PRODUCT REALIZATION, 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 21-credit interdisciplinary minor is designed for any engineering student who is interested in state-of-the-art practice in integrated product/process design and manufacturing. The program culminates with a one-semester project involving the design and manufacture of a new product.

The purpose of the minor is to offer students state-of-the-art practice in integrated product/process design and manufacturing. Students completing the minor should:

- understand the interaction of design and manufacturing through practical examples;
- be familiar with the entrepreneurial skills needed to transfer a new product from initial idea to market;
- understand the technical and management aspects of concurrent engineering and total quality management; and
- have hands-on experience in designing and manufacturing a product, organizing and managing the effort, and interacting with the customer.

You Might Like This Program If...
You are an engineering student interested in hands-on, state-of-the-art practice in integrated product/process design and manufacturing.

Program Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requirements for the Minor</td>
<td>21</td>
</tr>
</tbody>
</table>

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 (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>
</tr>
</thead>
<tbody>
<tr>
<td>Prescribed Courses: Require a grade of C or better</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGR 407</td>
<td>Technology-Based Entrepreneurship</td>
<td>3</td>
</tr>
<tr>
<td>IE 466</td>
<td>Concurrent Engineering</td>
<td>3</td>
</tr>
<tr>
<td>ME 240</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

Additional Courses
Select 9 credits in Product Design, Quality Engineering, and Manufacturing Processes courses approved by the professor in charge of the minor (Dr. Simpson)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE 310</td>
<td>Electronic Circuit Design I</td>
</tr>
<tr>
<td>EE 441</td>
<td>Semiconductor Integrated Circuit Technology</td>
</tr>
</tbody>
</table>

Select a 3-credit senior project: team-based design or industrial projects course, as approved by the coordinator

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)

University Park
Timothy Simpson
Paul Morrow Professor in Engineering Design and Manufacturing
205 Leonhard Building
University Park, PA 16802
814-863-7136
tws8@psu.edu

Contact
University Park
HAROLD AND INGE MARCUS DEPARTMENT OF INDUSTRIAL AND MANUFACTURING ENGINEERING
310 Leonhard Building
University Park, PA 16802
814-865-7601
psue@psu.edu
http://www.ime.psu.edu/index.aspx