

***Bold** denotes Columbus location course offering.

Departmental/Program Major Courses (120 credits)

Required Major Courses (59 credits)

- _____ (3) MET 10200 – Production Specifications
- _____ (3) MET 11100 – Applied Statics
- _____ (1) MET 11300 -- Mechanics Applications
- _____ (3) MET 14400 – Materials and Processes II
- _____ (3) MET 23000 -- Fluid Power
- _____ (3) MET 24500 – Manufacturing Systems
- _____ (3) MET 28400 – Introduction to Industrial Controls
- _____ (3) MFET 24800 -- Introduction to Robotic Systems
- _____ (3) MFET 34400 – Automated Manufacturing Processes
- _____ (3) MFET 37400 – Manufacturing Integration
- _____ (3) ENGT 18000—Engineering Technology Foundations
- _____ (1) ENGT 18100—Engineering Technology Applications
- _____ (3) Manufacturing Selective

ROET Courses (21 credits, included in the required major courses total)

- _____ (3) Mechatronics/Controls Selective - MET 48200 Mechatronics
- _____ (3) Manufacturing/Controls Selective - TLI 31300 AIDC Bar Codes to Biometrics
- _____ (3) ECET 32700 – Data Acquisitions and Signal Processing
- _____ (3) ECET 33700 – Analog Signal Processing
- _____ (3) ECET 43000 – Electronics Product and Program Management
- _____ (3) ECET 46000 – Project Design and Development
- _____ (3) CNIT 10500 – Introduction to C Programming
- _____ (3) MFET 34800 – Industrial Robots and Motion Control

Other Departmental/Program Course Requirements (57 credits)

- _____ (3) COM 11400 - Fundamentals of Speech Communication *(**COMM R110**) (*satisfies Oral Communication for core*)
- _____ (3) COM 32000—Small Group Discussion (ICN) or *(**COMM C223**)
- _____ (3) ENGL 42100 – Technical Writing (ICN) or *(**ENG W231**)
- _____ (3) IET 45100 or TLI 33400 – Engineering Economics
- _____ (3) MA 16010 - Applied Calculus I (*satisfies Quantitative Reasoning for core*)
- _____ (3) MA 16020 - Applied Calculus II
- _____ (3) ECET 22400 – Electronics Systems
- _____ (3) ECET 38001 --- Global/Professional Issues *(**TLI 35600**)
- _____ (3) CHM 11100 – General Chemistry *(**CHEM C101 + C121**)
- _____ (4) PHYS Selective *(**PHYS 218**) (*satisfies Science for core*)
- _____ (3) TECH 12000 - Design Thinking in Technology (*satisfies Information Literacy and Science, Technology & Society for core*)
- _____ (3) Science Selective
- _____ (3) Freshman Composition Selective *(**ENG W131**) (*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) Computer Graphics Technology Selective (choose from **CGT 11000**, **CGT 16300**, or **IT 10500** (PLTW))
- _____ (3) Statistics/Quality Selective (choose between **STAT 30100** or **TLI 31600/IT 34200**)
- _____ (3) Technical Elective
- _____ (0) Professional Selective
- _____ (0) Intercultural Selective

Free Elective (4 credits)

- _____ (4) Free Elective

University Core Requirements

Human Cultures: Behavioral/Social Sciences	<input type="checkbox"/>	_____	Science	<input type="checkbox"/>	PHYS 218
Human Cultures: Humanities	<input type="checkbox"/>	_____	Science	<input type="checkbox"/>	_____
Information Literacy	<input type="checkbox"/>	TECH 12000	Science, Technology & Society	<input type="checkbox"/>	TECH 12000
Oral Communication	<input type="checkbox"/>	COM 11400	Written Communication	<input type="checkbox"/>	ENG W131
Quantitative Reasoning	<input type="checkbox"/>	MA 16010			

The student is ultimately responsible for knowing and completing all degree requirements.
myPurduePlan is the knowledge source for specific requirements and completion.

