

Department: Mechanical and Industrial Engineering
Program: M.S. in Mechanical Engineering

Skill Set	Professional Application	Delivery of Skill Set Courses, extracurricular activities, etc. in which the skill set is introduced (I), reinforced (R), or mastered (M)
Core Skill: Professionalism/Work Ethic	Understand ethical implications of their professional conduct as engineers.	MEEN 5306: Thesis MEEN 5305: Research Project, MEEN 5321: Adv. Fluid Mechanics MEEN 5330: Continuum Mechanics MEEN 5314: Adv. Finite Elements Methods
Core Skill: Digital Technology	Utilize computer-based analysis/programming tool. Use relevant software to perform advanced analysis and design on real-world problems.	MEEN 5306: Thesis MEEN 5305: Research Project, MEEN 5321: Adv. Fluid Mechanics MEEN 5330: Continuum Mechanics MEEN 5318: Adv. Dynamics
Core Skill: Oral/Written Communication	Present analysis results both verbally and in writing. Give clear and coherent presentations, and write coherent, well organized technical reports.	MEEN 5306: Thesis MEEN 5305: Research Project,
Discipline-based Skill: Identify, formulate, and solve complex engineering problems	Formulating and solving complex engineering problems using necessary tools.	MEEN 5306: Thesis, MEEN 5305: Research Project MEEN 5321: Adv. Fluid Mechanics MEEN 5330: Continuum Mechanics MEEN 5318: Adv. Dynamics
Discipline-based Skill: Produce quality scholarship through independent effort.	Designing a new system and solving a complex engineering problem that have not been done previously. Professional publications and presentations.	MEEN 5306: Thesis MEEN 5305: Research Project,
Acquire techniques, skills, and modern engineering tools necessary for engineering practice.	Gaining skills and experiences and proficiency in hardware and software such as MATLAB, SolidWorks, ANSYS, Comsol, etc.	MEEN 5306: Thesis MEEN 5305: Research Project, MEEN 5335: Adv. Robotics and Auto MEEN 5326: Control Sys. Eng.
Discipline-based Skill: Design a system, component, or process to meet desired needs within realistic constraints	Have practical knowledge and experience in designing a component or system, including design studies, detailed design, critical design reviews, fabrication and testing.	MEEN 5306: Thesis MEEN 5305: Research Project MEEN 5301: Adv. Manufacturing MEEN 5335: Adv. Robotics and Auto MEEN 5326: Control Sys. Eng.