Earn a Professional Career-Enhancing Master’s Degree in Systems & Materiel Engineering

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DEGREE REQUIREMENTS

The Master of Engineering degree in Systems and Materiel Engineering is a professional degree and does not require a thesis, but requires a capstone project. The program requires a minimum of 30 semester hours of graduate-level courses with a cumulative grade-point-average of 3.0.

Students may, upon departmental approval, transfer a maximum of twelve semester hours of approved graduate credits from an accredited institution.

CURRICULUM

Students are provided great flexibility in choosing electives that align with their career interests and goals. The program currently offers elective courses in the following disciplines:

- Civil Engineering
- Electrical Engineering
- Logistic & Supply Chain Management
- Mechanical Engineering
- Systems Engineering

In consultation with a graduate faculty advisor, a student can choose elective courses from other approved graduate degree programs.

The 30-hour curriculum consists of:

Core Courses – 15 Semester Hours

- GEN 601 Life-Cycle Design Engineering (3)
- GEN 603 Analysis & Simulation Methods (3)
- GEN 604 Test and Evaluation Engineering (3)
- GEN 690 Materiel Engineering Project (3)
- SYE 560 Engineering Project Management (3)

Approved Electives – 15 Semester Hours

Students must choose electives that align with their career interests and goals. The program currently offers elective courses in the following disciplines:

- Civil Engineering
- Electrical Engineering
- Logistic & Supply Chain Management
- Mechanical Engineering
- Systems Engineering

CIVIL ENGINEERING

- CE 501 Structural Steel Design (3)
- CE 502 Reinforced Concrete Design (3)
- CE 504 Hydraulic Engineering and Design (3)
- CE 510 Transportation Engineering & Design (3)
- CE 512 Pavement Systems (3)
- CE 515 Transportation Material Characteristics (3)
- CE 555 Wastewater Treatment (3)

ELECTRICAL ENGINEERING

- EE 503 Feedback Systems Analysis and Design (3)
- EE 504 Communication Theory (3)
- EE 505 Computer Telephony (3)
- EE 510 Microwave Engineering (3)
- EE 513 Rocket Propulsion (3)
- EE 520 Power Systems I (3)
- EE 525 High Performance Computing and Networks (3)
- EE 531 Advanced Semiconductor Engineering (3)
- EE 541 Digital Signal Processing (3)
- EE 551 Integrated Circuit Fabrication (3)
- EE 552 Semiconductor Instrumentation (3)

LOGISTICS AND SUPPLY CHAIN MANAGEMENT

- LSM 536 Logistics & Supply Chain Management (3)
- LSM 571 Adaptive Supply Chain Management (3)
- LSM 572 Logistics & Supply Chain Risk Management (3)

MECHANICAL ENGINEERING

- ME 512 Analysis and Synthesis of Gas Turbines (3)
- ME 513 Rocket Propulsion (3)
- ME 516 Gas Dynamics (3)
- ME 572 Economic Evaluation of Design (3)
- ME 581 Quality and Reliability Assurance (3)
- ME 582 Operations Planning and Scheduling (3)

SYSTEMS ENGINEERING

- GEN 602 Product Assurance Engineering (3)
- SYE 523 Statistical Methods for Engineers (3)
- SYE 530 Fundamentals of Systems Engineering (3)
- SYE 532 Systems Safety (3)
- SYE 534 Quality Management for Engineers (3)
- SYE 570 Verification, Validation, & Testing (3)