PURDUE UNIVERSITY

Manufacturing Engineering Technology — TMFET-BS
Automation and Systems Integration Engineering Technolgy — ASET
Purdue Polytechnic Institute — 120-cr for graduation
"D-" or better required in all major courses

**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) MFET 24800 – Introduction to Robot Systems
_____ (3) MFET 34400 – Automated Manufacturing Processes
_____ (3) MFET 37400 – Manufacturing Integration
_____ (3) Continuous Control Selective

**ASET courses– (24 credits)**

_____ (3) ECET 33700 – Analog Signal Processing
_____ (3) Manufacturing Selective
_____ (3) MET 14300 – Materials and Processes I
_____ (3) MFET 48000 – Project Planning for Integration
_____ (3) MFET 48100 – Integration of Manufacturing Systems
_____ (3) Manufacturing/Controls/Graphics Selective
_____ (3) CNIT 17500 – Visual Basic Programming
_____ (3) CNIT or CS Selective (CNIT 10500, CS 15800 or CS 15900)

**Other Departmental/Program Course Requirements (64 credits)**

_____ (3) COM 11400 - Fundamentals of Speech Communication *(satisfies Oral Communication for core)*
_____ (3) COM 32000 – Small Group Discussion
_____ (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) CHM 11100 – General Chemistry
_____ (4) PHYS Selective (choose from PHYS 21800, PHYS 22000, PHYS 17200) *(satisfies Science for core)*
_____ (3) TECH 12000 - Design Thinking in Technology *(satisfies Information Literacy* and *Science, Technology & Society for core)*
_____ (3) Science Selective
_____ (3) Freshmen Composition Selective *(satisfies Written Communication for core)*
_____ (3) Human Cultures: Humanities Foundation Selective *(satisfies Human Cultures Humanities for core)*
_____ (3) Human Cultures: Behavior/Social Sciences Foundation Selective (*satisfies Human Cultures: Behavioral Sciences for core)*
_____ (3) Humanities/Social Science Elective
_____ (2) CGT Selective (choose from CGT 11000, CGT 16300, or IT 10500)
_____ (3) Statistics/Quality Selective (choose between STAT 30100 or IT 34200)
_____ (3) Technical Selective
_____ (4) Free Elective

**University Core Requirements**

| | | | |
|---|---|---|---|
| *Human Cultures: Behavioral/Social Sciences* | € _____ | *Science* | € _____ |
| *Human Cultures: Humanities* | € _____ | *Science* | € _____ |
| *Information Literacy* | € _____ | *Science, Technology & Society* | € _____ |
| *Oral Communication* | € _____ | *Written Communication* | € _____ |
| *Quantitative Reasoning* | € _____ | | |

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

**myPurduePlan is the knowledge source for specific requirements and completion.**

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*Updated 3/31/2015*

PURDUE
UNIVERSITY

School of Engineering Technology Name: _____
Major: Automation and Systems Integration Engineering Technology (ASET)
MFET-BS Suggested Arrangement of Courses Catalog Term: _____ PUID: _____
For Catalog Terms beginning in Fall 2015
Major Code: ASET Program Code: TMFET-BS

*Accredited by the Engineering Technology Accreditation Commission of ABET, http://www.abet.org*

| **Fall 1st Year** | CR | GR | Sem | Fulfilled by | **Spring 1st Year** | CR | GR | Sem | Fulfilled by |
|---|---|---|---|---|---|---|---|---|---|
| MET 14400 Materials and Processes II | 3 | | | | CHM 11100 General Chemistry | 3 | | | |
| Freshman Composition Selective | 3 | | | | Humanities Foundation Selective* | 3 | | | |
| Free Elective | 3 | | | | COM 11400 Fund of Speech Communication* | 3 | | | |
| MA 15800 Precalculus (Prereq: ALEKS score of 60%) | 3 | | | | MA 16010 Applied Calculus I* (Prereq: ALEKS Score of 75%) | 3 | | | |
| TECH 12000 Design Thinking in Tech.* | 3 | | | | MET 14300 Materials and Processes I | 3 | | | |
| | | | | | MET 16200 Computational Analysis Tools | 1 | | | |
| **TOTAL CREDIT HOURS** | **15** | | | | **TOTAL CREDIT HOURS** | **16** | | | |

| **Fall 2nd Year** | CR | GR | Sem | Fulfilled by | **Spring 2nd Year** | CR | GR | Sem | Fulfilled by |
|---|---|---|---|---|---|---|---|---|---|
| MA 16021 Applied Calculus II/Diff Eqns (Prereq: MA 16010 with grade of C- or better) | 3 | | | | MET 10200 Production Specifications (Prereqs: CGT Selective and MET 16200) | 3 | | | |
| MET 11100 Applied Statics (Prereqs: MA 15800 and MET 16200) | 3 | | | | MET 11300 Mechanics Applications (Prereq: MET 11100) | 1 | | | |
| ECET 22400 Electronic Systems (Prereq: MA 15300 or MA 16010) | 3 | | | | MET 24500 Manufacturing Systems (Prereqs: (CGT 11000 or CGT 16300) and (MET 14300 or MET 14400)) | 3 | | | |
| Behavioral/Social Science Foundation Selective* | 3 | | | | MET 28400 Intro to Industrial Controls (Prereq: ECET 22400) | 3 | | | |
| Computer Graphics Selective | 2 | | | | Physics Selective | 4 | | | |
| | | | | | CNIT 17500 Visual Basic Programming | 3 | | | |
| **TOTAL CREDIT HOURS** | **14** | | | | **TOTAL CREDIT HOURS** | **17** | | | |

