

Departmental/Program Major Courses (120 credits)

Required Major Courses (44 credits)

- _____ (3) MET 10200 – Production Specifications
- _____ (3) MET 11100 – Applied Statics
- _____ (3) MET 14300 – Materials and Processes I
- _____ (3) MET 14400 – Materials and Processes II (MET Gateway Course)
- _____ (1) MET 16200 – Computational Analysis Tools
- _____ (4) MET 21100 – Applied Strength of Materials
- _____ (3) MET 21300 – Dynamics
- _____ (3) MET 21400 – Machine Elements
- _____ (3) MET 22000 – Heat/Power
- _____ (3) MET 23000 – Fluid Power
- _____ (3) MET 24500 – Manufacturing Systems
- _____ (3) MET 28400 – Introduction to Industrial Controls
- _____ (3) MET 31300 -- Fluid Mechanics
- _____ (3) MET 32000 -- Thermodynamics
- _____ (3) MET 34600 – Advanced Materials in Manufacturing

MET Selectives – (12 credits)

- _____ (6) MET Elective⁵ or approved Focus Area elective (See Supplemental Information)
- _____ (3) MET Capstone Selective⁶ (See Supplemental Information)
- _____ (3) Technical Selective³ or approved Focus Area Selective (See Supplemental Information)

Other Departmental/Program Course Requirements (64 credits)

- _____ (3) COM 11400 – Fundamentals of Speech Communication (***SPCH-S 121**) (*satisfies Oral Communication for core*)
- _____ (3) COM 32000 – Small Group Discussion
- _____ (3) ENGL 42100 – Technical Writing
- _____ (3) IET 45100 or TLI 33400 (**or IT 45000**) – Engineering Economics
- _____ (3) MA 15800 – PreCalculus – Functions and Trigonometry
- _____ (3) MA 16010 – Applied Calculus I (*satisfies Quantitative Reasoning for core*)
- _____ (3) MA 16020 – Applied Calculus II and Differential Equations
- _____ (3) ECET 22400 – Electronic Systems
- _____ (3) CHM 11100 – General Chemistry (***CHEM-C 101 + CHEM-C 121, 5 cr**)
- _____ (4) PHYS 22000 – General Physics (***PHYS-P 201, 5 cr**) (*satisfies Science for core*)
- _____ (4) PHYS 22100 – General Physics II (***PHYS-P 202, 5 cr**) (*satisfies Science for core*)
- _____ (3) STAT 30100 – Statistical Methods (***MATH-K 300**)
- _____ (3) TECH 12000 - Design Thinking in Technology (*satisfies Information Literacy and Science, Technology & Society for core*)
- _____ (3) Freshman Composition Selective⁸ (choose from ENGL 10600 or ENGL 10800 (***ENG W131**) (*satisfies Written Communication for core*))
- _____ (3) Economics/Finance Selective⁹ (choose from ECON 21000, ECON 25100, ECON 25200, CSR 34200, or MGMT 45500 (***ECON-E 103 or *ECON-E 104**))
- _____ (3) General Education Human Cultures: Humanities Selective¹⁰ (*satisfies Human Cultures Humanities for core* (See Supplemental Information))
- _____ (3) General Education Human Cultures: Behavior/Social Sciences¹¹ (*satisfies Human Cultures: Behavioral Sciences for core*) (See Supplemental Information)
- _____ (2) CGT Selective¹ (choose from CGT 11000 or **CGT 16300**)
- _____ (3) Programming Selective² (choose from CNIT 10500, **CNIT 17500**, CS 15800 or CS 15900)
- _____ (3) Global/Professional Selective⁷: (See Supplemental Information)
- _____ (3) TECH³/MGMT⁴ Selective: (See Supplemental Information)

*** Denotes Richmond Campus Course Offering**

University Core Requirements

Human Cultures: Behavioral/Social Sciences	Science	PHYS 22000 (*PHYS-P 201)
Human Cultures: Humanities	Science	PHYS 22100 (PHYS-P 202)
Information Literacy	TECH 12000	Science, Technology & Society	TECH 12000
Oral Communication	COM 11400 (*SPCH-S 121)	Written Communication	ENGL 10600 or 10800 (*ENG-W 131)
Quantitative Reasoning	MA 15800		

