



# ENGINEERING

Electrical 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.

## Electrical 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 Electrical track courses focus on the following topics, among others—circuitry, logic, the programming of devices, signal analysis, electrical frequencies, interpretation of random signals, feedback systems, control of systems, tradeoffs between sensitivity and performance, and control theory. For example, a student would learn about the electronics inside of a robotic device, and how to program other robots to communicate with each other. Students would be prepared to pursue a Master's degree in Electrical 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.

## Contact

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**Website** [www.uiw.edu/engineering](http://www.uiw.edu/engineering)

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

<b>Freshman Year: Fall</b>		<b>Hrs.</b>
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
<b>Total hours</b>		<b>17</b>
<b>Sophomore Year: Fall</b>		
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
<b>Total hours</b>		<b>16</b>
<b>Junior Year: Fall</b>		
ENGR 3340 Numerical Methods		3
ENGR 4375 Thermodynamics		3
ENGR 4399 Special Topics		3
HIST 1311, 1312, 1321, 1322		3
Electrical Track Course		3
<b>Total hours</b>		<b>15</b>
<b>Senior Year: Fall</b>		
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
Electrical Track Course		3
<b>Total hours</b>		<b>16</b>

<b>Freshman Year: Spring</b>		<b>Hrs.</b>
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
<b>Total hours</b>		<b>15</b>
<b>Sophomore Year: Spring</b>		
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
<b>Total hours</b>		<b>16</b>
<b>Junior Year: Spring</b>		
ENGR 3430 Engineering Analysis and Lab		4
ENGR 4399 Special Topics		3
ENGR 3350 Statics		3
Fine Arts Core		3
Electrical Track Course		3
<b>Total hours</b>		<b>16</b>
<b>Senior Year: Spring</b>		
ENGR 3462 Electronics and lab		4
Upper level RELS or PHIL		3
ENGR 4470 Fluid Mechanics and Lab		4
ENGR 4490 Senior Capstone		4
Electrical Track Course		3
<b>Total hours</b>		<b>18</b>

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

**ELECTRICAL TRACK COURSES**

ENGR 2463 Digital Logic  
 ENGR 3364 Signals and Systems  
 ENGR 4366 Digital Signal Processing  
 ENGR 4368 Introduction to Control Systems