



# Graduate Academic Learning Compact

## Mechanical Engineering

### Program Mission Statement

The mission of the School of Engineering Master of Science Programs is to prepare students to function in a demanding technical environment where their advanced engineering education will allow them to solve substantial problems in their field of expertise. Through our commitment to engineering application and research and encouraging students to participate in such activities we will provide opportunities for expanded content knowledge and development of critical thinking skills inside and outside of classroom settings. Students graduating with an M.S. in Civil, Electrical, or Mechanical Engineering will receive the education that allows them to pursue a doctoral degree.

### Student Learning Outcomes

#### Graduates will be able

##### Knowledge of Literature of Discipline (req)

- be able to apply advanced engineering techniques to identify and solve technical problems.
- be able to communicate technical data, analyses, and conclusions to a technical audience.
- be able to conduct literature review on a topic relevant to the area of study and to condense such review into a cohesive essay.

##### Independent Research/ Professional Practice (req)

- be able to form conclusions and recommendations of results obtained through advanced engineering analyses, modeling, and/or experimentation.

### Assessment Approaches

The learning outcomes listed above involve depth of knowledge within a specific area of the student's chosen engineering discipline, critical thinking ability, and communications skills. These outcomes are achieved by the successful completion of a cohesive program. Students complete a thesis as part of the program. The master's thesis is an original work that adds to the understanding of an engineering problem. It requires the deep knowledge and critical thinking skills developed in the program of study to advance engineering knowledge or solve an engineering problem. The successful completion of a thesis requires well-developed writing and oral communications skills. This capstone experience in conjunction with successfully completed course work measures the outcomes enumerated above for the students choosing the thesis option.