OFF-ROAD EQUIPMENT, 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 Description
This interdisciplinary minor complements several engineering, agricultural, and mining degrees, helping students understand some specific technological aspects of mobile equipment (from lawn tractors to large excavators). The minor would strengthen the program for students with machinery interests by exposing them to several of the technical aspects of off-road equipment such as electronics, power generation, power transmission, traction, ergonomics, and safety.

You Might Like This Program If...
- You are pursuing an engineering or engineering technology major and want to complement it with applications in applied machinery.
- You want to take application-focused classes with interactive labs and hands-on learning opportunities.
- You are interested in solving problems related to machinery.
- You are passionate about technology.

Program Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Requirements for the Minor</td>
<td>18-20</td>
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Requirements for the Minor
The minor in Off-Road Equipment requires 18-20 credits from the approved courses. Courses in the minor have prerequisites including calculus, physics, and, depending on the student's major, at least one engineering or engineering technology type course (e.g., BRS 221). These courses should be completed prior to entering the minor.

A grade of C or better is required for all courses in the minor, as specified by Senate Policy 59-10 (http://senate.psu.edu/policies-and-rules-for-undergraduate-students/59-00-minors-and-certificates/#59-10).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ASM 420</td>
<td>Principles of Off-Road Machines</td>
<td>3</td>
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</table>

Additional Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ASM 320</td>
<td>Combustion Engines for Mobile Equipment</td>
<td>3</td>
</tr>
<tr>
<td>or ME 431</td>
<td>Internal Combustion Engines</td>
<td></td>
</tr>
<tr>
<td>BE 461</td>
<td>Design of Fluid Power Systems</td>
<td>3</td>
</tr>
<tr>
<td>or BRS 426</td>
<td>Safety and Health in Agriculture and Biorenewable Industries</td>
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Select 3 credits of the following:
- ASM 310 Power Transmission in Agriculture
- BE 306 Machines for Agricultural and Biological Processing
- ME 360 Mechanical Design

Select 3-4 credits of the following:
- BE 305 Agricultural Measurements and Control Systems
- BRS 428 Electric Power and Instrumentation
- ME 345 Instrumentation, Measurements, and Statistics

Select 3-4 credits of the following:
- AGRO 423 Forage Crop Management
- AGRO 425 Field Crop Management
- ASM 424 Selection and Management of Agricultural Machinery
- HORT 408 Landscape Plant Establishment and Maintenance
- TURF 425 Turfgrass Cultural Systems

Academic Advising
The objectives of the university’s academic advising program are to help advisees identify and achieve their academic goals, to promote their intellectual discovery, and to encourage students to take advantage of both in-and out-of-class educational opportunities in order that they become self-directed learners and decision makers.

Both advisers and advisees share responsibility for making the advising relationship succeed. By encouraging their advisees to become engaged in their education, to meet their educational goals, and to develop the habit of learning, advisers assume a significant educational role. The advisee’s unit of enrollment will provide each advisee with a primary academic adviser, the information needed to plan the chosen program of study, and referrals to other specialized resources.

READ SENATE POLICY 32-00: ADVISING POLICY (http://senate.psu.edu/policies-and-rules-for-undergraduate-students/32-00-advising-policy)

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