MECHANICAL ENGINEERING (MEE)

MEE 100 Selected Topics (1-6 Credits)
Engineering & Comp Sci
Exploration of a topic (to be determined) not covered by the standard curriculum but of interest to faculty and students in a particular semester.
Repeatable

MEE 200 Selected Topics (1-6 Credits)
Engineering & Comp Sci
Exploration of a topic (to be determined) not covered by the standard curriculum but of interest to faculty and students in a particular semester.
Repeatable

MEE 270 Experience Credit (1-6 Credits)
Engineering & Comp Sci
Participation in a discipline- or subject-related experience. Students must be evaluated by written or oral reports or an examination. Limited to those in good academic standing.
Repeatable

MEE 285 Intro/Computers in Design (3 Credits)
Engineering & Comp Sci

MEE 290 Independent Study (1-6 Credits)
Engineering & Comp Sci
In-depth exploration of a problem or problems. Individual independent study upon a plan submitted by the student. Admission by permission of supervising instructor or instructors and the department.
Repeatable

MEE 300 Selected Topics (1-6 Credits)
Engineering & Comp Sci
Exploration of a topic (to be determined) not covered by the standard curriculum but of interest to faculty and students in a particular semester.
Repeatable

MEE 332 Machine Design (4 Credits)
Engineering & Comp Sci
Introduction to the design process. Design and analysis of machine components such as springs, gears, shafts, keys, drive chains and belts.
Prereq: ECS 325 and ECS 222
Shared Competencies: Critical and Creative Thinking (https://coursecatalog.syracuse.edu/shared-competencies/critical-and-creative-thinking/); Civic and Global Responsibility (https://coursecatalog.syracuse.edu/shared-competencies/civic-and-global-responsibility/); Communication Skills (https://coursecatalog.syracuse.edu/shared-competencies/communication-skills/)

MEE 380 International Course (1-12 Credits)
Engineering & Comp Sci
Offered through SUAbroad by educational institution outside the United States. Student registers for the course at the foreign institution and is graded according to that institution's practice. SUAbroad works with the S.U. academic department to assign the appropriate course level, title, and grade for the student's transcript.
Repeatable

MEE 400 Selected Topics (1-6 Credits)
Engineering & Comp Sci
Exploration of a topic (to be determined) not covered by the standard curriculum but of interest to faculty and students in a particular semester.
Repeatable

MEE 416 Mechanical Engineering Laboratory (3 Credits)
Engineering & Comp Sci
Experiments in energy systems, air conditioning & refrigeration systems, turbomachine, heat transfer, fluid dynamics, solid mechanics, and control systems performed in small groups. Written reports and oral presentations required.
Prereq: MAE 251 and MAE 315 and MAE 341 and MAE 355
Shared Competencies: Critical and Creative Thinking (https://coursecatalog.syracuse.edu/shared-competencies/critical-and-creative-thinking/); Communication Skills (https://coursecatalog.syracuse.edu/shared-competencies/communication-skills/); Scientific Inquiry and Research Skills (https://coursecatalog.syracuse.edu/shared-competencies/scientific-inquiry-and-research-skills/)

MEE 431 Manufacturing Processes (3 Credits)
Engineering & Comp Sci
Fundamentals of casting, forming, machining, assembly, and other manufacturing processes. Measurement and tolerancing. Design for manufacture and assembly.
Prereq: MAE 284 and ECS 326
Shared Competencies: Critical and Creative Thinking (https://coursecatalog.syracuse.edu/shared-competencies/critical-and-creative-thinking/); Civic and Global Responsibility (https://coursecatalog.syracuse.edu/shared-competencies/civic-and-global-responsibility/)

MEE 453 Fund of Therodynamics II (3 Credits)
Engineering & Comp Sci

MEE 454 Air Conditioning (3 Credits)
Engineering & Comp Sci
sychro-metrics, air conditioning for human comfort and industrial processes, heating and cooling loads, air distribution, a/c systems, design project.
Prereq: MAE 251

MEE 456 Applications of Heat Transfer (3 Credits)
Engineering & Comp Sci
Applications of principles of heat transfer to analysis and design of heat-exchange and dissipation devices. Boiling and condensation heat transfer. Aspects of environmental heat transfer, such as thermal pollution and its control.
Prereq: MAE 355

