	3	2	0	1	0	3.33	1.15

Score Comparison

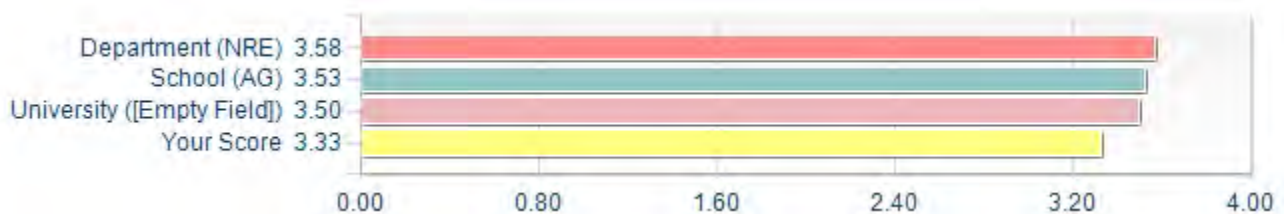
Overall



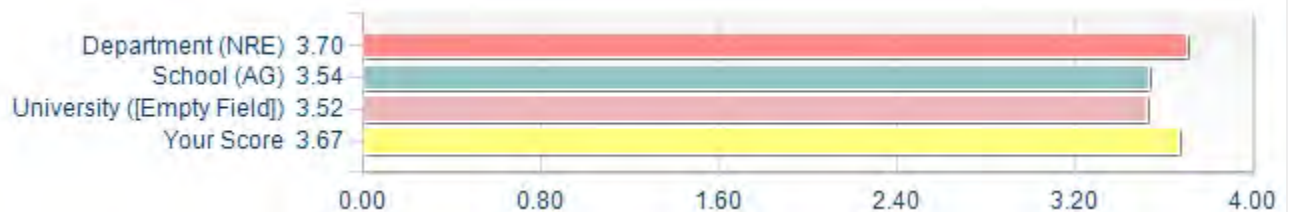
1. The instructor creates and maintains a positive and supportive learning environment.



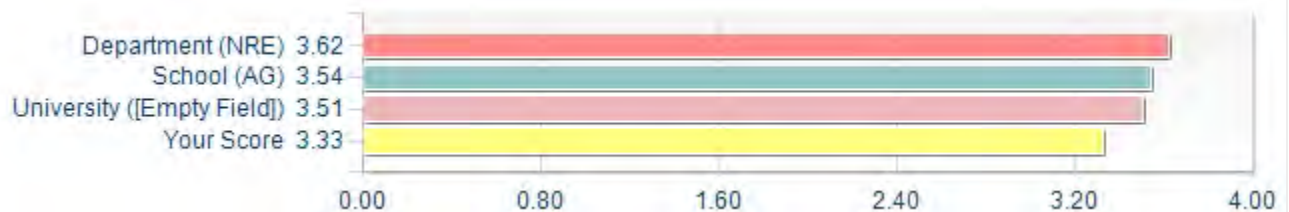
2. The instructor effectively assesses the student learning.



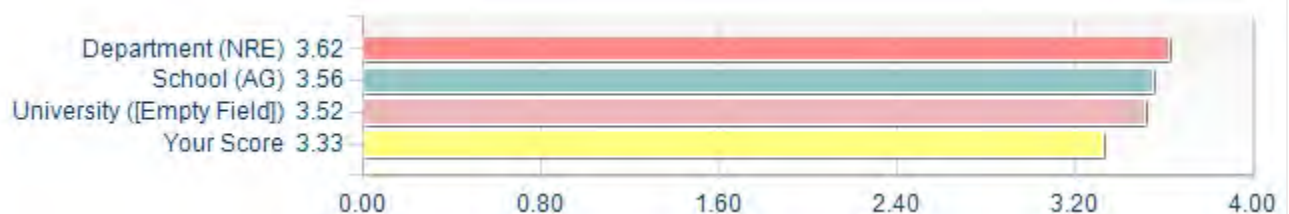
3. The instructor returned tests and assignments within a reasonable amount of time.



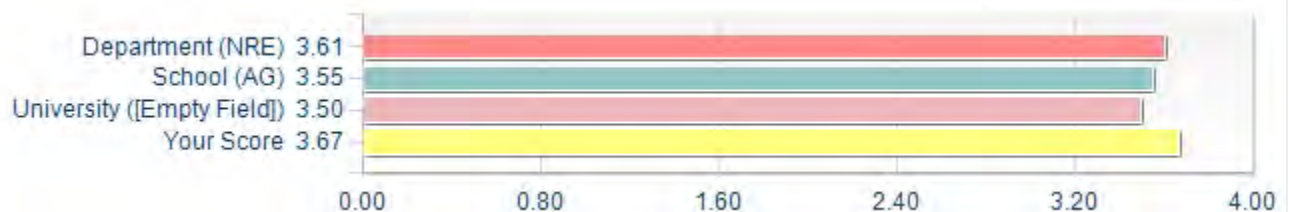
4. The instructor effectively facilitates learning by all students.



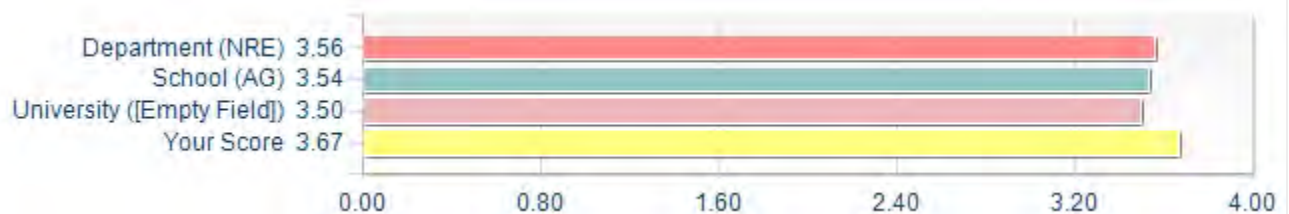
5. The instructor was available for extra help.



6. The instructor seemed genuinely concerned with students' progress.



7. The instructor was open to students' viewpoints.



8. The instructor is available during office hours.

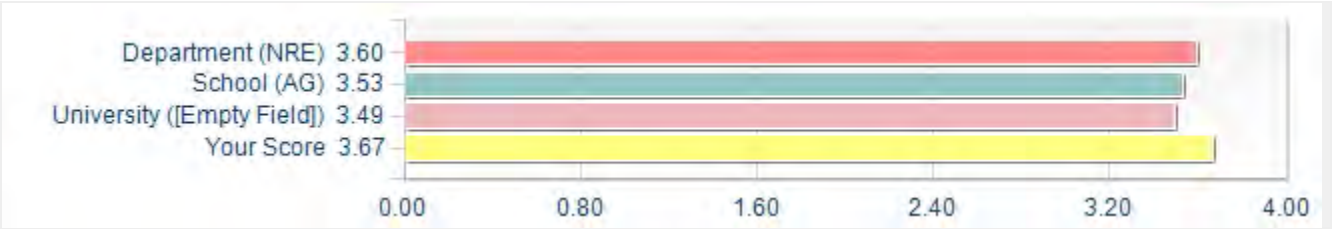


Overall Course Questions

Frequency Distribution

	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
Overall, I rate this as a good course.	3	2	1	0	0	3.67	0.58

Score Comparison



Rating scale questions, top and bottom ranks for Instructor Questions

Strengths		
1	The instructor has current professional knowledge and abilities.	4.00
2	The instructor engages in continuous professional development.	4.00
3	The instructor is a proficient and effective communicator.	4.00

Areas for Improvement		
1	The instructor's objectives for the course have been made clear.	3.33
2	The instructor began and ended class on time.	3.33
3	The instructor was well-prepared for each class.	3.33

Please, include here any comments you might have about this course.

Comments
Great course very well taught



Instructor Report for Kozma Naka (Forestry Field Techniques II)

Spring 2017 Course Evaluation

Project Audience 18

Responses Received 9

Response Ratio 50%

Report Comments

Department	NRE
School	AG
Level	UG

Prepared by Dianne Bozeman

Creation Date Wed, Aug 16, 2017



Alabama A&M University

Course Evaluations

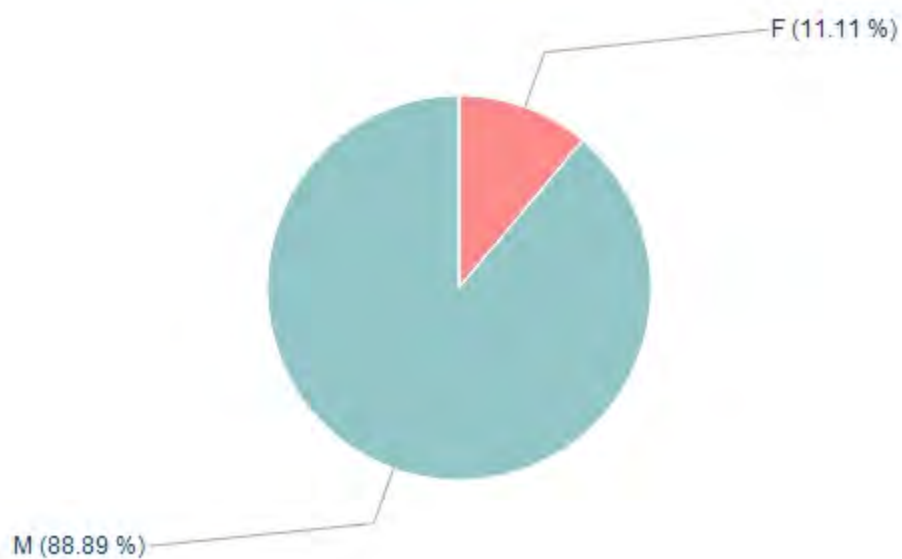
Interpretation guidelines

The value "4" represents "Strongly Agree" while the value "1" represents "Strongly Disagree".
No questions have been defined as mandatory, so students may skip answering certain questions.
An open ended comment field has been added to the end of the questionnaire

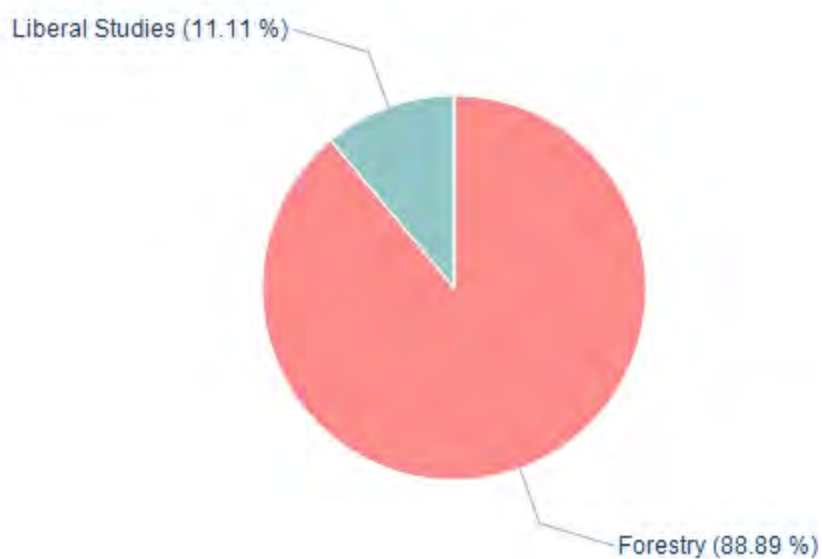
Teacher	Course
Kozma Naka	Forestry Field Techniques II

Course Demographics

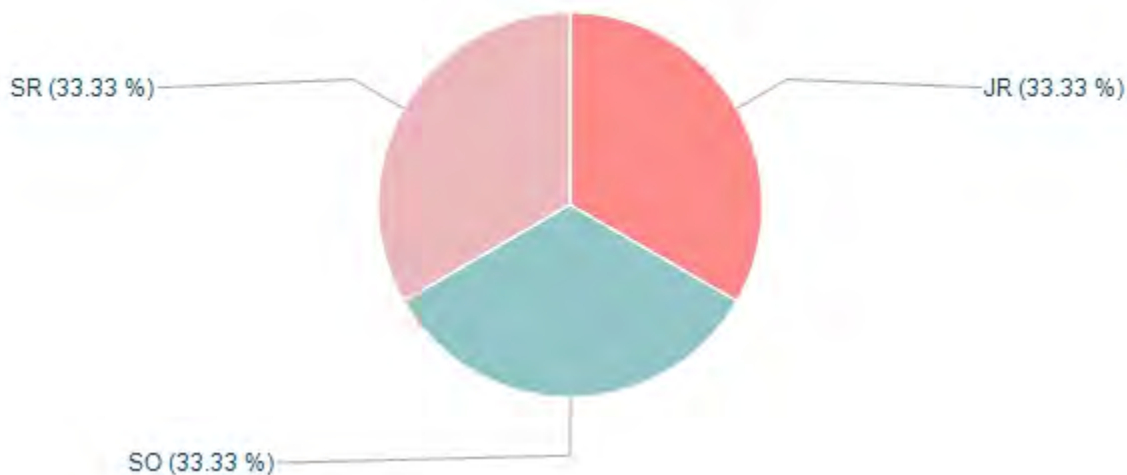
Gender Distribution



Disicipline Breakdown



Grade Breakdown



Competency Summary

Competency	Your Score	Standard Deviation	Min	Max
Overall, I rate this as a good course.	3.67	+/-0.50	3.00	4.00
Instructor's Organization and Preparation	3.69	+/-0.47	3.00	4.00
Instructor's Support of Student Learning	3.69	+/-0.47	3.00	4.00
Instructor's Communication Skills	3.71	+/-0.46	3.00	4.00
Total Score	3.69			

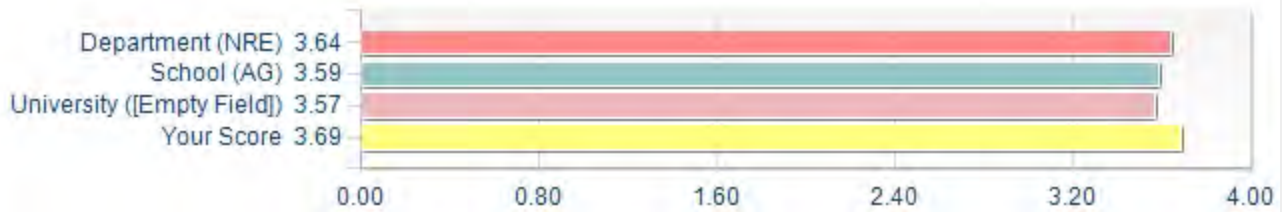
Instructor's Organization and Preparation

Frequency Distribution

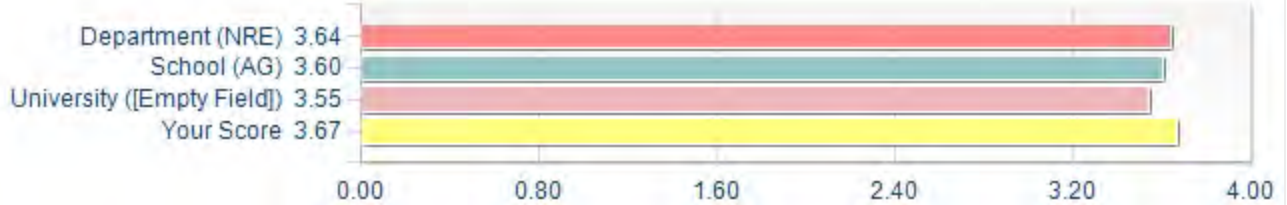
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor's objectives for the course have been made clear.	9	6	3	0	0	3.67	0.50
The instructor began and ended class on time.	8	6	2	0	0	3.75	0.46
The instructor has current professional knowledge and abilities.	9	6	3	0	0	3.67	0.50
The instructor was well-prepared for each class.	8	6	2	0	0	3.75	0.46
The instructor exhibits professional dispositions at all times.	9	6	3	0	0	3.67	0.50
The instructor seemed to enjoy teaching.	9	6	3	0	0	3.67	0.50
The instructor engages in continuous professional development.	9	6	3	0	0	3.67	0.50

Score Comparison

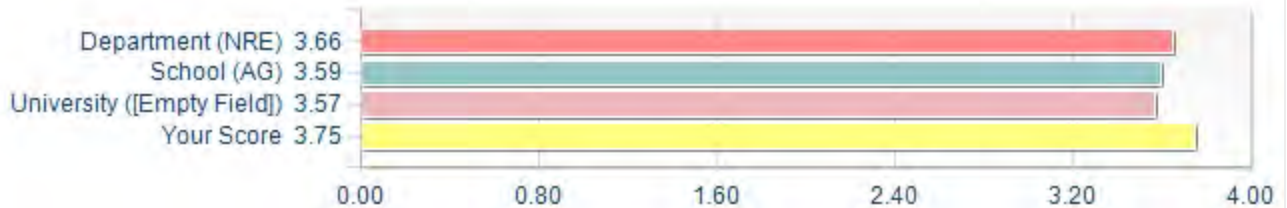
Overall



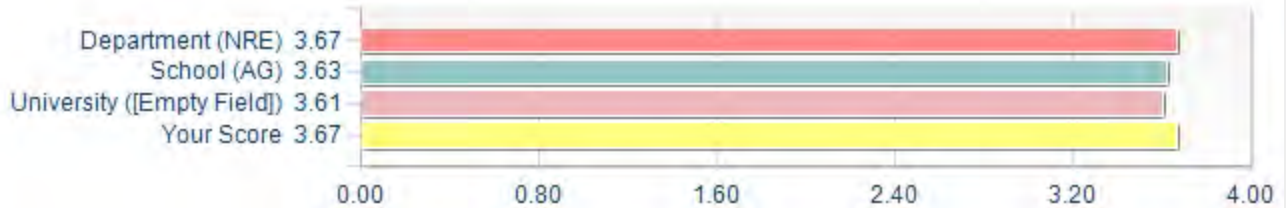
1. The instructor's objectives for the course have been made clear.



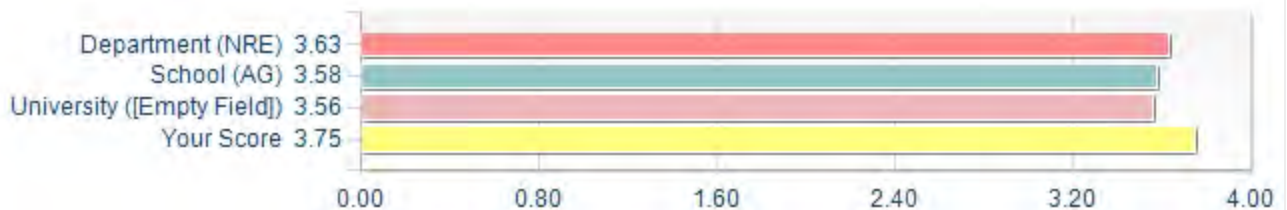
2. The instructor began and ended class on time.



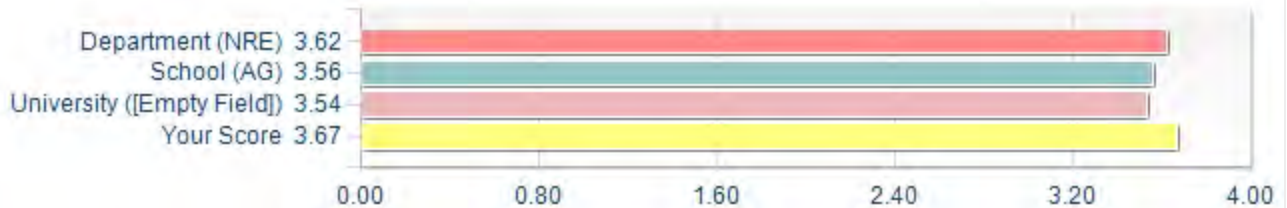
3. The instructor has current professional knowledge and abilities.



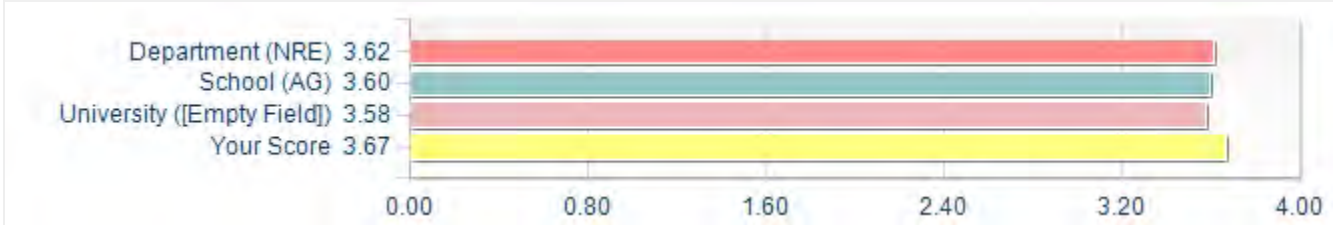
4. The instructor was well-prepared for each class.



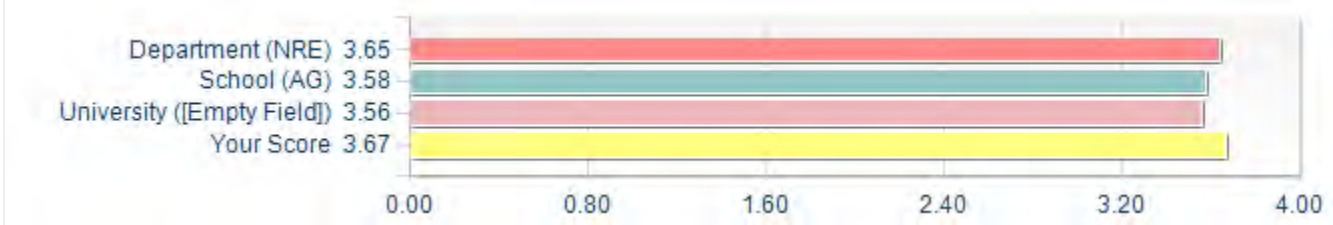
5. The instructor exhibits professional dispositions at all times.



6. The instructor seemed to enjoy teaching.



7. The instructor engages in continuous professional development.



Instructor's Communication Skills

Frequency Distribution

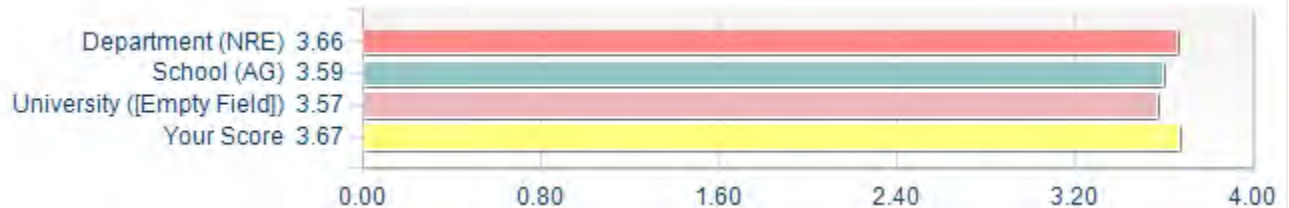
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.	9	6	3	0	0	3.67	0.50
The instructor presented the subject matter in a clear and organized manner.	8	6	2	0	0	3.75	0.46
The pace at which the instructor covered the subject matter was appropriate.	8	6	2	0	0	3.75	0.46
The instructor is a proficient and effective communicator.	9	6	3	0	0	3.67	0.50

Score Comparison

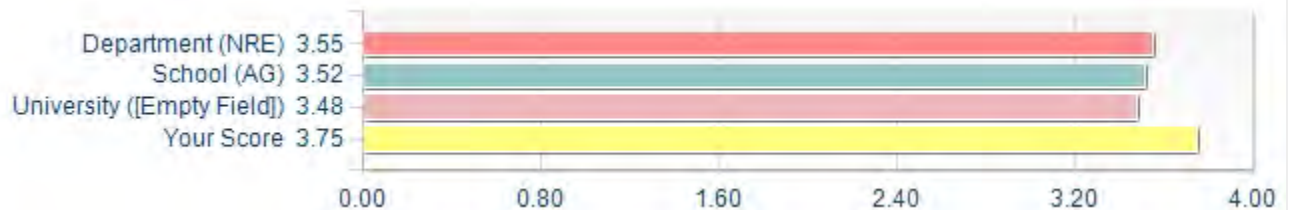
Overall



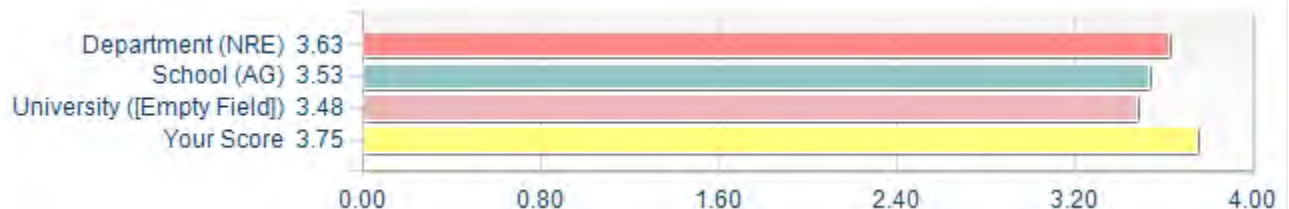
1. The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.



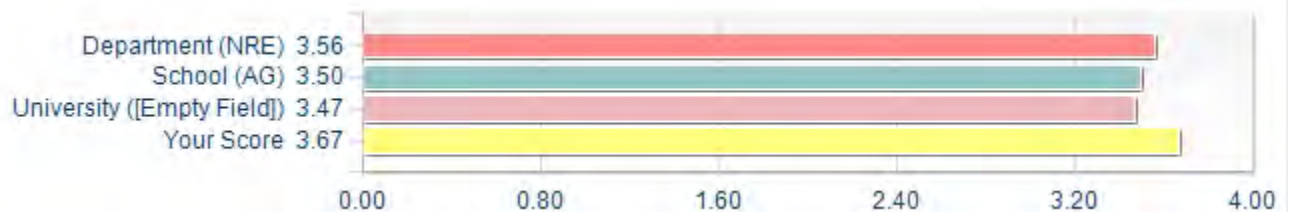
2. The instructor presented the subject matter in a clear and organized manner.



