Manufacturing Engineering Technology
Concentration in Mechatronics
College of Technology

Departmental/Program Major Courses (120 credits)

Required Major Courses (32 credits)

(3) MET 10200 – Production Specifications
(3) MET 11100 – Applied Statics
(1) MET 11300 – Mechanics Applications
(3) MET 14400 – Materials and Processes II (MET Gateway Course)
(1) MET 16200 – Computational Analysis Tools
(3) MET 23000 – Fluid Power
(3) MET 24500 – Manufacturing Systems
(3) MET 28400 – Introduction to Industrial Controls
(3) MET 38200 – Controls and Instrumentation for Automation
(3) MFET 34400 – Automated Manufacturing Processes
(3) MFET 34800 – Industrial Robots and Motion Control
(3) MFET 37400 – Manufacturing Integration

MFET Selectives – (10 credits)

(3) Mechatronics Selective
(3) Technical Elective
(4) Free Elective

Other Departmental/Program Course Requirements (78 credits)

(3) COM 11400 - Fundamentals of Speech Communication (satisfies Oral Communication for core)
(3) ENGL/COM Selective
(3) ENGL 42100 – Technical Writing
(3) IET 45100 or TLI 33400 – Engineering Economics
(3) MA 15800 – Precalculus – Functions and Trigonometry
(3) MA 16010 - Applied Calculus I (satisfies Quantitative Reasoning for core)
(3) MA 16021 - Applied Calculus II and Differential Equations
(3) ECET 17900 – Introduction to Digital Systems
(3) ECET 22400 – Electronic Systems
(3) ECET 22700 – DC and Pulse Electronics
(3) ECET 29700 – Embedded Digital Systems
(3) ECET 32700 – Instrumentation and DAQ Design
(3) ECET 38001 – Global/Professional Issues
(3) ECET 43000 – Electronics Product and Program Management
(3) ECET 46000 – Project Design and Development
(3) CNIT 10500 – Introduction to C Programming
(3) CHM 11100 – General Chemistry
(4) PHYS Selective (choose from PHYS 218, PHYS 220, PHYS 172) (satisfies Science for core)
(3) TECH 12000 - Design Thinking in Technology (satisfies Information Literacy and Science, Technology & Society for core)
(3) Science Selective
(3) English Composition Selective (satisfies Written Communication for core)
(3) General Education Human Cultures: Humanities Selective (satisfies Human Cultures Humanities for core)
(3) General Education Human Cultures: Behavioral Sciences Selective (satisfies Human Cultures: Behavioral Sciences for core)
(3) Humanities/Social Science Elective
(2) CGT Selective (choose from CGT 11000 or CGT 16300)
(3) Statistics/Quality Selective (choose between STAT 301 or IT 342)

The student is ultimately responsible for knowing and completing all degree requirements. Degree Works is the knowledge source for specific requirements and completion.
**Fall 1st Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>CR</th>
<th>GR</th>
<th>Sem</th>
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<tr>
<td>MET 14400 Materials and Processes II</td>
<td>3</td>
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<td>CHM 11100 General Chemistry*</td>
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<tr>
<td>MA 15800 Precalculus*</td>
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<td>MA 16010 Applied Calculus I (Prereq: ALEKS score of 75 or C- in MA 15800)</td>
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<td>Freshman Composition Selective*</td>
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<td>COM 11400 Fund of Speech Communication*</td>
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<tr>
<td>TECH 12000 Design Thinking in Tech.*</td>
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<td>Humanities Elective*</td>
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<td>Free elective</td>
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<td>ECET 22400 Electronic Systems (Prereq: MA 15300 or MA 16010)</td>
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<td>MET 16200 Computational Analysis</td>
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**Fall 2nd Year**

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<tr>
<td>ECET 22700 DC and Pulse Electronics (Prereqs: MA 16010 and ECET 22400)</td>
<td>3</td>
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<td>F</td>
<td>MET 10200 Production Specifications (Prereqs: CGT Selective and MET 16200)</td>
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<tr>
<td>MET 11100 Applied Statics (Prereqs: MA 15800 and MET 16200)</td>
<td>3</td>
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<td>MET 11300 Mechanics Applications (Prereq: MET 11100)</td>
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<tr>
<td>MA 16021 Applied Calculus/Diff Eqns (Prereq: MA 16010 with a grade of C- or better)</td>
<td>3</td>
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<td>F</td>
<td>MET 24500 Manufacturing Systems (Prereqs: CGT 1100 or CGT 16300 and (MET 14300 or MET 14400))</td>
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<tr>
<td>Behavioral/Social Science Elective*</td>
<td>3</td>
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<td>F</td>
<td>MET 28400 Intro to Industrial Controls (Prereq: ECET 22400)</td>
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<tr>
<td>Computer Graphics Selective</td>
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<td>F</td>
<td>CNIT 10500 Intro to C Programming</td>
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<td></td>
<td></td>
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<td>Physics Selective*</td>
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**Fall 3rd Year**