Fall 2017

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Fall 1 st Year	CR	GR	Sem	Fulfilled by	Spring 1 st Year	CR	GR	Sem	Fulfilled by
Computer Graphics Selective CGT 110 Technical Graphics Communication	3				MET 11100 Applied Statics (Prereq: ENGT18000)	3			
COM 11400 Fund of Speech Comm*	3				MA 16010 Applied Calculus I* (Prereq: ALEKS score of 75)	3			
CNIT 10500 Introduction to C Programming	3				MET 14400 Materials and Processes II	3			
ENGT 18000 ENG Tech Foundations	3				MFET 24800 Introduction to Robotics (Prereq: CNIT 10500)	3			
ENGT 18100 ENG Tech Applications	1				Humanities Foundation Selective*	3			
TECH 12000 Design Thinking in Tech.*	3								
TOTAL CREDIT HOURS	16				TOTAL CREDIT HOURS	15			

Fall 2 nd Year	CR	GR	Sem	Fulfilled by	Spring 2 nd Year	CR	GR	Sem	Fulfilled by
ECET 22400 Electronics Systems (Prereq: MA 16010)	3				Technical Elective	3			
MA 16020 Applied Calculus II (Prereq: MA 16010 with a grade of C- or better)	3				CHM 11100 General Chemistry* *CHEM C101 + C121 (IUPUC) +2 CR Free Elective	5			
Physics Selective* *PHYS 21800 (IUPUC)	4				MET 10200 Production Specifications (Prereqs: CGT Selective and ENGT 18000)	3			
Freshman Composition Selective* *ENG W131 (IUPUC)	3				MET 28400 Intro to Industrial Controls (Prereq: ECET 22400)	3			
MET 24500 Manufacturing Systems (Prereqs: (MET 14300 or MET 14400) and CGT Selective)	3				MET 11300 Mechanics Application (Prereq: MET 11100)s	1			
TOTAL CREDIT HOURS	16				TOTAL CREDIT HOURS	15			

Fall 3 rd Year	CR	GR	Sem	Fulfilled by	Spring 3 rd Year	CR	GR	Sem	Fulfilled by
Statistics or Quality Selective	3				Manufacturing Selective	3			
MFET 34400 Automated Mfg Processes (Prereq: MET 24500)	3				ECET 38001 Global Professional Issues in ET TLI 35600 Global Technology Leadership	3			
ECET 33700 Analog Signal Processing (Prereq: ECET 22400 + MA 16020)	3				ECET 32700 Instrument & DAQ Design (Prereqs: ECET 22400, MA 16010, PHYS Sel.)	3			
Behavioral/Social Science Foundation Selective*	3				MFET 37400 Mfg Integration I (Prereq: MET 28400)	3			
ENGL 42100 Technical Writing (Prereq: ENG W131)	3				MET 23000 Fluid Power (Prereqs: (MET 11100 or PHYS 22000) and MA 16010)	3			
TOTAL CREDIT HOURS	15				TOTAL CREDIT HOURS	15			

Fall 4 th Year	CR	GR	Sem	Fulfilled by	Spring 4 th Year	CR	GR	Sem	Fulfilled by
Capstone I - ECET 43000 Electronics Product and Program Management	3				Capstone II - ECET 46000 Project Design and Development	3			
Manufacturing/Controls Selective TLI 31300 AIDC Bar Codes to Biometrics	3				Science Selective*	3			
MFET 34800 Advanced Industrial Robotics (Prereq: MET 28400)	3				Humanities/Social Science Elective	3			
Mechatronics/Controls Selective MET 48200 Mechatronics	3				COM 32000 Small Group Comm or *COMM C223 (IUPUC)	3			
IET 45100 or TLI 33400 Engineering Economics	3				Free Elective	2			
TOTAL CREDIT HOURS	15				TOTAL CREDIT HOURS	14			

Refer to the 2017 MFET Robotics Engineering Technology supplemental information form for options for elective, selectives, and pre-requisites.

*Fulfills University core.

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

**The student is ultimately responsible for knowing and completing all degree requirements.
 myPurduePlan is knowledge source for specific requirements and completion.**

***** Updated 4/28/17

2017

MFET SUPPLEMENTAL INFORMATION Robotics Engineering Technology major All prerequisites must be met.

Bold indicates courses offered at Columbus location.

*Indicates IUPUC course offering for Columbus location only.

See Student Services Coordinator for course availability.