3. The pace at which the instructor covered the subject matter was appropriate.



4. The instructor is a proficient and effective communicator.



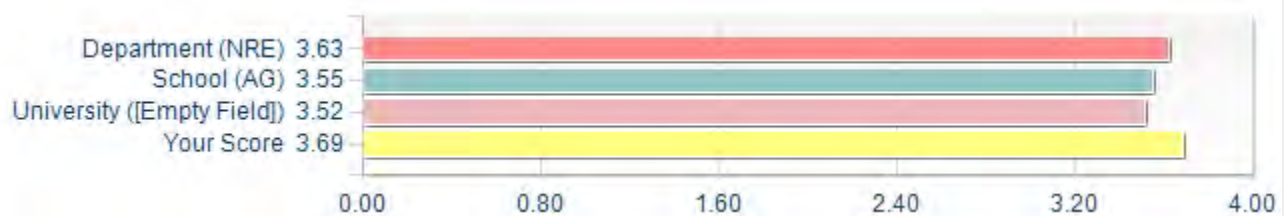
Instructor's Support of Student Learning

Frequency Distribution

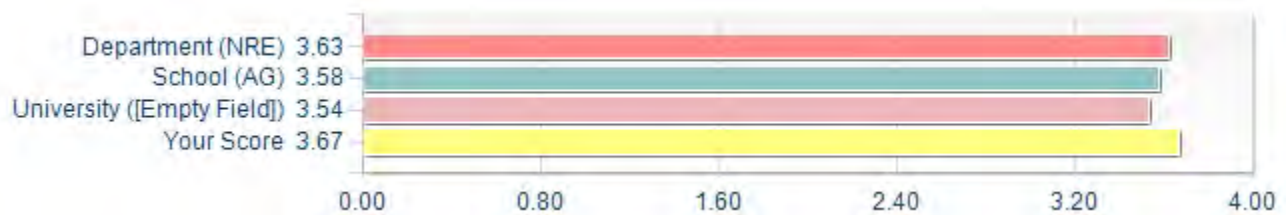
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor creates and maintains a positive and supportive learning environment.	9	6	3	0	0	3.67	0.50
The instructor effectively assesses the student learning.	9	6	3	0	0	3.67	0.50
The instructor returned tests and assignments within a reasonable amount of time.	8	6	2	0	0	3.75	0.46
The instructor effectively facilitates learning by all students.	9	6	3	0	0	3.67	0.50
The instructor was available for extra help.	9	6	3	0	0	3.67	0.50
The instructor seemed genuinely concerned with students' progress.	9	6	3	0	0	3.67	0.50
The instructor was open to students' viewpoints.	9	6	3	0	0	3.67	0.50
The instructor is available during office hours.	8	6	2	0	0	3.75	0.46

Score Comparison

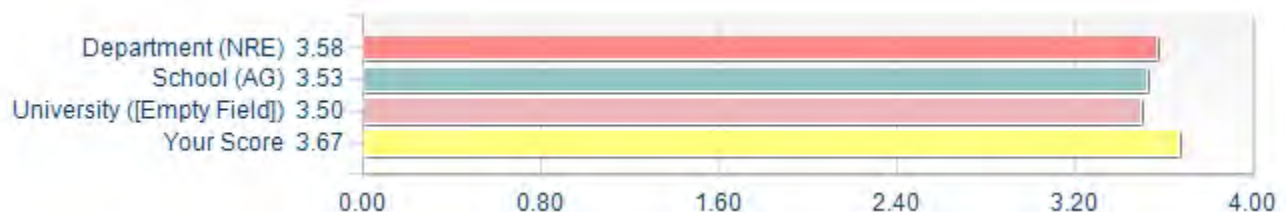
Overall



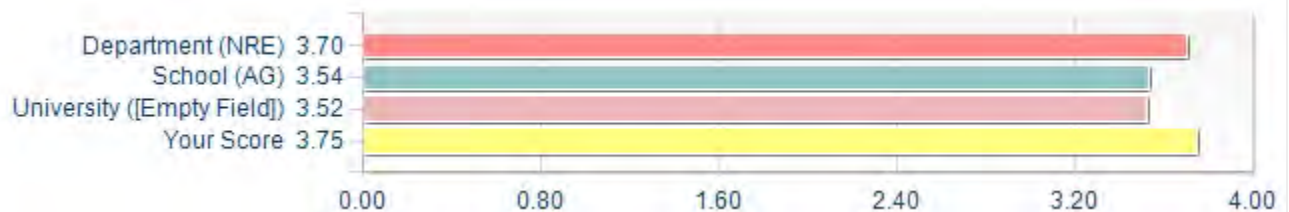
1. The instructor creates and maintains a positive and supportive learning environment.



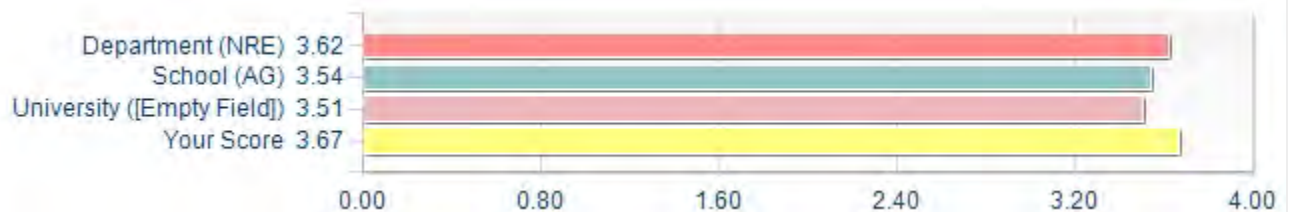
2. The instructor effectively assesses the student learning.



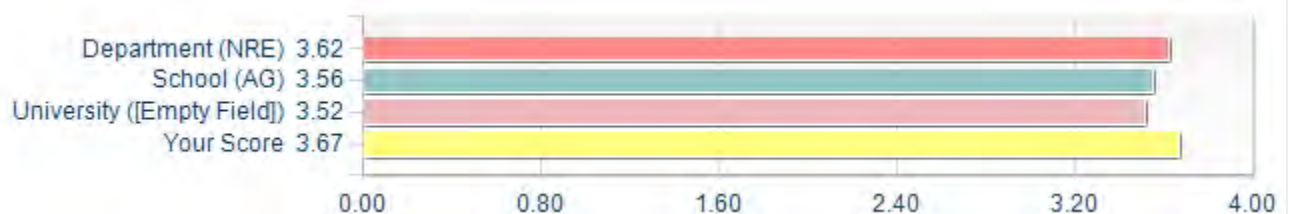
3. The instructor returned tests and assignments within a reasonable amount of time.



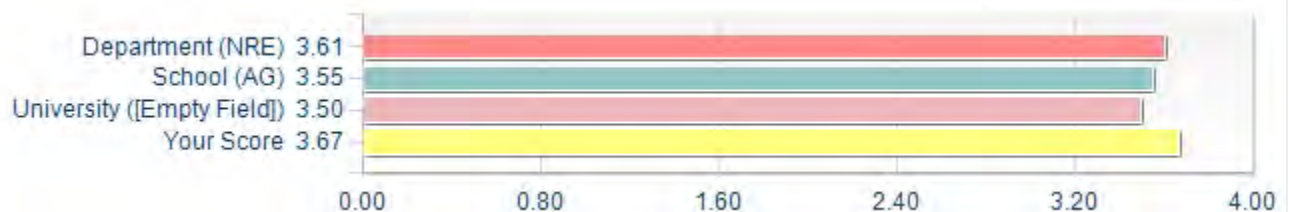
4. The instructor effectively facilitates learning by all students.



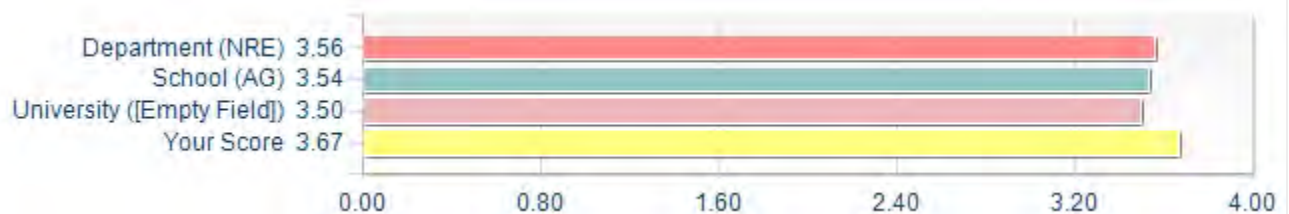
5. The instructor was available for extra help.



6. The instructor seemed genuinely concerned with students' progress.



7. The instructor was open to students' viewpoints.



8. The instructor is available during office hours.

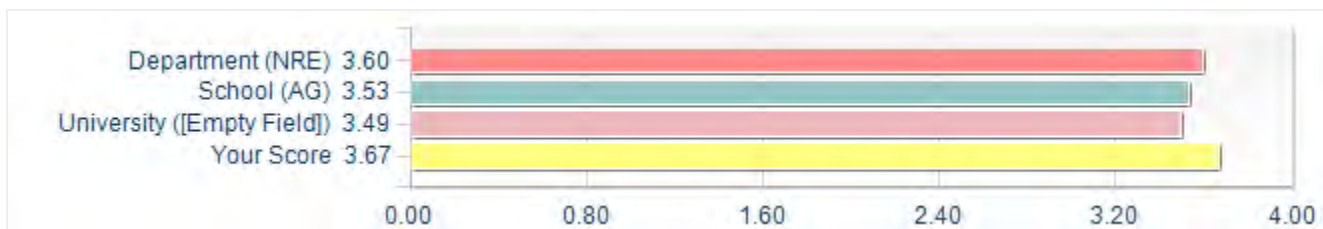


Overall Course Questions

Frequency Distribution

	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
Overall, I rate this as a good course.	9	6	3	0	0	3.67	0.50

Score Comparison



Rating scale questions, top and bottom ranks for Instructor Questions

Strengths		
1	The instructor began and ended class on time.	3.75
2	The instructor was well-prepared for each class.	3.75
3	The instructor presented the subject matter in a clear and organized manner.	3.75

Areas for Improvement		
1	The instructor's objectives for the course have been made clear.	3.67
2	The instructor has current professional knowledge and abilities.	3.67
3	The instructor exhibits professional dispositions at all times.	3.67

Please, include here any comments you might have about this course.

Comments
This is a great class



Instructor Report for Troy Bowman (Introduction to Forestry)

Spring 2017 Course Evaluation

Project Audience 21

Responses Received 4

Response Ratio 19%

Report Comments

Department	NRE
School	AG
Level	UG

Prepared by Dianne Bozeman

Creation Date Wed, Aug 16, 2017



Alabama A&M University

Course Evaluations

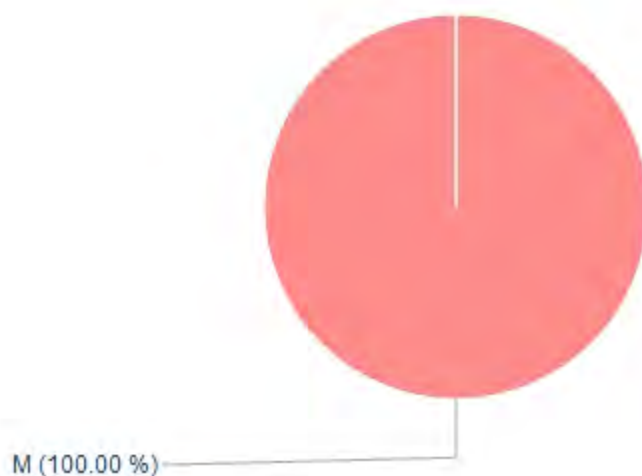
Interpretation guidelines

The value "4" represents "Strongly Agree" while the value "1" represents "Strongly Disagree".
No questions have been defined as mandatory, so students may skip answering certain questions.
An open ended comment field has been added to the end of the questionnaire

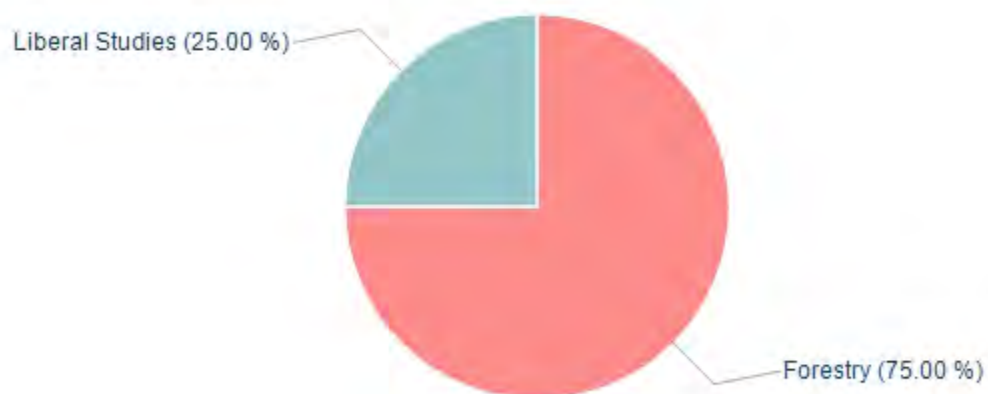
Teacher	Course
Troy Bowman	Introduction to Forestry

Course Demographics

Gender Distribution



Disicipline Breakdown



Grade Breakdown



Competency Summary

Competency	Your Score	Standard Deviation	Min	Max
Instructor's Communication Skills	3.38	+/-0.51	3.00	4.00
Instructor's Support of Student Learning	3.56	+/-0.51	3.00	4.00
Instructor's Organization and Preparation	3.63	+/-0.49	3.00	4.00
Overall, I rate this as a good course.	3.75	+/-0.50	3.00	4.00
Total Score	3.58			

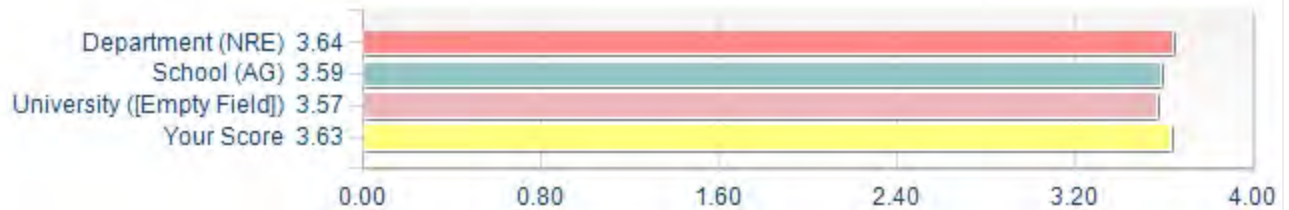
Instructor's Organization and Preparation

Frequency Distribution

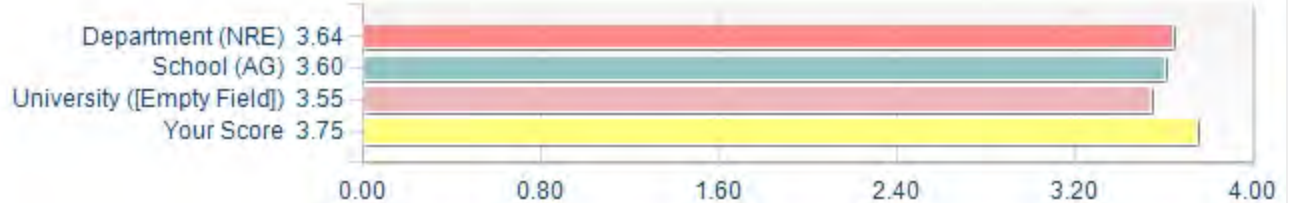
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor's objectives for the course have been made clear.	4	3	1	0	0	3.75	0.50
The instructor began and ended class on time.	3	1	2	0	0	3.33	0.58
The instructor has current professional knowledge and abilities.	3	2	1	0	0	3.67	0.58
The instructor was well-prepared for each class.	3	2	1	0	0	3.67	0.58
The instructor exhibits professional dispositions at all times.	3	2	1	0	0	3.67	0.58
The instructor seemed to enjoy teaching.	3	2	1	0	0	3.67	0.58
The instructor engages in continuous professional development.	3	2	1	0	0	3.67	0.58

Score Comparison

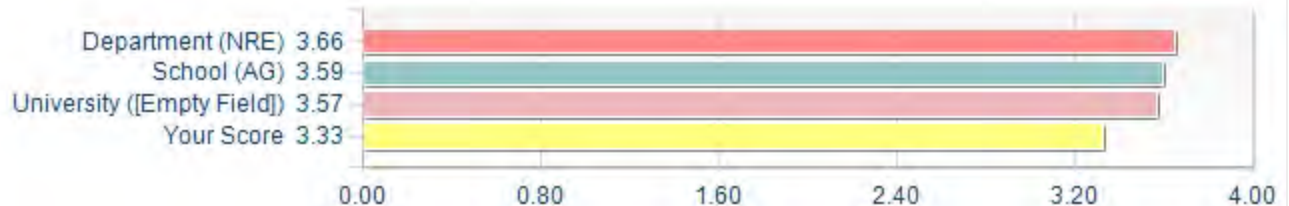
Overall



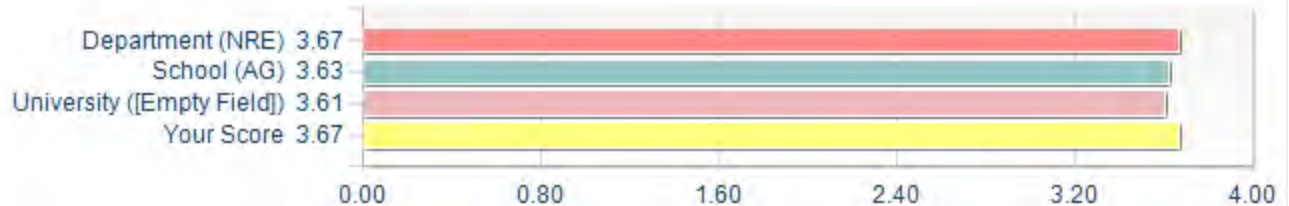
1. The instructor's objectives for the course have been made clear.



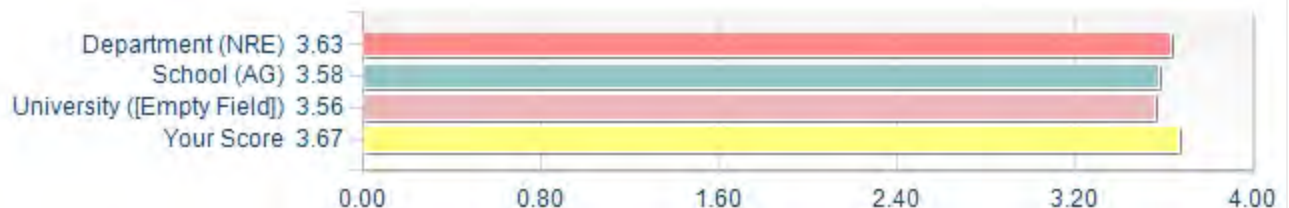
2. The instructor began and ended class on time.



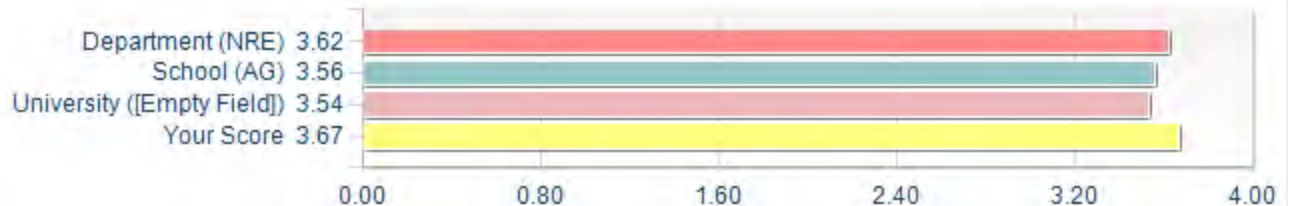
3. The instructor has current professional knowledge and abilities.



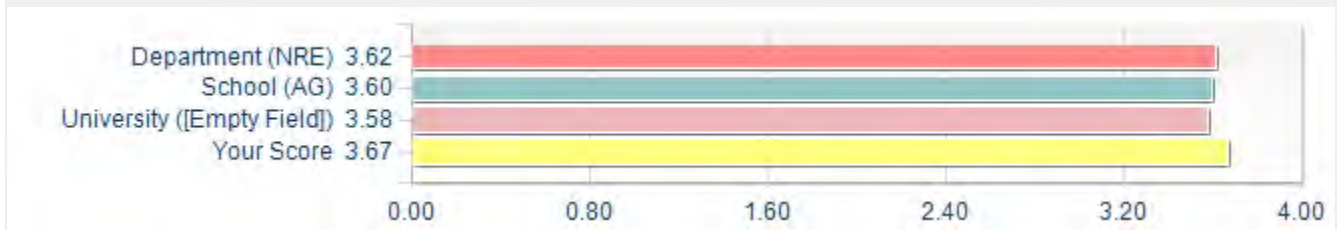
4. The instructor was well-prepared for each class.



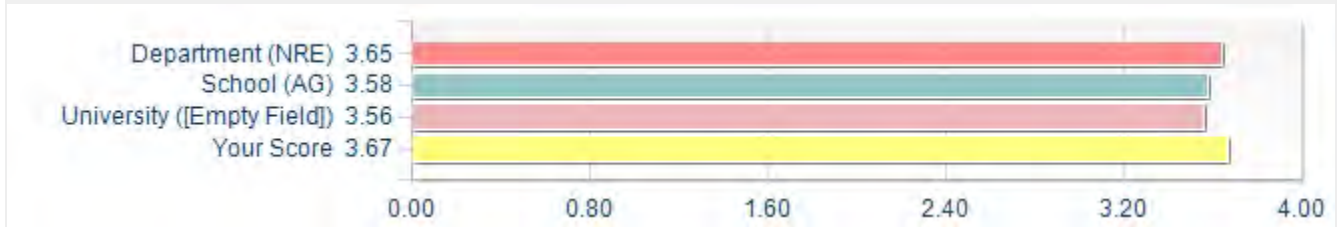
5. The instructor exhibits professional dispositions at all times.



6. The instructor seemed to enjoy teaching.



7. The instructor engages in continuous professional development.



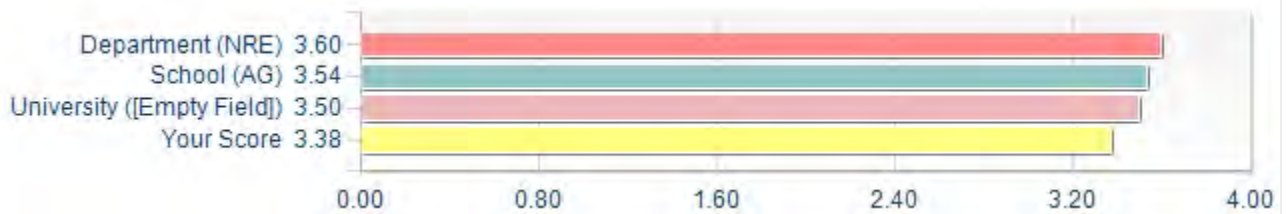
Instructor's Communication Skills

Frequency Distribution

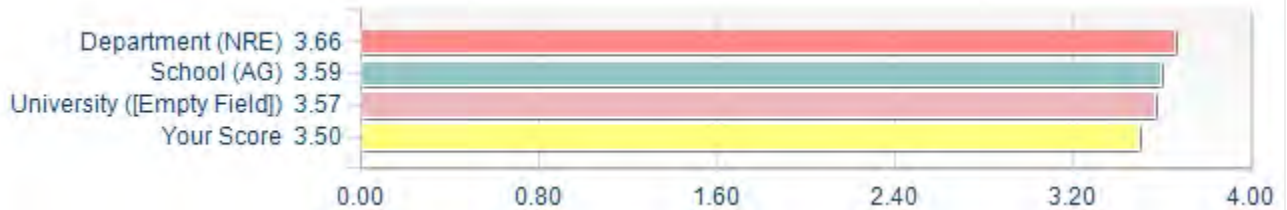
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.	4	2	2	0	0	3.50	0.58
The instructor presented the subject matter in a clear and organized manner.	3	1	2	0	0	3.33	0.58
The pace at which the instructor covered the subject matter was appropriate.	3	1	2	0	0	3.33	0.58
The instructor is a proficient and effective communicator.	3	1	2	0	0	3.33	0.58

Score Comparison

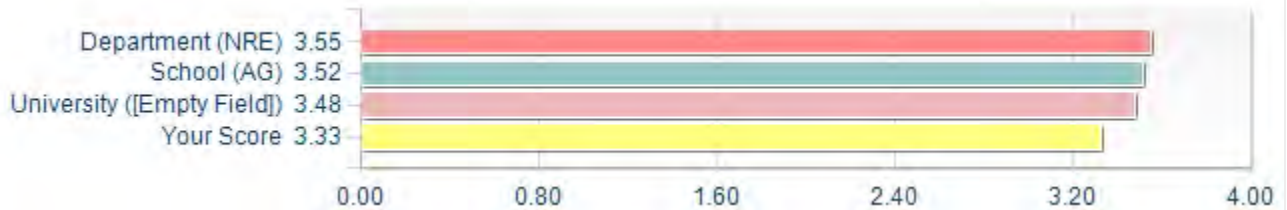
Overall



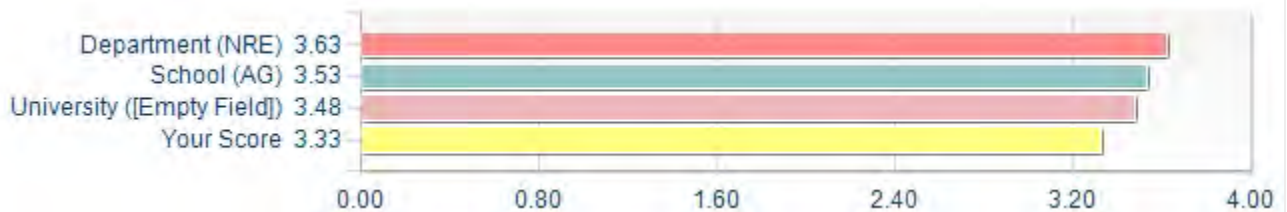
1. The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.



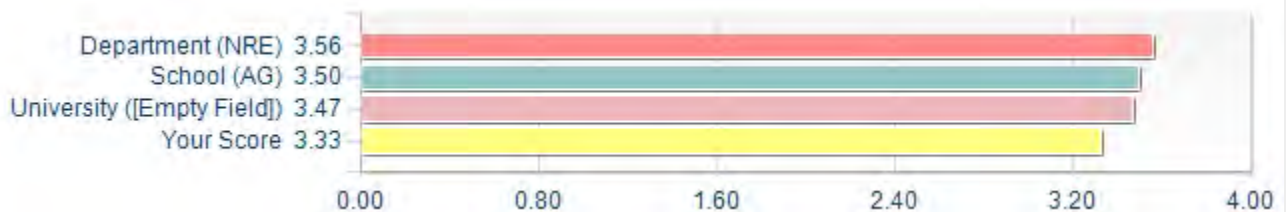
2. The instructor presented the subject matter in a clear and organized manner.



3. The pace at which the instructor covered the subject matter was appropriate.



4. The instructor is a proficient and effective communicator.



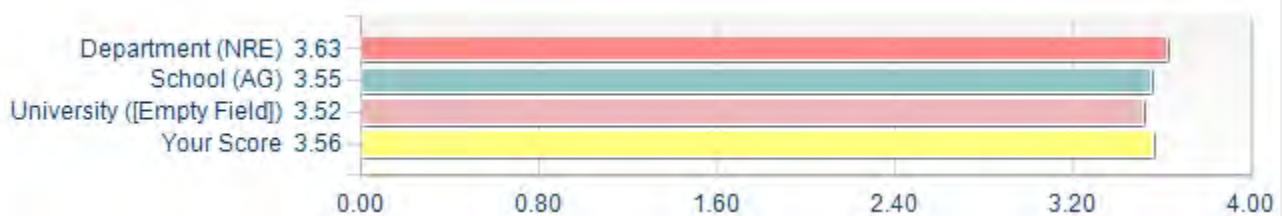
Instructor's Support of Student Learning

Frequency Distribution

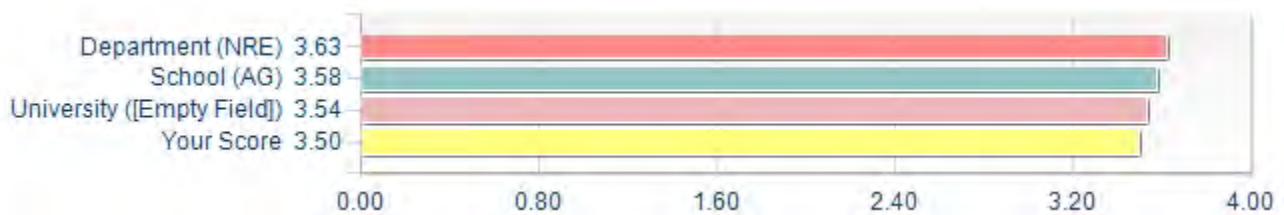
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor creates and maintains a positive and supportive learning environment.	4	2	2	0	0	3.50	0.58
The instructor effectively assesses the student learning.	3	1	2	0	0	3.33	0.58
The instructor returned tests and assignments within a reasonable amount of time.	3	2	1	0	0	3.67	0.58
The instructor effectively facilitates learning by all students.	3	2	1	0	0	3.67	0.58
The instructor was available for extra help.	3	1	2	0	0	3.33	0.58
The instructor seemed genuinely concerned with students' progress.	3	2	1	0	0	3.67	0.58
The instructor was open to students' viewpoints.	3	2	1	0	0	3.67	0.58
The instructor is available during office hours.	3	2	1	0	0	3.67	0.58

Score Comparison

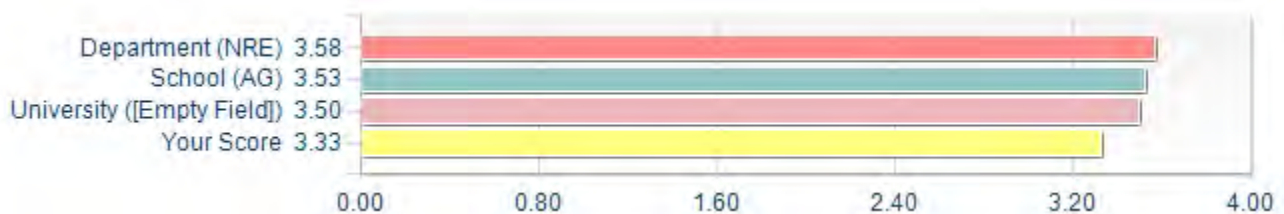
Overall



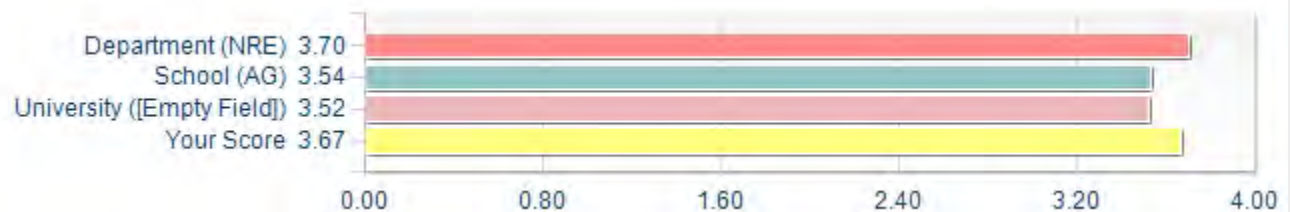
1. The instructor creates and maintains a positive and supportive learning environment.