| **Fall 3rd Year** | CR | GR | Sem | Fulfilled by | **Spring 3rd Year** | CR | GR | Sem | Fulfilled by |
|---|---|---|---|---|---|---|---|---|---|
| MET 23000 Fluid Power (Prereqs: (MET 11100 or PHYS 22000) and MA 16010) | 3 | | | | ECET 33700 Analog Signal Processing (Prereq: ECET 27700) | 3 | | | |
| MFET 34400 Automated Mfg Processes (Prereq: MET 24500) | 3 | | | | ENGL 42100 Technical Writing (Prereq: ENGL 10600) | 3 | | | |
| MFET 37400 Mfg Integration I (Prereq: MET 28400) | 3 | | | | CNIT or CS Selective | 3 | | | |
| MFET 24800 Introduction to Robotics (Prereq: CNIT 17500 or CNIT 10500) | 3 | | | | Manufacturing Selective | 3 | | | |
| Science Selective | 3 | | | | Statistics or Quality Selective | 3 | | | |
| **TOTAL CREDIT HOURS** | **15** | | | | **TOTAL CREDIT HOURS** | **15** | | | |

| **Fall 4th Year** | CR | GR | Sem | Fulfilled by | **Spring 4th Year** | CR | GR | Sem | Fulfilled by |
|---|---|---|---|---|---|---|---|---|---|
| Continuous Controls Selective | 3 | | | | MFET 48100 Integration of Mfg Systems (Prereq: MFET 48000) | 3 | | | |
| Manufacturing/Controls/Graphics Selective | 3 | | | | COM 32000– Small Group Communication | 3 | | | |
| MFET 48000 Proj Plan for Integration (Prereq: MFET 37400) | 3 | | | | Humanities/Social Science Elective | 3 | | | |
| IET 45100 or TLI 33400 Monetary Analysis for Industrial Decisions | 3 | | | | Technical Elective | 3 | | | |
| ECET 38001 Global Professional Issues in Engineering Technology | 3 | | | | Free Elective | 1 | | | |
| **TOTAL CREDIT HOURS** | **15** | | | | **TOTAL CREDIT HOURS** | **13** | | | |

Refer to page 3 for a complete list of requirements, options for elective, 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.

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********** *Updated 4/17/2015*

**MFET PROGRAM SUPPLEMENTAL INFORMATION**
**Automation and Systems Integration Engineering Technology Major**
**All prerequisites must be met.**

**FRESHMAN COMPOSITION SELECTIVE**
ENGL 10600 First-Year Composition
ENGL 10800 Accelerated First-Year Composition

**COMPUTER GRAPHICS SELCTIVE**
CGT 11000 Technical Graphics Communications
CGT 16300 Graphical Communication and Spatial Analysis
IT 10500 Intro to Engineering Design

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

**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

**CONTINUOUS CONTROL SELECTIVE**
MET 33400 Advanced Fluid Power
MET 43200 Hydraulic Motion Control Systems
MET 43600 Pneumatic Motion Control Systems
MFET 29200 Projects in Automation, Robotics and Mechatronics
MFET 39200 Advanced Projects in Automation, Robotics and Mechatronics

**CONTROLS SELECTIVE**

MET 33400 Advanced Fluid Power
MET 43200 Hydraulic Motion Control Systems
MET 43600 Pneumatic Motion Control Systems
MFET 29200 Projects In Automation, Robotics And Mechatronics
MFET 39200 Advanced Projects In Automation, Robotics And Mechatronics

**MANUFACTURING SELECTIVE**

AT 27200 Intro to Composite Technology
AT 30800 Aircraft Materials Processes
AT 40800 Advanced Aircraft Manufacturing Processes
AT 47200 Advanced Composite Technology
CGT 32600 Graphics Standards for Product Definition
CGT 42300 Product Data Management
CGT 42600 Industrial Applications for Simulation
IT 21400 Introduction to Lean Manufacturing
IT 38100 Total Productive Maintenance
IT 38500 Industrial Ergonomics
IT 43400 Global Transportation and Logistics Management
IT 44200 Production Planning
IT 44600 Six Sigma Quality
IT 48300 Facility Design for Lean Manufacturing
MET 30200 CAD in the Enterprise
MET 45100 Manufacturing Quality Systems
MFET 29200 Projects In Automation, Robotics And Mechatronics
MFET 34200 Advanced Manufacturing Processes and Practices
MFET 34800 Industrial Robotics and Motion Control
MFET 39200 Advanced Projects In Automation, Robotics And Mechatronics
MFET 44600 Advanced Manufacturing Operations

**TECHNICAL ELECTIVE**

All COT courses at the 3xxxx level or above that are not required for the major plus FNR 30100, OLS 28400, and MGMT 45500

**HUMANITIES FOUNDATION SELECTIVE**: see http://www.purdue.edu/provost/initiatives/curriculum/course.html

**BEHAVIORAL/SOCIAL SCIENCE FOUNDATION SELECTIVE**: see http://www.purdue.edu/provost/initiatives/curriculum/course.html

**HUMANITIES/SOCIAL SCIENCE ELECTIVE:** any 2xxxx course or higher in PSY, SOC, HIST, ECON, POL, PHIL, REL, ANTH, or a foreign language plus AD 22600, AD 22700, AD 25100, AD 25500, AD 30701, AD 31100, AD 31200, MUS 25000, MUS 35500, MUS 37400, MUS 37600, MUS 37800, MUS 38100, MUS 38200

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