

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) Materials and Processes Selective
- _____ (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) CNIT 10500 – Introduction to C Programming
- _____ (3) ENGT 18000—Engineering Technology Foundations
- _____ (1) ENGT 18100—Engineering Technology Applications
- _____ (3) Manufacturing Selective

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

- _____ (3) Mechatronics/Controls Selective
- _____ (3) Manufacturing/Controls Selective
- _____ (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) MFET 34800 – Advanced Industrial Robotics

Other Departmental/Program Course Requirements (57 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) TLI 33400 – Engineering Economics
- _____ (3) MA 16010 - Applied Calculus I (*satisfies Quantitative Reasoning for core*)
- _____ (3) MA 16020 - Applied Calculus II
- _____ (3) ECET 22400 – Electronic Systems
- _____ (3) ECET 38001 --- Global/Professional Issues
- _____ (3) CHM 11100 – General Chemistry (*CHEM-C 101 & 121) General Chemistry
- _____ (4) PHYS Selective (choose from PHYS 21800, PHYS 22000, PHYS 17200 (*PHYS-P 201 OR 221) General Physics (*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 (*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)
- _____ (3) Statistics/Quality Selective (choose between STAT 30100 or IT 34200)
- _____ (3) Technical Elective
- _____ (0) Professional Selective
- _____ (0) Intercultural Selective

Free Electives (4 credits)

- _____ (4) Free Elective

University Core Requirements

Human Cultures: Behavioral/Social Sciences	<input type="checkbox"/>	_____	Science	<input type="checkbox"/>	_____
Human Cultures: Humanities	<input type="checkbox"/>	_____	Science	<input type="checkbox"/>	_____
Information Literacy	<input type="checkbox"/>	_____	Science, Technology & Society	<input type="checkbox"/>	_____
Oral Communication	<input type="checkbox"/>	_____	Written Communication	<input type="checkbox"/>	_____
Quantitative Reasoning	<input type="checkbox"/>	_____			_____

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

Fall 1 st Year	CR	GR	Fulfilled by	Spring 1 st Year	CR	GR	Fulfilled by
Materials and Processes Selective	3			MA 16010 Applied Calculus I * (Prereq: ALEKS score of 75)	3		
Freshman Composition Selective* - ENG-W 131	3			COM 11400 Fund of Speech Communication* - SPCH-S 121	3		
CNIT 10500 Introduction to C Programming	3			MET 11100 Applied Statics (Prereqs: ENGT 18000)	3		
ENGT 18000 ENG Tech Foundations	3			Behavioral/Social Science Selective*	3		
ENGT 18100 ENG Tech Applications	1			Physics Selective*	5		
TECH 12000 Design Thinking in Tech.*	3						
TOTAL CREDIT HOURS	16			TOTAL CREDIT HOURS	17		

Fall 2 nd Year	CR	GR	Fulfilled by	Spring 2 nd Year	CR	GR	Fulfilled by
ECET 22400 Electronic Systems (Prereq: MA 16010)	3			MET 10200 Production Specifications (Prereqs: CGT Selective and ENGT 18000)	3		
MA 16020 Applied Calculus II (Prereq: MA 16010 with a grade of C- or better)	3			MET 28400 Intro to Industrial Controls (Prereq: ECET 22400)	3		
MET 11300 Mechanics Applications (Prereq: MET 11100)	1			MET 23000 Fluid Power (Prereqs: (MET 11100 or PHYS 22000) and MA 16010)	3		
MFET 24800 Introduction to Robotics (Prereq: CNIT 10500)	3			Science Selective*	3-5		
Computer Graphics Selective	2-3			Humanities Foundation Selective*	3		
MET 24500 Manufacturing Systems (Prereqs: (MET 14300 or MET 14400) and Computer graphics selective)	3						
TOTAL CREDIT HOURS	15-16			TOTAL CREDIT HOURS	15-17		

