

Fall 1 <sup>st</sup> Year	CR	GR	Fulfilled by	Spring 1 <sup>st</sup> Year	CR	GR	Fulfilled by
ENGT 18000 Eng Tech Foundations (Pre-req: ALEKS 60, SAT 570, ACT 24, or MA 15300 or higher)	3			MA 16010 Applied Calculus I* (Pre-req: ALEKS Score 75)	3		
ENGT 18100 Eng Tech Applications (Pre or concurrent with ENGT 18000)	1						
MET 14400 Materials and Processes II	3			MET 14300 Materials and Processes I	3		
TECH 12000 Design Thinking in Tech.*	3			MET 11100 Applied Statics (Pre-req: ENGT 18000)	3		
CGT 16300 Graphic Comm & Spatial Anly [ <sup>12</sup> Computer Graphics Tech Selective]	2			MET 10200 Production Design & Specs (Pre-reqs: CGT selective and ENGT 18000)	3		
SCLA 10100 Transformative Texts, Critical Thinking & Communication I [ <sup>8</sup> Freshman Composition Selective*]	3			SCLA 10200 Transformative Texts, Critical Thinking & Communication II* [ <sup>5</sup> Freshman Speech Selective*]	3		
<b>TOTAL CREDIT HOURS</b>	<b>15</b>			<b>TOTAL CREDIT HOURS</b>	<b>15</b>		

Fall 2 <sup>nd</sup> Year	CR	GR	Fulfilled by	Spring 2 <sup>nd</sup> Year	CR	GR	Fulfilled by
MET 21100 Applied Strength of Materials (Pre-reqs: MET 11100 and MA 16010)	4			MET 21300 Dynamics (Pre-reqs: MA 16010 and MET 11100)	3		
ECET 22400 Electronics Systems (Pre-req: MA 16010)	3			MET 28400 Intro to Industrial Controls (Pre-req: ECET 22400)	3		
PHYS 22000 General Physics I*	4			PHYS 22100 General Physics II*	4		
MA 16020 Applied Calculus II (Pre-req: MA 16010 with grade of C- or higher)	3			MET 22000 Heat and Power (Pre-reqs: PHYS 22000, MA 16010 and ENGT 18000)	3		
				MET 23000 Fluid Power (Pre-reqs: (MET 11100 or PHYS 22000) and MA 16010)	3		
<b>TOTAL CREDIT HOURS</b>	<b>14</b>			<b>TOTAL CREDIT HOURS</b>	<b>16</b>		

Fall 3 <sup>rd</sup> Year	CR	GR	Fulfilled by	Spring 3 <sup>rd</sup> Year	CR	GR	Fulfilled by
[ <sup>15</sup> Technical/Management Selective]	3			MET 31100 Exp. Strength of Materials [ <sup>2</sup> Mechanics Selective]	3		
MET 24500 Manufacturing Systems (Pre-reqs: (MET 14300 or MET 14400) and CGT Selective)	3			MET 32000 Applied Thermodynamics (Pre-reqs: MA 16010 and MET 22000)	3		
CHM 11100 General Chemistry	3			MET 34600 Advanced Materials in Mfg (Pre-reqs: MET 21100, MET 24500 and CHM 11100)	3		
ECON 21000 Principles of Economics [ <sup>9</sup> Economics/Finance Selective]	3			[ <sup>14</sup> Global/Professional Selective]	3		
[ <sup>10</sup> Humanities Selective*]	3			CNIT 15500 Intro to Obj-Oriented Progm [ <sup>13</sup> Programming Selective]	3		
<b>TOTAL CREDIT HOURS</b>	<b>15</b>			<b>TOTAL CREDIT HOURS</b>	<b>15</b>		