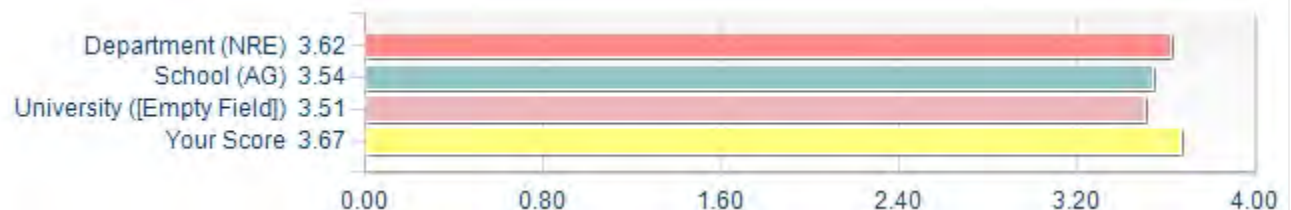
2. The instructor effectively assesses the student learning.



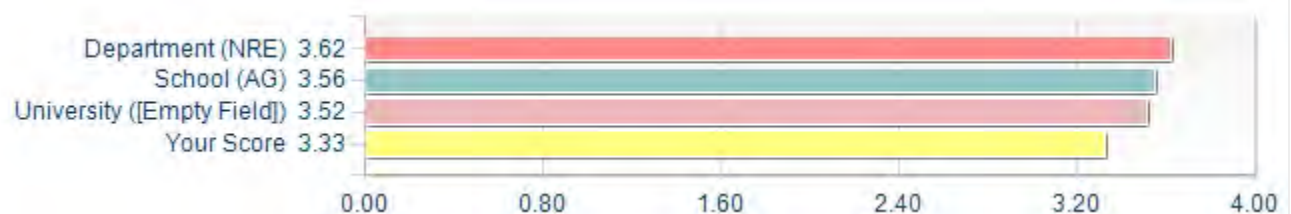
3. The instructor returned tests and assignments within a reasonable amount of time.



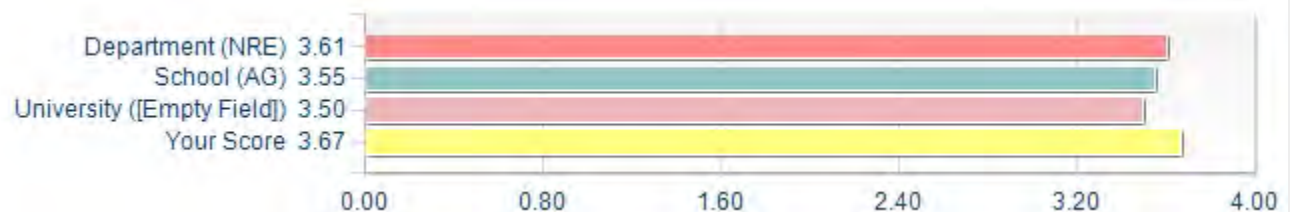
4. The instructor effectively facilitates learning by all students.



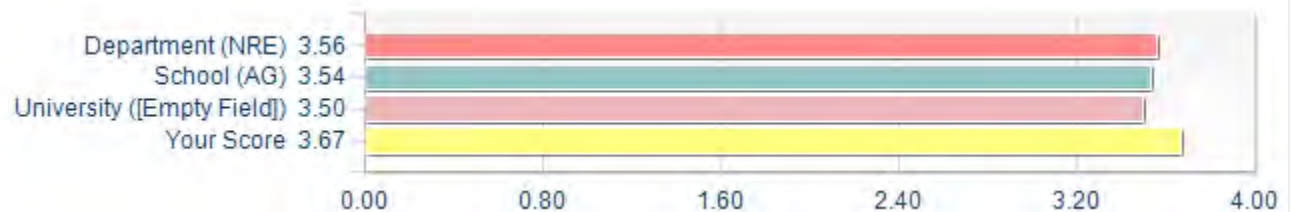
5. The instructor was available for extra help.



6. The instructor seemed genuinely concerned with students' progress.



7. The instructor was open to students' viewpoints.



8. The instructor is available during office hours.

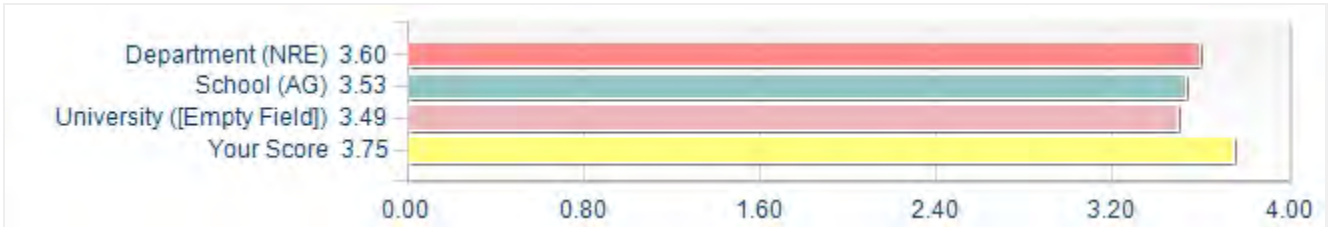


Overall Course Questions

Frequency Distribution

	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
Overall, I rate this as a good course.	4	3	1	0	0	3.75	0.50

Score Comparison



Rating scale questions, top and bottom ranks for Instructor Questions

Strengths		
1	The instructor's objectives for the course have been made clear.	3.75
2	The instructor has current professional knowledge and abilities.	3.67
3	The instructor was well-prepared for each class.	3.67

Areas for Improvement		
1	The instructor began and ended class on time.	3.33
2	The instructor presented the subject matter in a clear and organized manner.	3.33
3	The pace at which the instructor covered the subject matter was appropriate.	3.33

Please, include here any comments you might have about this course.

Comments
Troy Bowman did a wonderful job teaching this course. Wonderful teacher.



Instructor Report for Troy Bowman (Natural Resource Policy)

Spring 2017 Course Evaluation

Project Audience 3

Responses Received 1

Response Ratio 33%

Report Comments

Department	NRE
School	AG
Level	GR

Prepared by Dianne Bozeman

Creation Date Wed, Aug 16, 2017

Alabama A&M University

Course Evaluations

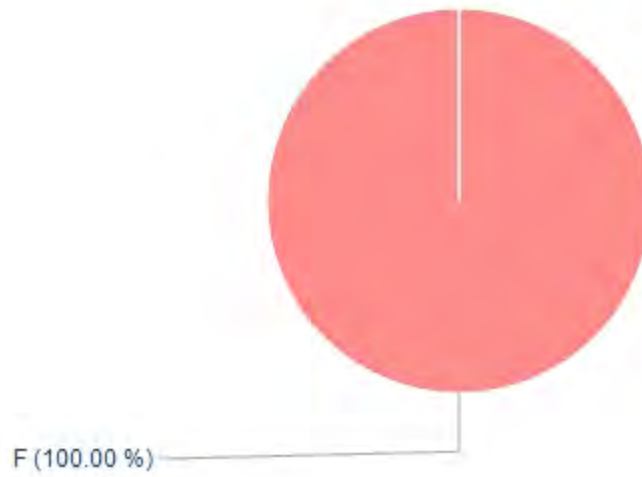
Interpretation guidelines

The value "4" represents "Strongly Agree" while the value "1" represents "Strongly Disagree".
No questions have been defined as mandatory, so students may skip answering certain questions.
An open ended comment field has been added to the end of the questionnaire

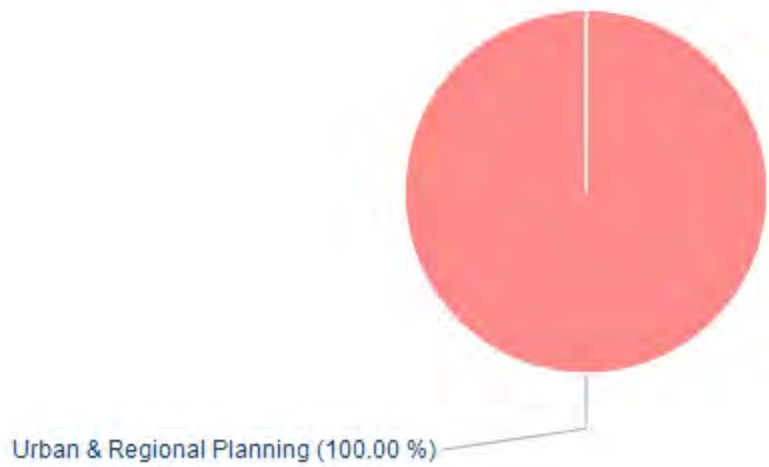
Teacher	Course
Troy Bowman	Natural Resource Policy

Course Demographics

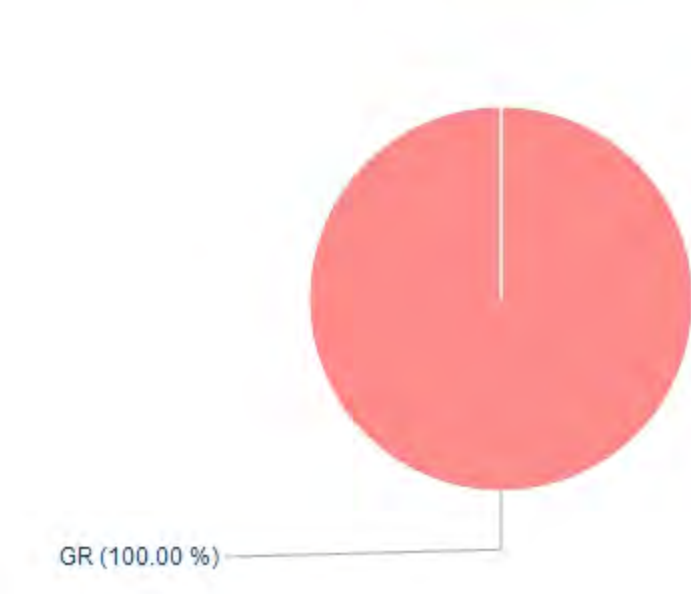
Gender Distribution



Disicipline Breakdown



Grade Breakdown



Competency Summary

Competency	Your Score	Standard Deviation	Min	Max
Instructor's Organization and Preparation	4.00	+/-0.00	4.00	4.00
Instructor's Communication Skills	4.00	+/-0.00	4.00	4.00
Instructor's Support of Student Learning	4.00	+/-0.00	4.00	4.00
Overall, I rate this as a good course.	4.00	+/-0.00	4.00	4.00
Total Score	4.00			

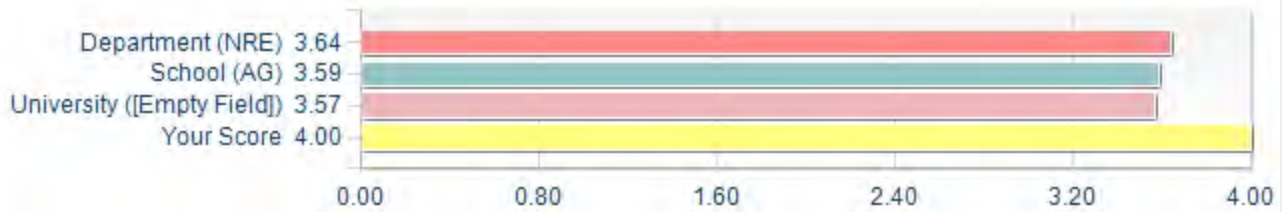
Instructor's Organization and Preparation

Frequency Distribution

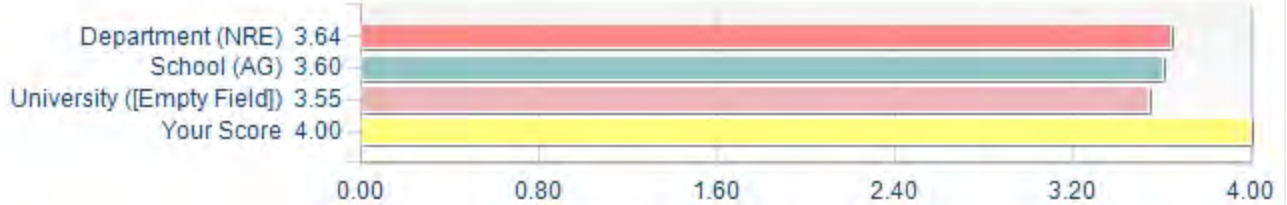
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor's objectives for the course have been made clear.	1	1	0	0	0	4.00	N/A
The instructor began and ended class on time.	1	1	0	0	0	4.00	N/A
The instructor has current professional knowledge and abilities.	1	1	0	0	0	4.00	N/A
The instructor was well-prepared for each class.	1	1	0	0	0	4.00	N/A
The instructor exhibits professional dispositions at all times.	1	1	0	0	0	4.00	N/A
The instructor seemed to enjoy teaching.	1	1	0	0	0	4.00	N/A
The instructor engages in continuous professional development.	1	1	0	0	0	4.00	N/A

Score Comparison

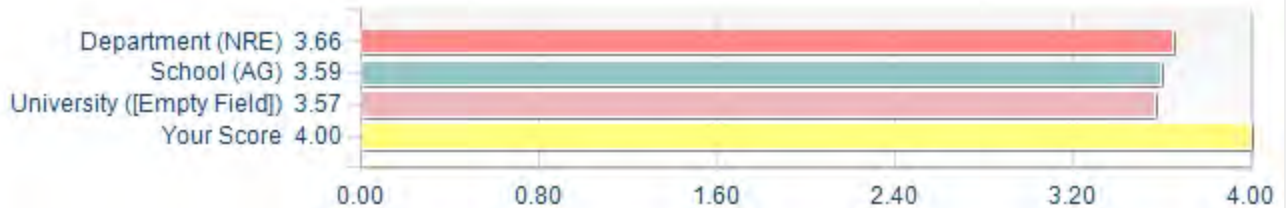
Overall



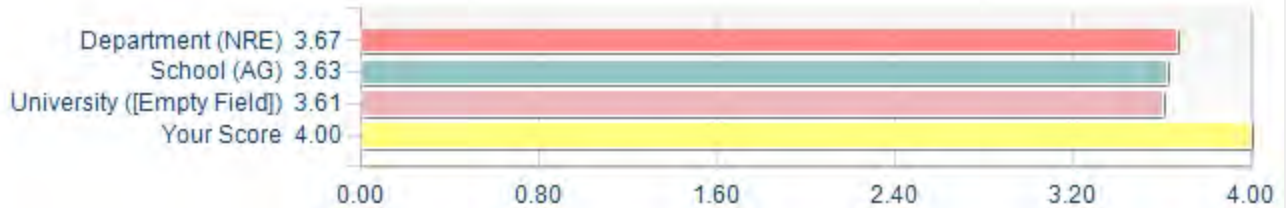
1. The instructor's objectives for the course have been made clear.



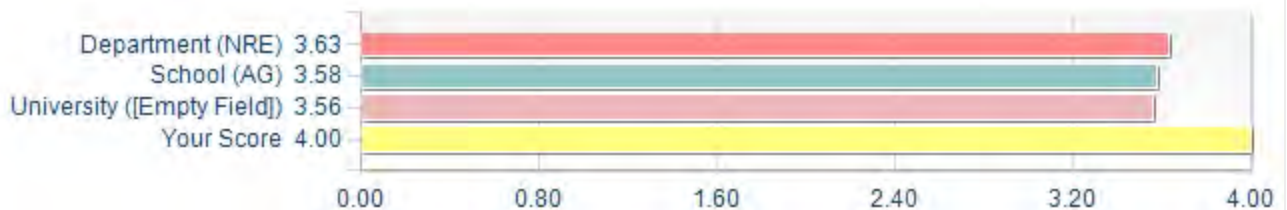
2. The instructor began and ended class on time.



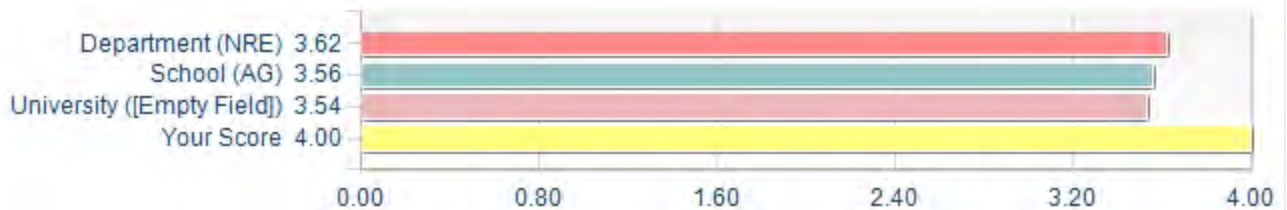
3. The instructor has current professional knowledge and abilities.



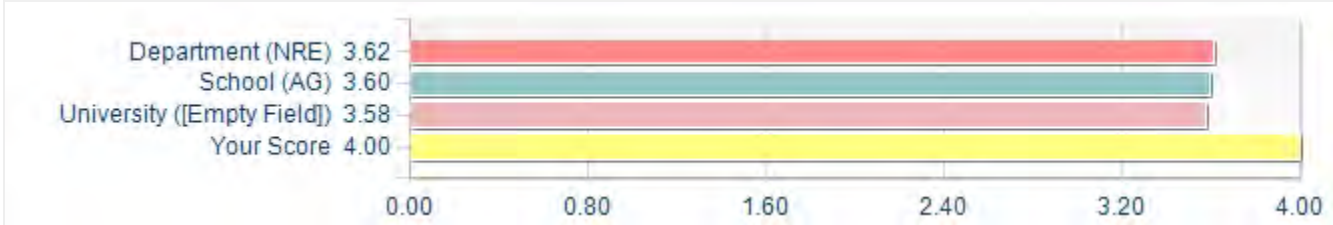
4. The instructor was well-prepared for each class.



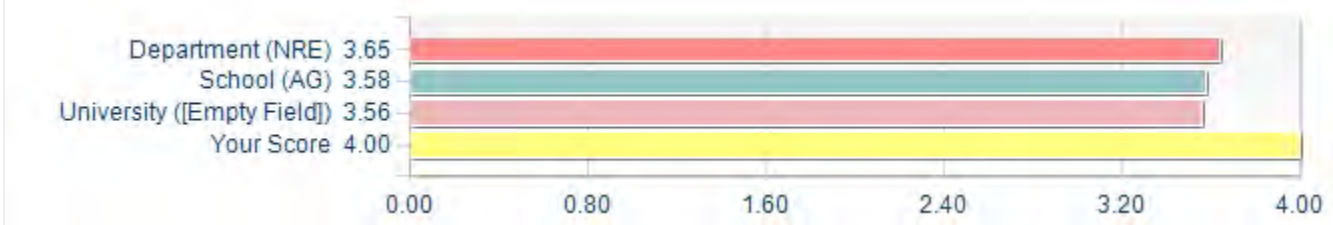
5. The instructor exhibits professional dispositions at all times.



6. The instructor seemed to enjoy teaching.



7. The instructor engages in continuous professional development.



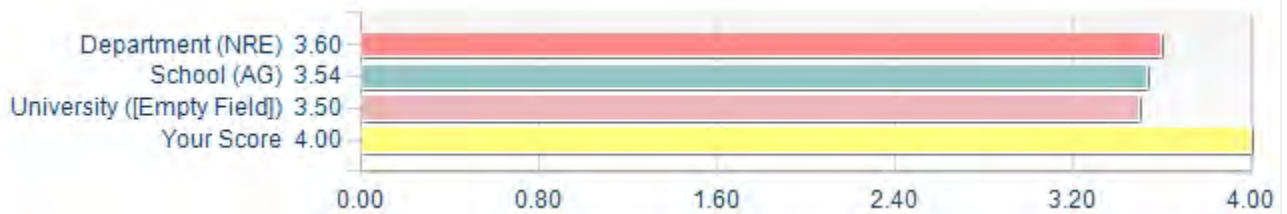
Instructor's Communication Skills

Frequency Distribution

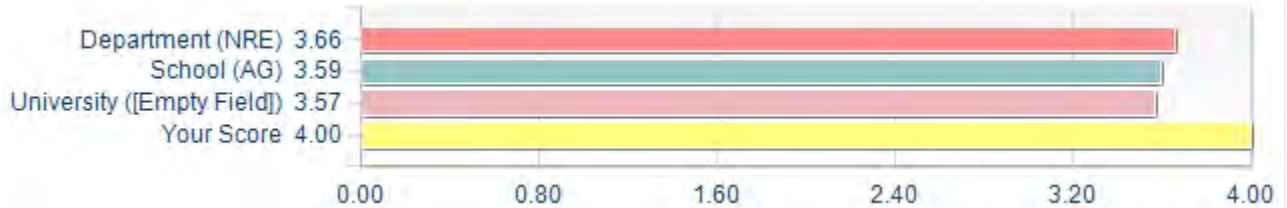
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.	1	1	0	0	0	4.00	N/A
The instructor presented the subject matter in a clear and organized manner.	1	1	0	0	0	4.00	N/A
The pace at which the instructor covered the subject matter was appropriate.	1	1	0	0	0	4.00	N/A
The instructor is a proficient and effective communicator.	1	1	0	0	0	4.00	N/A

Score Comparison

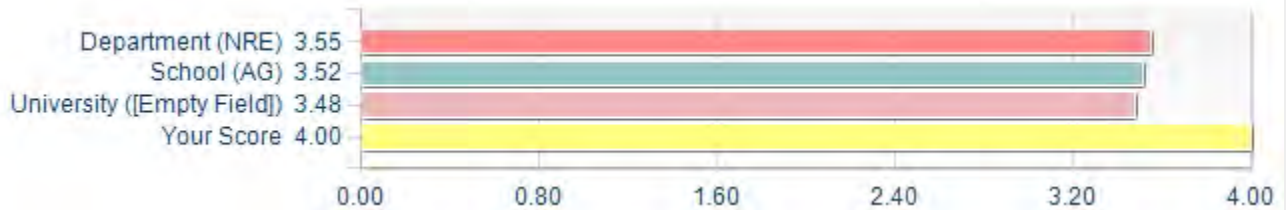
Overall



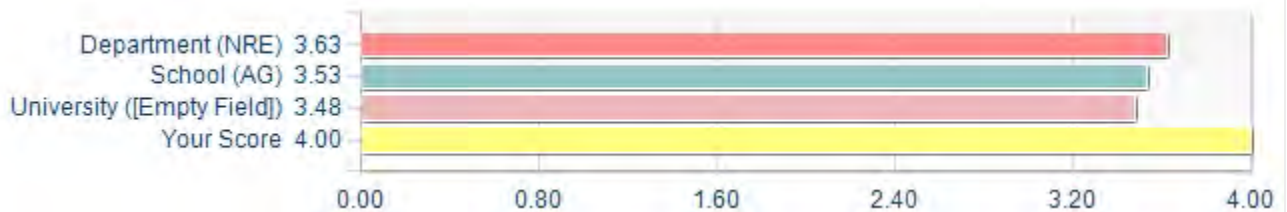
1. The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.



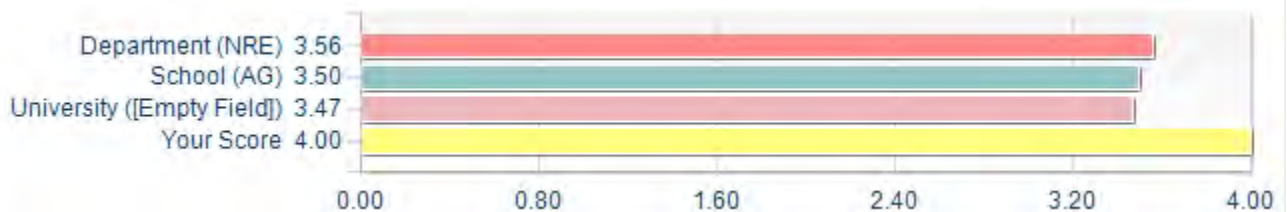
2. The instructor presented the subject matter in a clear and organized manner.



3. The pace at which the instructor covered the subject matter was appropriate.



4. The instructor is a proficient and effective communicator.



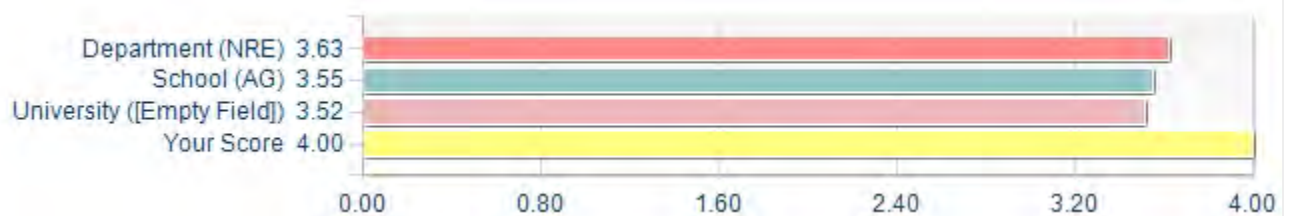
Instructor's Support of Student Learning

Frequency Distribution

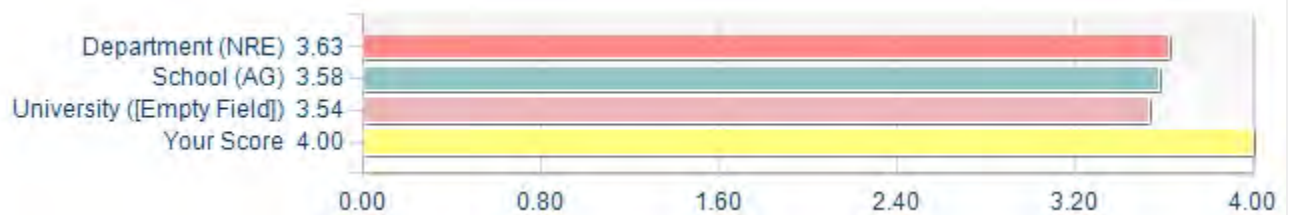
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor creates and maintains a positive and supportive learning environment.	1	1	0	0	0	4.00	N/A
The instructor effectively assesses the student learning.	1	1	0	0	0	4.00	N/A
The instructor returned tests and assignments within a reasonable amount of time.	1	1	0	0	0	4.00	N/A
The instructor effectively facilitates learning by all students.	1	1	0	0	0	4.00	N/A
The instructor was available for extra help.	1	1	0	0	0	4.00	N/A
The instructor seemed genuinely concerned with students' progress.	1	1	0	0	0	4.00	N/A
The instructor was open to students' viewpoints.	1	1	0	0	0	4.00	N/A
The instructor is available during office hours.	1	1	0	0	0	4.00	N/A

Score Comparison

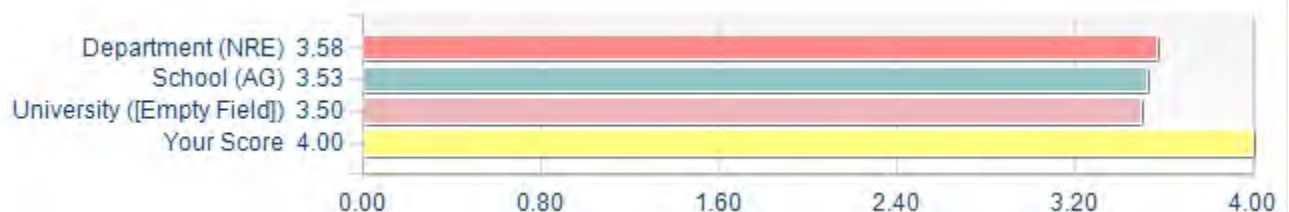
Overall



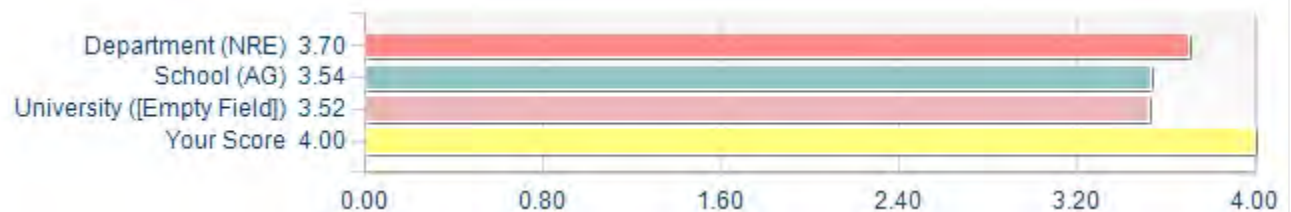
1. The instructor creates and maintains a positive and supportive learning environment.



