A total of 27 units is required for this degree.

<table>
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<tr>
<th>Required Prerequisite Courses</th>
<th>Where Completed</th>
<th>Course #</th>
<th>Title</th>
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<tr>
<td>Engr. Economy</td>
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**REQUIRED COURSES**

**Semester** | **Course** | **(Prerequisites)**
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**Required courses (6 units):**

- ISE 501 – Innovative Conceptual Design for New Product Development (3, FaSp)
- ISE 545 – Technology Development and Implementation (3, Fa)

**Product Development Systems:**

- ISE 515 – Engineering Project Management (3, FaSpSm)
- ISE 544 – Leading and Managing Engineering Teams (3, FaSp)

**Technical Electives (6 units):**

- BAEP 557 – Technology Commercialization (3, Sp)
- DSCI 552 – Machine Learning for Data Science (4, FaSp)
- ISE 510 – Advanced Computation Design and Manufacturing (3, Sp)
- ISE 511L – Mechatronic Systems Engineering (3, Sp)
- ISE 514 – Advanced Production Planning and Scheduling (3, FaSu)
- ISE 525 – Design of Experiments (3) (Sp)
- ISE 527 – Quality Management for Engineers (3) (FaSp)
- ISE 555 – Invention and Technology Development (3, Sp)
- ISE 561 – Economic Analysis of Engineering Projects *(prerequisites ISE 500)* (3, FaSp)
- ISE 567 – Collaborative Engineering Principles and Practice (3, Sp)
- ISE 580 – Performance Analysis and Simulation *(prerequisites ISE 220, 325, 435)* (3, Sp)
- ISE 583 – Enterprise Wide Information Systems (3, FaSp)
- ISE 585 – Strategic Management of Technology (3, FaSp)
- ISE 610 – Advance Design of Experiments and Quality Engineering (3, Fa)
- SAE 541 – Systems Engineering Theory and Practice (3, FaSpSm)
- SAE 549 – Systems Architecting (3, FaSp)

**Three Electives (9 units):**

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*Master of Science in Product Development Engineering*