Fall 4 <sup>th</sup> Year	CR	GR	Fulfilled by	Spring 4 <sup>th</sup> Year	CR	GR	Fulfilled by
ENGT 48000 ET Capstone I [ <sup>3</sup> MET Capstone Selective I]	3			ENGT 48100 ET Capstone II [ <sup>3</sup> MET Capstone Selective II] (Pre-req: Capstone Selective I)	3		
MET 31300 Applied Fluid Mechanics (Pre-reqs: MA 16020, MET 22000 and MET 23000)	3			MET 33400 Adv. Fluid Power [ <sup>1</sup> MET Elective or Approved Focus Area Elective]	3		
IET 33400 Economic Analysis for Technology Systems	3			STAT 30100 Elem. Statistical Methods	3		
[ <sup>4</sup> Technical Selective or Approved Focus Area Selective]	3			[ <sup>11</sup> Behavioral Social Science Selective*]	3		
ENGL 42100 Technical Writing [ <sup>7</sup> Technical Writing Selective]	3			COM 32000 Small Group Communication [ <sup>6</sup> Communications Selective]	3		
<b>TOTAL CREDIT HOURS</b>	<b>15</b>			<b>TOTAL CREDIT HOURS</b>	<b>15</b>		

Refer to the 2020-21 MET supplemental Instruction form for optional courses to complete selectives and pre-requisites.

- 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 unless otherwise noted.
- 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 Purdue University.
- Complete a <sup>16</sup>Professional Requirement  Complete an <sup>17</sup>Intercultural Requirement

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

**Polytechnic Richmond**  
**2020-2021 MET SUPPLEMENTAL INFORMATION**  
All prerequisites must be met.

**Bold indicates courses offered at the Richmond campus**

**See Student Services Coordinator for course availability**

**<sup>1</sup>MET ELECTIVE**

5-session co-op with completed seminar courses.

MET 30200 CAD in the Enterprise

**MET 31100 Experimental Strength of Materials**

MET 31400 Applications of Machine Elements

MET 31500 Applied Kinematics and Dynamics

MET 31601 Mechanics of Machine Design

MET 31700 Machine Diagnostics

**MET 33400 Advanced Fluid Power**

MET 34900 Stringed Instrument Design and Manufacture

MET 38200 Controls and Instrumentation for Automation

MET 40000 Mechanical Design

**MET 41100 Introduction to the Finite Element Method**

**<sup>2</sup>MECHANICS SELECTIVE**

**MET 31100 Experimental Strength of Materials**

MET 31400 Applications of Machine Elements

MET 31500 Applied Mechanism Kinematics and Dynamics

**<sup>3</sup>MET CAPSTONE SELECTIVES I & II**

ENGT 40500 Entrepreneurial Capstone I

ENGT 40600 Entrepreneurial Capstone II

**ENGT 48000 Engineering Technology Capstone I**

**ENGT 48100 Engineering Technology Capstone II**

**MET 33400 Advanced Fluid Power**

MET 40000 Mechanical Design

**<sup>4</sup>TECHNICAL SELECTIVE**

A 300-400 level ENGR, **ECET**, **MFET**, CS or elective **IET** course. (excluding MFET 30000).

A CHM, MA, PHYS or STAT course beyond what is required.

**Any MET elective course.**

Purdue 3+-session co-op with completed seminar courses.