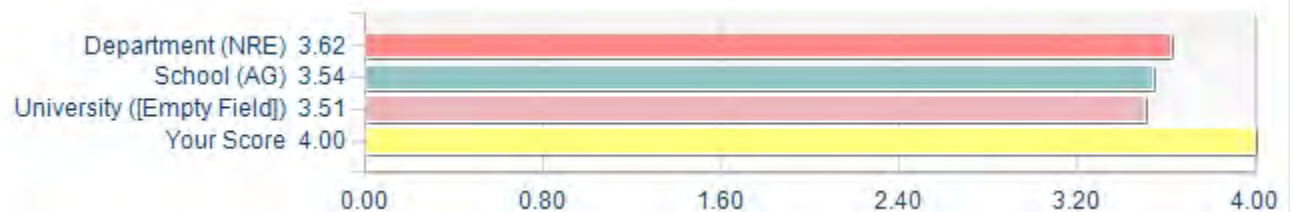
2. The instructor effectively assesses the student learning.



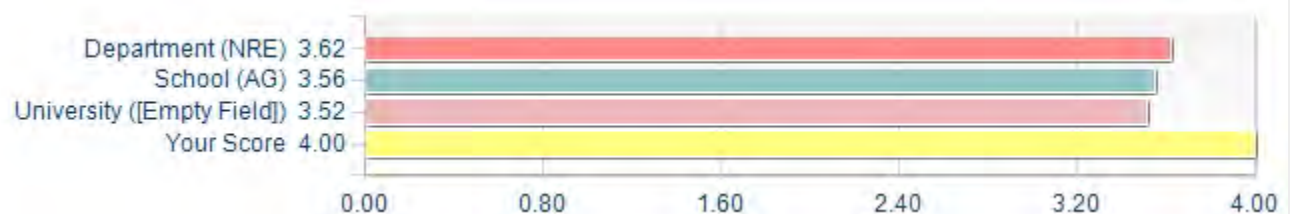
3. The instructor returned tests and assignments within a reasonable amount of time.



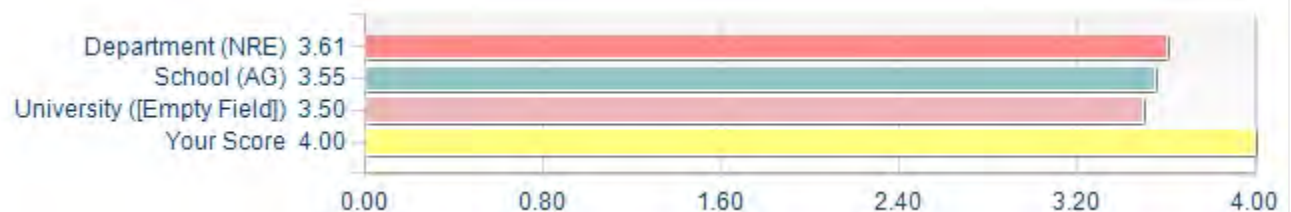
4. The instructor effectively facilitates learning by all students.



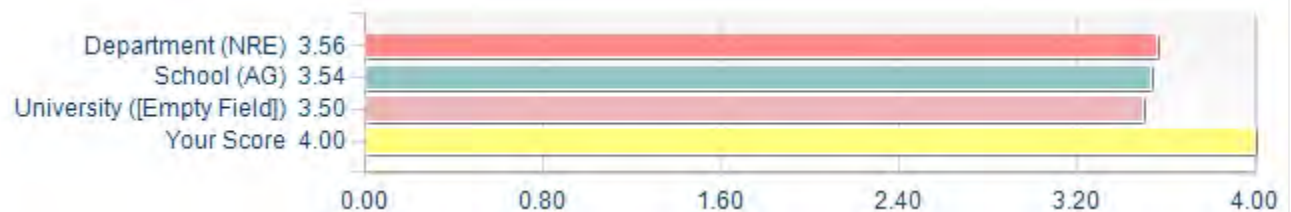
5. The instructor was available for extra help.



6. The instructor seemed genuinely concerned with students' progress.



7. The instructor was open to students' viewpoints.



8. The instructor is available during office hours.



Overall Course Questions

Frequency Distribution

	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
Overall, I rate this as a good course.	1	1	0	0	0	4.00	N/A

Score Comparison



Rating scale questions, top and bottom ranks for Instructor Questions

Strengths		
1	The instructor's objectives for the course have been made clear.	4.00
2	The instructor began and ended class on time.	4.00
3	The instructor has current professional knowledge and abilities.	4.00

Areas for Improvement		
1	The instructor's objectives for the course have been made clear.	4.00
2	The instructor began and ended class on time.	4.00
3	The instructor has current professional knowledge and abilities.	4.00

Please, include here any comments you might have about this course.

Comments
I absolutely loved my professors class! He made learning policy fun!



Instructor Report for Troy Bowman (Natural Resource Policy)

Spring 2017 Course Evaluation

Project Audience 14

Responses Received 10

Response Ratio 71%

Report Comments

Department	NRE
School	AG
Level	UG

Prepared by Dianne Bozeman

Creation Date Wed, Aug 16, 2017



Alabama A&M University

Course Evaluations

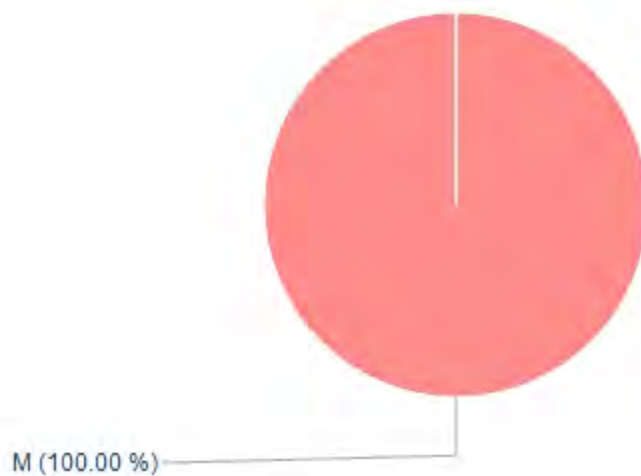
Interpretation guidelines

The value "4" represents "Strongly Agree" while the value "1" represents "Strongly Disagree".
No questions have been defined as mandatory, so students may skip answering certain questions.
An open ended comment field has been added to the end of the questionnaire

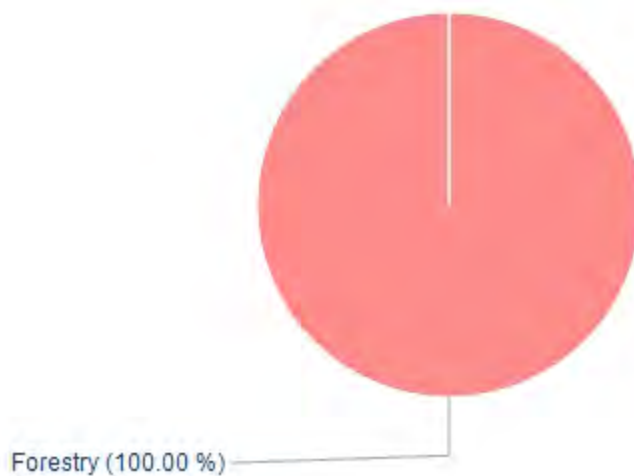
Teacher	Course
Troy Bowman	Natural Resource Policy

Course Demographics

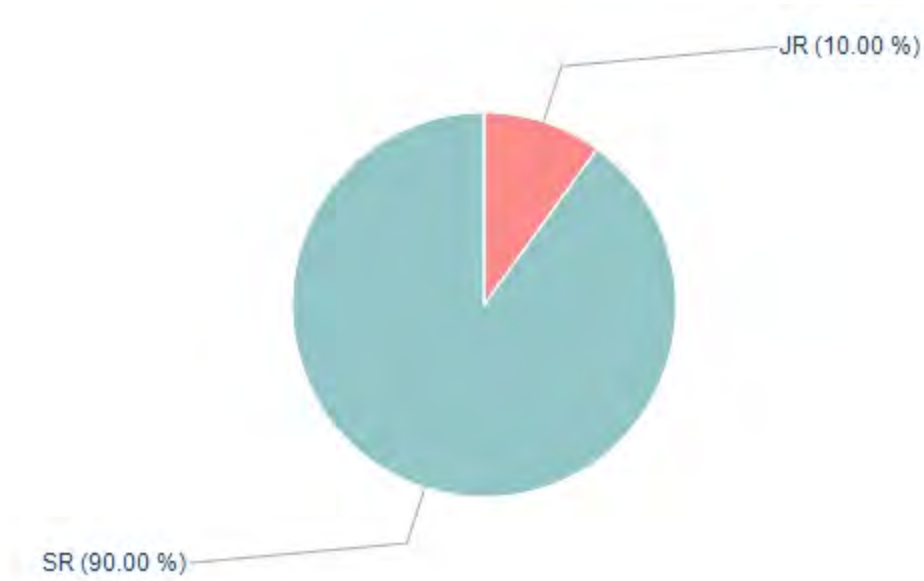
Gender Distribution



Disicipline Breakdown



Grade Breakdown



Competency Summary

Competency	Your Score	Standard Deviation	Min	Max
Instructor's Support of Student Learning	3.80	+/-0.40	3.00	4.00
Overall, I rate this as a good course.	3.80	+/-0.42	3.00	4.00
Instructor's Organization and Preparation	3.81	+/-0.39	3.00	4.00
Instructor's Communication Skills	3.83	+/-0.38	3.00	4.00
Total Score	3.81			

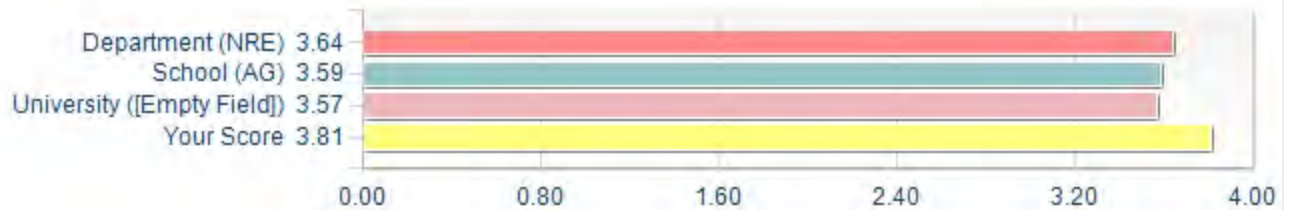
Instructor's Organization and Preparation

Frequency Distribution

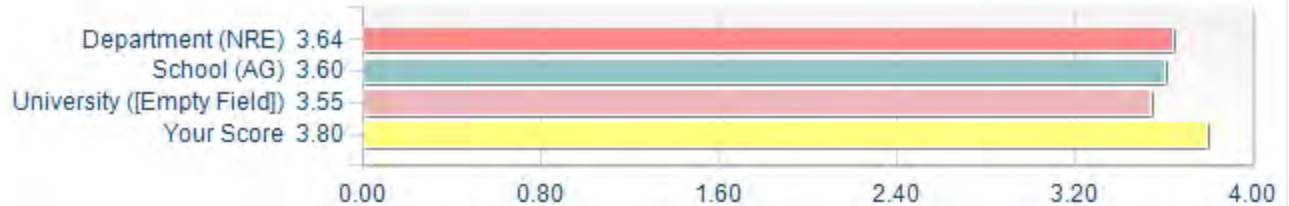
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor's objectives for the course have been made clear.	10	8	2	0	0	3.80	0.42
The instructor began and ended class on time.	10	8	2	0	0	3.80	0.42
The instructor has current professional knowledge and abilities.	10	8	2	0	0	3.80	0.42
The instructor was well-prepared for each class.	10	8	2	0	0	3.80	0.42
The instructor exhibits professional dispositions at all times.	10	8	2	0	0	3.80	0.42
The instructor seemed to enjoy teaching.	10	9	1	0	0	3.90	0.32
The instructor engages in continuous professional development.	10	8	2	0	0	3.80	0.42

Score Comparison

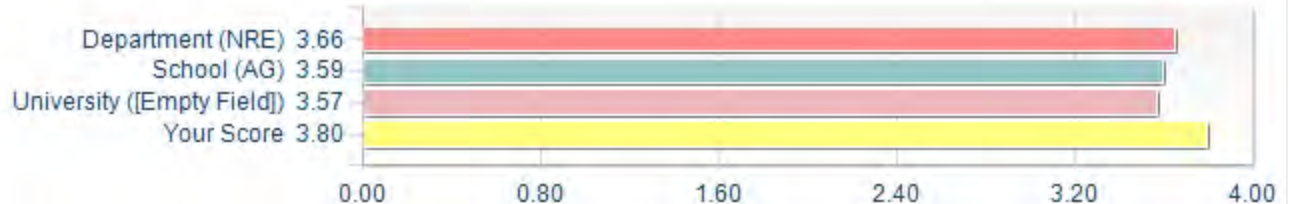
Overall



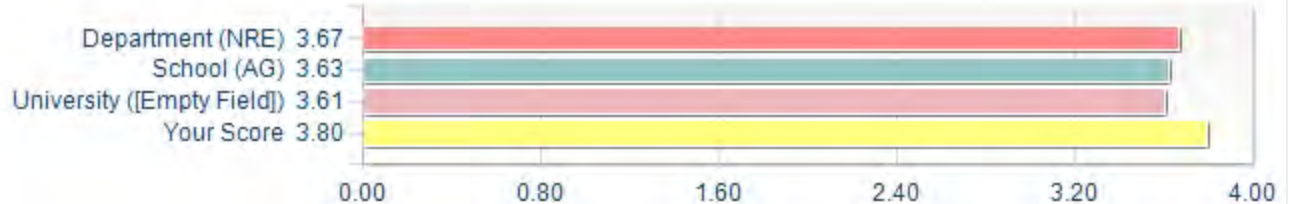
1. The instructor's objectives for the course have been made clear.



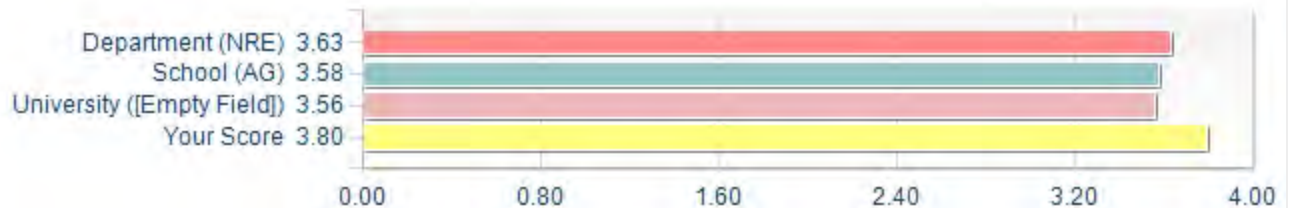
2. The instructor began and ended class on time.



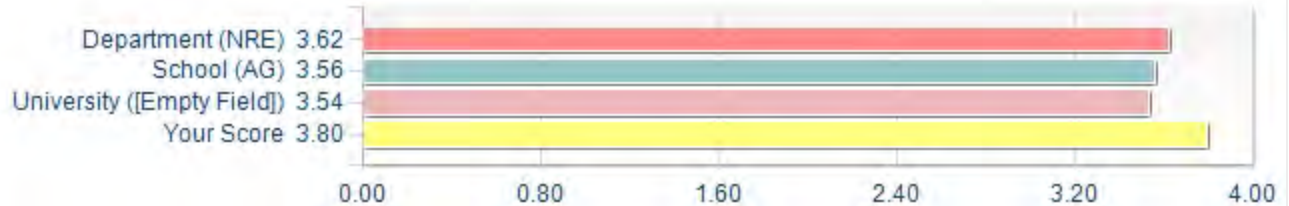
3. The instructor has current professional knowledge and abilities.



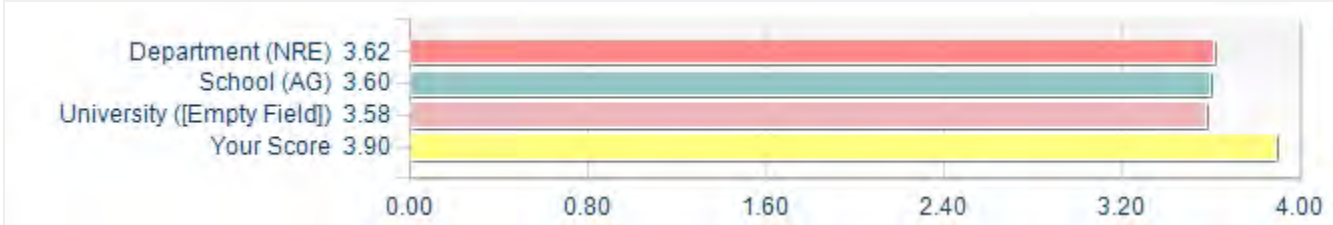
4. The instructor was well-prepared for each class.



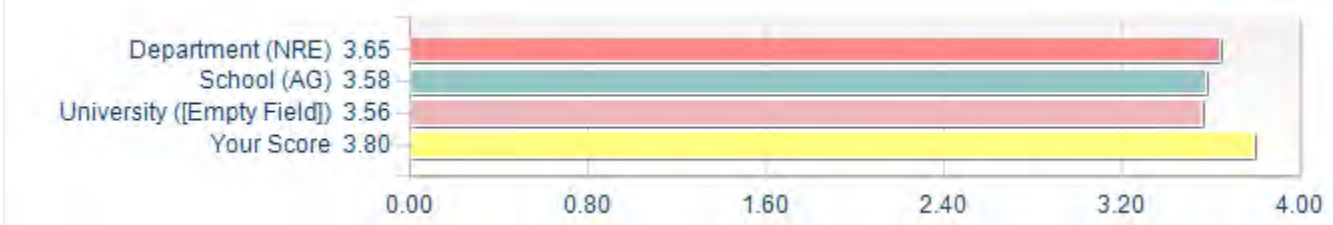
5. The instructor exhibits professional dispositions at all times.



6. The instructor seemed to enjoy teaching.



7. The instructor engages in continuous professional development.



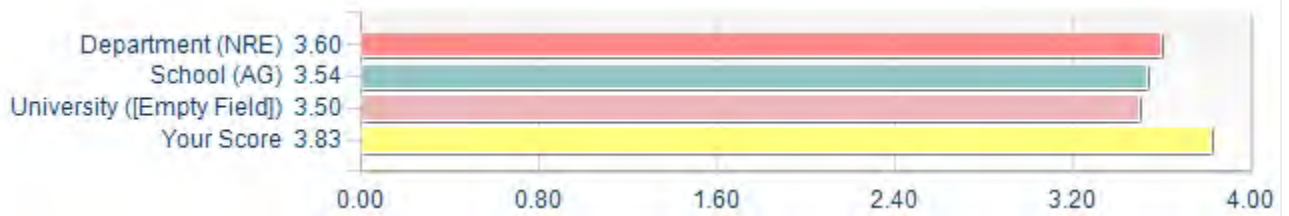
Instructor's Communication Skills

Frequency Distribution

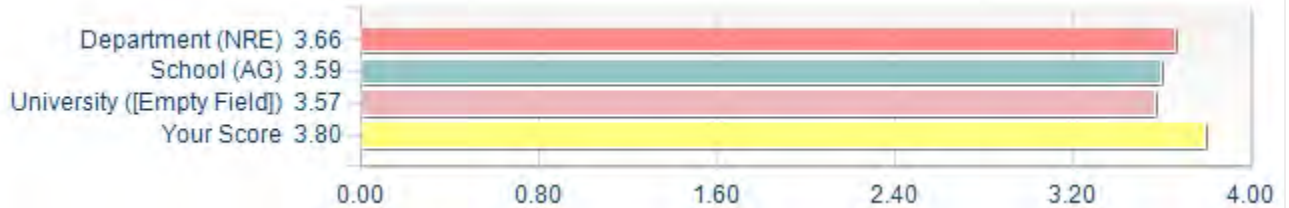
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.	10	8	2	0	0	3.80	0.42
The instructor presented the subject matter in a clear and organized manner.	10	8	2	0	0	3.80	0.42
The pace at which the instructor covered the subject matter was appropriate.	10	9	1	0	0	3.90	0.32
The instructor is a proficient and effective communicator.	10	8	2	0	0	3.80	0.42

Score Comparison

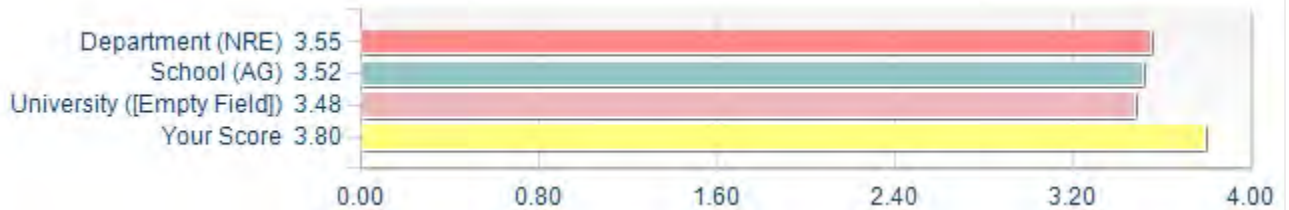
Overall



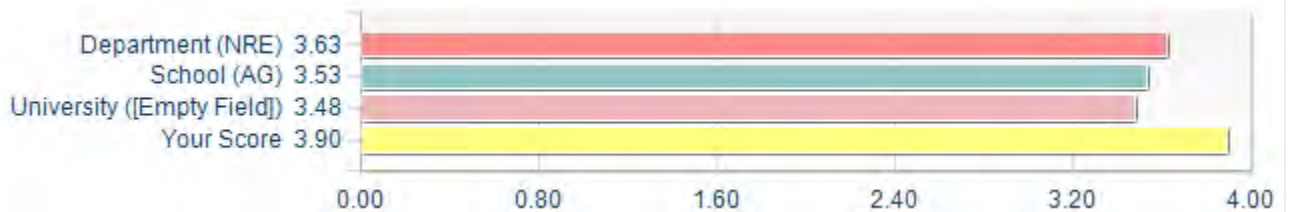
1. The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.



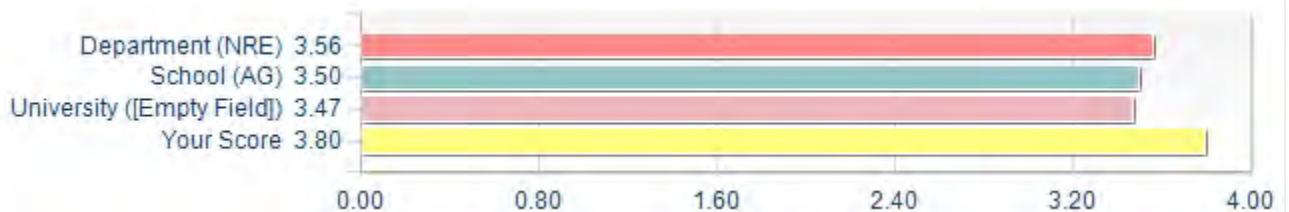
2. The instructor presented the subject matter in a clear and organized manner.



3. The pace at which the instructor covered the subject matter was appropriate.



4. The instructor is a proficient and effective communicator.



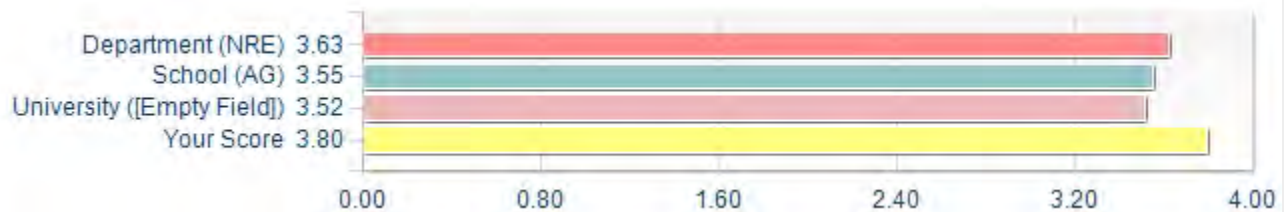
Instructor's Support of Student Learning

Frequency Distribution

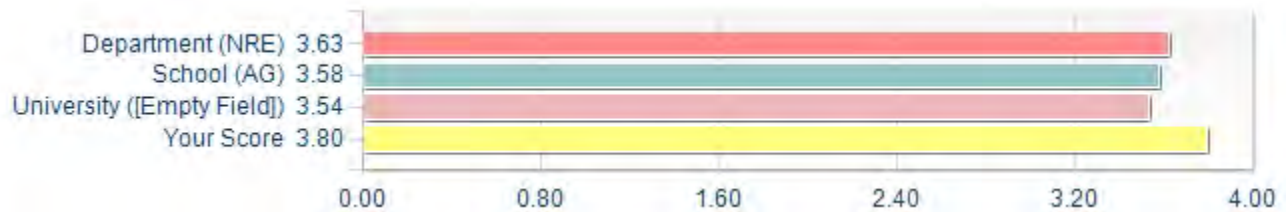
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor creates and maintains a positive and supportive learning environment.	10	8	2	0	0	3.80	0.42
The instructor effectively assesses the student learning.	10	8	2	0	0	3.80	0.42
The instructor returned tests and assignments within a reasonable amount of time.	10	8	2	0	0	3.80	0.42
The instructor effectively facilitates learning by all students.	10	8	2	0	0	3.80	0.42
The instructor was available for extra help.	10	8	2	0	0	3.80	0.42
The instructor seemed genuinely concerned with students' progress.	10	8	2	0	0	3.80	0.42
The instructor was open to students' viewpoints.	10	8	2	0	0	3.80	0.42
The instructor is available during office hours.	10	8	2	0	0	3.80	0.42

Score Comparison

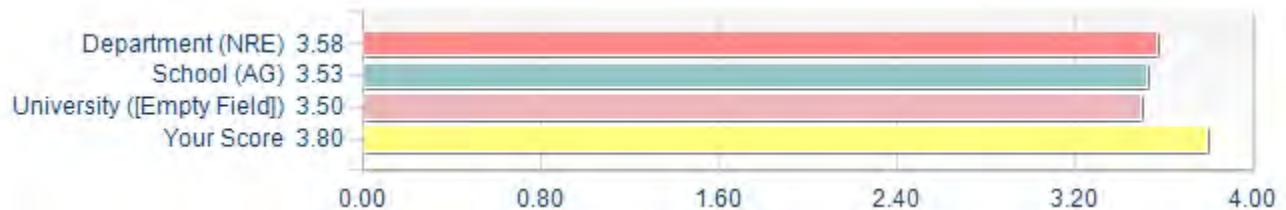
Overall



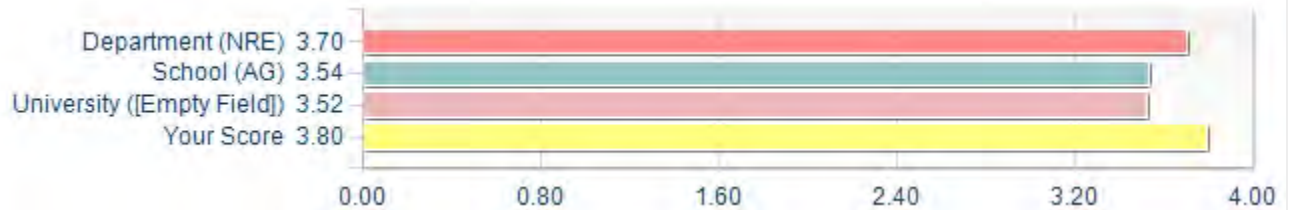
1. The instructor creates and maintains a positive and supportive learning environment.