FRESHMAN COMPOSITION SELECTIVE

ENGL 10600 First-Year Composition

ENGL 10800 Accelerated First-Year Composition

***ENG W 131 Reading, Writing, & Inquiry I**

COMPUTER GRAPHICS SELECTIVE

CGT 11000 Technical Graphics Communications

IT 10500 Intro to Engineering Design (PLTW)

CGT 16300 Graphical Communications and Spatial Analysis

TECHNICAL SELECTIVE

* any 2xxxx or higher ECET course which is not currently required on the plan of study.

CGT 32600 Graphics Standards for Product Definition

MET 34600 Advanced Materials in Manufacturing

CGT 42300 Product Data Management

MET 43200 Hydraulic Motion Control

CGT 42600 Industry Applications of Simulation and Visualization

MET 43600 Pneumatic Motion Control

FNR 30110 Sustainable Forest Products Manufacturing

MGMT 45500 Legal Background for Business I

IT 33000 Industrial Sales And Sales Management (TLI 34300)

OLS 28400 Leadership Principles (TLI 25300)

IT 34500 Automatic Identification And Data Capture (TLI 31300)

TLI 43540 + TLI 48800 (IT 48300)

IT 35100 Advanced Industrial Safety And Health Management (TLI 33520 + TLI 33610)

TLI 34300 Technical & Service Selling (IT 33000)

IT 38100 Total Productive Maintenance (TLI 33620)

TLI 31300 Tech Innovation & Integration: AIDC – Bar Codes to Biometrics (IT 34500)

IT 43400 Global Transportation And Logistics Management (TLI 44275)

TLI 33520 + TLI 33610 (IT 35100)

IT 44200 Production Planning (TLI 43530)

TLI 33620 Total Productive Maintenance (IT 38100)

IT 48300 Facility Design For Lean Manufacturing (TLI 43540 + TLI 4880)

TLI 44275 Global Transportation & Logistics Management (IT 43400)

MET 30200 CAD in the Enterprise

TLI 43530 Operations Planning & Management (IT 44200)

MET 33400 Advanced Fluid Power

TLI 112 Foundation of Technology Leadership (OLS 25200)

STATISTICS OR QUALITY SELECTIVE

STAT 30100 Elementary Statistical Methods

TLI 31600 Statistical Quality Control (IT 34200)

ENGLISH/COMMUNICATION SELECTIVE

COM 31500 Technical Communications

COM 41500 Discussion of Technical Problems

COM 31800 Principles of Persuasion

ENGL 20500 Introduction to Creative Writing

COM 32000 Small Group Communication

ENGL 30400 Advanced Composition

COM 32500 Interviewing Principles and Practices

ENGL 30900 Computer Aided Publishing

***COMM C325 Interviewing Principles and Practices**

ENGL 41900 Multimedia Writing

PHYSICS SELECTIVE

PHYS 21800 General Physics

PHYS 22000 General Physics

***PHYS 21800 General Physics I**

PHYS 17200 Modern Mechanics

SCIENCE SELECTIVE

BIOL 11000 Fundamentals of Biology I

PHYS 21900 General Physics II

BIOL 20300 Human Anatomy and Physiology

***PHYS 21900 General Physics II**

CHM 11200 General Chemistry II

PHYS 2210 General Physics

***CHEM C105 Principles of Chem I + CHEM C125 Lab**

PHYS 24100 Electricity and Optics

CHM 11600 General Chemistry

MECHATRONICS SELECTIVE

MET 43200 Hydraulic Motion Control Systems

MET 58100 Design for Mechatronics

MET 43600 Pneumatic Motion Control Systems

MFET 34800 Advanced Industrial Robotics

MET 48200 Mechatronics

MANUFACTURING CONTROLS SELECTIVE

TLI 31300 Tech Innovation & Integration: AIDC – Bar Codes to Biometrics (IT 34500)

