PURDUE UNIVERSITY

Manufacturing Engineering Technology Program   PIMFET-BS
Robotics Engineering Technology   ROET
Purdue Polytechnic Institute   120-cr for graduation
"D-" or better required in all major courses"

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

  Robotics Courses– (24 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 – Electronic 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 *(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 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
- (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)   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

  Free Elective (4 credit hours)
- (4)   Free Electives

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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PURDUE UNIVERSITY

School of Engineering Technology
Major: Robotics Engineering Technology (ROET)
MFET-BS Suggested Arrangement of Courses

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				CNIT 10500 Introduction to C Programming	3			
MA 16010 Applied Calculus I* (Prereq: ALEKS score of 75)	3				MA 16020 Applied Calculus II (Prereq: MA 16010 with a grade of C- or better)	3			
TECH 12000 Design Thinking in Tech.*	3				MET 11100 Applied Statics (Prereqs: ENGT 18000)	3			
ENGT 18000 ENG Tech Foundations	3				Humanities Foundation Selective*	3			
ENGT 18100 ENG Tech Applications	1				ECET 22400 Electronics Systems (Prereq: MA 16010)	3			
Freshman Composition Selective*	3								
TOTAL CREDIT HOURS	16				TOTAL CREDIT HOURS	15			

Fall 2nd Year	CR	GR	Sem	Fulfilled by	Spring 2nd Year	CR	GR	Sem	Fulfilled by
MET 24800 Introduction to Robotics (Prereq: CNIT 10500)	3				MET 10200 Production Specifications (Prereqs: CGT Selective and ENGT 18000)	3			
COM 11400 Fund of Speech Communication*	3				Free Elective	3			
MET 11300 Mechanics Applications (Prereq: MET 11100)	1				MET 24500 Manufacturing Systems (Prereqs: (MET 14300 or MET 14400) and Computer graphics selective)	3			
MET 28400 Intro to Industrial Controls (Prereq: ECET 22400)	3				Behavioral/Social Science Foundation Selective*	3			
Computer Graphics Selective	2				Physics Selective*	4			
CHM 11100 General Chemistry*	3								
TOTAL CREDIT HOURS	15				TOTAL CREDIT HOURS	16			

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				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			
ENGL 42100 Technical Writing (Prereq: ENGL 10600)	3				ECET 32700 Instrument & DAQ Design (Prereqs: ECET 22400, MA 16010, PHYS Sel.)	3			
ECET 33700 Analog Signal Processing (Prereq: ECET 22400 + MA 16020)	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
ECET 43000 – Electronic Product and Program Management	3				ECET 46000 – Project Design and Development (Prereq: ECET 43000)	3			
COM 32000 Small Group Communication	3				Technical Elective	3			
MFET 34800 Ind Robots/Motion Ctrl (Prereq: MET 28400)	3				Humanities/Social Science Elective	3			
Mechatronics/Controls Selective	3				Manufacturing/Controls Selective	3			
IET 45100 or TLI 33400 engineering economics	3				Free Elective	1			
TOTAL CREDIT HOURS	15				TOTAL CREDIT HOURS	13			

Refer to the 2016 MFET Robotics Engineering Technology supplemental Information form for 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 4/20/2016*

FRESHMAN COMPOSITION SELECTIVE

ENGL 10600 First-Year Composition

ENGL 10800 Accelerated First-Year Composition

COMPUTER GRAPHICS SELCTIVE

CGT 11000 Technical Graphics Communications

IT 10500 Intro to Engineering Design

CGT 16300 Graphical Communications and Spatial Analysis

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

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

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 22100 General Physics

PHYS 24100 Electricity and Optics

MECHATRONICS SELECTIVE

MET 48200 Mechatronics

MET 58100 Design of Mechatronics Systems

CONTROLS SELECTIVE

IT 34500 Automatic Identification and Data Capture

IT 44500 Problem-Solving with Automatic Data Collection

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 39200 Advanced Projects In Automation, Robotics And Mechatronics

MFET 44600 Advanced Manufacturing Operations

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:

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