

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

Skill Set	Professional Application	Delivered to Skill Set Courses, extracurricular activities, etc. in which the skill set is introduced (I), reinforced (R), or mastered (M).
Core Skill: Critical Thinking & Problem-Solving Skills	Engineering problem-solving using high level programming language and numerical computing.	MEEN 1320: Elem Num Meth & Engr Prob Solv., MEEN 2302: Mech. II MEEN 3344: Materials Science MEEN 3392: Fluid Mechanics
Core Skill: Team work /Collaboration	Reasonably participate in or manage their own multi-disciplinary design project with their team.	MEEN 1320: Elem Num Meth & Engr Prob Solv., MEEN 2302: Mech. II MEEN 4263: Mech Eng Design Projects I MEEN 4264: Mech Eng Design Projects II
Core Skill: Professionalism/Work Ethic	Understand ethical implications of their professional conduct as engineers. Obtain an appreciation for life-long learning, contemporary engineering issues, and global engineering solutions	MEEN 1320: Elem Num Meth & Engr Prob Solv., MEEN 3352: Kinematics of Machines MEEN 4344: Control of Systems MEEN 4264: Mech Eng Design Projects II
Core Skill: Digital Technology	Utilize computer-based analysis/programming tool. Use relevant software to perform basic analysis on real-world problems.	MEEN 1320: Elem Num Meth & Engr Prob Solv., MEEN 3352: Kinematics of Machines MEEN 4344: Control of Systems MEEN 4264: Mech Eng Design Projects II
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 1320: Elem Num Meth & Engr Prob Solv., MEEN 4344: Control of Systems MEEN 4263: Mech Eng Design Projects I MEEN 4264: Mech Eng Design Projects II
Discipline-based Skill: Identify, formulate, and solve complex engineering problems	Understand and determine equilibrium (or operating) points. Conduct necessary supporting analyses. Obtain solutions to systems of linear equations.	MEEN 1320: Elem Num Meth & Engr Prob Solv., MEEN 3350: Machine Design I MEEN 4344: Control of Systems MEEN 4264: Mech Eng Design Projects II
Discipline-based Skill: Apply engineering design to produce solutions	Design and implement appropriate controllers based on given control specifications. Synthesis, analysis and optimization of a mechanical system	MEEN 1320: Elem Num Meth & Engr Prob Solv., MEEN 3350: Machine Design I MEEN 4344: Control of Systems MEEN 4264: Mech Eng Design Projects II
Discipline-based Skill: develop and conduct appropriate experimentation	Have practical knowledge and experience in designing a component or system, including design studies, detailed design, critical design reviews, fabrication and testing.	MEEN 4344: Control of Systems MEEN 4263: Mech Eng Design Projects I MEEN 4264: Mech Eng Design Projects II