ANSC 23000 Physiology of Domestic Animals

AT 27200 Introduction to Composite Technology

AT 27800 Nondestructive Testing for Aircraft

AT 47800 Advanced Nondestructive Testing

BCHM 22100 Analytical Biochemistry

BCM 23000 Mechanical and Electrical Systems

BCM 31500 Mechanical Construction Estimating

BCM 38000 Concrete Construction

BIOL 20300 Human Anatomy and Physiology

BIOL 22100 Introduction to Microbiology

CGT 11301 Product Data Management

CGT 22600 Introduction to Constraint-Based Modeling

**<sup>5</sup>FRESHMAN SPEECH SELECTIVE**

COM 11400 Fundamentals of Speech Communication

**<sup>6</sup>COMMUNICATIONS SELECTIVE**

COM 31500 Speech Communication of Technical Information

**COM 32000 Small Group Communication**

MET 42100 Air Conditioning and Refrigeration

MET 42200 Power Plants and Energy Conversion

MET 42600 Internal Combustion Engines

MET 43200 Hydraulic Motion Control Systems

MET 43600 Pneumatic Motion Control Systems

MET 44301 Joining Processes

MET 45100 Manufacturing Quality Control

**MET 48200 Mechatronics**

MET 48600 Fundamentals of Motorsports

MET 49000 Green Manufacturing and Sustainability

MET 49900 Mechanical Engineering Technology Independent Study

MET 31601 Mechanics of Machine Design

MET 31700 Machine Diagnostics

**MET 41100 Introduction to the Finite Element Method**

MET 42100 Air Conditioning and Refrigeration

MET 42200 Power Plants and Energy Conversion

MET 42600 Internal Combustion Engines

MET 43200 Hydraulic Motion Control Systems

MET 43600 Pneumatic Motion Control Systems

CGT 30301 Digital Manufacturing

CE 35000 Introduction to Environmental and Ecological Engineering

CE 35500 Engineering Environmental Sustainability

HSCI 31200 Radiation Science Fundamentals

IE 57700 Human Factors in Engineering

**MFET 24800 Introduction to Robotics**

MFET 28800 Smart MFG Operational & Information Networks

NS 35000 Naval Ship Systems

**IET 31300 Tech Innovation & Integration: Bar Codes to Biometrics**

**IET 33100 Advanced Industrial Safety & Health Management**

**IET 33620 Total Productive Maintenance**

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

COM 41500 Discussion of Technical Problems

EDPS 31500 Collaborative Leadership: Interpersonal Skills

Revised 6/3/2020 (Effective Fall 2020)

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**<sup>7</sup>TECHNICAL WRITING SELECTIVE**

**ENGL 42100 Technical Writing**

ENGL 42400 Writing for High Technology Industries

**<sup>8</sup>FRESHMAN COMPOSITION**

ENGL 10600 First-Year Composition

ENGL 10800 Accelerated First-Year Composition

HONR 19903 Interdisciplinary Approaches in Writing

**SCLA 10100 Transformative Text, Critical Thinking and Communication I: Antiquity to Modernity**

**<sup>9</sup>ECONOMICS/FINANCE SELECTIVE**

AGEC 21700 Economics

CSR 34200 Personal Finance

**ECON 21000 Principles of Economics**

ECON 25100 Microeconomics

ECON 25200 Macroeconomics

ENTR 20000 Introduction to Entrepreneurship and Innovation

**<sup>10</sup>HUMANITIES SELECTIVE and <sup>11</sup>BEHAVIORAL/SOCIAL SCIENCE SELECTIVE**

See <http://www.purdue.edu/provost/initiatives/curriculum/course.html>.

