PURDUE UNIVERSITY

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

PIMFET-BS
ROET
Catalog Term: 202010

Fall 1st Year	CR	GR	Sem	Fulfilled by	Spring 1st Year	CR	GR	Sem	Fulfilled by
ENGT 18000 ENG Tech Foundations◆	3				MA 16010 Applied Calculus I* (Pre-req: ALEKS score of 75)	3			
ENGT 18100 ENG Tech Applications	1								
MET 14400 Materials and Processes II **[Materials and Processes Selective]**	3				MET 11100 Applied Statics (Pre-req: ENGT 18000)	3			
CGT 16300 Graph Comm. & Spat Anlys. **[[17]Computer Graphics Tech Selective]**	2				MET 10200 Production Design & Specs (Pre-reqs: CGT Selective and ENGT 18000)	3			
TECH 12000 Design Thinking in Tech.*	3				CNIT 10500 Introduction to C Programming◆	3			
SCLA 10100 – Transformative Texts, Critical Thinking & Communication I* **[[12]Freshman Composition Selective*]**	3				SCLA 10200 – Transformative Texts, Critical Thinking & Communication II* **[[8]Freshman Speech Selective*]**	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
MET 11300 Mechanics Applications (Pre-req: MET 11100)	1				MET 23000 Fluid Power [Pre-reqs: MET 11100 or PHYS 22000/***PHYS-P 201 (IUE)**, and MA 16010]	3			
MET 24500 Manufacturing Systems (Pre-reqs: MET 14400 & CGT Selective)	3				MFET 24800 Introduction to Robotics (Pre-req: CNIT 10500)	3			
ECET 22400 Electronics Systems◆ (Pre-req: MA 16010)	3				MET 28400 Intro to Industrial Controls (Pre-req: ECET 22400)	3			
***PHYS-P 201, 5 cr (IUE) [[18]Physics Selective*]**	4				***PHYS-P 202, 5cr. (IUE) [[11]Science Selective*]**	3			
MA 16020 Applied Calculus II (Pre-req: MA 16010 w/C- or higher)	3				**[[13]Humanities Foundation Selective*]**	3			
[20]Free Elective **[*Apply excess Physics credits here]**	1								
TOTAL CREDIT HOURS	**15**				**TOTAL CREDIT HOURS**	**15**			

Fall 3rd Year	CR	GR	Sem	Fulfilled by	Spring 3rd Year	CR	GR	Sem	Fulfilled by
MFET 34400 Automated Mfg. Processes (Pre-req: MET 24500)	3				MFET 37400 Manufacturing Integration I (Pre-req: MET 28400)	3			
ECET 33700 Cont. Syst. Analys. & Design (Pre-reqs: ECET 22400 and MA 16020)	3				ECET 32700 Instrument'n & Data Acq. Design (Pre-reqs: ECET 22400, MA 16010, and PHYS)	3			
TLI 31600 Statistical Quality Control **[[19]Statistics/Quality Selective]**	3				TLI 31300 Tech Inn & Int: Bar Codes & Biomet **[[3]Manufacturing/Controls Selective]**	3			
TLI 33400 Economic Analysis for Technology Systems	3				**[[1]Manufacturing Selective]**	3			
CHM 11100 General Chemistry* ***CHEM-C 105 + CHEM-C 125 (IUE)**	3				ECET 38001 Global Professional Issues in ET	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
[[4]Capstone Selective I]	3				**[[5]Capstone Selective II]** [Pre-req: Capstone Selective I]	3			
MFET 34800 Adv. Industrial Robots (Pre-req: MFET 24800 & ECET 33700)	3				**[[16]Technical Elective]**	3			
MET 48200 Mechatronics **[[2]Mechatronics/Controls Selective]**	3				**[[15]Humanities/Social Science Elective]** (200-level or higher)	3			
ENGL 42100 Technical Writing [Pre-req: ENGL 10600/10800 or SCLA 10100] **[[10]Technical Writing Selective]**	3				COM 32000 Small Group Communication [Pre-req: COM 11400 or SCLA 10200) **[[9]Communications Selective]**	3			
[[14]Behavioral/Social Science Foundation Selective*]	3				[20]Free Elective **[*Apply excess Physics & Chemistry credits here]**	3			
TOTAL CREDIT HOURS	**15**				**TOTAL CREDIT HOURS**	**15**			

*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.
5. Complete a [6]Professional Requirement. ☐ Complete an [7]Intercultural Requirement. ☐

This ◆ course is considered critical. A Critical Course is one that a student must be able to pass to persist and succeed in a particular major.

