General Information

Mumford Technology University College offers the following Undergraduate degree in Mechanical Engineering: B.E. (M. E)

Programs and Objectives

Mechanical Engineering is a versatile and broad profession. Mechanical Engineering deal with a wide range of topics ranging from Fluid Dynamics, Robotics and Mechatronics, Solid mechanics, Thermal Sciences, Computer Hardware , Transportation Vehicles, Manufacturing, Assembly lines, Polution Control, Biomechanics, Medical Instruments, and Heating and ventilating and air conditioning.

Our program is carefully designed to meet industry's criteria for successful engineers. Our program follows the guide lines of (ABET) Accreditation Board for Engineering and Technology of U.S.A. It stresses fundamentals as well as practice. It emphasizes creative thinking and problem solving. It emphasizes written and oral communication, team work, design, time management, and computer utilization and communication through graphics. Our objective is education for career-long learning, that give students the educational tools which enable them to deal with challenging advancing technologies.

Undergraduates are trained in fundamental principles of systems involving fluid flows, ranging from demonstrating Bernulli's principle to assessing the lift and drag characteristics are examined in undergraduate curriculum. The school has well equipped laboratory where students reinforce what is learned in the lecture halls with hands-on practical training. Hence, our graduates are industry ready and are prepared to face the challenges in industry.

Declaration of Major

Students in the four-year Bachelor of Engineering program can declare their major after the first year, or they can declare their major at the time of Admission. All engineering major require hundred and forty one credits to graduate.

Four – Year Engineering

Curricula
First – Year Program

Pre-Engineering Courses

Biology 90 Introduction to Biology (0 cr.)

The strategy of life: The basic properties of living Systems with emphasis on human beings as functioning Biological entities. Prereq. Math 80

English University Skills 1 (0 cr.)

This course is designed to prepare the students for successful performance in university courses. Assignment to this course is based on the level of competence indicated by the student's high school English record.

English University Skills 2 (0 cr.)

Evaluation of individual reading and study skills in English. Instruction and practice is based on individual basic reading Comprehension, vocabulary, and study skills to university Content areas.

Chemistry 90 Introduction to Chemistry (0 cr.)

The fundamental principles of chemistry and their applications to social issues. Problem solving in chemistry. Prereq. Math 80, Coreq. Math 90

Math 70 Elementary Algebra (0 cr). Review of arithmetic, algebraic expressions, Linear equations, monomial fractions, graphing lines, polynomials, verbal problems.

Math 80 Fundamentals of Algebra and Geometry (0 cr.). Linear equations and graphs, functions, the point-slope equation, linear in qualities, polynomial functions, rational expressions, radicals, quadratic equations, sequences, series, and the binomial theorem. Prereq. Math70

Math 90 Intermediate Algebra and Trigonometry (0 cr.). Rational expressions, rational exponents and radicals, conic sections and systems of equations, binomial theorem, introduction to trigonometry. Prereq. Math 80

Math 100 Pre-Calculus (0cr) Intervals, inequalities, introduction to functions, polynomial and rational functions, exponential and logarithmic functions, trigonometric functions and formulas Prereq. Math 90

First- Year (Freshman year)	
First-Term	
Math 101 Analytic Geometry and Calculus I	(3 cr.)
Chem 103 General Chemistry for Engineers	(3 cr.)
Engl 101 Freshman Composition	(3 cr.)
Phys 107 General Physics 1	(4 cr.)
Engr 101 Engineering Graphics (Design)	(1 cr.)
Engr 102 Engineering Orientation	(3 cr.)
Total	**(17 cr.)**
Second –Term	

Math 102 Analytic Geometry and Calculus II	(3 cr.)
Chem 104 General chemistry for Engineers II	(3 cr.)
Phys 108 General Physics II	(3 cr.)
Engr 103 Introduction to Computers for Engineers	(3 cr.)
Econ 101 Engineering Economics	(3 cr.)
Engl 102 Freshman Composition II	(3 cr.)
Total	**(18 cr.)**
Second-Year Program (Sophomore Year)	
First-Term	
Math 203 Analytic Geometry and Calculus III	(3 cr.)
Engr 204 Engineering Circuit Analysis 1	(3 cr.)
EE 205 Circuit analysis Lab.	(1 cr.)
EE 206 Digital Logic Design	(3 cr.)
EE 207 Digital Logic Design Lab	(1 cr.)
Engr 210 Thermodynamics I	(3 cr.)
M. E. 246 Engineering Mechanics I	(3 cr.)
Total	**(17 cr.)**
Second-Term	
Math 291 Methods in Differential Equations	(3 cr.)
M. E. 247 Engineering Mechanics II	(3 cr.)
M. E. 231 Thermodynamics II	(3 cr.)
M. E. 230 Mechanics of Materials	(3 cr.)
EE241 Electronics I	(3 cr.)
ENGR 276 Engineering Economics	(3 cr.)
Total	**(18 cr.)**
Third-Year (Junior year)	
First-Term	
Math 392 Linear Algebra and Vector Analysis	(3 cr.)
M. E. 361 Engineering Materials	(3 cr.)
M. E. 311 Mechatronics	(3 cr.)
EE 342 Electronics II	(3 cr.)
M. E. 356 Fluid Mechanics	(3 cr.)
Phyl 101 Philosophy 1	(3 cr.)
Total	**(18 cr.)**
Second-Term	

M. E. 371 Computer-Aided Design	(3 cr.)
M. E. 472 Mechanical Systems Design	(3 cr.)
M. E. 421 Systems Modeling, Analysis and Control	(3 cr.)
M. E. 433 Heat Transfer	(3 cr.)
M. E. 322 Numerical Methods and Fundamental Computer Applications in Mechanical Engineering	(3 cr.)
EE 366 Electronics Circuits and Devices (3 cr.)	(3 cr.)
Total	**(18 cr.)**
Fourth- Year (Senior year)	
First-Term	
EE 417 Stochastic Processes and Systems	(3 cr.)
M. E. 462 Manufacturing Processes and Materials	(3 cr.)
M. E. 471 Energy Systems Design	(3 cr.)
M. E. 473 Senior Design Project I	(3 cr.)
M. E. 436 Aero-Thermal Fluids	(3 cr.)
Philo 309 Social and Political Philosophy	(3 cr.)
Total	**(18 cr.)**
Second-Term	
M. E. 474 Senior Design Project II	(3 cr.)
M. E. 472 Mechanical Systems Design	(3 cr.)
M. E. 431 Mechanical Properties of Materials	(3 cr.)
M. E. 441 Advanced Stress Analysis	(3 cr.)
• Elective From Social Sciences	(3 cr.)
• Elective From Philosophy	(3 cr.)
Total	**(18 cr.)**