MET 33400 Advanced Fluid Power

MET 43200 Hydraulic Motion Control Systems

MANUFACTURING SELECTIVE

- AT 27200 Intro to Composite Technology
- AT 30802 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 and Visualization
- ECET 49900 Applied Comp Vision Sensing & Auto
- IT 38100 Total Productive Maintenance (TLI 33620)**
- IT 43400 Global Transportation And Logistics Management (TLI 44275)**
- IT 44200 Production Planning (TLI 43530)**
- IT 48300 Facility Design For Lean Manufacturing (TLI 43540 + TLI 48800)**
- 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 39200 Advanced Projects In Automation, Robotics And Mechatronics
- MFET 44600 Advanced Manufacturing Operations
- TLI 23500 Intro to Lean & Sustainable Systems (IT 21400)**
- TLI 33620 Total Productive Maintenance (IT 38100)**
- TLI 33520 + TLI 33610 (IT 28100)**
- TLI 44275 Global Transportation & Logistics Management (IT 43400)**
- TLI 43530 Operations Planning & Management (IT 442)**
- TLI 43640 Lean Six Sigma (IT 44600)**
- TLI 43540 + TLI 48800 (IT 48300)**

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

Limited options and offerings for Columbus location. See Student Services Coordinator for details.

BEHAVIORAL/SOCIAL SCIENCE FOUNDATIONAL SELECTIVE: see <http://www.purdue.edu/provost/initiatives/curriculum/course.html>

Limited options and offerings for Columbus location. See Student Services Coordinator for details.

HUMANITIES/SS ELECTIVE:

Any 2xxxx or higher 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.

- *ANTH A200 to ANTH A599
- *ECON E200 to ECON E599
- *ENG G200 to ENG G599
- *ENG L200 to ENG L599
- *ENG W200 to ENG W599
- *HER H100 Art Appreciation
- *HIST A200 to HIST A599
- *HIST H200 to HIST H599
- *HIST K200 to HIST K599
- *PHIL P200 to PHIL P599
- *POLS Y200 to POLS Y599
- *PSY B200 to PSY B599
- *SOC R200 to SOC R599

FREE ELECTIVE: Any non-remedial course

Polytechnic Growth Plans for Global Awareness & Intercultural Competency

Intercultural Growth Plan #1	Developmental Level Competency
Assessment	___ Complete the Pre- and Post-Intercultural Development Inventory Assessments (1st year and 4th year) ___ Complete the pre- and post- BEVI (1st and 4th years)
	___ Complete one of the following Intercultural Knowledge and Effectiveness components below: (This list will be reviewed and updated each year) <ul style="list-style-type: none"> · Crosswalk Commons (residential living Experience for a minimum of one semester) · Serve as a BGRI Program leader · PUPIL (Purdue University Passport to Intercultural Learning) (Obtain at least two badges) · Participate in two (2) Boiler Out Program Activities · Participate in Host-a-Boiler
	Complete one of the following: <ul style="list-style-type: none"> · An international project or collaborative project, or · An international internship, or · A Faculty-led Study Abroad program, or · Three credit hours of courses** from the Polytechnic list of approved of recommended Global/Intercultural courses. **<i>Must be in a category other than Increasing Self-awareness</i>

Professional Requirement

The SOET Professional Experience requirement is intended to document those experiences which help expose SOET students to the expectations of their profession prior to graduation. This may occur through industrial experience, technical or administrative involvement with community service, military service, et cetera. Approval has been granted for the following experiences. Additional experiences may also satisfy this graduation requirement. Requests for approval should be submitted to the SOET Curriculum Subcommittee Chair for consideration, allowing at least four academic weeks for review and response.

Table 1: Approved Professional Experiences

Approval by	Experience
Automatic	Any TECH Professional Practice course (co-op, intern, etc.)
Automatic	MET 29900 Internship for Credit
Automatic	Industry-sponsored senior capstone
Automatic	EPICS courses, minimum of two
Automatic	Lab Assistant (satisfactory completion of a minimum of one lab division for one term; e.g., ECET 29900 or MET 39200)
Advisor	Any approved internship (assuming student and/or employer provide documentation)
Advisor	Military service (ROTC, reservist, active duty, veteran)
Faculty	Other undergraduate research experiences (e.g., employed in the AEL as lab technician)
Faculty	Independent study – by petition to ensure the project meets the spirit of the requirement
Faculty	Professional society/club activities (e.g., led the Solar Racing team) - by petition
Faculty	Any approved employment