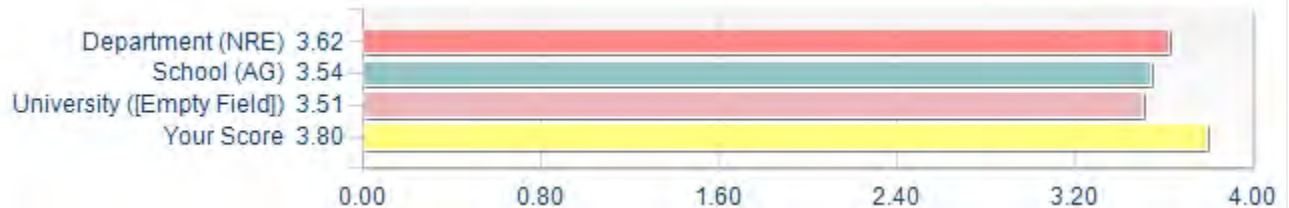
2. The instructor effectively assesses the student learning.



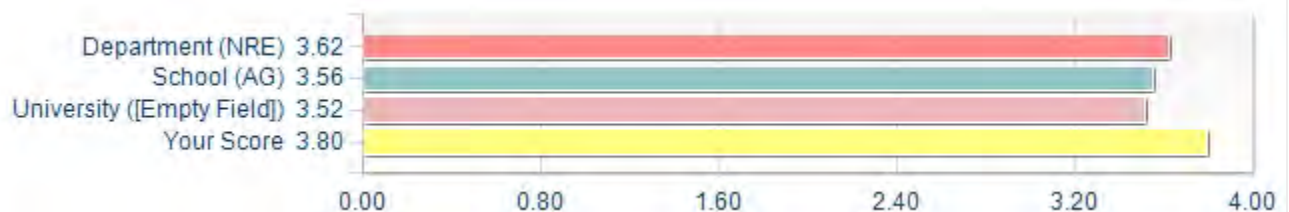
3. The instructor returned tests and assignments within a reasonable amount of time.



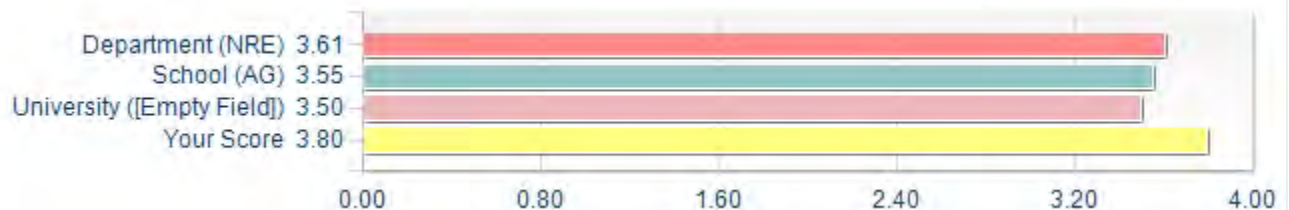
4. The instructor effectively facilitates learning by all students.



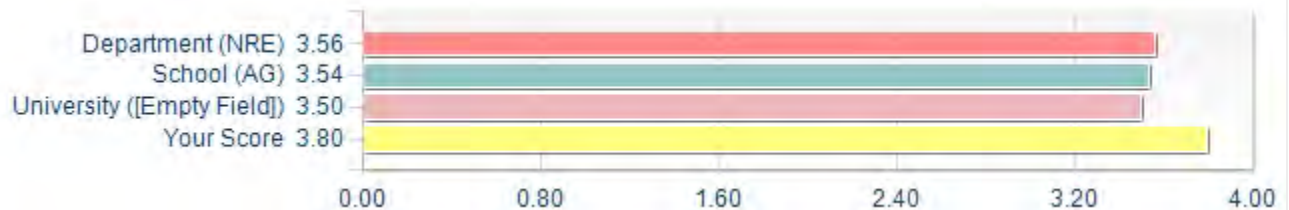
5. The instructor was available for extra help.



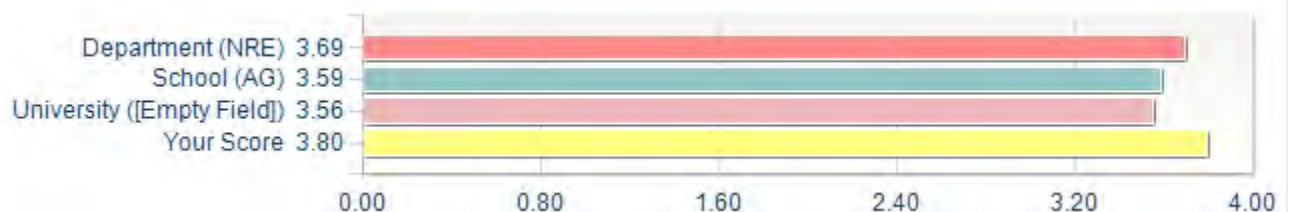
6. The instructor seemed genuinely concerned with students' progress.



7. The instructor was open to students' viewpoints.



8. The instructor is available during office hours.

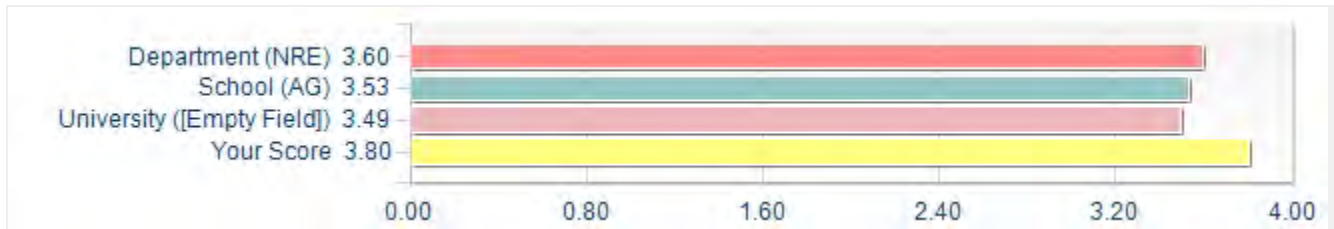


Overall Course Questions

Frequency Distribution

	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
Overall, I rate this as a good course.	10	8	2	0	0	3.80	0.42

Score Comparison



Rating scale questions, top and bottom ranks for Instructor Questions

Strengths		
1	The instructor seemed to enjoy teaching.	3.90
2	The pace at which the instructor covered the subject matter was appropriate.	3.90
3	The instructor's objectives for the course have been made clear.	3.80

Areas for Improvement		
1	The instructor's objectives for the course have been made clear.	3.80
2	The instructor began and ended class on time.	3.80
3	The instructor has current professional knowledge and abilities.	3.80

Please, include here any comments you might have about this course.

Comments
This teacher has done a phenomenal since he has been brought into the department. Not only was he an integral part of my learning last semester his role has continued to improve. I am hopeful that future students in our department will learn and recieve vital help from this professor.
Great
Great professor!!



Instructor Report for Luben Dimov (Silviculture)

Spring 2017 Course Evaluation

Project Audience 19

Responses Received 14

Response Ratio 74%

Report Comments

Department	NRE
School	AG
Level	UG

Prepared by Dianne Bozeman

Creation Date Wed, Aug 16, 2017



Alabama A&M University

Course Evaluations

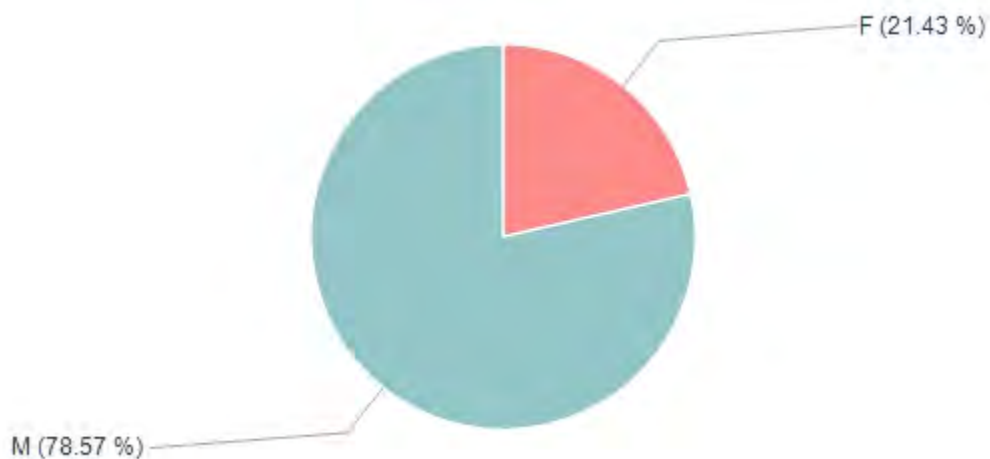
Interpretation guidelines

The value "4" represents "Strongly Agree" while the value "1" represents "Strongly Disagree".
No questions have been defined as mandatory, so students may skip answering certain questions.
An open ended comment field has been added to the end of the questionnaire

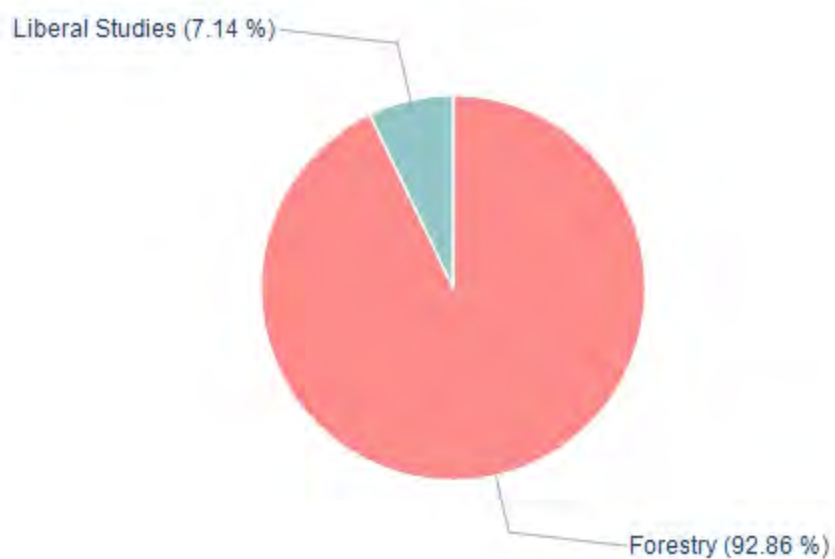
Teacher	Course
Luben Dimov	Silviculture

Course Demographics

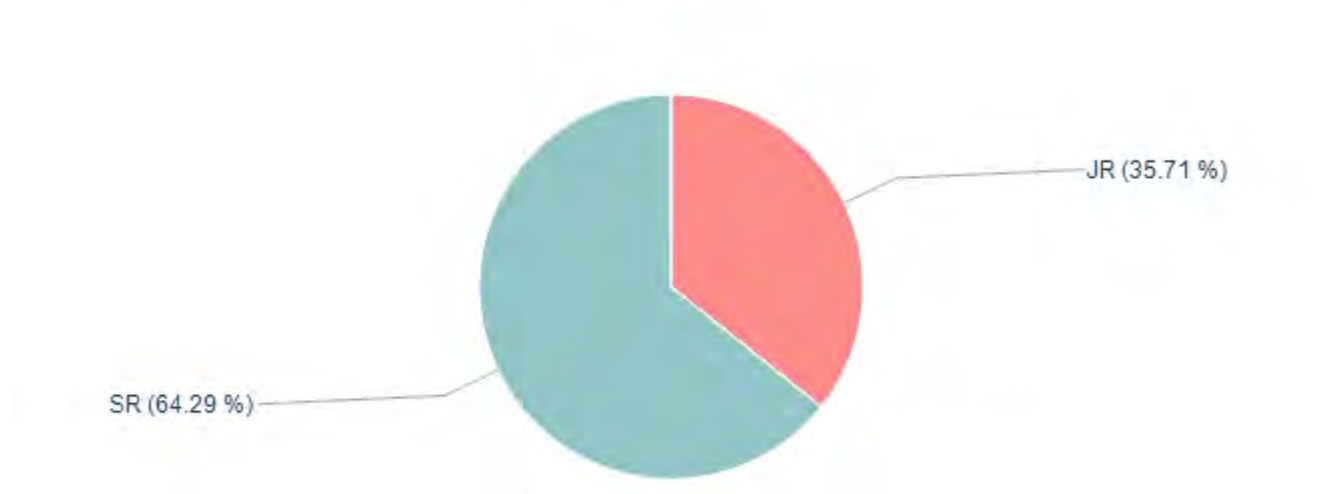
Gender Distribution



Disicipline Breakdown



Grade Breakdown



Competency Summary

Competency	Your Score	Standard Deviation	Min	Max
Overall, I rate this as a good course.	3.71	+/-0.61	2.00	4.00
Instructor's Support of Student Learning	3.77	+/-0.60	1.00	4.00
Instructor's Communication Skills	3.89	+/-0.37	2.00	4.00
Instructor's Organization and Preparation	3.93	+/-0.26	3.00	4.00
Total Score	3.83			

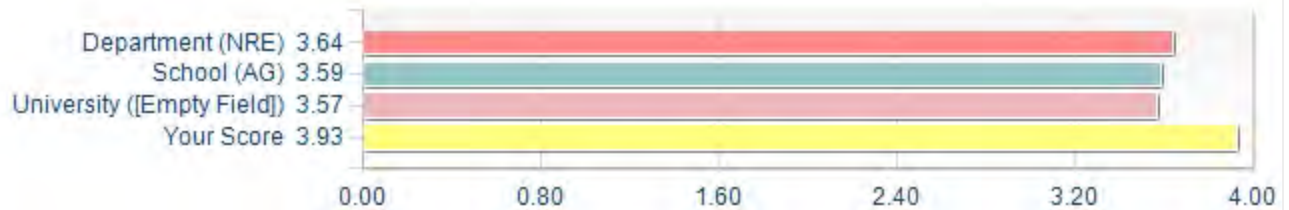
Instructor's Organization and Preparation

Frequency Distribution

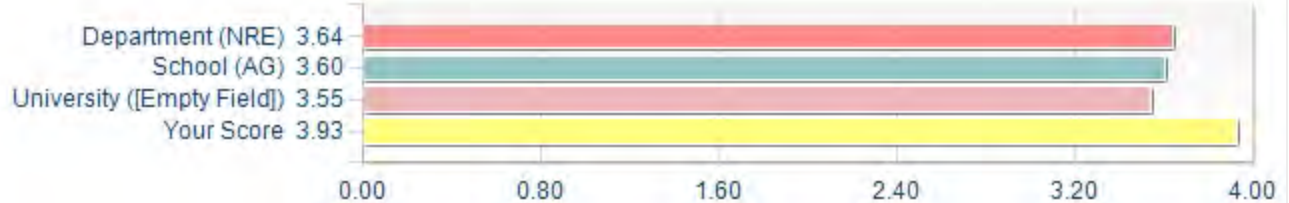
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor's objectives for the course have been made clear.	14	13	1	0	0	3.93	0.27
The instructor began and ended class on time.	14	13	1	0	0	3.93	0.27
The instructor has current professional knowledge and abilities.	14	13	1	0	0	3.93	0.27
The instructor was well-prepared for each class.	14	13	1	0	0	3.93	0.27
The instructor exhibits professional dispositions at all times.	14	13	1	0	0	3.93	0.27
The instructor seemed to enjoy teaching.	14	13	1	0	0	3.93	0.27
The instructor engages in continuous professional development.	14	13	1	0	0	3.93	0.27

Score Comparison

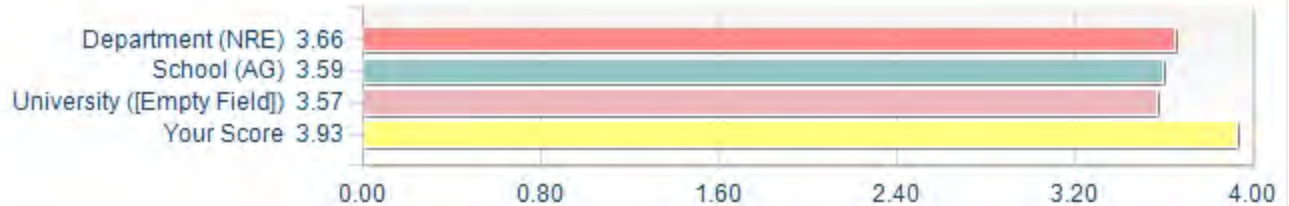
Overall



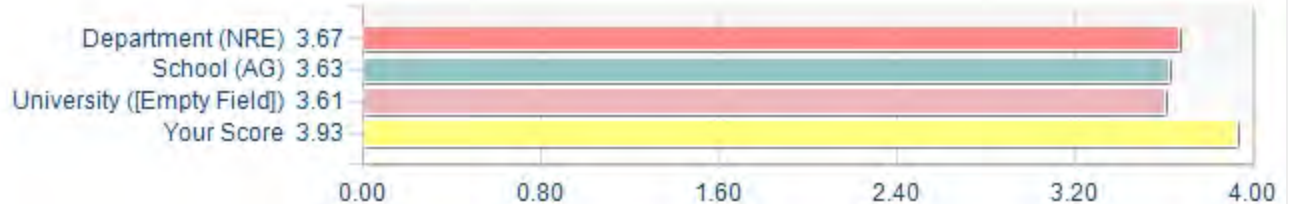
1. The instructor's objectives for the course have been made clear.



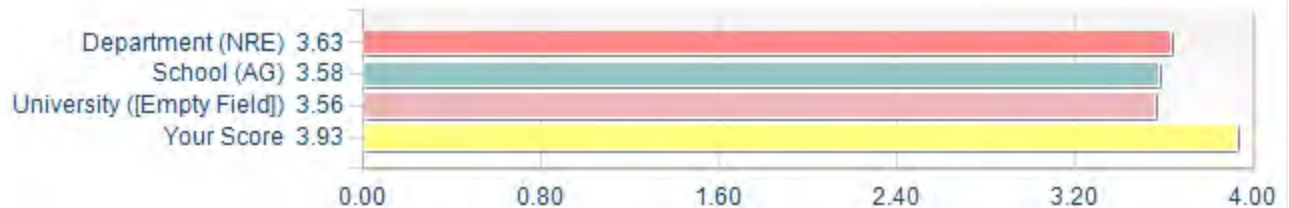
2. The instructor began and ended class on time.



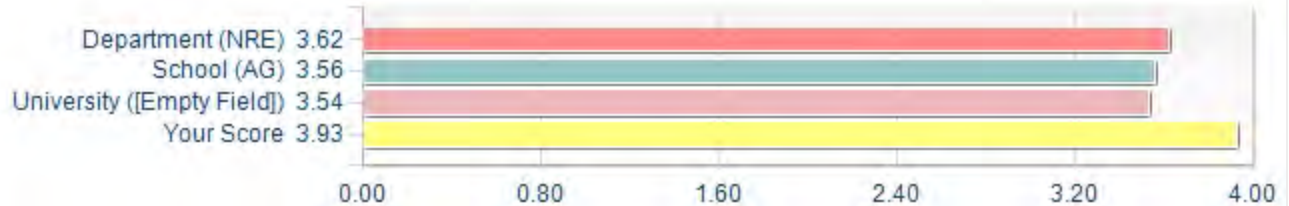
3. The instructor has current professional knowledge and abilities.



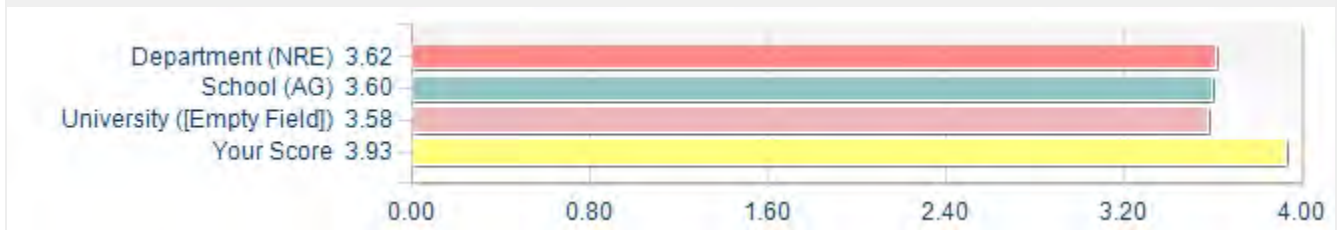
4. The instructor was well-prepared for each class.



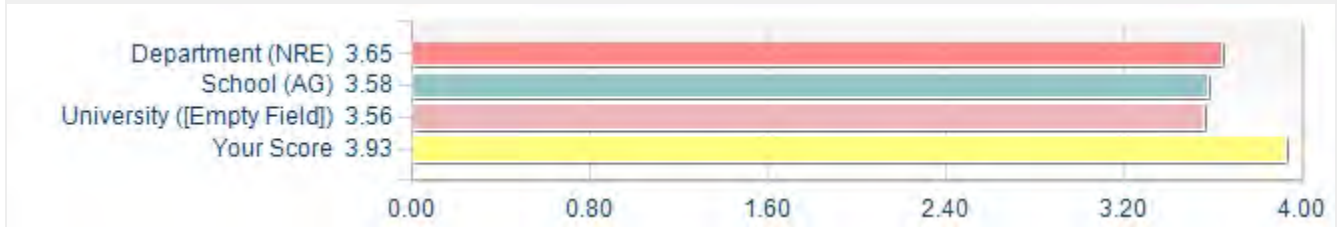
5. The instructor exhibits professional dispositions at all times.



6. The instructor seemed to enjoy teaching.



7. The instructor engages in continuous professional development.



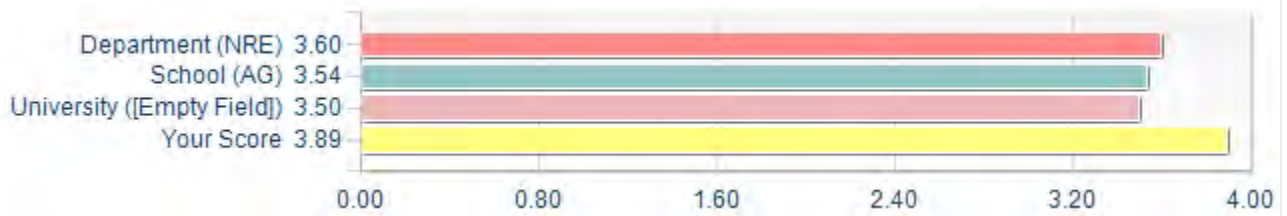
Instructor's Communication Skills

Frequency Distribution

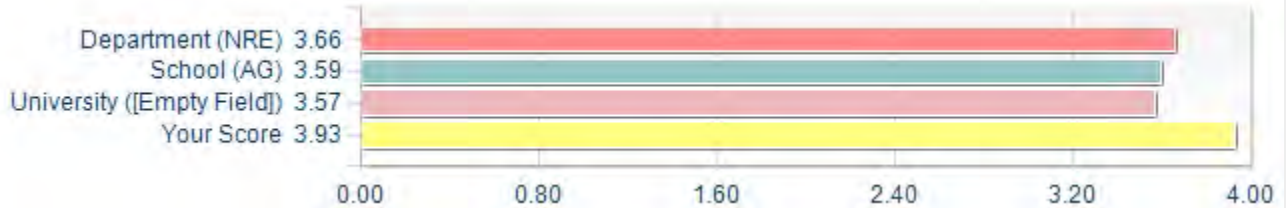
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.	14	13	1	0	0	3.93	0.27
The instructor presented the subject matter in a clear and organized manner.	14	13	1	0	0	3.93	0.27
The pace at which the instructor covered the subject matter was appropriate.	14	13	1	0	0	3.93	0.27
The instructor is a proficient and effective communicator.	14	12	1	1	0	3.79	0.58

Score Comparison

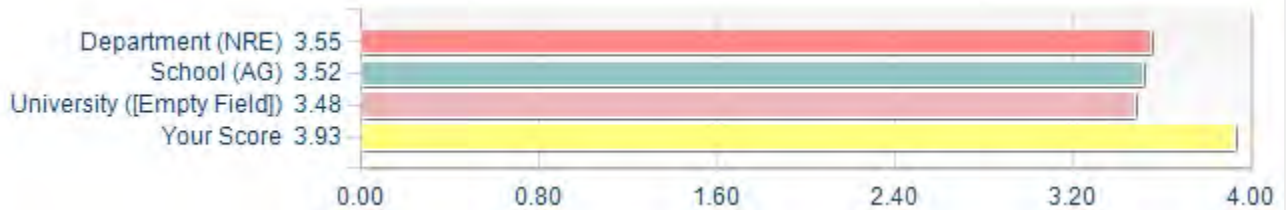
Overall



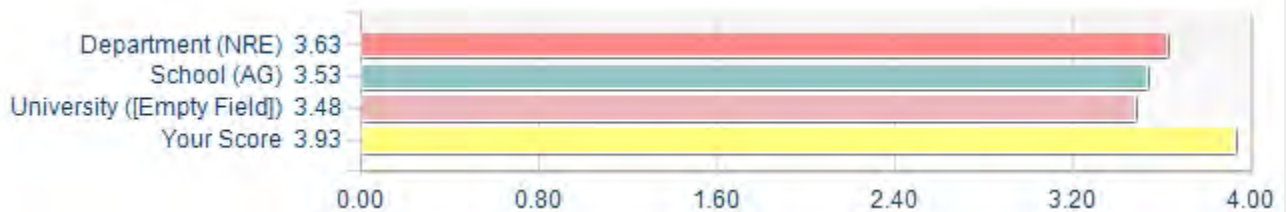
1. The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.



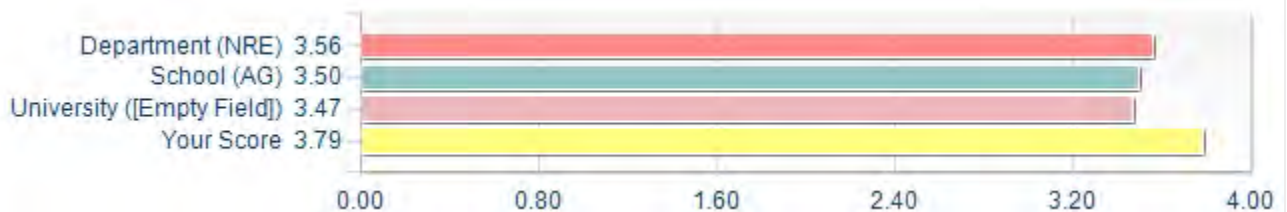
2. The instructor presented the subject matter in a clear and organized manner.



