### Departmental/Program Major Courses (120 credits)

#### Required Major Courses (44 credits)

- (3) MET 10200 – Production Specifications
- (3) MET 11100 – Applied Statics
- (1) MET 11300 – Mechanics Applications
- (3) MET 14300 – Materials and Processes I
- (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) MFET 34400 – Automated Manufacturing Processes
- (1) MFET 37400 – Manufacturing Integration
- (3) MFET 44600 – Advanced Manufacturing Operations
- (3) MFET 48000 – Project Planning for Integration
- (3) MFET 48100 – Integration of Manufacturing Systems

#### MFET Selectives – (13 credits)

- (3) Manufacturing Graphics Selective (CGT 22600)
- (3) Manufacturing Selective
- (3) Technical Elective
- (4) Free Elective

### Other Departmental/Program Course Requirements (63 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 22400 – Electronic Systems
- (3) ECET 38001 – Global/Professional Issues
- (3) CNIT 17500 – Visual Basic 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) CNIT or CS Selective (CNIT 10500, CS 15800 or CS 15900)
- (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: Behavior/Social Sciences *(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)

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

Degree Works is the knowledge source for specific requirements and completion.

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<table>
<thead>
<tr>
<th>University Core Requirements</th>
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<td>Science, Technology &amp; Society</td>
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### Fall 1st Year

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<td>MET 14400 Materials and Processes II</td>
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<td>CHM 11100 General Chemistry</td>
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<td>Freshman Composition Selective</td>
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<td>Humanities Selective*</td>
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<td>Free Elective</td>
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<td>COM 11400 Fund of Speech Communication*</td>
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<td>MA 15800 Precalculus (Prereq: ALEKS score of 60%)</td>
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<td>MA 16010 Applied Calculus I* (Prereq: ALEKS Score of 75%)</td>
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<tr>
<td>TECH 12000 Design Thinking in Tech.*</td>
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<td>MET 14300 Materials and Processes I</td>
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<td>MET 16200 Computational Analysis Tools</td>
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<td><strong>TOTAL CREDIT HOURS</strong></td>
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### Fall 2nd Year

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<tr>
<td>MA 16021 Applied Calculus II/Diff Eqns (Prereq: MA 16010 with grade of C- or better)</td>
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<td>MET 10200 Production Specifications (Prereqs: CGT Selective and MET 16200)</td>
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<td>MET 11100 Applied Statics (Prereqs: MA 15800 and MET 16200)</td>
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<td>MET 11300 Mechanics Applications (Prereq: MET 11100)</td>
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<td>ECET 22400 Electronic Systems (Prereq: MA 15300 or MA 16010)</td>
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<td>MET 24500 Manufacturing Systems (Prereqs: (CGT 11000 or CGT 16300) and (MET 14300 or MET 14400))</td>
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<td>Behavioral/Social Science Selective*</td>
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<td>MET 28400 Intro to Industrial Controls (Prereq: ECET 22400)</td>
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<td>Computer Graphics Selective</td>
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<td>Physics Selective</td>
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<td>CNIT 17500 Visual Basic Programming</td>
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### Fall 3rd Year

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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>MET 38200 Cntrls/Instr for Automation (Prereq: MET 28400)</td>
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<td>MFET 34400 Automated Mfg Processes (Prereq: MET 24500)</td>
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<td>ENGL 42100 Technical Writing (Prereq: ENGL 10600)</td>
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<tr>
<td>MFET 37400 Mfg Integration I (Prereq: MET 28400)</td>
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<td>CNIT or CS Selective</td>
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<td>Manufacturing Selective</td>
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<tr>
<td>Science Selective</td>
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<td>Statistics or Quality Selective</td>
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<td><strong>TOTAL CREDIT HOURS</strong></td>
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### Fall 4th Year

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<tr>
<td>MFET 34800 Ind Robots/Motion Ctrl (Prereq: MET 28400)</td>
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<td>MFET 48100 Integration of Mfg Systems (Prereq: MFET 48000)</td>
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<td>MFET 44600 Advanced Mfg Operations</td>
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<td>English/Communication Selective</td>
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<tr>
<td>MFET 48000 Proj Plan for Integration (Prereq: MFET 37400)</td>
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<td>IET 45100 or TLI 33400 Monetary Analysis for Industrial Decisions</td>
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<td>ECET 38001 Global Professional Issues</td>
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<td><strong>TOTAL CREDIT HOURS</strong></td>
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Refer to ____________ for a complete list of requirements, options for selectives and pre-requisites.

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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—Automation and Systems Integration 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

**MANUFACTURING GRAPHICS SELECTIVE**
- CGT 22600 Introduction to Constraint-Based Modeling

**TECHNICAL SELECTIVE**
- CGT 32600 Graphics Standards for Product Definition (spring)
- CTG 42300 Product Data Management (spring)
- CTG 42600 Industry Applications of Simulation and Visualization (fall)
- IT 33000 Industrial Sales and Sales Management
  - CGT 32600 Graphics Standards for Product Definition
  - IT 33000 Industrial Sales and Sales Management
  - MET 30200 CAD in the Enterprise

**CNIT or CS SELECTIVE**
- CNIT 10500 Introduction to C Programming
- CS 15800 C Programming
- CS 15900 Programming Applications for Engineers

**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
- 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
- CHM 11200 General Chemistry II
- PHYS 21900 General Physics II
- PHYS 2210 General Physics
- PHYS 24100 Electricity and Optics

**FRESHMAN COMPOSITION**
- ENGL 10600

**MANUFACTURING SELECTIVE**
A course from Technology, Engineering, Management or Science that has a connection to manufacturing process and materials, controls, systems, innovation or operations and that supports the academic interests of the students.

**Processes and materials**
- AT 27200 Introduction to Composite Technology
- AT 30802 Aircraft Materials Processes
- ECET 27000 Electronic Prototype Development

**Controls**
- IT 34500 Automatic Identification and Data Capture
- IT 44500 Problem-solving with Automatic Data Collection

**Systems**
- CGT 32600 Graphics Standards for Product Definition
- MET 30200 CAD in the Enterprise
- MET 45100 Manufacturing Quality Systems

**Innovation**
- CGT 42300 Product Data Management
- MET 45100 Manufacturing Quality Systems
- MET 54600 Industrial Application of CIM Technology

**Operations**
- CGT 42600 Industrial Applications of Simulation
- ENTR Courses in the Entrepreneurship Certificate program
- IT 38500 Industrial Ergonomics
- IT 44600 Six Sigma Quality
- IT 48300 Facility Design for Lean Manufacturing
- MET 54600 Industrial Application of CIM Technology

**HUMANITIES FOUNDATIONAL SELECTIVE:** (6 credits) see http://www.purdue.edu/provost/initiatives/curriculum/course.html

**BEHAVIORAL/SOCIAL SCIENCE FOUNDATIONAL SELECTIVE:** see 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. This elective is expected to be at the 200 level or above.

**FREE ELECTIVE:** Any non-remedial course