

# Program Mission, Objectives, Outcomes, and Enrollment Numbers

(as of 9/30/2019)

## MSE Program Mission

The Materials Science and Engineering Department (MSE) prepares students for engaging careers in academia, industry, and the public sector. The MSE program stands out for its strong collaborations with industry, extensive research and design opportunities, and an evolving curriculum that covers both engineering fundamentals and emerging technologies. The UConn MSE program mission statement consists of four components:

- Prepare students for careers in Materials Science and Engineering
- Perform research that advances the frontiers of engineering and science
- Provide a State and national center of materials expertise
- Promote recognition, open communications and personal development among faculty, staff and students.

## Program Educational Objectives (PEOs)

### Program Educational Objective 1:

Within three to five years after graduation, in their professional careers and/or graduate programs, our alumni/ae will have progressed in responsible professional positions, pursued continual learning, and/or will have attained or will be successfully moving toward attaining post-graduate degrees.

### Program Educational Objective 2:

Within three to five years after graduation, in their professional careers and/or graduate programs, our alumni/ae will have earned recognition for applying and continually expanding special, in-depth competencies in materials design, selection, processing, characterization, modeling and simulations.

### Program Educational Objective 3:

Within three to five years after graduation, in their professional careers and/or graduate programs, our alumni/ae will have earned recognition for applying and continually expanding professional skills of critical and cooperative thinking, communication, leadership, teamwork, including in multidisciplinary settings, innovation, and project management.

### Program Educational Objective 4:

Within three to five years after graduation, in their professional careers and/or graduate programs, our alumni/ae will have become engaged with and will be contributing to professional societies. Our alums will also begin to identify and promote opportunities for collaboration with the MSE department, faculty, students, and other alumni/ae.

## **Student Outcomes:**

Our graduating students have:

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. An ability to communicate effectively with a range of audiences
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

## **Department of Materials Science and Engineering Enrollment Numbers**

(as of Fall 2019)

Freshman: 10

Sophomore: 22

Juniors: 35

Seniors: 74

**TOTAL: 141**

Number of students who graduated in AY 2018-2019: 42