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

Updated 4/15/2019 (Effective Fall 2019)

RICHMOND 2019-2020 MFET SUPPLEMENTAL INFORMATION
Robotics Engineering Technology major
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See Student Affairs Administrator for course availability.

[1]MANUFACTURING SELECTIVE:

AT 27200 Introduction to Composite Technology
AT 30802 Aircraft Materials Processes
AT 47200 Advanced Composite Technology
CGT 20301 Model-Based Definition
CGT 21301 Simulation and Visualization Applications
CGT 30301 Digital Manufacturing
CGT 31301 The Business of Managing Digital Product Data
CGT 32600 Graphics Standards for Product Definition
CGT 42300 Product Data Management
CGT 42600 Industry Applications of Simulation and Visualization
ECET 27000 Electronics Prototype Development and Construction
ECET 49900 EET – 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 34900 (Stringed Instrument Design and Manufacture
MET 45100 Manufacturing Quality Systems
MFET 29200 Projects in Automation, Robotics, and Mechatronics
MFET 39200 Adv. Projects in Automation, Robotics, & Mechatronics
MFET 49900 MFET Independent Project – Tech, Innovation & Culture in Bavaria (Study Abroad)
TLI 33620 Total Productive Maintenance
TLI 44275 Global Transportation and Logistics Management

[2]MECHATRONICS SELECTIVE:

MET 43200 Hydraulic Motion Control Systems
MET 43600 Pneumatic Motion Control Systems
MET 48200 Mechatronics
MET 58100 Workshop in MET
MFET 29200 Projects in Automation, Robotics and Mechatronics
MFET 34800 Advanced Industrial Robotics
MFET 39200 Adv. Projects in Automation, Robotics & Mechatronics

[3]CONTROLS SELECTIVE:

ECET 27400 Wireless Communications
ECET 35901 Computer Based Data Acquisition Applications
ECET 49900 EET – Appl Comp Vision Sensing & Auto
MET 33400 Advanced Fluid Power
MET 38200 Controls & Instrumentation for Automation
MET 43200 Hydraulic Motion Control Systems
MET 43600 Pneumatic Motion Control Systems
MET 48200 Mechatronics
MFET 29200 Projects in Automation, Robotics, and Mechatronics
MFET 39200 Adv Projects in Automation, Robotics, & Mechatronics
TLI 31300 Tech Innovation & Integration: Bar Codes to Biometrics

[4]CAPSTONE SELECTIVES I:

ECET 43000 Electrical & Electronic Product & Program Mgmt
ECET 43100 International Capstone Project Planning & Design
ENGT 40500 Entrepreneurial Capstone I
MET 40100 Capstone Projects I
MFET 48000 Project Planning for Integration

[5]CAPSTONE SELECTIVES II:

ECET 46000 Project Design and Development
ECET 46100 International Capstone Project Execution
ENGT 40600 Entrepreneurial Capstone II
MET 40200 Capstone Projects II
MFET 48100 Integration of Manufacturing Systems

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[6]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	EPICS courses, minimum of two
Advisor	Any approved internship (assuming student and/or employer provide documentation)
Advisor	Military service (ROTC completion, reservist, active duty, veteran)
Faculty	Supervised undergraduate research experiences or laboratory assistantships (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 or industry project

* Approval Key:
- Automatic – student participation in this professional experience is already documented through existing means.
- Advisor – advisor reviews student's experience to determine if it meets the spirit of the Professional Experience requirement.
- Faculty – designated committee reviews student's experience to determine if it meets the spirit of the Professional Experience requirement