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<tr>
<td>ECET 17900 Intro to Digital Systems (Prereqs: ECET 22400 and CNIT 10500)</td>
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<td>ECET 27900 Embedded Digital Systems (Prereq: EET 17900)</td>
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<tr>
<td>MET 23000 Fluid Power (Prereqs: MET 11100 or PHYS 22000) and MA 16010</td>
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<td>ECET 38001 Global Professional Issues in EET</td>
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<td>MFET 34400 Automated Mfg Processes (Prereq: MET 24500)</td>
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<td>F</td>
<td>MET 38200 Controls/Instr for Automation (Prereq: MET 28400)</td>
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<td>MFET 37400 Mfg Integration I (Prereq: MET 28400)</td>
<td>3</td>
<td></td>
<td>F</td>
<td>ENGL 42100 Technical Writing (Prereq: ENGL 10600)</td>
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<td>Science Selective*</td>
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<td>F</td>
<td>Statistics or Quality Selective</td>
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**Fall 4th Year**

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<tr>
<td>ECET 43000 Elect Product &amp; Prog Mgmt (Prereq: ECET 38001)</td>
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<td>ECET 46000 Project Design and Development (Prereq: ECET 43000)</td>
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<tr>
<td>ECET 32700 Instrument &amp; DAQ Design (Prereqs: ECET 22400, MA 16010, PHYS Sel.)</td>
<td>3</td>
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<td>F</td>
<td>Technical Selective</td>
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<tr>
<td>MFET 34800 Ind Robots/Motion Ctrl (Prereq: MET 28400)</td>
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<td>F</td>
<td>Humanities/Social Science Elective</td>
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<tr>
<td>Mechatronics Selective</td>
<td>3</td>
<td></td>
<td>F</td>
<td>English/Communication Selective</td>
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<tr>
<td>IET 45100 or TLI 33400 Monetary Analysis for Industrial Decisions</td>
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<td><strong>TOTAL CREDIT HOURS</strong></td>
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Refer to Degree Works for a complete list of requirements, options for selectives and pre-requisites.

Fulfills University core.

1. 120 semester credits and a 2.0 Graduation GPA are required for the Bachelor of Science degree.
2. Students must earn a "D-" or better in all courses.
3. Courses at Purdue University may only be attempted a maximum of three (3) times, including W, WF, I, IF and all graded attempts.
4. 32 credit hours of 300-level or higher courses must be completed at Purdue University.

The student is ultimately responsible for knowing and completing all degree requirements.

Degree Works is knowledge source for specific requirements and completion.

Updated 5/27/2014
## MFET SUPPLEMENTAL INFORMATION—Mechatronics Concentration

All prerequisites must be met.

### COMPUTER GRAPHICS SELECTIVE
- CGT 11000 Technical Graphics Communications
- CGT 16300 Graphical Communication and Spatial Analysis
- IT 10500 Intro to Engineering Design

### TECHNICAL SELECTIVE
- CGT 32600 Graphics Standards for Product Definition (spring)
- CGT 42300 Product Data Management (spring)
- CGT 42600 Industry Applications of Simulation and Visualization (fall)
- FNR 30100 Wood Products/Wood Processes
- IT 33000 Industrial Sales and Sales Management
- IT 34500 Automatic Identification and Data Capture
- IT 35100 Occupational Safety and Health
- IT 38100 Total Product Maintenance
- IT 43400 Global Transportation and Logistics
- MET 30200 CAD in the Enterprise
- MET 33400 Advanced Fluid Power
- MET 34600 Advanced Materials in Manufacturing
- MET 43200 Hydraulic Motion Control
- MET 43600 Pneumatic Motion Control
- MGMT 45500 Legal Background for Business I
- OLS 28400 Leadership Principles

### STATISTICS OR QUALITY SELECTIVE
- STAT 30100 Elementary Statistical Methods
- IT 34200 Introduction to Statistical Quality

### ENGLISH/COMMUNICATION SELECTIVE
- COM 31500 Technical Communications
- COM 31800 Principles of Persuasion
- COM 32000 Small Group Communication
- COM 32500 Interviewing Principles and Practices
- COM 41500 Discussion of Technical Problems
- ENGL 20500 Introduction to Creative Writing
- ENGL 30400 Advanced Composition
- ENGL 30900 Computer Aided Publishing
- ENGL 41900 Multimedia Writing

### PHYSICS SELECTIVE
- PHYS 21800 General Physics
- PHYS 22000 General Physics
- PHYS 17200 Modern Mechanics

### SCIENCE SELECTIVE
- BIOL 11000 Fundamentals of Biology I
- BIOL 20300 Human Anatomy and Physiology
- CHM 11200 General Chemistry II
- PHYS 21900 General Physics II
- PHYS 2210 General Physics
- PHYS 24100 Electricity and Optics

### FRESHMAN COMPOSITION
- ENGL 10600

### MECHATRONICS SELECTIVE
- MET 48200

### HUMANITIES FOUNDATIONAL SELECTIVE: see [here](http://www.purdue.edu/provost/initiatives/curriculum/course.html)

### BEHAVIORAL/SOCIAL SCIENCE FOUNDATIONAL SELECTIVE: see [here](http://www.purdue.edu/provost/initiatives/curriculum/course.html)

### HUMANITIES/SS ELECTIVE:
A course in Psychology, Sociology, English, History, Political Science, Philosophy, Anthropology, Economics, or a foreign language. Art history, art appreciation, music appreciation or theater appreciation are acceptable.

### FREE ELECTIVE:
Any non-remedial course