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	Sem	Fulfilled by	Spring 1 st Year	CR	GR	Sem	Fulfilled by
MA 15800 Pre-Calculus	3				MA 16010 Applied Calculus I (Pre-req: MA 15800 w/C- or better or 75 on ALEKS)	3			
MET 16200 Computational Anly Tools	1				MET 11100 Applied Statics (Pre-reqs: MA 15800 and MET 16200)	3			
MET 14400 Materials and Processes II (MET Gateway Course)	3				MET 14300 Materials and Processes I	3			
Freshman Composition Selective ⁸ *ENG-W 131 (IUE)	3				COM 11400 Fundamentals of Speech Communication* *SPCH-S 121 (IUE)	3			
CGT Selective ¹ (CGT 11000 or CGT 16300)	2				MET 10200 Production Specifications (Pre-reqs: CGT 11000 or CGT 16300, and MET 16200)	3			
TECH 12000 Design Thinking in Tech.*	3								
TOTAL CREDIT HOURS	15				TOTAL CREDIT HOURS	15			

Fall 2 nd Year	CR	GR	Sem	Fulfilled by	Spring 2 nd Year	CR	GR	Sem	Fulfilled by
MET 21100 Strength of Materials (Pre-reqs: MET 11100 and MA 16010)	4				MET 21300 Dynamics (Pre-reqs: MA 16010, MET 11100 and MET 16200)	3			
ECET 22400 Electronic Systems (Pre-req: MA 15300 or MA 16010)	3				MET 28400 Intro to Industrial Controls (Pre-req: ECET 22400)	3			
PHYS 22000 General Physics I *PHYS-P 201 (IUE, 5 cr)	4				PHYS 22100 General Physics II (Prereq: PHYS 21200) *PHYS-P 202 (IUE, 5 cr)	4			
MA 16020 Applied Calculus/Diff Eqns. (Pre-req: MA 16010 with grade of C- or higher)	3				MET 22000 Heat Power (Pre-reqs: PHYS 22000, MA 16010 and MET 16200)	3			
					MET 23000 Fluid Power (Pre-reqs: MET 11100 and MA 16010)	3			
TOTAL CREDIT HOURS	14				TOTAL CREDIT HOURS	16			

Fall 3 rd Year	CR	GR	Sem	Fulfilled by	Spring 3 rd Year	CR	GR	Sem	Fulfilled by
CHM 11100 General Chemistry *CHEM-C101 + *CHEM-C 121 (IUE, 5 cr)	3				Economics/Finance Selective *ECON-E 103 or *ECON-E 104 (IUE)	3			
Humanities Selective ¹⁰	3				MET 32000 Thermodynamics (Pre-reqs: MA 16010 and MET 22000)	3			
MET 21400 Machine Elements (Pre-reqs: MET 21100 and MET 21300)	3				MET 34600 Advanced Materials in Mfg (Pre-reqs: MET 21100, MET 24500 and CHM 11100)	3			
MET 245 Manufacturing Systems (Pre-reqs: MET 14300 or MET 14400 and CGT 11000 or CGT 16300)	3				STAT 30100 *MATH-K 300 (IUE)	3			
Programming Selective ²	3				Global/Professional Selective ⁷	3			
TOTAL CREDIT HOURS	15				TOTAL CREDIT HOURS	15			

Fall 4 th Year	CR	GR	Sem	Fulfilled by	Spring 4 th Year	CR	GR	Sem	Fulfilled by
IET 45100 or TLI 33400 Engineering Economics (IT 45000 Production Cost Analysis)	3				MET Capstone Selective ⁶	3			
MET Elective ⁵ or approved Focus Area elective	3				MET Elective ⁵ or approved Focus Area elective	3			
MET 31300 Fluid Mechanics (Pre-reqs: MA 16021, MET 22000 and MET 23000)	3				Technical Selective ³ or approved Focus Area elective	3			
TECH ³ /MGMT ⁴ Selective	3				Behavioral Social Science Selective ¹¹	3			
ENGL 42100 Technical Writing (Pre-Req: ENGL 10600)	3				COM 32000 Small Group Discussion (Pre-req: COM 11400)	3			
TOTAL CREDIT HOURS	15				TOTAL CREDIT HOURS	15			

Refer to your Student Services Coordinator regarding options for 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.
- 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 the Purdue University location conferring the degree.