MEE 470 Experience Credit (1-6 Credits)
Engineering & Comp Sci
Participation in a discipline- or subject-related experience. Students must be evaluated by written or oral reports or an examination. Limited to those in good academic standing.
Repeatable

MEE 471 Design Practice (3 Credits)
Engineering & Comp Sci
Topics in design methodology and development, professional practice, costing, intellectual property, use of modern engineering tools.
Prereq: MAE 251 and MAE 284 and MEE 332
Shared Competencies: Civic and Global Responsibility (https://coursecatalog.syracuse.edu/shared-competencies/civic-and-global-responsibility/); Communication Skills (https://coursecatalog.syracuse.edu/shared-competencies/communication-skills/); Ethics and Integrity (https://coursecatalog.syracuse.edu/shared-competencies/ethics-and-integrity/)

MEE 472 Synthesis of Mechanical Systems (3 Credits)
Engineering & Comp Sci
Second course in the capstone design sequence. Development through completion of design projects. Elements of planning for production and manufacture, sustainability, intellectual property.
Prereq: MEE 471
Shared Competencies: Communication Skills (https://coursecatalog.syracuse.edu/shared-competencies/communication-skills/)

MEE 473 Engineering Design Analysis (3 Credits)
Engineering & Comp Sci
Design problems that integrate the principles of diverse engineering courses. Use of ANSYS as a modeling and analysis tool.

MEE 475 Special Design Project (3 Credits)
Engineering & Comp Sci
Special design project carried out by student under supervision of staff member.

MEE 480 International Course (1-12 Credits)
Engineering & Comp Sci
Offered through SUAbroad by educational institution outside the United States. Student registers for the course at the foreign institution and is graded according to that institution's practice. SUAbroad works with the S.U. academic department to assign the appropriate course level, title, and grade for the student's transcript.
Repeatable

MEE 483 Acoustics & Noise Control (3 Credits)
Engineering & Comp Sci

MEE 486 Introduction to Nuclear Power (3 Credits)
Engineering & Comp Sci
Application of engineering principles to nuclear power reactors. Relation of nuclear power to present and future world energy sources. Elements of reactor theory. Power removal, utilization, and economics. Design considerations and examinations of nuclear power plants.
Prereq: MAE 251

MEE 487 Design of Solar-Energy Systems (3 Credits)
Engineering & Comp Sci
Solar radiation, collectors, and storage. Design of solar space heating, cooling; water-heating systems. Solar electric systems. Economics of solar design. Applications of heat pumps, energy conservation techniques.
Prereq: MAE 251

MEE 490 Independent Study (1-6 Credits)
Engineering & Comp Sci
In-depth exploration of a problem or problems. Individual independent study upon a plan submitted by the student. Admission by consent of supervising instructor or instructors and the department.
Repeatable

MEE 499 Honors Capstone Project (1-3 Credits)
Engineering & Comp Sci
Completion of an Honors Capstone Project under the supervision of a faculty member.
Repeatable 3 times for 3 credits maximum

MEE 500 Selected Topics (1-6 Credits)
Engineering & Comp Sci
Exploration of a topic (to be determined) not covered by the standard curriculum but of interest to faculty and students in a particular semester.
Repeatable

MEE 524 Microprocessors in Mechanical and Manufacturing Engineering (3 Credits)
Engineering & Comp Sci
Introduction to the microprocessor and its various configurations used in controlling machine operations, data acquisition, etc. Project-oriented work involving program development in machine, assembly, and basic languages. Micro-computers used for off-line program development. Not open to electrical and computer engineering students.

MEE 535 Matrls & Procs in Manuf (0 Credits)
Engineering & Comp Sci

MEE 571 Computer Aided Design (3 Credits)
Engineering & Comp Sci
Use CAD software and hardware in the solution of mechanical engineering problems. Computer graphics, computer aided geometry (space curves, splines, patches) design, solid modeling, optimization and an introduction to finite element method.
Prereq: MAE 284 and MAT 485

MEE 584 Noise from Industrial Flow Systems (3 Credits)
Engineering & Comp Sci
Basic fluid mechanics and acoustics. Noise generation by fluid flows and their interaction with solid bodies. Types of noise sources. Analysis and control of such flow noise sources in manufacturing, transportation, propulsion, power generation, and industrial control systems.
Prereq: MAE 341

MEE 585 Fuel & Energy Utilization (3 Credits)
Engineering & Comp Sci