[7]INTERCULTURAL REQUIREMENT:

	Polytechnic minimum global requirement
Step 1:	_____ Complete the Pre-test Intercultural Development Inventory Assessments (1st year)
Step 2:	_____ Complete **one (1)** of the following global experiences:* o Participate in a Purdue University international capstone, collaborative project, **or** o Participate in an international internship (international location), **or** o Participate in a full semester abroad program, **or** o Complete 3 credit hours from the Polytechnic list of recommended Global/Cultural courses.
Step 3:	_____ Complete the Post-test Intercultural Development Inventory Assessments (4th year)
	NOTE FOR TRANSFER/CODO STUDENTS: Transfer and CODO students with less than 75 credit hours remaining to complete their Polytechnic Plan of Study are exempt from Step 1 (taking the IDI Pre-test). * Global experiences must take place during the time of enrollment in the Polytechnic to complete Step 2. Experiences taken place prior to a student's initial enrollment will not serve to complete Step 2. Intercultural competencies gained on experiences prior to Polytechnic enrollment will be captured as baseline data on a student's IDI.

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[7]INTERCULTURAL REQUIREMENT CONTINUED:
Approved Global Courses:

***ANTH-A 104**	***FREN-F 200**	***POLS-Y 324**	***SOC-S 335**
***ANTH-E 300**	***FREN-F 250**	***PSY-P 103**	***SPAN-S 200**
***ANTH-E 320**	***POLS-Y 206**	***SOC-S 100**	***SPAN-S 250**

AAS	27100	Intro to African American Studies		HIST	19500	Historian's Craft: Hist. Rsrch. & Film
AAS	37300	Issues in African American Studies		HIST	30000	Eve of Dest: Glob Cris Wrld Org 20th Cen
AGR	20100	Communicating Across Culture		HIST	36600	Hispanic Heritage of the US
ANSC	38100	Leadership for a Diverse Workplace		HIST	37700	Hist. & Culture of Native America
ANTH	20300	Bio. Bases of Human Soc. Behavior		HIST	46900	Black Civil Rights Movement
ANTH	20500	Human Cultural Diversity		HIST	47900	Amer. Reps of Mid. East & N. Africa
ANTH	21000	Technology and Culture		HTM	37000	Sustainable Tourism & Resp. Travel
ANTH	21200	Culture, Food and Health		HTM	37200	Global Tourism Geography
ANTH	23000	Gender Across Cultures		MSL	20100	Individual Leadership Studies
ANTH	34000	Global Perspectives on Health		OLS	35000	Creativity in Business & Industry
ANTH	34100	Culture and Personality		PHIL	11400	Global Moral Issues
ANTH	37900	Native American Cultures		PHIL	43500	Philosophy of Mind
ARAB	28000	Arabic Culture		POL	22200	Women, Politics, and Public Policy
ASAM	24000	Intro to Asian American Studies		POL	23500	Intl. Rels Among Rich & Poor Nats
AT	23300	Ethics and Aviation		POL	32600	Black Political Part. in America
CNIT	32000	Policy, Reg, & Globalization in IT		POL	32700	Global Green Politics
COM	22400	Comm. in the Global Workplace		POL	36000	Women and the Law
COM	30300	Intercultural Communication		POL	41300	The Human Basis of Politics
COM	**32000**	**Small Group Communication**		POL	42300	International Environmental Policy
COM	37300	Self-Presentation and Social Image		POL	42900	Cont. Pol. Probs – Complex World
COM	41200	Theories of Human Interaction		POL	43300	International Organization
COM	42300	Leadership, Communication & Orgs		PSY	12000	Elementary Psychology
ECET	29000	International Experience		PSY	25100	Health Psychology
ECET	**38001**	**Global Professional Issues in ET**		PSY	32200	Neurosci. of Motivated Behavior
EDPS	23500	Learning and Motivation		SOC	10000	Introductory Sociology
EDPS	30000	Student Leadership Development		SOC	31000	Racial and Ethnic Diversity
EDPS	30100	Peer Counseling Training		SOC	33900	Intro to Soc. of Developing Nations
EDPS	31500	Collab. Ldrship: Interpersonal Skills		**TECH**	**33000**	**Technology and the Global Society**
EDPS	31600	Collab. Ldrship: Cross-Cult. Settings		**TLI**	**11200**	**Foundations of Org. Leadership**
EDPS	31700	Collab. Leadership: Mentoring		**TLI**	**31400**	**Leading Innovation in Orgs.**
ENGL	41400	Studies in Literature and Culture		WGSS	28200	Intro to LGBT Studies
HDFS	28000	Diversity in Individual & Family Life		WGSS	38000	Gender and Multiculturalism
HDFS	33200	Stress & Coping in Contemp. Fam.		WGSS	38300	Women and Work
HEBR	38500	Holocaust in Mod. Hebrew Lit.				
Any foreign language 20000 level or higher (20100, 20200, 30100, 30200).						

