Food Science

Department of Food and Animal Sciences
• What is Food Science?
• Careers opportunities in Food Science
• Requirements for admission
• Length of time for completion
• Research areas
• Faculty
• Scholarships
Have you ever wondered?

• If low fat cookies taste the same as regular ones?

• Or how the flavor of a new food product is chosen?

• Or why packaged ready-to-eat cut fruit stays crisp and does not turn brown?
Then Food Science may be a career for you!!
What is Food Science?

Food Science is the discipline in which biology, physical sciences, and engineering are used to study the nature of foods, the causes of their deterioration, and the principles underlying food processing.
What does a Food Scientist do?

A Food Scientist studies the physical, microbiological, and chemical makeup of food. Depending on their area of specialization, Food Scientists may develop ways to process, preserve, package, or store food, according to industry and government specifications and regulations.
Why Food Science?

- Food industry is the largest manufacturing sector with more than $600 billion in retail sales
- Generally more positions available than graduating students to fill them
  - USDA reports that between 2005 and 2020, U.S. universities will not graduate enough people with food science degrees to meet demand
It takes a lot of work and resources to make a food product!
Who can you work for?

- Food processors
- Ingredient manufacturer/suppliers
- Academia
- Self-employed/Consultant
- Government
- Non-government organizations
- Foodservice
- Testing laboratory
What kind of jobs are available?

- Product Development Scientist
- Processing Engineer
- Microbiologist
- Sensory Scientist
- Culinary Scientist
- Flavor Chemist
- Packaging Engineer
- Basic Research
- Analytical Chemist
- Academia
- Government Official
- Operations
- Logistics
- Supply Chain Management
- Marketing
- Regulatory Affairs
- Legal Affairs
- Government Relations
- Quality Assurance
- Food Safety
Why Food Science?

- **It is an applied science:** You could see the product you worked on in the grocery store.
- **It’s fun!** Food scientists get to play with their food!
- **It’s exciting!** Food scientists never get bored. They work in the lab, in the pilot plant, and travel to different plants sometimes all around the world.

The Food Network’s Alton Brown at IFT’s 2006 Annual Meeting
Why Food Science?

2013 IFT Employment & Salary Survey:

- Median salary was $102,000 (Men)
- Median salary was $79,000 (women)
- The median salary by degree was:
  - BS: $75,000
  - MS: $90,000
  - Ph.D.: $95,000-105,000

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How do you become a food scientist?

• Requirements for admission
  – MS Food Science
    • BS (Biology, Nutrition, Mathematics, Chemistry or agriculture)
      - Students holding degrees in other fields will be required to take additional courses (3 prerequisites-Food Chemistry, Food Microbiology and Food Engineering)
    • Satisfy general admission requirements of the School of Graduate Studies
      • Minimum GPA -2.75
  – Thesis option-30 hours (24 hours of course work, 1 hour seminar, 6 hours thesis research)
Program Requirements

Thesis option
- 30 hrs (24 hours of course work, 1 hr seminar, 6 hrs thesis research)
  • 12 hrs at the 600 level (minimum 9 hours in area of emphasis)
- Maintain a GPA of 3.0
- Successful defense of thesis research

• Non-Thesis option
- 36 hours (32 hrs of course work, 1 hr seminar, 4 hrs Masters report)
  • 12 hrs at the 600 level (minimum 9 hrs in area of emphasis)
- Maintain a GPA of 3.0
- Successful completion of Masters report
Research
Research Areas-Food Science

- Food Chemistry
- Food Engineering
- Food Microbiology
- Sensory Science
- Nutritional Biochemistry
- Food/Nutritional Toxicology
- Food Nutrition & Health
- Food Safety and Defense
- Food Processing & Packaging
- Product Development
- Food Biochemistry
- Education
6 FACULTY

- Dr. Martha Verghese*  Professor  Nutritional Biochemistry/Food Product Development
- Dr. Lloyd T. Walker  Professor  Food Chemistry
- Dr. Joshua Herring  Associate Professor  Food Biochemistry
- Dr. Judith Boateng  Assistant Professor  Food Toxicology/Analysis
- Dr. Lamin. Kassama  Assistant Professor  Food Engineering/Processing
- Dr. A. Jackson-Davis  Assistant Professor  Food Microbiology/Safety

4 Research Staff

Dr. Rajitha Sunkara  Post Doctoral Research Associate
Dr. Jennifer Patterson  Post Doctoral Research Associate
Mr. Louis Shackelford  Research Associate
Mr. Simon Ogutu  Research Associate

* Chair
Are there scholarships?

• Yes!

• The Institute of Food Technologist’s offers scholarships to graduates who are enrolled in an accredited or approved food science program.

• General Mills Scholarship

• Cargill Scholarship
Agricultural Research Centre
Department of Food and Animal Sciences
Extracurricular Activities

• Field Trips
Extracurricular Activities

• Institute of Food Technologist Annual Scientific Meeting and Food Expo