MECHATRONICS, MINOR

Requirements for a minor may be completed at any campus location offering the specified courses for the minor. Students may not change from a campus that offers their major to a campus that does not offer their major for the purpose of completing a minor.

Program Requirements

<table>
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<th>Requirement</th>
<th>Credits</th>
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<tr>
<td>Requirements for the Minor</td>
<td>19-22</td>
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Requirements for the Minor

A grade of C or better is required for all courses in the minor, as specified by Senate Policy 59-10 (https://senate.psu.edu/policies-and-rules-for-undergraduate-students/59-00-minors-and-certificates/#59-10). In addition, at least six credits of the minor must be unique from the prescribed courses required by a student's major(s).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Prescribed Courses: Require a grade of C or better</td>
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<tr>
<td>EE 210</td>
<td>Circuits and Devices</td>
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Additional Courses: Require a grade of C or better

Select one of the following: 3

- CMPSC 121 Introduction to Programming Techniques
- CMPSC 200 Programming for Engineers with MATLAB
- CMPSC 201 Programming for Engineers with C++

Select 6-8 credits of the following: 6-8

Group A

- CMPEN 270 Digital Design: Theory and Practice
- or CMPEN 271 Introduction to Digital Systems
- & CMPEN 275 Introduction to Digital Systems and Digital Design Laboratory

- CMPEN 331 Computer Organization And Design
- or EE 310 Electronic Circuit Design I
- or EE 387 Energy Conversion

Group B

- ME 345 Instrumentation, Measurements, and Statistics
- or ME 345W Instrumentation, Measurements, and Statistics
- ME 357 System Dynamics

Select 6-7 credits of the following (one course each from Category I and II): 6-7

Category I

- CMPEH 472 Microprocessors
- CMPEN 472 Microprocessors and Embedded Systems
- EE 485 Energy Systems and Conversion
- EE 487 Electric Machinery and Drives
- ME 445 Microcomputer Interfacing for Mechanical Engineers

Category II

- EE 483 Introduction to Automation and Robotics Systems
- ME 455 Automatic Control Systems
- ME 456 Introduction to Robotics

1 Students graduating with a M E major should take 7-8 credits from Group A; students graduating with an EE major should take 7 credits from group B; all other students should take 6-8 credits from both A and B.