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[7]INTERCULTURAL REQUIREMENT CONTINUED:

POLYTECHNIC STATEWIDE- ADDITIONAL GLOBALIZATION SELECTIVE COURSES THAT ARE PROVIDED BY THE HOST LOCATION OR OFFERED SPECIFICALLY AT STATEWIDE LOCATION.

***RICHMOND – OFFERED THROUGH IU EAST**

INTERNATIONAL STUDIES COURSES			CULTURAL PRODUCTIONS COURSES	
*INTL-I220	Global Connections		*CLAS-C205	Classical Mythology
CULTURAL SYSTEMS COURSES			*ENG-L225	Introduction to World Masterpieces
*ANTH-E200	Social and Cultural Anthropology		*ENG-L382	Fiction of the Non-Western World
*ANTH-E310	Cultures of Africa		*FINA-A101	Ancient and Medieval Art
*CMCL-C205	Intro to Communication & Culture		*FINA-A102	Renaissance through Modern Art
*CMCL-C380	Nonverbal Communication		*FINA-A342	Twentieth-Century Art
*CMCL-C427	Cross-Cultural Communication		HISTORICAL PERSPECTIVES	
*CMCL-C450	Gender and Communication		*HIST-A380	The Vietnam War
*GEOG-G110	Introduction to Human Geography		*HIST-B244	The Viking Age
*REL-R152	Jews, Christians, and Muslims		*HIST-B306	European Race, Gender, and Identity
CULTURAL SYSTEMS COURSES CONTINUED			*HIST-B356	French Revolution
*REL-R153	Religions of Asia		*HIST-B408	European Nationalism and Identity
*REL-R160	Religion in America		*HIST-B418	Germany: Nation and Volk
*REL-R171	Religion, Ethics, and Public Life		*HIST-B436	Making Modern Britain
*PHIL-P200	Problems of Philosophy		*HIST-B444	The Scandinavian Model
*PHIL-P371	Philosophy of Religion		*HIST-D410	Russian Rev. and the Soviet Regime
*PHIL-P393	Biomedical Ethics		*HIST-H108	Perspectives on the World to 1800
*SOC-S217	Social Inequality		*HIST-H109	Perspectives on the World since 1800
*SOC-S313	Religion and Society		*HIST-H205	Ancient Civilization
*SPAN-S284	Women in Hispanic Culture		*HIST-H219	Origins & Hist of the 2nd World War
			*HIST-H232	The World in the Twentieth Century
			*HIST-F341	Latin America: Conquest and Empire

[8]FRESHMAN SPEECH SELECTIVE:

COM 11400 Fundamentals of Speech Communication
***SPCH-S 121**

SCLA 10200 Transformative Texts, Critical Thinking and Communication II: Modern World

[9]COMMUNICATION SELECTIVE:

COM 31500 Speech Communication of Technical Information
COM 32000 Small Group Communication

COM 41500 Discussion of Technical Problems
EDPS 31500 Collaborative Leadership: Interpersonal Skills