**<sup>12</sup>COMPUTER GRAPHICS TECHNOLOGY SELECTIVE**

**CGT 11000 Technical Graphics Communications**

**CGT 16300 Graphical Communication and Spatial Analysis**

ENGT 10500 Intro to Engineering Design

**<sup>13</sup>PROGRAMMING SELECTIVE**

CNIT 10500 Introduction to C Programming

**CNIT 15500 Introduction to Object-Oriented Programming**

CNIT 15501 Introduction to Software Development Concepts

CNIT 17500 Visual Programming

CS 15900 Programming Applications for Engineers

CS 17700 Programming with Multimedia Objects

CS 18000 Problem Solving and Object-Oriented Programming

MET 16400 Computing in Engineering Technology

**<sup>14</sup>GLOBAL/PROFESSIONAL SELECTIVE**

AFT 47100 National Security, Leadership, Commissioning Prep

AFT 48100 National Security Affairs & Prep for Active Duty

ANTH 20500 Human Cultural Diversity

ANTH 34100 Culture & Personality

ARAB 28000 Arabic Culture

CHNS 28000 Selected Topics on China

CHNS 28500 Chinese Calligraphy

**COM 22400 Communicating in the Global Workplace**

COM 30300 Intercultural Communication

**ECET 38001 Global Professional Issues In ET**

EDPS 31600 Leadership: Cross-Cultural

FNR 48800 Global Environmental issues

FR 33000 French Cinema

GER 23000 German Folklore & Fairy Tales

GER 23000 German Literature in Translation

GER 28000 Beer Brewing in the German Culture

GER 33000 German Cinema

HIST 30000 Eve of Destruction

HIST 33300 Science & Technology in Western Civilization I

HIST 33400 Science & Technology in Western Civilization II

HIST 35000 Science & Technology in Twentieth Century World

HIST 36000 Gender in Middle East History

JPNS 28000 Introduction to Modern Japanese Civilization

LC 23500 East Asian Literature in Translation

LC 23900 Contemporary Foreign Women Writers in Translation

MFET 35800 Smart Manufacturing and the Global Economy

MGMT 45500 Legal Background for Business

MSL 30200 Leadership & Ethics

MUS 37600 World Music

NS 41300 Naval Leadership Management & Ethics

**OLS 45600 Tech & the Global Society**

PHIL 11400 Global Moral Issues for Engineers

PHIL 20600 Philosophy of Religion

PHIL 29000 Environmental Ethics

POL 23100 Introductions to United States Foreign Policy

POL 23500 International Relations among Rich and Poor Nations

PSY 33500 Stereotyping & Prejudice

PTGS 33000 Brazilian, Portuguese & African Cinema

SOC 31000 Racial & Ethnic Diversity

SPAN 23500 Spanish American Literature in Translation

SPAN 33000 Spanish & Latin American Cinema

**TECH 33000 Tech and the Global Society**

**Approved Study Abroad Course**

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**<sup>15</sup>MANAGEMENT SELECTIVE**

AFT 35100 AF Leadership Studies I

AFT 36100 AF Leadership Studies II

**ECET 38001 Global Professional Issues in ET**

EDPS 31500 Collaborative Leadership: Interpersonal Skills

EDPS 31600 Collaborative Leadership: Cross-Cultural Settings

EDPS 31700 Collaborative Leadership: Mentoring

ENTR 31000 Marketing Management for New Ventures

ENTR 31500 Business Planning for Social Entrepreneurship

IET 41400 Financial Analysis for Technology Systems

MFET 35800 Smart Manufacturing and the Global Economy

**MGMT 20000 Introductory Accounting**

**MGMT 20100 Management Accounting I**

MGMT 21200 Business Accounting

MGMT 45500 Legal Background for Business

MSL 20200 Leadership & Teamwork

MSL 30100 Leadership & Problem Solving

MSL 40100 Leadership & Management

NS 21400 Fundamentals of Leadership

NS 41300 Naval Leadership Management & Ethics

**OLS 27400 Applied Leadership**

**OLS 28400 Leadership Principles**

**OLS 36400 Tech & the Organization**

**OLS 38600 Leadership for Org Change & Innov**

PSY 27200 Intro to Industrial-Organizational Psych

**TLI 11200 Foundations of Organizational Leadership**

**TLI 15200 Business Principles for Organizational Leadership**

**TLI 21300 Project Management**

**TLI 25300 Principles of Technology Strategy**

**TLI 25400 Leading Change in Technology Organizations**

**Approved Study Abroad Course.**

**<sup>16</sup>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	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

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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.

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**<sup>17</sup>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

Step 1: Complete the Pre-test Intercultural Development Inventory Assessments (1st year)

Step 2: Complete one (1) of the following global experiences: \*

- Participate in A Purdue University international capstone, collaborative project, or
- Participate in an international internship (international location), or
- Participate in a full semester abroad program, or
- 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 completed their Polytechnic Plan of Study are exempt from Step 1 (taking the IDI Pretest).