3. The pace at which the instructor covered the subject matter was appropriate.



4. The instructor is a proficient and effective communicator.



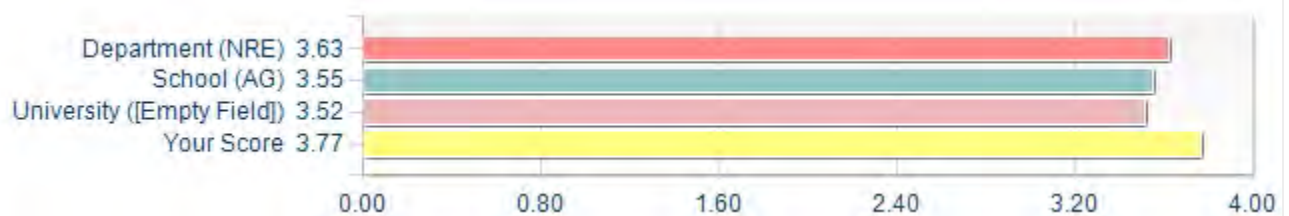
Instructor's Support of Student Learning

Frequency Distribution

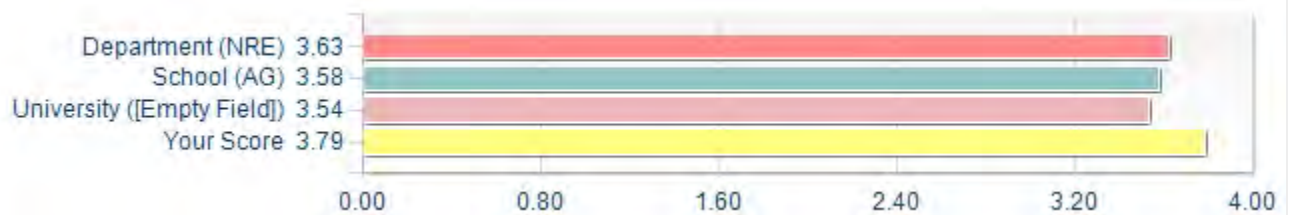
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor creates and maintains a positive and supportive learning environment.	14	11	3	0	0	3.79	0.43
The instructor effectively assesses the student learning.	14	12	1	1	0	3.79	0.58
The instructor returned tests and assignments within a reasonable amount of time.	14	12	2	0	0	3.86	0.36
The instructor effectively facilitates learning by all students.	14	12	2	0	0	3.86	0.36
The instructor was available for extra help.	14	11	2	1	0	3.71	0.61
The instructor seemed genuinely concerned with students' progress.	14	12	1	1	0	3.79	0.58
The instructor was open to students' viewpoints.	14	11	0	1	2	3.43	1.16
The instructor is available during office hours.	14	13	1	0	0	3.93	0.27

Score Comparison

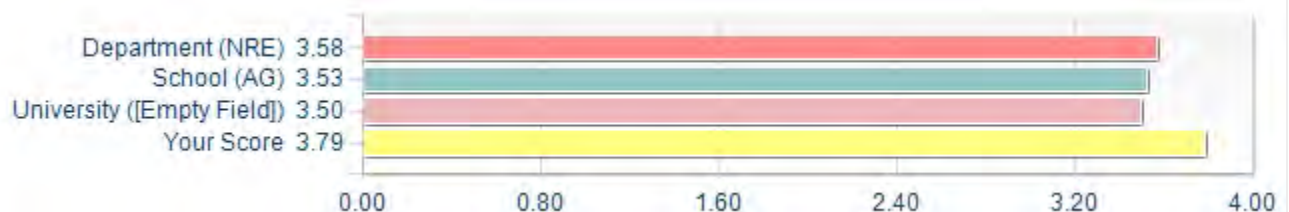
Overall



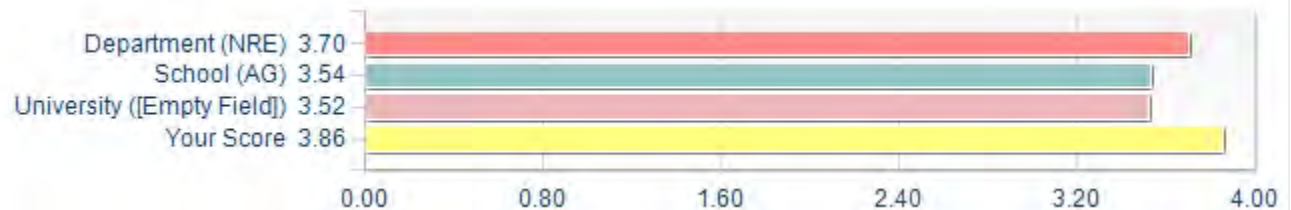
1. The instructor creates and maintains a positive and supportive learning environment.



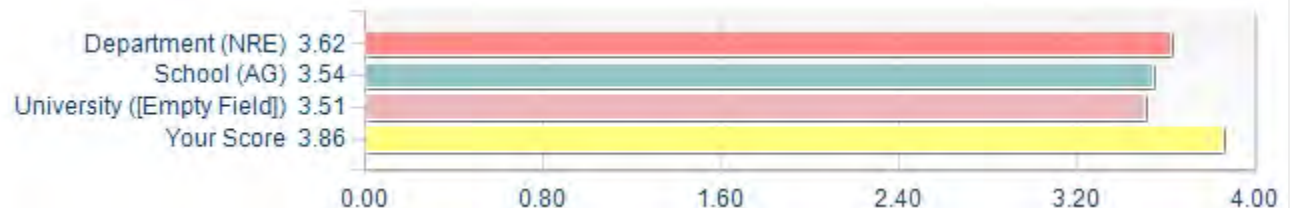
2. The instructor effectively assesses the student learning.



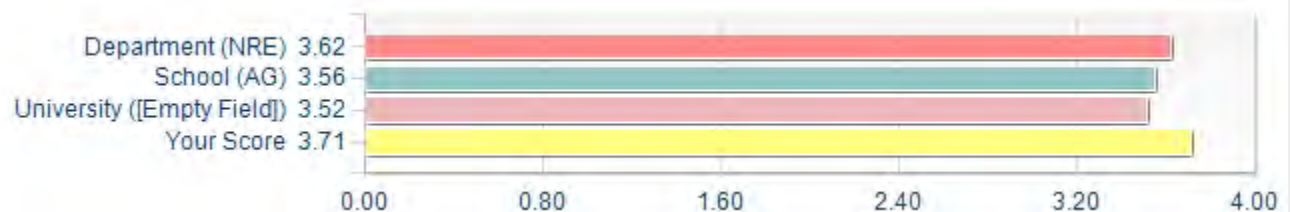
3. The instructor returned tests and assignments within a reasonable amount of time.



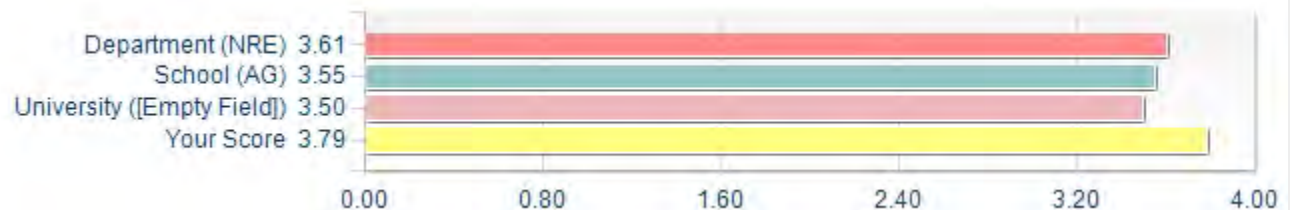
4. The instructor effectively facilitates learning by all students.



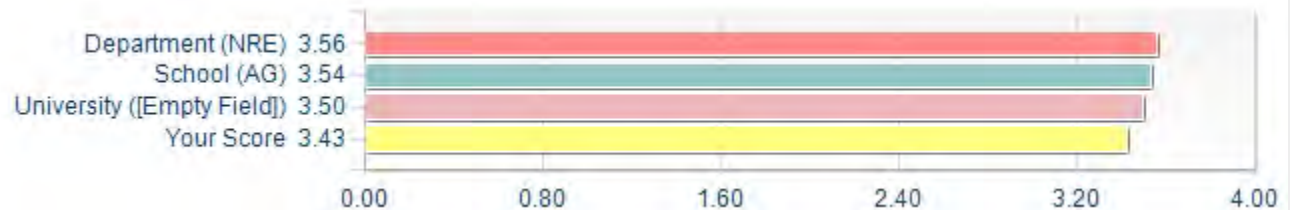
5. The instructor was available for extra help.



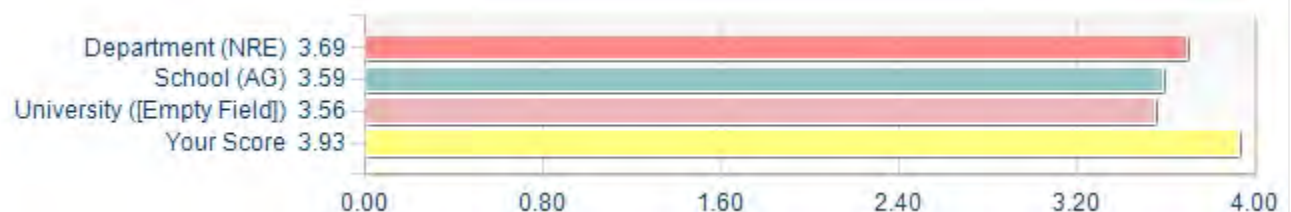
6. The instructor seemed genuinely concerned with students' progress.



7. The instructor was open to students' viewpoints.



8. The instructor is available during office hours.

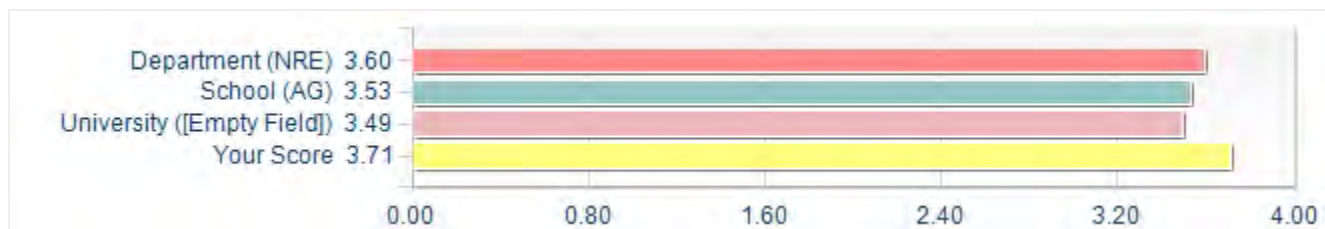


Overall Course Questions

Frequency Distribution

	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
Overall, I rate this as a good course.	14	11	2	1	0	3.71	0.61

Score Comparison



Rating scale questions, top and bottom ranks for Instructor Questions

Strengths		
1	The instructor's objectives for the course have been made clear.	3.93
2	The instructor began and ended class on time.	3.93
3	The instructor has current professional knowledge and abilities.	3.93

Areas for Improvement		
1	The instructor was open to students' viewpoints.	3.43
2	The instructor was available for extra help.	3.71
3	The instructor is a proficient and effective communicator.	3.79

Please, include here any comments you might have about this course.

Comments
Great course well taught
Great professor!!
I love silviculture!
Great



Instructor Report for William Stone (Wildlife Biology & Inden)

Spring 2017 Course Evaluation

Project Audience 7

Responses Received 4

Response Ratio 57%

Report Comments

Department	NRE
School	AG
Level	UG

Prepared by Dianne Bozeman

Creation Date Wed, Aug 16, 2017



Alabama A&M University

Course Evaluations

Interpretation guidelines

The value "4" represents "Strongly Agree" while the value "1" represents "Strongly Disagree".
No questions have been defined as mandatory, so students may skip answering certain questions.
An open ended comment field has been added to the end of the questionnaire

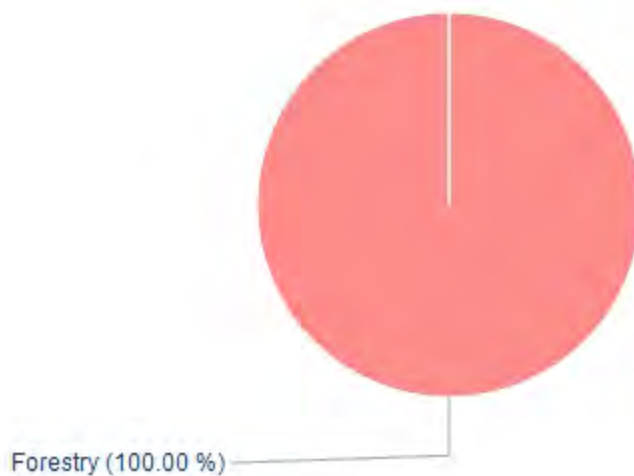
Teacher	Course
William Stone	Wildlife Biology & Inden

Course Demographics

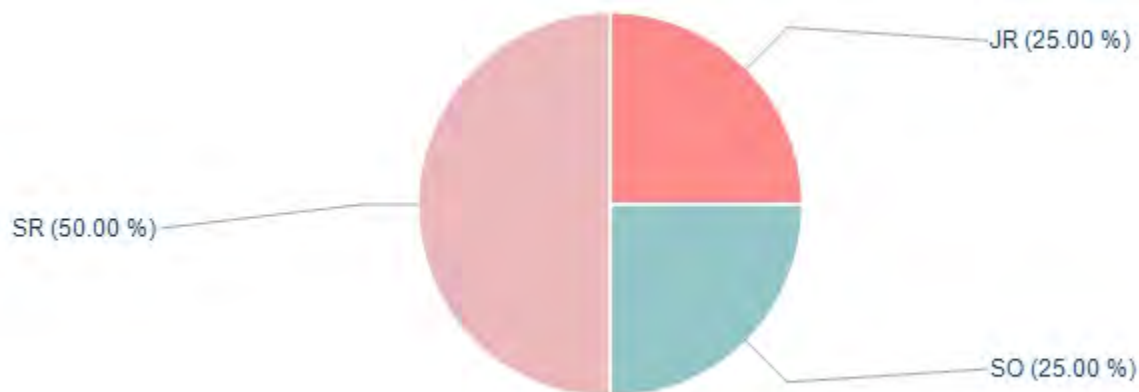
Gender Distribution



Disicipline Breakdown



Grade Breakdown



Competency Summary

Competency	Your Score	Standard Deviation	Min	Max
Instructor's Communication Skills	3.25	+/-0.45	3.00	4.00
Instructor's Support of Student Learning	3.25	+/-0.44	3.00	4.00
Overall, I rate this as a good course.	3.25	+/-0.50	3.00	4.00
Instructor's Organization and Preparation	3.29	+/-0.46	3.00	4.00
Total Score	3.26			

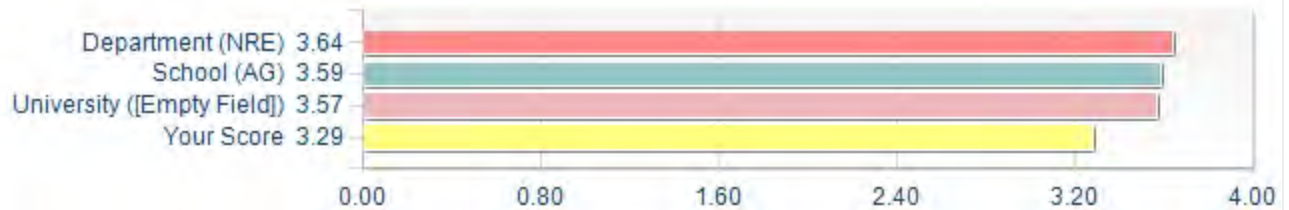
Instructor's Organization and Preparation

Frequency Distribution

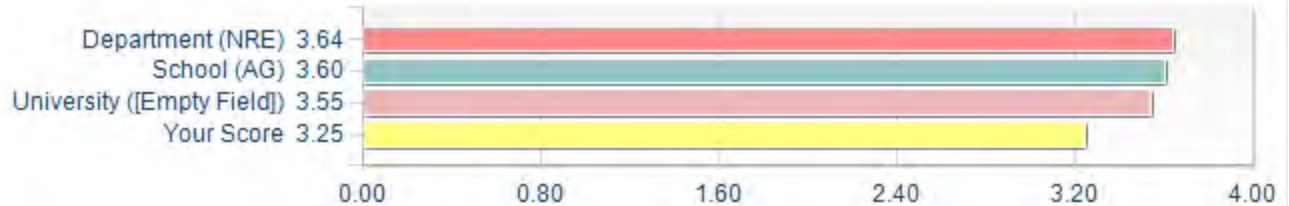
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor's objectives for the course have been made clear.	4	1	3	0	0	3.25	0.50
The instructor began and ended class on time.	4	1	3	0	0	3.25	0.50
The instructor has current professional knowledge and abilities.	4	1	3	0	0	3.25	0.50
The instructor was well-prepared for each class.	4	1	3	0	0	3.25	0.50
The instructor exhibits professional dispositions at all times.	4	1	3	0	0	3.25	0.50
The instructor seemed to enjoy teaching.	4	2	2	0	0	3.50	0.58
The instructor engages in continuous professional development.	4	1	3	0	0	3.25	0.50

Score Comparison

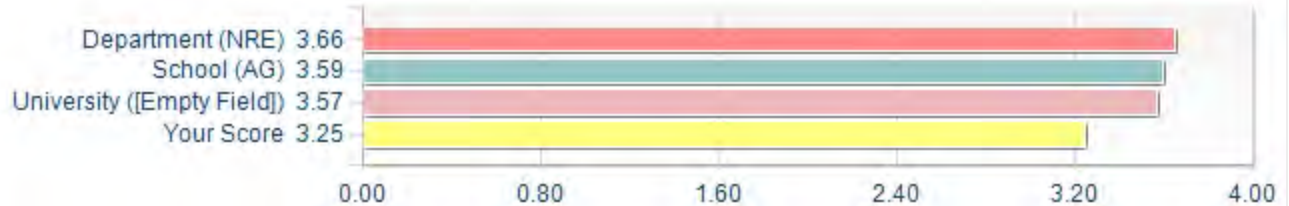
Overall



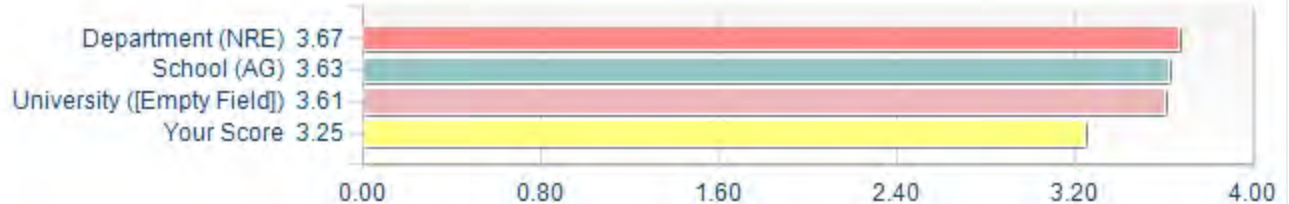
1. The instructor's objectives for the course have been made clear.



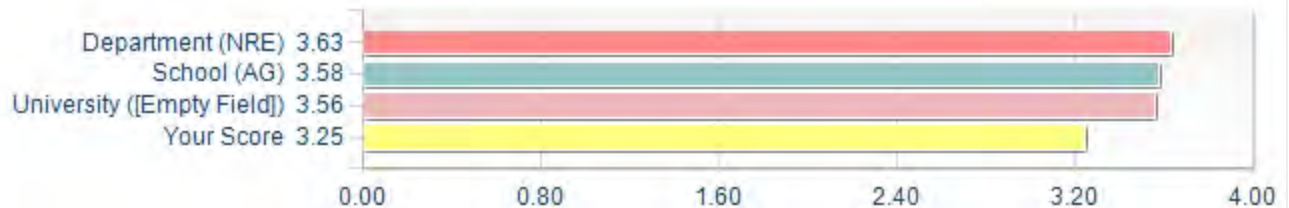
2. The instructor began and ended class on time.



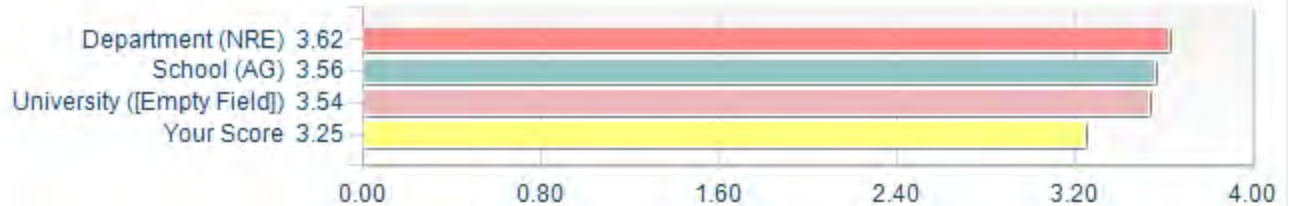
3. The instructor has current professional knowledge and abilities.



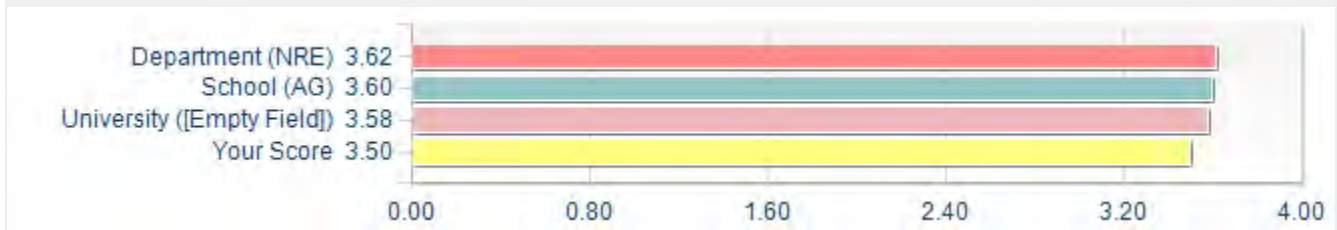
4. The instructor was well-prepared for each class.



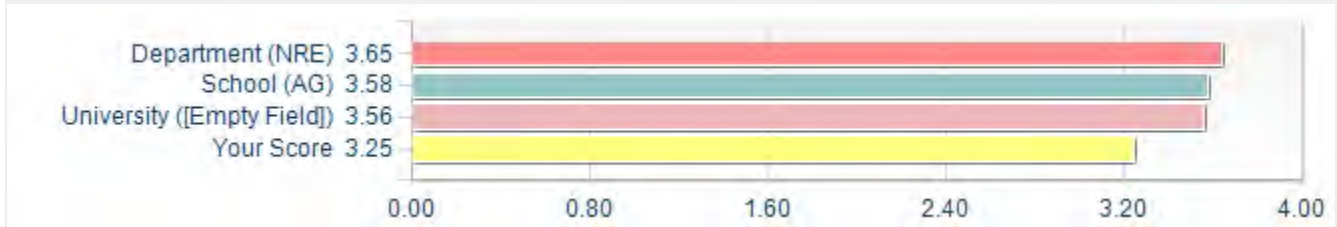
5. The instructor exhibits professional dispositions at all times.



6. The instructor seemed to enjoy teaching.



7. The instructor engages in continuous professional development.



Instructor's Communication Skills

Frequency Distribution

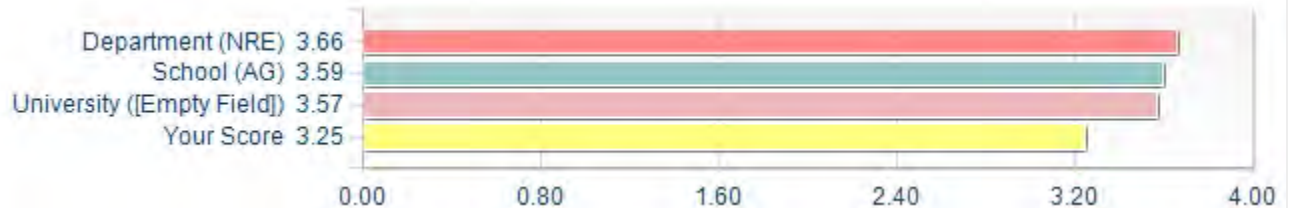
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.	4	1	3	0	0	3.25	0.50
The instructor presented the subject matter in a clear and organized manner.	4	1	3	0	0	3.25	0.50
The pace at which the instructor covered the subject matter was appropriate.	4	1	3	0	0	3.25	0.50
The instructor is a proficient and effective communicator.	4	1	3	0	0	3.25	0.50

Score Comparison

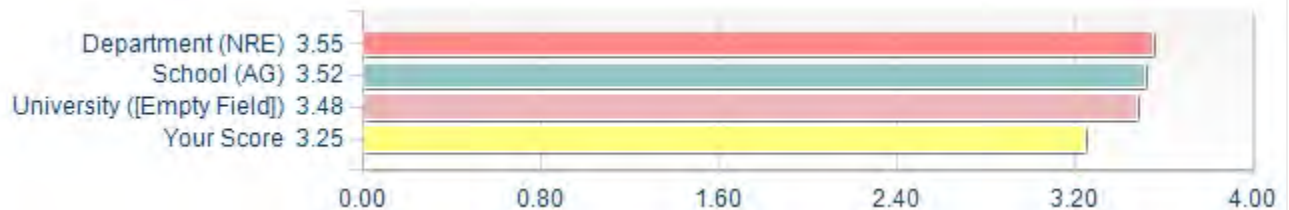
Overall



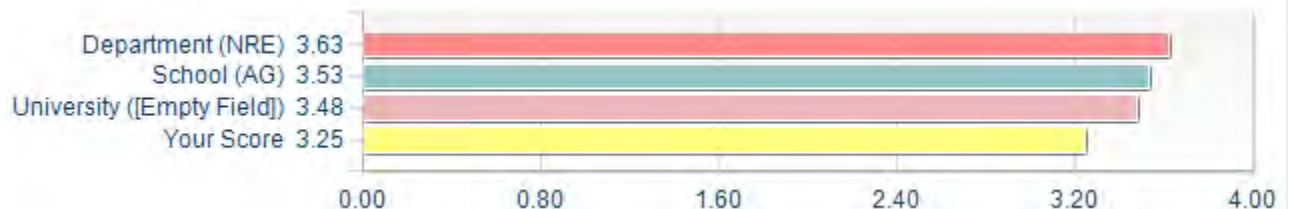
1. The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.



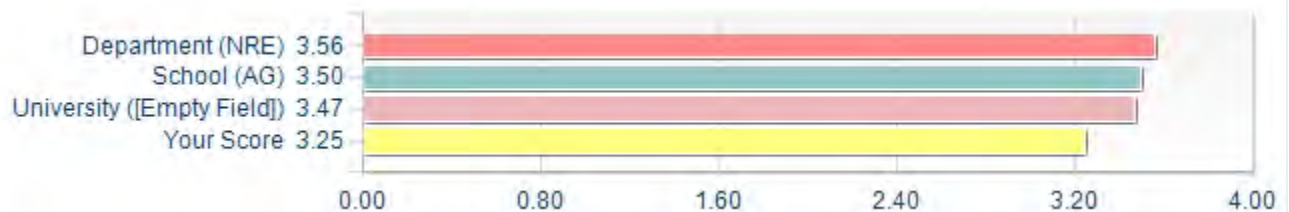
2. The instructor presented the subject matter in a clear and organized manner.



3. The pace at which the instructor covered the subject matter was appropriate.



4. The instructor is a proficient and effective communicator.



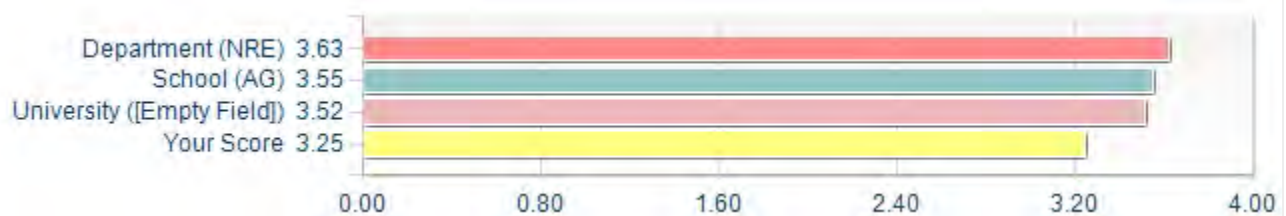
Instructor's Support of Student Learning

Frequency Distribution

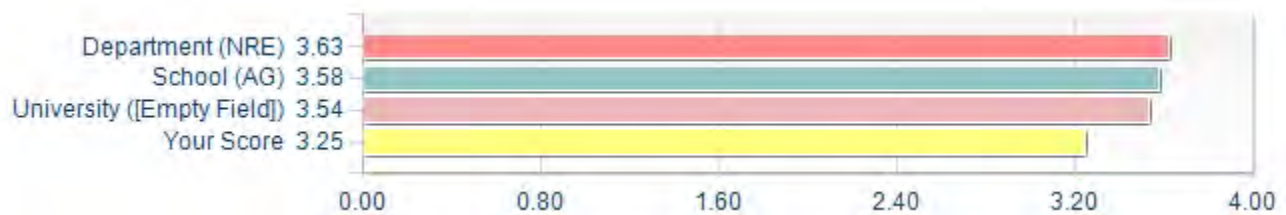
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor creates and maintains a positive and supportive learning environment.	4	1	3	0	0	3.25	0.50
The instructor effectively assesses the student learning.	4	1	3	0	0	3.25	0.50
The instructor returned tests and assignments within a reasonable amount of time.	4	1	3	0	0	3.25	0.50
The instructor effectively facilitates learning by all students.	4	1	3	0	0	3.25	0.50
The instructor was available for extra help.	4	1	3	0	0	3.25	0.50
The instructor seemed genuinely concerned with students' progress.	4	1	3	0	0	3.25	0.50
The instructor was open to students' viewpoints.	4	1	3	0	0	3.25	0.50
The instructor is available during office hours.	4	1	3	0	0	3.25	0.50

Score Comparison

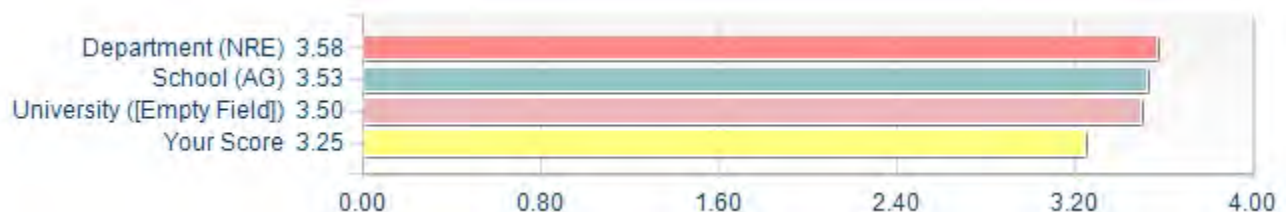
Overall



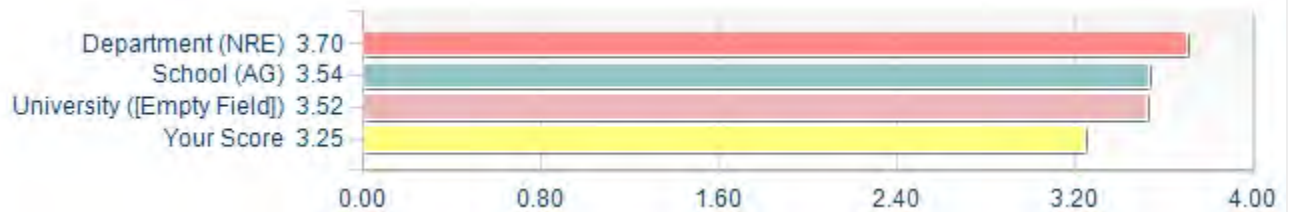
1. The instructor creates and maintains a positive and supportive learning environment.