Fall 3 rd Year	CR	GR	Fulfilled by	Spring 3 rd Year	CR	GR	Fulfilled by
ECET 33700 Analog Signal Processing (Prereq: ECET 22400 + MA 16020)	3			MFET 37400 Mfg Integration I (Prereq: MET 28400)	3		
MFET 34400 Automated Mfg Processes (Prereq: MET 24500)	3			ECET 38001 Global Professional Issues in ET	3		
MFET 34800 Advanced Industrial Robotics (Prereq: MET 28400)	3			CHM 11100 General Chemistry - CHEM-C 101 & CHEM-C 121 (IUSB)	3-5		
ECET 32700 Instrument & DAQ Design (Prereqs: ECET 22400, MA 16010, PHYS Sel.)	3			Manufacturing Selective	3		
COM 32000 Small Group Comm.	3			Statistics or Quality Selective	3		
TOTAL CREDIT HOURS	15			TOTAL CREDIT HOURS	15		

Fall 4 th Year	CR	GR	Fulfilled by	Spring 4 th Year	CR	GR	Fulfilled by
ECET 43000 Electrical and Electronic Product and Program Management	3			ECET 46000 Project Design and Development (Prereq: ECET 43000)	3		
TLI 33400 Monetary Analysis for Industrial Decisions	3			Technical Elective	3		
ENGL 42100 Technical Writing (Prereq: ENGL 10600)	3			Humanities/Social Science Elective	3		
Mechatronics/Controls Selective	3			Manufacturing/Controls Selective	3		
Free Elective	3			Free Elective	1		
Professional Selective	0			Intercultural Selective	0		
TOTAL CREDIT HOURS	15			TOTAL CREDIT HOURS	13		

*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 a Purdue location conferring the degree.

5. 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 04/28/2017

2017-2018 MFET SUPPLEMENTAL INFORMATION

Robotics Engineering Technology major

All prerequisites must be met

BOLD indicates course offered at the South Bend location.

***Indicates approved IUSB course for South Bend location.**

FRESHMAN COMPOSITION SELECTIVE

ENGL 10600 First-Year Composition
ENGL 10800 Accelerated First-Year Composition

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

COMPUTER GRAPHICS SELECTIVE

CGT 11000 Technical Graphics Communications
CGT 16300 Graphical Communications and Spatial Analysis

IT 10500 Intro to Engineering Design

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
CGT 42300 Product Data Management
CGT 42600 Industry Applications Of Simulation And Visualization
FNR 30110 Sustainable Forest Products Manufacturing
IT 33000 Industrial Sales And Sales Management
IT 34500 Automatic Identification And Data Capture
IT 35100 Advanced Industrial Safety And Health Management
IT 38100 Total Productive Maintenance
IT 43400 Global Transportation And Logistics Management
IT 44200 Production Planning
IT 48300 Facility Design For Lean Manufacturing

MET 30200 CAD In The Enterprise

MET 33400 Advanced Fluid Power

MET 34600 Advanced Materials In Manufacturing

MET 43200 Hydraulic Motion Control Systems

MET 43600 Pneumatic Motion Control Systems

MGMT 45500 Legal Background For Business I

OLS 28400 Leadership Principles

TLI 31300 Tech Integration: Bar Codes to Biometrics

TLI 33620 Total Productive Maintenance

TLI 44275 Global Transportation And Logistics Management

STATISTICS OR QUALITY SELECTIVE

STAT 30100 Elementary Statistical Methods

TLI 31600 Statistical Quality Control

PHYSICS SELECTIVE

PHYS 21800 General Physics or ***PHYS-P 221** or ***PHYS-P 201**
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
CHM 11600 General Chemistry
PHYS 21900 General Physics II