\*Global experiences must take place during the time of enrollment in 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.

- AAS 27100 - Introduction to African American Studies
- AAS 37300 - Issues in African American Studies
- AGR 20100 - Communicating Across Culture
- ANSC 38100 - Leadership for A Diverse Workplace
- ANTH 20300 - Biological Bases of Human Social Behavior
- ANTH 20500 - Human Cultural Diversity
- ANTH 21000 - Technology and Culture
- ANTH 21200 - Culture, Food and Health
- ANTH 23000 - Gender Across Cultures
- ANTH 34000 - Global Perspectives on Health
- ANTH 34100 - Culture and Personality
- ANTH 37900 - Native American Cultures
- ARAB 28000 - Arabic Culture
- ASAM 24000 - Introduction to Asian American Studies
- AT 22300 - Human Factors for Flight Crews
- CNIT 32000 - Policy, Regulation, & Globalization in IT
- COM 22400 - Communicating in The Global Workplace**
- COM 30300 - Intercultural Communication
- COM 32000 - Small Group Communication**
- COM 37300 - Self-Presentation and Social Image
- COM 41200 - Theories of Human Interaction
- COM 42300 - Leadership, Communication and Organizations
- ECET 29000 - International Experience
- ECET 38001 - Global Professional Issues in Engineering Technology**
- EDPS 30000 - Student Leadership Development
- EDPS 30100 - Peer Counseling Training

- EDPS 31500 - Collaborative Leadership: Interpersonal Skills
- EDPS 31600 - Collaborative Leadership: Cross-Cultural Settings
- EDPS 31700 - Collaborative Leadership: Mentoring
- ENGL 41400 - Studies in Literature and Culture
- HDFS 28000 - Diversity in Individual and Family Life
- HDFS 33200 - Stress and Coping in Contemporary Families
- HEBR 38500 - The Holocaust in Modern Hebrew Literature
- HIST 19500 - The Historian’s Craft: Historical Research and Film
- HIST 30000 - Eve of Destn: Global Crises & World Org 20th Century
- HIST 33805 - History of Human Rights
- HIST 35000 - Science and Society in The Twentieth Century World
- HIST 36600 - Hispanic Heritage of The United States
- HIST 37700 - History and Culture of Native America
- HIST 46900 - Black Civil Rights Movement
- HTM 37000 - Sustainable Tourism and Responsible Travel
- HTM 37200 - Global Tourism Geography
- MSL 20100 - Individual Leadership Studies
- OLS 35000 - Creativity in Business and Industry
- PHIL 11400 - Global Moral Issues
- PHIL 43500 - Philosophy of Mind
- POL 22200 - Women, Politics, And Public Policy
- POL 23500 - International Relations Among Rich and Poor Nations
- POL 32600 - Black Political Participation in America
- POL 32700 - Global Green Politics
- POL 36000 - Women and The Law
- POL 41300 - The Human Basis of Politics

POL 42300 - International Environmental Policy  
POL 42900 It's a Complex World  
POL 43300 - International Organization  
**PSY 12000 - Elementary Psychology**  
PSY 25100 - Health Psychology  
PSY 32200 - Neuroscience of Motivated Behavior  
**SOC 10000 - Introductory Sociology**  
SOC 31000 - Racial and Ethnic Diversity  
SOC 33900 - Introduction to The Sociology of Developing Nations

**TECH 33000 - Technology and The Global Society**  
**TLI 11200 - Foundations of Organizational Leadership**  
**TLI 31400 - Leading Innovation in Organizations**  
WGSS 28200 - Introduction to LGBT Studies  
WGSS 38000 - Gender and Multiculturalism  
WGSS 38300 - Women and Work  
Any foreign language 20000 level or higher  
(20100, 20200, 30100, 30200).

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