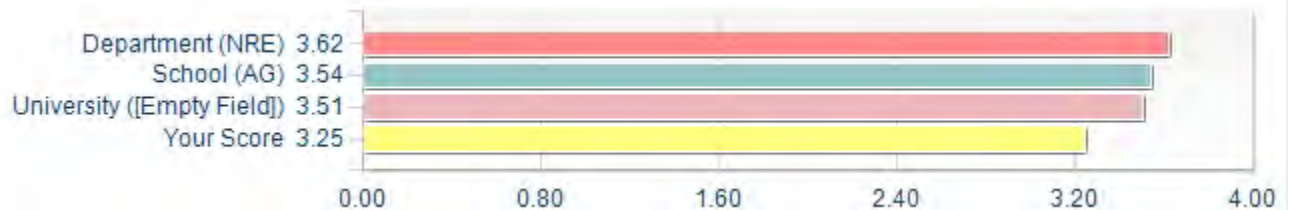
2. The instructor effectively assesses the student learning.



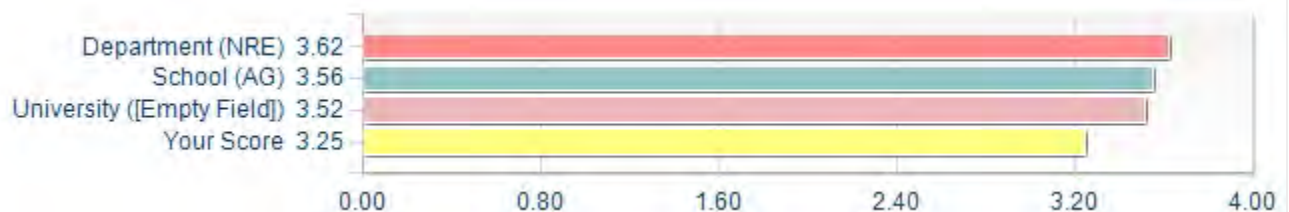
3. The instructor returned tests and assignments within a reasonable amount of time.



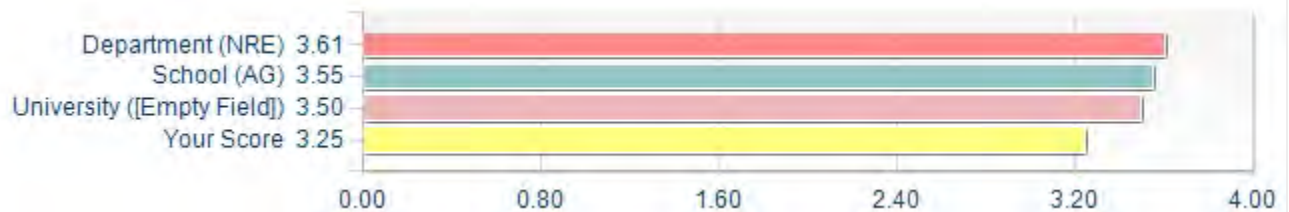
4. The instructor effectively facilitates learning by all students.



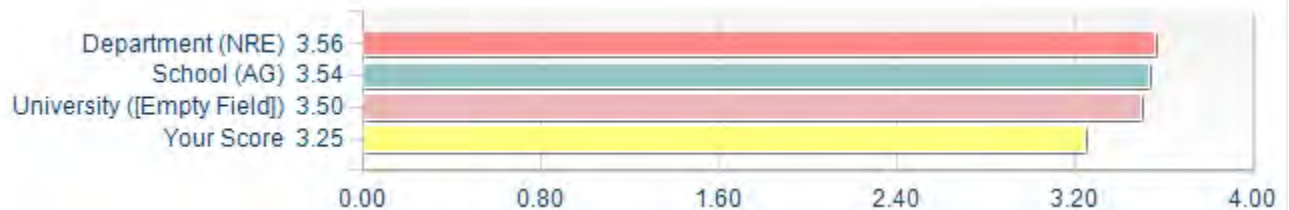
5. The instructor was available for extra help.



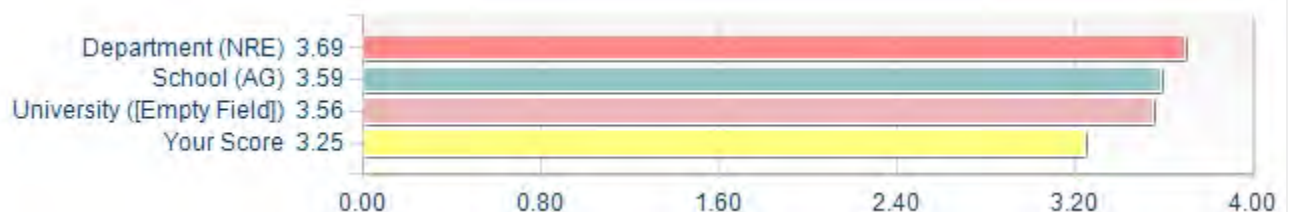
6. The instructor seemed genuinely concerned with students' progress.



7. The instructor was open to students' viewpoints.



8. The instructor is available during office hours.

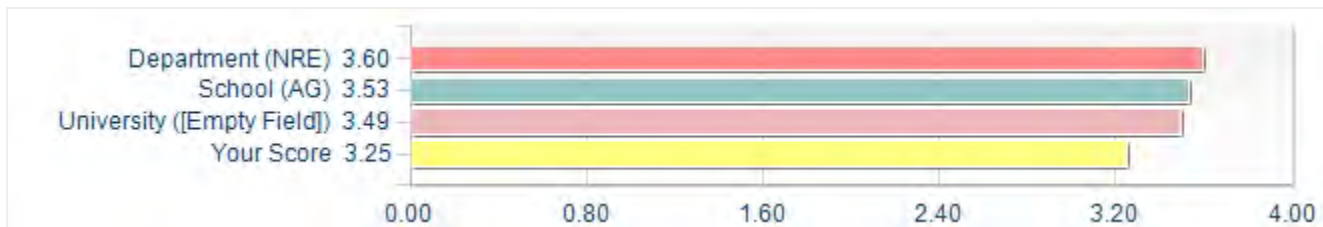


Overall Course Questions

Frequency Distribution

	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
Overall, I rate this as a good course.	4	1	3	0	0	3.25	0.50

Score Comparison



Rating scale questions, top and bottom ranks for Instructor Questions

Strengths		
1	The instructor seemed to enjoy teaching.	3.50
2	The instructor's objectives for the course have been made clear.	3.25
3	The instructor began and ended class on time.	3.25

Areas for Improvement		
1	The instructor's objectives for the course have been made clear.	3.25
2	The instructor began and ended class on time.	3.25
3	The instructor has current professional knowledge and abilities.	3.25



Instructor Report for William Stone (Wildlife-Forestry Rel)

Spring 2017 Course Evaluation

Project Audience 15

Responses Received 6

Response Ratio 40%

Report Comments

Department	NRE
School	AG
Level	UG

Prepared by Dianne Bozeman

Creation Date Wed, Aug 16, 2017



Alabama A&M University

Course Evaluations

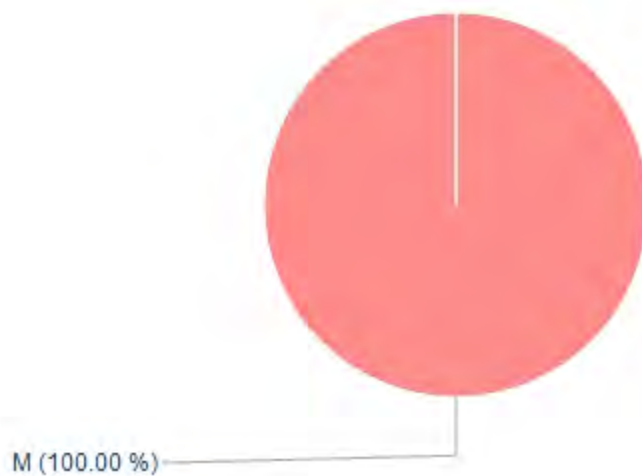
Interpretation guidelines

The value "4" represents "Strongly Agree" while the value "1" represents "Strongly Disagree".
No questions have been defined as mandatory, so students may skip answering certain questions.
An open ended comment field has been added to the end of the questionnaire

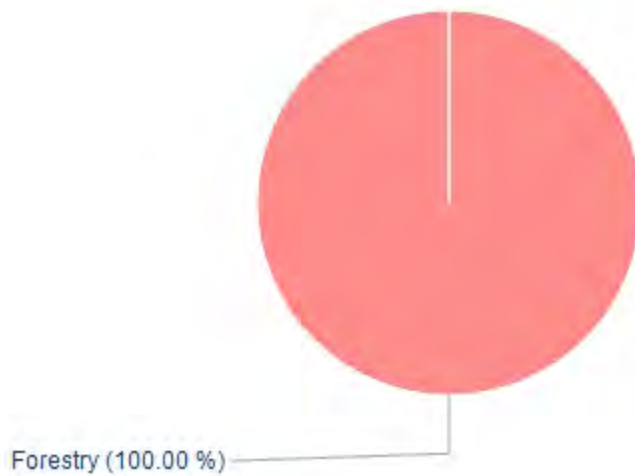
Teacher	Course
William Stone	Wildlife-Forestry Rel

Course Demographics

Gender Distribution



Disicipline Breakdown



Grade Breakdown



Competency Summary

Competency	Your Score	Standard Deviation	Min	Max
Instructor's Support of Student Learning	3.81	+/-0.39	3.00	4.00
Overall, I rate this as a good course.	3.83	+/-0.41	3.00	4.00
Instructor's Organization and Preparation	3.86	+/-0.35	3.00	4.00
Instructor's Communication Skills	3.96	+/-0.20	3.00	4.00
Total Score	3.87			

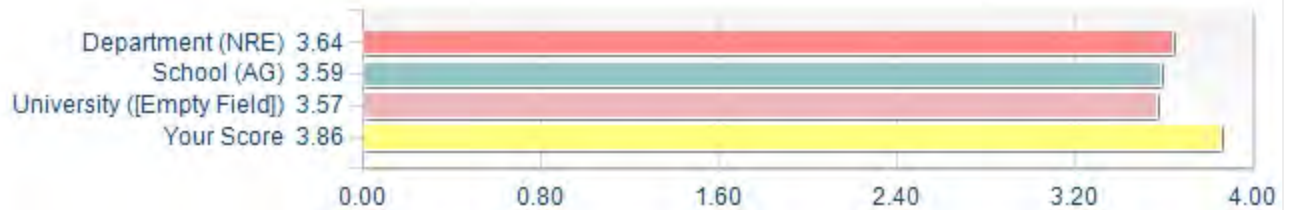
Instructor's Organization and Preparation

Frequency Distribution

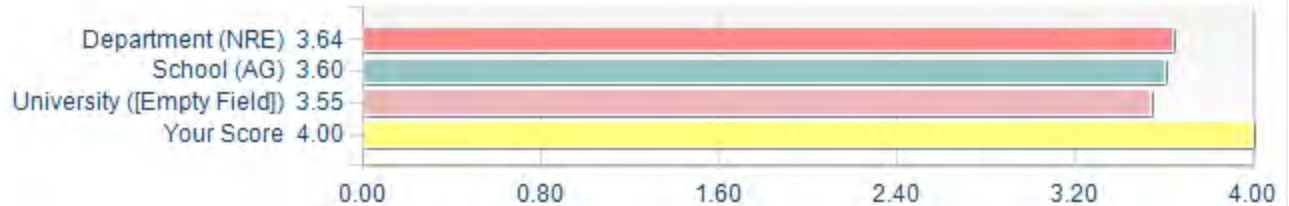
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor's objectives for the course have been made clear.	6	6	0	0	0	4.00	0.00
The instructor began and ended class on time.	6	6	0	0	0	4.00	0.00
The instructor has current professional knowledge and abilities.	6	5	1	0	0	3.83	0.41
The instructor was well-prepared for each class.	6	6	0	0	0	4.00	0.00
The instructor exhibits professional dispositions at all times.	6	4	2	0	0	3.67	0.52
The instructor seemed to enjoy teaching.	6	4	2	0	0	3.67	0.52
The instructor engages in continuous professional development.	6	5	1	0	0	3.83	0.41

Score Comparison

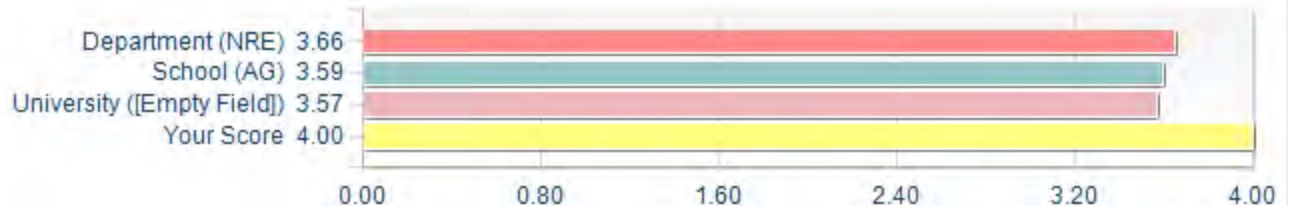
Overall



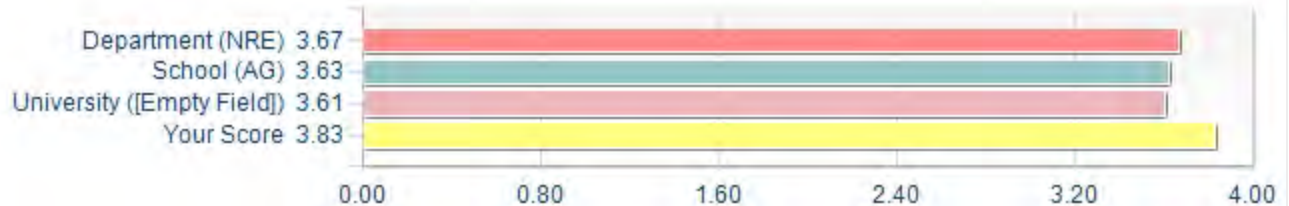
1. The instructor's objectives for the course have been made clear.



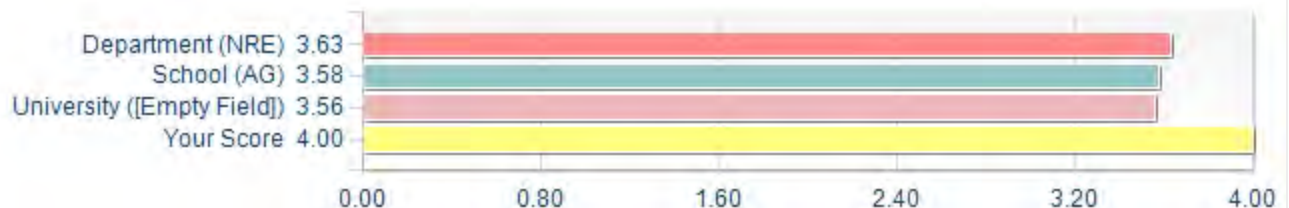
2. The instructor began and ended class on time.



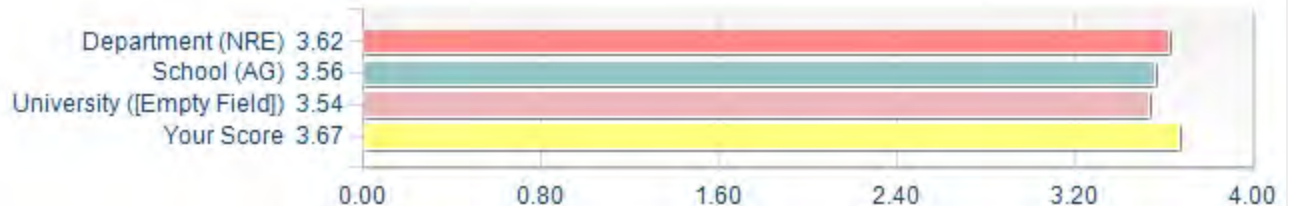
3. The instructor has current professional knowledge and abilities.



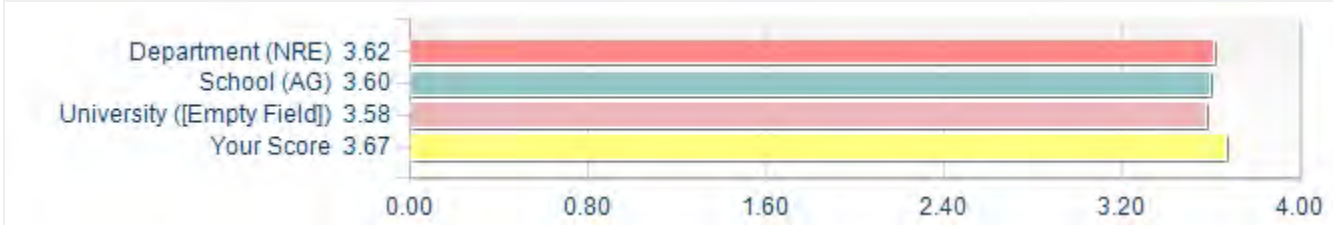
4. The instructor was well-prepared for each class.



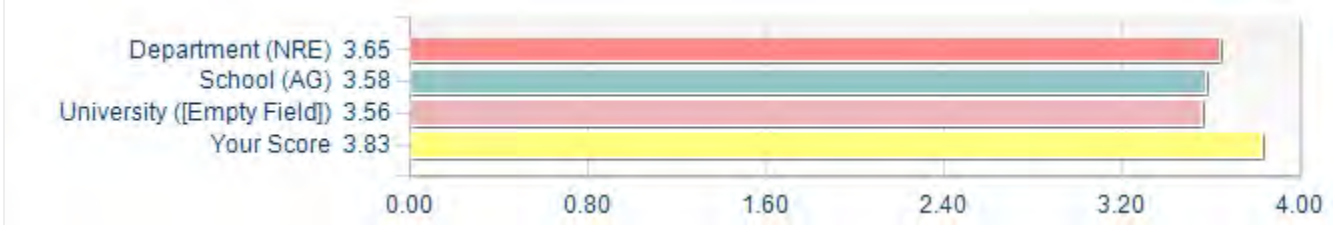
5. The instructor exhibits professional dispositions at all times.



6. The instructor seemed to enjoy teaching.



7. The instructor engages in continuous professional development.



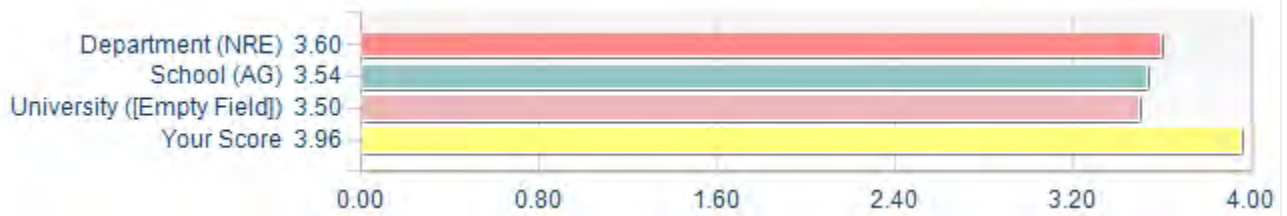
Instructor's Communication Skills

Frequency Distribution

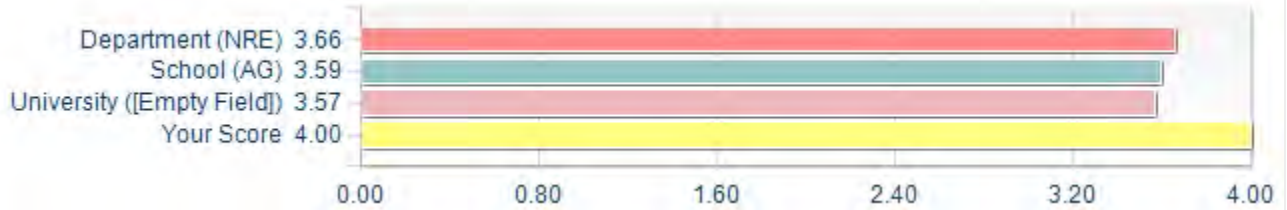
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.	6	6	0	0	0	4.00	0.00
The instructor presented the subject matter in a clear and organized manner.	6	6	0	0	0	4.00	0.00
The pace at which the instructor covered the subject matter was appropriate.	6	6	0	0	0	4.00	0.00
The instructor is a proficient and effective communicator.	6	5	1	0	0	3.83	0.41

Score Comparison

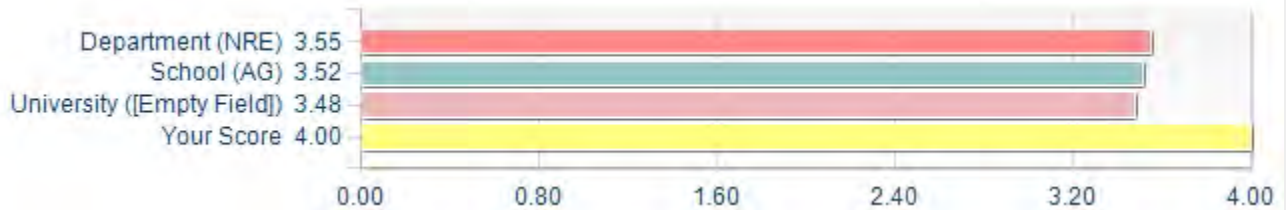
Overall



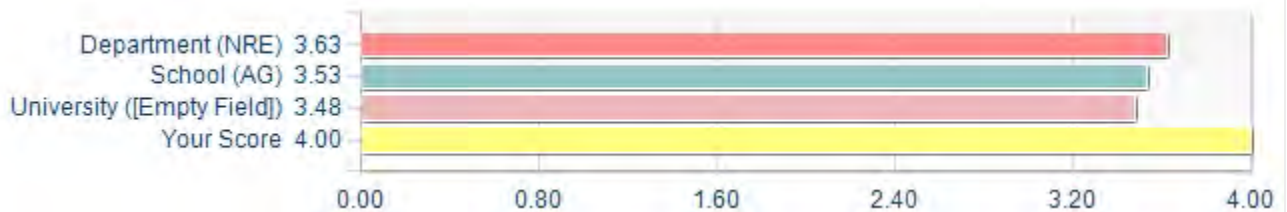
1. The instructor made class polices, such as attendance, grading, behavior, etc., clear at the beginning of the semester.



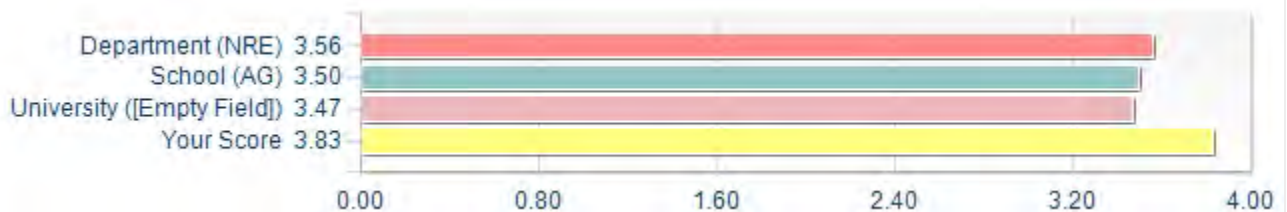
2. The instructor presented the subject matter in a clear and organized manner.



3. The pace at which the instructor covered the subject matter was appropriate.



4. The instructor is a proficient and effective communicator.



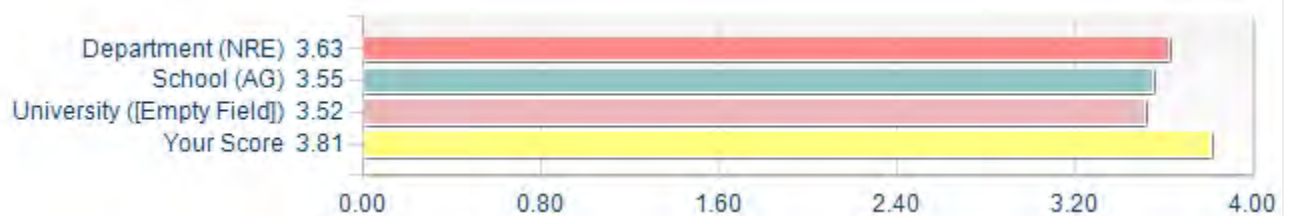
Instructor's Support of Student Learning

Frequency Distribution

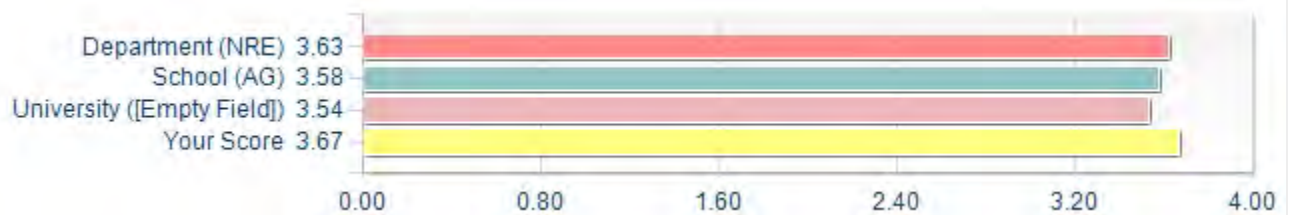
	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
The instructor creates and maintains a positive and supportive learning environment.	6	4	2	0	0	3.67	0.52
The instructor effectively assesses the student learning.	6	5	1	0	0	3.83	0.41
The instructor returned tests and assignments within a reasonable amount of time.	6	6	0	0	0	4.00	0.00
The instructor effectively facilitates learning by all students.	6	5	1	0	0	3.83	0.41
The instructor was available for extra help.	6	5	1	0	0	3.83	0.41
The instructor seemed genuinely concerned with students' progress.	6	5	1	0	0	3.83	0.41
The instructor was open to students' viewpoints.	6	4	2	0	0	3.67	0.52
The instructor is available during office hours.	6	5	1	0	0	3.83	0.41

Score Comparison

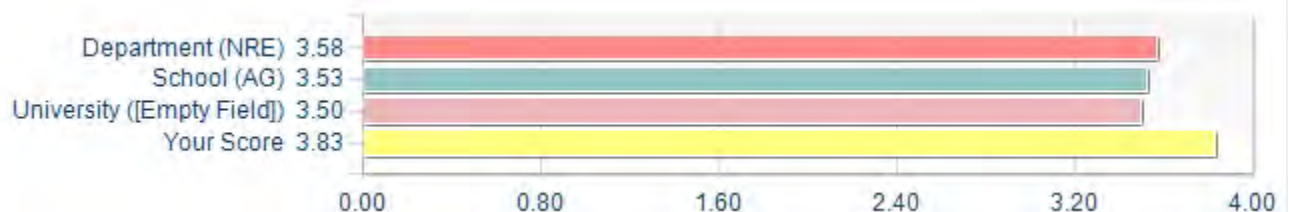
Overall



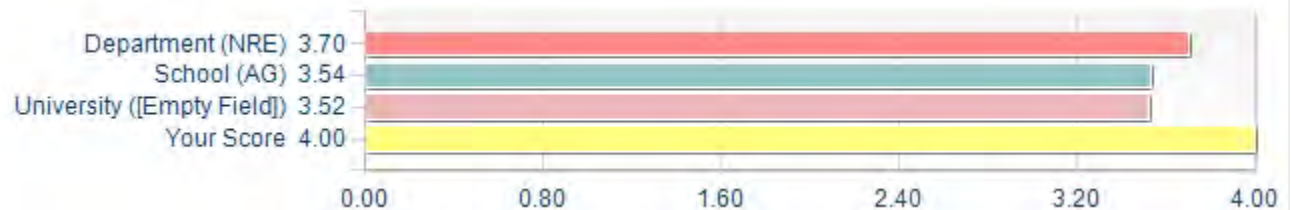
1. The instructor creates and maintains a positive and supportive learning environment.