[10]TECHNICAL WRITINNG SELECTIVE:

ENGL 42100 Technical Writing

ENGL 42400 Writing for High Technology Industries

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[11]SCIENCE SELECTIVE:

BIOL 11000 Fundamentals of Biology I
BIOL 20300 Human Anatomy and Physiology
***BIOL-N 212**
CHM 11200 General Chemistry
CHM 11600 General Chemistry
PHYS 22100 General Physics
***PHYS-P 202**
PHYS 24100 Electricity and Optics

[12]FRESHMAN COMPOSITION SELECTIVE:

ENGL 10600 First-Year Composition
***ENG-W 131**
ENGL 10800 Accelerated First-Year Composition
SCLA 10100 Transformative Texts, Critical Thinking and Communication I: Antiquity to Modernity

[13]HUMANITIES FOUNDATIONAL SELECTIVE: see http://www.purdue.edu/provost/initiatives/curriculum/course.html

***ENGL-L 204**
***FINA-A 101, *FINA-A 102**
***FINA-F 100, *FINA-H 100**
***FINA-S 200, *FINA-S 260**
***FREN-F 100, *FREN-F 150,**
***FREN-F 200, *FREN-F 250**
***HIST-H 105, *HIST-H 106**
***MUS-M 174, *MUS-T 101,**
***MUS-Z 393**
***PHIL-P 100, *PHIL-P 120,**
***PHIL-P 140**
***SPAN-S 100, *SPAN-S 150,**
***SPAN-S 200, *SPAN-S 250**
***THTR-T 210**

[14]BEHAVIORAL/SOCIAL SCIENCE FOUNDATIONAL SELECTIVE: see http://www.purdue.edu/provost/initiatives/curriculum/course.html

***ANTH-A 104, *ANTH-E 320**
***ECON-E 103, *ECON-E 104**
***ENG-G 205**
***POLS-Y 103, *POLS-Y 109, *POLS-Y 324**
***PSY-P 103, *PSY-P 216**
***SOC-S 100**
***SPCH-S 122**

[15]HUMANITIES/SOCIAL SCIENCE ELECTIVE:

Any ***20000 level course or higher** in PSY, SOC, ENGL literature, HIST, ECON, POL, PHIL, REL, ANTH, or a foreign language.

[16]TECHNICAL ELECTIVE:

Any **30000 level or higher ECET course** which is not currently required on the plan of study.

CGT 11301 Product Data Management
CGT 20301 Model-Based Definition
CGT 21301 Simulation and Visualization Applications
CGT 30301 Digital Manufacturing
CGT 31301 The Business of Managing Digital Product Data
CGT 32600 Graphics Standards for Product Definition
CGT 42300 Product Data Management
CGT 42600 Industry Applications of Simulation and Visualization
ECET 27900 Embedded Digital Systems
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 38200 Controls and Instrumentation for Automation
MET 43200 Hydraulic Motion Control Systems
MET 43600 Pneumatic Motion Control Systems
MFET 28800 Smart Mfg Operational & Information Networks
MGMT 45500 Legal Background for Business I
OLS 28400 Leadership Principles
TLI 31300 Tech Innovation & Integration: Bar Codes to Biometrics
TLI 33620 Total Productive Maintenance
TLI 44275 Global Transportation and Logistics Management

[17]COMPUTER GRAPHICS SELCTIVE:

CGT 11000 Technical Graphics Communications
CGT 16300 Graphical Communications and Spatial Analysis
IT 10500 Industrial Technology Introduction to Design

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[18]PHYSICS SELECTIVE:

PHYS 17200 Modern Mechanics

PHYS 22000 General Physics
***PHYS-P 201**

[19]STATISTICS OR QUALITY SELECTIVE:

IT 34200 Introduction to Statistical Quality
STAT 30100 Elementary Statistical Methods

***MATH-K 300**
TLI 31600 Statistical Quality Control

[20]FREE ELECTIVE: Any non-remedial courses.
***Apply excess Physics and Chemistry credits here.**

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