PHYS 2210 General Physics

PHYS 24100 Electricity and Optics

***BIOL-L 100 Humans & the Biological World**

***PHYS-P 222** or **PHYS-P 202 – Physics 2**

MECHATRONICS SELECTIVE

MET 43200 Hydraulic Motion Control Systems
MET 43600 Pneumatic Motion Control Systems
MET 48200 Mechatronics

MET 58100 Design for Mechatronics

MFET 34800 Advanced Industrial Robotics

CONTROLS SELECTIVE

MET 33400 Advanced Fluid Power
MET 43600 Pneumatic Motion Control Systems
MET 43200 Hydraulic Motion Control Systems
MET 48200 Mechatronics

MFET 29200 Projects in Automation, Robotics, and Mechatronics

MFET 39200 Advanced Projects in Automation, Robotics, and Mechatronics

TLI 31300 Tech Integration: Bar Codes to Biometrics

MANUFACTURING SELECTIVE

AT 27200 Introduction to Composite Technology
AT 30802 Aircraft Materials Processes
AT 47200 Advanced Composite Technology
CGT 32600 Graphics Standards for Product Definition
CGT 42300 Product Data Management
CGT 42600 Industry Applications of Simulation & Visualization
ECET 49900 Applied Comp Vision Sensing & Auto
IT 38100 Total Productive Maintenance
IT 43400 Global Transportation And Logistics Management

IT 44200 Production Planning

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 39200 Adv. Projects in Automation, Robotics, & Mechatronics

TLI 33620 Total Productive Maintenance

TLI 44275 Global Transportation And Logistics Management

MATERIALS & PROCESSES SELECTIVE

MET 143000 Materials & Processes I

MET 14400 Materials & Processes II

Humanities Selective (3 credits)

See approved Humanities list at: <http://www.purdue.edu/provost/initiatives/curriculum/course.html>

Students attending the South Bend location can go to the following link to review how IU courses transfer to Purdue University to meet University Core Course Requirements:

<http://www.purdue.edu/provost/initiatives/curriculum/documents/Retro%20and%20Transfer%20Credit%20Course%20list%205-27-14.pdf>

*FINA-F 100 Fundamentals of Studio Drawing

*HIST-H 105 American History I

*HIST-H 113 History of Western Civilization 1

*HIST-H 114 History of Western Civilization 2

*MUS-M 17400 Music for the Listener

*PHIL-P 110 Introduction to Philosophy

*PHIL-P 140 Introduction to Ethics

Behavioral/Social Science Foundational Selective: see <http://www.purdue.edu/provost/initiatives/curriculum/course.html>

Students attending the South Bend location can go to the following link to review how IU courses transfer to Purdue University to meet Core Course Requirements:

<http://www.purdue.edu/provost/initiatives/curriculum/documents/Retro%20and%20Transfer%20Credit%20Course%20list%205-27-14.pdf>

*ECON-E 103 Introduction to Microeconomics

*ECON-E 104 Introduction to Macroeconomics

*POLS-Y 103 Introduction to American Politics

*POLS-Y 109 Introduction to International Relations

*PSY-P 103 Introduction to Psychology

*SOC-S 161 Principles of Sociology

*SOC-S 163 Social Problems

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.

FREE ELECTIVE: Any non-remedial course

INTERCULTURAL REQUIREMENT

All students must complete the School of Engineering Technology (Polytechnic) Growth Plan for Global Awareness and Intercultural Competency at the Developmental Level (see below). Students who are interested in further developing their Global Awareness and Intercultural Competency are encouraged to complete the requirement at the Emerging Level or the Proficient Level (see advisor for more information).

Polytechnic Growth Plans for Global Awareness & Intercultural Competency

Intercultural Growth Plan #1	Developmental Level Competency
Assessment	<input type="checkbox"/> Complete the Pre- and Post-Intercultural Development Inventory Assessments (1st year and 4th year) <input type="checkbox"/> Complete the pre- and post- BEVI (1st and 4th years)
	<input type="checkbox"/> 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 or 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 professional 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