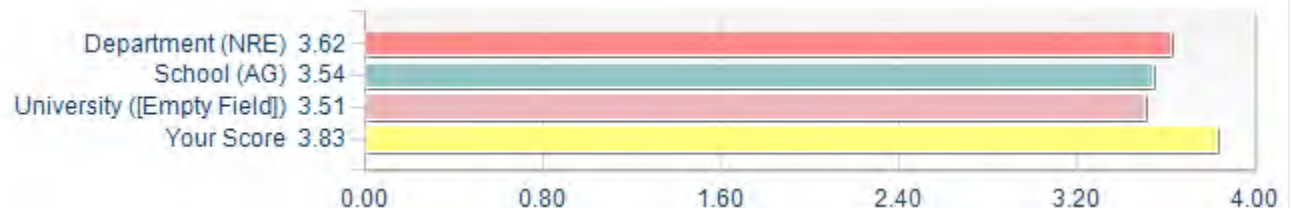
2. The instructor effectively assesses the student learning.



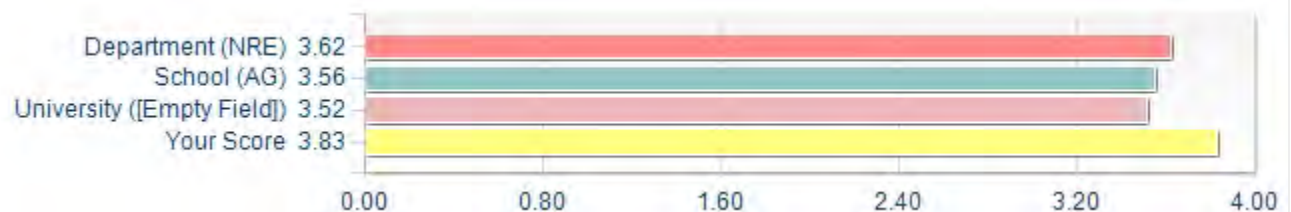
3. The instructor returned tests and assignments within a reasonable amount of time.



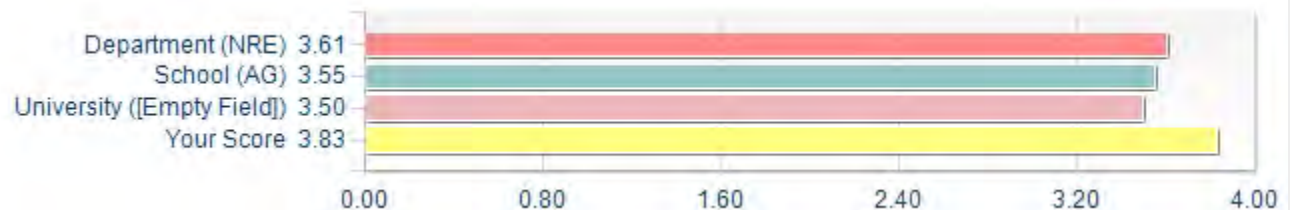
4. The instructor effectively facilitates learning by all students.



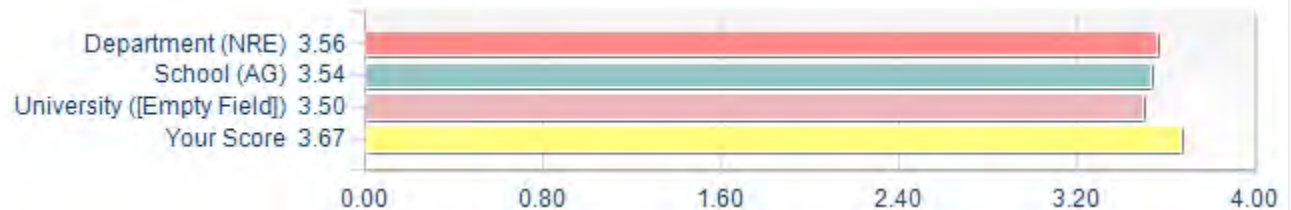
5. The instructor was available for extra help.



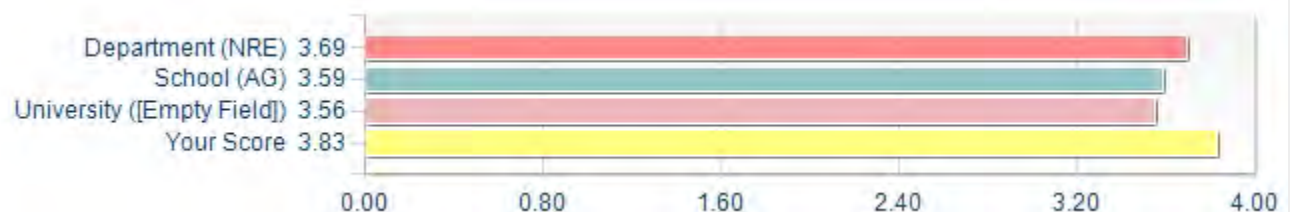
6. The instructor seemed genuinely concerned with students' progress.



7. The instructor was open to students' viewpoints.



8. The instructor is available during office hours.

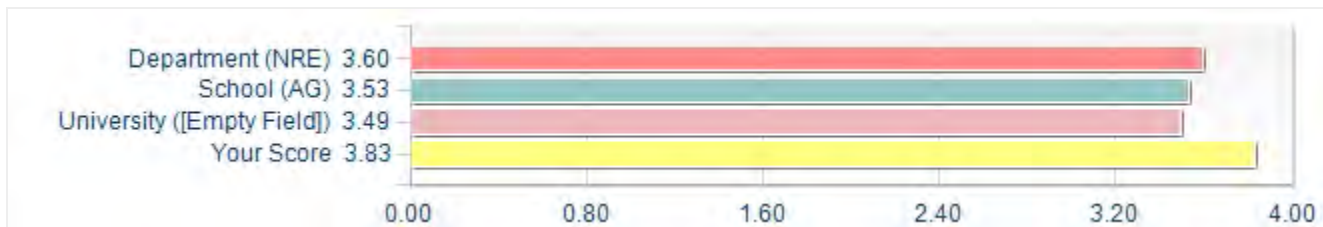


Overall Course Questions

Frequency Distribution

	Response Count	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation
Overall, I rate this as a good course.	6	5	1	0	0	3.83	0.41

Score Comparison



Rating scale questions, top and bottom ranks for Instructor Questions

Strengths		
1	The instructor's objectives for the course have been made clear.	4.00
2	The instructor began and ended class on time.	4.00
3	The instructor was well-prepared for each class.	4.00

Areas for Improvement		
1	The instructor exhibits professional dispositions at all times.	3.67
2	The instructor seemed to enjoy teaching.	3.67
3	The instructor creates and maintains a positive and supportive learning environment.	3.67

Please, include here any comments you might have about this course.

Comments
More hands less talking !

Exhibit VI-1.
CFEA Description and Highlights of
Accomplishments

CREST Center for Forest Ecosystem Assessment at Alabama A&M University

Background:

Alabama A&M University, with the funding from the Center of Research Excellence in Science and Technology (CREST) Program of the National Science Foundation (NSF), established the Center for Forest Ecosystem Assessment (CFEA) in 2004. The two major goals of the Center are to 1) strengthen integrative, multi-disciplinary research for improved understanding of forest ecosystems, and 2) increase the number of trained professionals, especially African Americans, engaged in research, teaching, and management of renewable natural resources. Five multi-disciplinary research thrust areas bring diverse faculty expertise and external collaborators to focus on and enhance our understanding of forest ecosystem responses to human-induced disturbances in the William B. Bankhead National Forest, located in northwestern Alabama. These areas include: forest vegetation dynamics, insects and wildlife, biogeochemical nutrient cycling, molecular biology, and human dimensions. CFEA has been further strengthening the research capacity and capability of environmental and natural resource sciences at AAMU. During the past decade CFEA has made significant progress both in conducting the forest ecosystem research and training and engaging the students in science, technology, engineering, and mathematics (STEM) related fields. We hosted the Research Experience for Undergraduates training this year funded by NSF.

CENTER FOR FOREST ECOSYSTEM ASSESSMENT

*A National Science Foundation's Center of Research Excellence in Science & Technology
(Grant number HRD 1036600) 2004-2017*

at Alabama A&M University, Normal, Alabama

Yong Wang, Principle Investigator

Zachary Senwo and Wubishet Tadesse, co-PIs

Funded by National Science Foundation for a total of \$10 million dollars, the Center for Forest Ecosystem Assessment began in 2004 and institutionalized a research partnership between Alabama A&M University and the USDA Forest Service and its affiliated Research Stations (primarily the Southern Research Stations). There are three thrust (sub-project) areas of research: (1) Forest community responses and dynamics; (2) Forest ecosystem functions and processes; and (3) Coupled dynamics of humans and landscapes. The research has three focal areas, with the primary one being at the William B. Bankhead National Forest, second at the Alabama Black Belt, and the third at Jackson County, AL/Winchester County, TN.

RESEARCH THROUGH THE CENTER

Research in the Bankhead National Forest focuses on the responses of varying ecosystem and community components of the forests, as the USDA Forest Service established a long-term research project with the purpose of examining how prescribed thinning and burning of forests (and several combinations of) affects the reestablishment of deciduous hardwood trees—primarily oak species—

in areas that were historically planted with loblolly pine. The Center's initial researchers had the rare opportunity to collect pre- and post-treatment data across a four block randomized complete block (RCB) experimental design. Across all thrust areas, researchers and their students have examined the responses of birds (Jill Wick, 2008; Emily Summers, 2014), herpetofauna (Bill Sutton, 2010; Timothy Baldwin, 2013; Iwo Gross 2017), mammals (Kelvin Young, 2008; Patience Knight, 2017), soils (Meiko Thompson, 2012; Fritz Ntoko, 2013; Dessy Owiti, 2014; Jonjala Jackson, 2016; Jazzalynn Smith, 2017), plant community (Joel Zak, 2008; Dana Virone, 2010; Clint Patterson 2011; Santosh Ojha, 2016; Yu Han 2017), molecular ecology (Fetun Desta, 2014; Rashid Farid, 2014), and applications of GIS and remote sense for natural resource assessment (Szymanski Fields, 2012; Kathleen Roberts, 2013). Research in northeastern Alabama and Tennessee is similar to that in the Bankhead, though with slightly different goals and slightly different experimental designs. Researchers here also examined responses of a variety of components within the forest ecosystem to different silvicultural methods, primarily forest vegetations (Shanta Parajuli 2006), birds (Adrian Lesak, 2005; Lisa Gardner 2008; Eric Margenau, 2014; Brandie Stringer, 2015; Richard Borthwich, 2015; Marissa Adams, 2016; Mercedes Bartkovich, 2017) and herpetofauna (Zachary Felix, 2007; Florence Chan, 2007; Chelsea Scott, 2008; Andrew Cantrell 2014). Research in the Black Belt of Alabama has primarily been on social perceptions of minorities as land owners and agricultural farmer (Buddhi Gyawali, 2007; Nieva Brown, 2009). There has also been a lot of research that covers a more broad part of the landscape, such as John Carpenter and Tim Baldwin's research on Cerulean Warblers and pool-breeding amphibian ecology in forests.

INSTITUTIONAL BENEFITS & IMPACTS

The Center has positively benefitted the Department of Biological and Environmental Sciences as well as the College of Agricultural, Life, and Environmental Sciences by appealing to students and creating important research in a variety of STEM related fields. Peer-reviewed publications, number of professional presentations given, and number of graduated students directly attests to this.

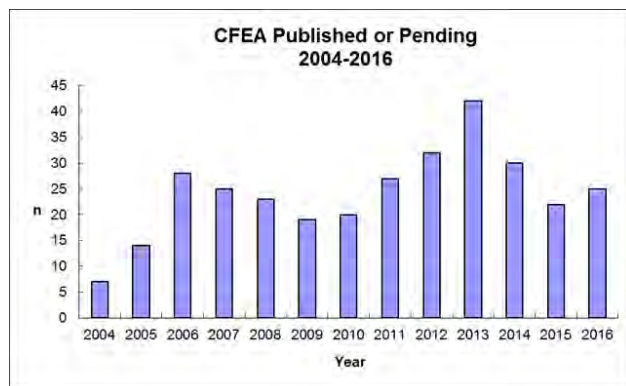
Significant grants and leveraged funds. >\$12 million in R&T dollars or in-kind support from agencies such as the USDA, US-EPA, USDA-FS, NASA, NSF, the State of Alabama, the City of Huntsville, the private sector, and our own institution, AAMU.

Impact to the Center, the College of Agricultural, Life, and Natural Sciences. The Center, through the NSF, made possible the acquisition of other significant grants and leveraged funds. These monies have allowed us to fund research and engage our students in that research. McIntire-Stennis funds became available to the Department through the Center's forest ecosystem research and graduate assistantships. The Center's research professors benefited from 2 months release time for those professors to work on their project and advise MS and PhD students. The center made significant contribution to train STEM related undergraduate students by securing two NSF grants: Research Experience for Undergraduates (REU) and Undergraduate Research and Mentoring in the Biological Sciences (URM) (total \$1.5 million). The Center also has taken a leadership role in international collaborations for research and educational exchanges and established collaborations with countries with China, Brazil, Costa Rica, Honduras, etc. These international efforts have been funded by National Science Foundation, US Department Agriculture and partners in these countries (total ~\$1.5 million). The university has established a long-term collaboration with several institutions in China and established a Confucius Institute on campus (~\$0.5 million). Many our graduate students (>15) received fellowships from National Science Foundation, US Environmental Protection Agency, US Department of Agriculture, and National Aeronautics and Space Administration (NASA) (total ~\$0.75 million).

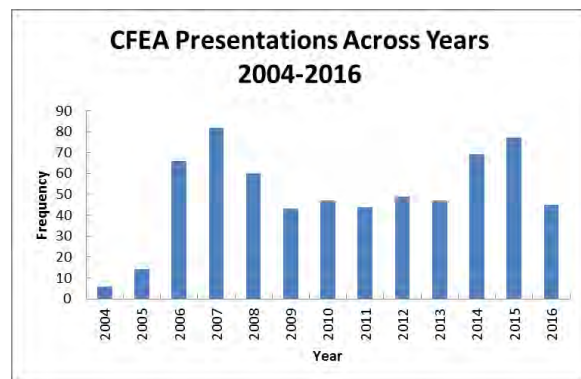
Partners. The Center has established lasting partnerships with local, state, national, and international organizations, governmental bodies, and other learning institutions. A few of these organizations are:

- USDA Forest Service, Southern Research Station
- William B. Bankhead National Forest
- Bankhead National Forest Citizen's Liaison
- USDA Fish and Wildlife Service
- Alabama State Department of Conservation and Natural Resources
- Alabama Cooperative Extension System
- University of Alabama in Huntsville
- Nanjing Forestry University
- Tuskegee University
- North Alabama Center for Educational Excellence
- Nanjing Forestry University, Beijing Forestry University, Beijing Normal University in China
- Chinese Academy of Sciences
- The Brazilian Agricultural Research Corporation (Embrapa)

Peer-reviewed publications.



Professional presentations



EDUCATION & RESEARCH: To provide quality research opportunities for students, especially minorities currently under-represented nationally, and to create and sustain an academic environment that graduates the highest quality scientists in science and technology fields. The Center for Forest Ecosystem Assessment expected to train 30 MS and 10 PhD students within the first five years. Since 2004, we have trained 71 MS and 20 PhD students, with an average graduation rate of 68%. The majority of our students have been and continue to be those from under-represented groups (55% minorities) in STEM fields. In addition to our graduate students, we have trained 183 undergraduate students, including 68 NSF Research Experiences for Undergraduates student participants.

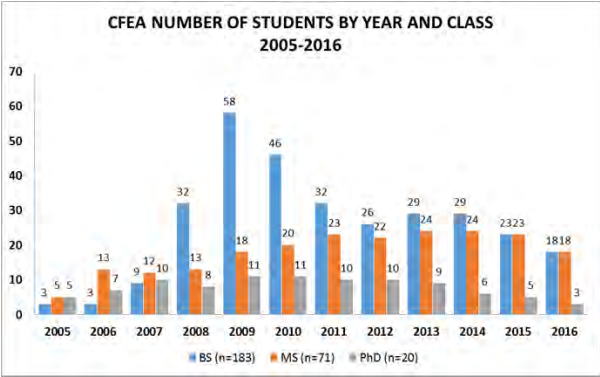


Exhibit VI-2.
Faculty Evaluation Form and Faculty
Activities Report Form

ALABAMA A&M UNIVERSITY
OFFICE OF ACADEMIC AFFAIRS
FACULTY EVALUATION FORM

(Print or Type)

Faculty Member: _____
Last Luben First Middle

Rank and/or Position Title: _____

Tenure Status: _____ Tenured _____ Non-Tenured

School or Major Unit: College of Agricultural, Life and Natural Sciences

Department of Major Sub-Unit: Biological and Environmental Sciences

Faculty Member Load Assignment:

Teaching _____ % Research _____ Service _____ Other _____

Length of Time in Sub-Unit: _____

Length of Time at the University: _____

Dates Covered by this Evaluation: _____

Primary Evaluator and Position Title: _____

INSTRUCTIONS

This instrument is to be used for evaluation of faculty members. The rating scale is:

4 (Exceptional)

Performance that is consistently carried out in an exceptional manner. This level of high quality performance occurs only among a small percentage of faculty members. “Exceptional” ratings must be accompanied by a written justification that clearly shows extraordinary accomplishment.

3 (Above Average)

Performance that is frequently carried out in an excellent manner. This level of performance exceeds expectations for acceptable performance.

2 (Acceptable)

Performance in which the faculty member competently fulfills the general expectations for the position. It is the level most commonly achieved by faculty members. Performance above this level should result in an “Above Average” rating.

1 (Conditionally Acceptable)

Performance fails to meet the “Acceptable” standard but could if certain conditions were fulfilled. Performance at this absolute minimal level will require the faculty member and supervisor to develop and complete a Plan of Work that will raise performance to “Acceptable” by the next rating period. “Conditionally Acceptable” ratings must be accompanied by a written explanation.

0 (Not Acceptable)

A “Not Acceptable” rating will be noted on the faculty member’s record and requires remedial action. It may be the basis for disciplinary action up to and including dismissal. “Not Acceptable” ratings must be accompanied by a written explanation.

X (Not applicable)

Place an “X” in the N/A column.

1.0 Teaching Performance		RATING 0 – 4	N/A (X)
1.1 Course Design			
A. Sets appropriate course objectives and outcomes			
B. Uses effective and innovative teaching methods			
C. Updates course content, develops new courses			
1.2 Effective Presentation			
A. Encourages independent thinking, problem solving			
B. Accommodates various levels of development			
C. Arouses enthusiasm			
D. Explains concepts skillfully			
E. Encourages class participation			
F. Is punctual and prepared for class			
G. Makes relevant assignments			
H. Communicates clearly in English			
1.3 Assessment Measures			
A. Evaluates fairly and objectively			
B. Uses instruments which are relevant to goals and expected outcomes of course			
C. Returns students' work promptly			
D. Keeps students abreast of progress in class			
1.4 Availability to Students			
A. Keeps office hours			
B. Encourages student inquiry			
C. Maintains an approachable and friendly attitude			
1.5 Administrative Responsibility			
A. Submits syllabi, book orders, grades on time			
B. Maintains proper records of students' performance			
		TOTAL SCORE	TOTAL N/A
			0

$$\text{TEACHING RATING} = \frac{\text{TOTAL SCORE}}{20 - \text{TOTAL N/A}} = \frac{\quad}{20 - \text{TOTAL N/A}} = \boxed{\quad}$$

Comments (required for “Exceptional” (4), “Conditionally Acceptable” (1), and “Not Acceptable” (0) ratings):
(The comments justifying a (4) are attached/enclosed at the end of the document)

2.0	Scholarly Activity and Research	RATING 0 – 4	N/A (X)
2.1	Professional Development		
	A. Demonstrates mastery of subject matter		
	B. Continually updates knowledge of field		
	C. Actively pursues a program to obtain additional degrees or certifications.		
2.2	Scholarship and Research		
	A. Seeks grant, proposal, special project opportunities		
	B. Participates in proposal writing		
	C. Obtains funded activity		
	D. Presents workshop, seminar, creative work		
	E. Makes presentations at professional meetings		
	F. Has non-refereed publications or creative works		
	G. Has refereed publications or creative works		
2.3	Management of Funded Activity, If Applicable		
	A. Manages budget effectively		
	B. Completes tasks on time		
	C. Manages project personnel effectively		
	D. Obtains significant results from activity (as shown by follow-up on funding, publications, etc.)		
2.4	Professional Organization Activity		
	A. Belongs to professional organizations		
	B. Participates actively on local professional organizations		
	C. Participates actively in regional or national professional organizations		
	D. Receives awards or honors from professional organizations		
		TOTAL SCORE	TOTAL N/A

$$\text{RESEARCH RATING} = \frac{\text{TOTAL SCORE}}{18 - \text{TOTAL N/A}} = \frac{\text{TOTAL SCORE}}{18 - \text{TOTAL N/A}} = \boxed{}$$

Comments (required for “Exceptional” (4), “Conditionally Acceptable” (1), and “Not Acceptable” (0) ratings):
(The comments justifying a (4) are attached/enclosed at the end of the document)

3.0	Service	RATING 0 – 4	N/A (X)
3.1	Advising		
	A. Advises students effectively		
3.2	Student Activities		
	A. Sponsors or advises student organizations		
	B. Acts as mentor or counselor to students		
	C. Serves on graduate supervisory committees		
3.3	Department		
	A. Participates in activities and committees		
	B. Complies with departmental procedures		
	C. Effectively completes assignments		
	D. Acts as a leader in department activities		
3.4	School		
	A. Participates in activities and committees		
	B. Effectively completes assignments		
	C. Acts as a leader in school activities		
3.5	University		
	A. Participates in university activities		
	B. Serves on university committees		
	C. Complies with university procedures		
	D. Acts as a leader in university activities		
3.6	Community		
	A. Participates in professionally-related community activities		
	B. Presents a positive image of the university		
3.7	Professional Behavior		
	A. Maintains ethical behavior in teaching or research		
	B. Cooperates with and respects colleagues		
		TOTAL SCORE	TOTAL N/A

$$\text{SERVICE RATING} = \frac{\text{TOTAL SCORE}}{19 - \text{TOTAL N/A}} = \frac{\quad}{19 - \text{TOTAL N/A}} = \quad$$

Comments (required for “Exceptional” (4), “Conditionally Acceptable” (1), and “Not Acceptable” (0) ratings):
(The comments justifying a (4) are attached/enclosed at the end of the document)

PERFORMANCE ASSESSMENT

INSTRUCTIONS

Each faculty member will be rated in the three areas of teaching, scholarly activity and research, and service, according to a percentage related to load assignment. Since service is expected of all faculty, at least 10% of the faculty member's performance score should be based on service. The remaining percentage should be allocated between scholarships and teaching, based on the faculty member's load assignment. Since scholarly activity is a requirement of all faculty, at least 10% must be based on scholarly activity and research. The total must add up to 100%.

For example, if a faculty member is assigned $\frac{1}{2}$ time to research and $\frac{1}{2}$ time to teaching, the percentage weighting could be: teaching 40%, scholarly activity 40%, and service 20%.

	% Weighting Related to Assignment Column 1	Score Column 2		% Weighting x Score Col 1 x Col 2
Teaching			(from end of Section 1)	
Scholarly Activity (at least 10%)			(from end of Section 2)	
Service (at least 10%)			(from end of Section 3)	
Total	100%		TOTAL	

Overall Performance Rating

Exceptional	3.50 - 4.00
Above Average	2.50 - 3.49
Acceptable	2.00 - 2.49
Conditionally Acceptable	1.00 - 1.99
Not Acceptable	0.00 - 0.99

OTHER EVALUATIONS

- A. PEERS _____
- B. STUDENTS _____

Signature of
Evaluator: _____ Date: _____

Conference and Comments:

Signature of
Faculty Member: _____ Date: _____

Response:

Comments Justifying an Exceptional (4) Grade

1.0. Teaching Performance

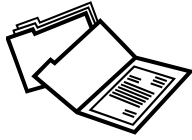
- 1.1. Course Design.
- 1.2. Effective Presentation.
- 1.3. Assessment Measures.
- 1.4. Availability to Students.
- 1.5. Administrative Responsibility.

2.0. Scholarly Activity and Research.

- 2.1. Professional Development.
- 2.2. Scholarship and Research.
- 2.3. Management of Funded Activity.
- 2.4. Professional Organization Activity.

3.0. Service.

- 3.1. Advising.
- 3.2. Student Activities.
- 3.3. Department.
- 3.4. School.
- 3.5. University.
- 3.6. Community.
- 3.7. Professional Behavior.



ANNUAL FACULTY ACTIVITY REPORT (FAR)

2016 - 2017

Name: _____

Date: _____

Present rank: _____

Date acquired: _____

Hired date: _____

Hired Rank: _____

Position activities average of last year:

Instr _____ % Res _____ % Ext _____ % Admin _____ % Other _____ %

Last Degree Received: _____

I. TEACHING _____ % Appointment

List the courses taught over the past 2 years, include 2 spring, fall and summer cycles			
Course No.	Course Title	Semester/Year	% Self Creditable

Courses developed or co-developed			
Course No.	Course Title	Semester/Year	% Self Creditable

Meetings attended in the last year		
Titles / State	Date	Sponsor/Target Group

Undergraduate students whom you advise			
Names	Student #	Classification	Major

Students for whom you provided a great deal of assistance (i.e., in research)			
Names	Student #	Classification	Major

Graduate students advised or thesis/dissertation committees served on as major advisor or committee member				
Names	Student #	Classification	Role	Major

Please provide the following information about your advisees (u-grad/grad) that <u>graduated</u> during the past year (since your last FAR).			
Student Names	Degree/Major (i.e., BS in PLC)	Current Employment or Activity	Contact Info or General Whereabouts

Describe any teaching innovations used in your classes

Describe any unique student assessment techniques utilized in courses

II. RESEARCH _____ % Appointment

List contracts or grants presently active or completed (2 year history)			
Exact Project Title (as submitted on proposal)	Role (PI or CoPI)	% Time	Agency

List proposals submitted			
Exact Proposal Title (as submitted on proposal)	Submitted (mmm yyyy)	Status	Agency

List papers published (list as complete citations)

List of popular articles (tech-transfer type articles)

List abstracts published (list as citations)

Remarks (manuscripts in advanced stages of preparation, etc. List as citations)

Other accomplishments (i.e., release of new varieties, patents, etc)

III. EXTENSION

List university and professional service and activity in which you were active (i.e., committee memberships, offices held, extension-type activities, consulting, etc)

<u>University:</u>

<u>School:</u>

<u>Department:</u>

Public Service: (i.e., Jaycees, Shriners, Scouts, Community Watch, Advisory Boards, etc)

IV. ADMINISTRATIVE _____ % Appointment

List administrative duties

V. GOALS

Please list a few goals that you wish to set for yourself or for your group the next academic year

Please list a few goals that you wish to suggest for your Center or the Department for the next academic year