PURDUE UNIVERSITY

Manufacturing Engineering Technology Program — PIMFET-BS
Robotics Engineering Technology — ROET
Purdue Polytechnic Columbus — 120-cr for graduation

Fall 2016

"D-" or better required in all major courses

*__Bold__ denotes Columbus location course offering.

Departmental/Program Major Courses (120 credits)

Required Major Courses (35 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 Concentration Courses (24 credits)

_____ (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)** (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 ***(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 IT 34200)
_____ (3) Technical Elective

Free Elective (4 credits)

_____ (4) Free Elective

University Core Requirements

Human Cultures: Behavioral/Social Sciences		*Science*	PHYS 218
Human Cultures: Humanities		*Science*	
Information Literacy	TECH 12000	*Science, Technology & Society*	TECH 12000
Oral Communication	COMM R110	*Written Communication*	ENG W131
Quantitative Reasoning	MA 16010		

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

Updated 5/23/2016 WNR

Fall 2016

PURDUE UNIVERSITY

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

Name: _____

Catalog Term: _____ PUID: _____

For Catalog Terms beginning in Fall 2016
Major Code: ROET Program Code: PIMFET-BS

*__Bold__ denotes Columbus location course offering.

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
Computer Graphics Selective **CGT 110 Technical Graphics Communication**	2				MET 11100 Applied Statics (Prereq: ENGT18000)	3			
COM 11400 Fund of Speech Comm* ***COMM R110 (IUPUC)**	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				MET 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	**15**				**TOTAL CREDIT HOURS**	**15**			

Fall 2nd Year	CR	GR	Sem	Fulfilled by	**Spring 2nd 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				Behavioral/Social Science Foundation Selective*	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 3rd Year	CR	GR	Sem	Fulfilled by	**Spring 3rd 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			
MET 10200 Production Specifications (Prereqs: CGT Selective and ENGT 18000)	3				MFET 37400 Mfg Integration I (Prereq: MET 28400)	3			
ENGL 42100 Technical Writing (Prereq: ENGL 10600)	3				MET 23000 Fluid Power (Prereqs: (MET 11100 or PHYS 22000) and MA 16010)	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
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 Ind Robots/Motion Ctrl (Prereq: MET 28400)	3				Humanities/Social Science Elective	3			
Mechatronics/Controls Selective MET 48200 Mechatronics	3				COM 32000 Small Group Comm (ICN) 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 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 the Purdue University location conferring the degree.

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

********** *Updated5/23/16 WNR*

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
***ENG W 131 Reading, Writing, & Inquiry I**
ENGL 10800 Accelerated First-Year Composition

COMPUTER GRAPHICS SELCTIVE

CGT 11000 Technical Graphics Communications
CGT 16300 Graphical Communications and Spatial Analysis
IT 10500 Intro to Engineering Design (PLTW)

TECHNICAL SELECTIVE

CGT 32600 Graphics Standards for Product Definition
CGT 42300 Product Data Management
CGT 42600 Industry Applications of Simulation and Visualization
FNR 30100 Wood Products/Wood Processes
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
TLI 43540 + TLI 48800
TLI 34300 Technical & Service Selling
TLI 31300 Tech Innovation & Integration: AIDC – Bar Codes to Biometrics
TLI 33520 + TLI 33610
TLI 33620 Total Productive Maintenance
TLI 44275 Global Transportation & Logistics Management
TLI 43530 Operations Planning & Management
TLI 112 Foundation of Technology Leadership

STATISTICS OR QUALITY SELECTIVE

STAT 30100 Elementary Statistical Methods
TLI 31600 Statistical Quality Control

ENGLISH/COMMUNICATION SELECTIVE

COM 31500 Technical Communications
COM 31800 Principles of Persuasion
COM 32000 Small Group Communication
COM 32500 Interviewing Principles and Practices
***COMM C325 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 21800 General Physics I**
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
***CHEM C105 Principles of Chem I + CHEM C125 Lab**
PHYS 21900 General Physics II
***PHYS 21900 General Physics II**
PHYS 2210 General Physics
PHYS 24100 Electricity and Optics

MECHATRONICS SELECTIVE

MET 48200 Mechatronics
MET 58100 Design of Mechatronics Systems

MANUFACTURING CONTROLS SELECTIVE

TLI 31300 Tech Innovation & Integration: AIDC – Bar Codes to Biometrics
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
TLI 23500 Intro to Lean & Sustainable Systems
TLI 33620 Total Productive Maintenance
TLI 33520 + TLI 33610
TLI 44275 Global Transportation & Logistics Management
TLI 43530 Operations Planning & Management
TLI 43640 Lean Six Sigma
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

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