ENGINEERING

Mechanical Engineering Track

School of Mathematics, Science & Engineering

Degree Overview

Engineering challenges in the 21st century require highly skilled, highly educated professionals. The demand for engineers in the U.S. grows every year. The modern engineer must be able to balance technology with the real world concerns of human resources and social issues. A student who graduates with Bachelor of Science in Engineering (BSE) degree will bring a unique set of skills to any future career.

Mechanical Engineering Track

The BSE degree combines a strong core of Math, Science and Engineering courses with an intensive study in a designated Track. UIW Engineering gives a broad knowledge of general engineering and a strong foundation in mathematics. The Mechanical track courses will cover the following topics, among others—mechanical vibrations, degrees of freedom for movement in a structure, stress analysis of elastic solids, finite elements, stress in solids, fatigue failure, gears, springs, thermophysical properties, heat transfer, heat exchangers. For example, a student would learn the design behind a wind turbine, a vehicle, or industrial equipment. Students would be prepared to pursue a Master's degree in Mechanical Engineering

Pre-Engineering at UIW

UIW also offers a Pre-Engineering program, which emphasizes study in math and science as a preparation for a degree in science or engineering. The program is for students who may want to transfer to another school for their engineering degree. The 2-year UIW program provides a strong background in Science, Math, and Computer Programming.

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Bachelor of Science in Engineering - Mechanical Engineering Track
SCHOOL OF MATH, SCIENCE, & ENGINEERING
2015-2017

Freshman Year: Fall	Hrs.
CHEM 1301 Chemical Principles I	3
MATH 2312 Calculus I	3
ENGL 1311 Composition I	3
ENGR 1201 Introduction to Engineering	2
ENGR 1310 Engineering Graphics CAD I	3
ECON 2301 Macroeconomics	3
Total hours	17
Sophomore Year: Fall	
MATH 2322 Linear Algebra	3
ENGR 2330 Engineering Prob & Statistics	3
ENGR 2305 Engineering Physics I	3
ENGR 2105 Engineering Physics I Lab	1
ENGL 2310 World Literature Studies	3
Modern Language I	3
Total hours	16
Junior Year: Fall	
ENGR 3340 Numerical Methods	3
ENGR 4375 Thermodynamics	3
ENGR 4399 Special Topics	3
HIST 1311, 1312, 1321, 1322	3
Mechanical Track Course	3
Total hours	15
Senior Year: Fall	
ENGR 3460 Circuit Analysis and Lab	4
RELS 1305, 1315, 1325, or 1327	3
ENGR 3455 Mechanics of Materials and Lab	4
DWHP 1200 Dimensions of Wellness	2
Mechanical Track Course	3
Total hours	16

Freshman Year: Spring	Hrs.
CHEM 1302 Chemical Principles II	3
CHEM 1203 General Chemistry Lab	2
MATH 2313 Calculus II	3
ENGL 1312 Composition II	3
ENGR 1312 Engineering Graphics CAD II	3
PEHP 11xx Physical Education	1
Total hours	15
Sophomore Year: Spring	
ENGR 2340 Computer Programming	3
MATH 2314 Differential Equations	3
ENGR 2306 Engineering Physics II	3
ENGR 2106 Engineering Physics II Lab	1
PHIL 1381 Introduction to Philosophy	3
Modern Language II	3
Total hours	16
Junior Year: Spring	
ENGR 3430 Engineering Analysis and Lab	4
ENGR 4399 Special Topics	3
ENGR 3350 Statics	3
Fine Arts Core	3
Mechanical Track Course	3
Total hours	16
Senior Year: Spring	
ENGR 3462 Electronics and Lab	4
Upper level RELS or PHIL	3
ENGR 4470 Fluid Mechanics and Lab	4
ENGR 4490 Senior Capstone	4
Mechanical Track Course	3
Total hours	18

Core Curriculum - Total Hours 40
Major - Total Hours 89
Degree - Total Hours 129

MECHANICAL TRACK COURSES (Select Four Courses from The List)

ENGR 3373 Dynamics
ENGR 4354 Finite Element Analysis
ENGR 4357 Mechanical Design
ENGR 4353 Mechanical Vibrations
ENGR 4373 Heat Transfer