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

MET SUPPLEMENTAL INFORMATION

All prerequisites must be met.

Bold indicates courses offered at Richmond Campus.

***Indicates IUE course for Richmond Campus only.**

See Student Services Coordinator for course availability.

¹CGT SELECTIVE

CGT 11000 Technical Graphics Communications

CGT 16300 Graphical Communication and Spatial Analysis

IT 10500 Intro to Engineering Design

²PROGRAMMING SELECTIVE

CNIT 10500 Introduction to C Programming

CNIT 15500 Introduction to Object-Oriented Programming

CNIT 17500 Visual Programming

MET 164 Computing in Engineering Technology

CS 15800 C Programming

CS 15900 Programming Applications for Engineering

³TECHNICAL SELECTIVE

A 300-400 level ENGR, ECET, MFET, CS or elective IET course.

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

Any MET elective course.

ANSC 230 Physiology of Domestic Animals

AT 27200 Intro to Composite Technology

AT 27800 Nondestructive Testing

AT 47800 Advanced Nondestructive Testing

BCHM 22100 Analytical Biochemistry

BCM 23000 Mechanical/Electrical Systems

BCM 31500 Mechanical Construction Estimating

BCM 38000 Concrete Construction

BIOL 20300 Human Anatomy and Physiology

BIOL 22100 Introduction to Microbiology

***MICR-J201 + *MICR-J 200**

CGT 22600 Intro to Constraint Based Modeling

CHM 11200/CHM 11600 General Chemistry II

***CHEM-C 106 + CHEM-C 126**

CHM 22300 Principles of Biochemistry

CHM 48100 Environmental Chemistry

CE 35000 Environmental Engineering

CE 35500 Engineering Environmental Sustainability

ENTM 21800 Introduction to Forensic Sciences

FNR 30100 Wood Products/Wood Processes

FNR 31100 Wood Structure, Identification and Properties

FNR 41800 Properties for Wood Related to Manufacturing

FNR 42500 Secondary Wood Products Manufacturing

FS 22200 Safety of Foods

HSCI 31200 Radiation Science Fundamentals

IE 47700 Work Methods and Measurement

IE 57700 Human Factors in Engineering

IT 33000 Industrial Sales and Sales Management

IT 34500 Automatic Identification and Data Capture

IT 35100 Adv. Industrial Safety & Health Management

IT 43400 Global Transportation and Logistics Management

MA 26100 Multivariate Calculus

⁴TECH/MANAGEMENT SELECTIVE- any course listed on the technical selective³ list above or one of the following courses

AFT 35100 AF Leadership Studies I

AFT 36100 AF Leadership Studies II

ECET 38001 Global Professional Issues in ET

EDPS 31500 Leadership: Listening

EDPS 31600 Leadership: Cross-Cultural

EDPS 31700 Leadership: Mentoring

ENTR 31000 Marketing Management for New Ventures

MGMT 20000 Accounting Principles

***BUS-A 201**

MGMT 20010 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 25200 Human Relations in Organizations

OLS 27400 Applied Leadership

OLS 28400 Leadership Principles

OLS 36400 Professional Development Program

OLS 38600 Leadership for Org Change & Innovation

PSY 27200 Intro to Industrial-Org Psychology

***PSY-B 366**

TECH 32000 Technology & the Organization

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

⁵MET ELECTIVE

MET 30200 CAD in the Enterprise

MET 31100 Experimental Strength of Materials

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

MET 42100 Air Conditioning and Refrigeration

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 48600 Fundamentals of Motorsports

MET 490 Green Manufacturing and Sustainability

MET 49000 Multidisciplinary Capstone I

MET 49000 Multidisciplinary Capstone II

6MET CAPSTONE SELECTIVE

MET 33400 Advanced Fluid Power
MET 4000 Mechanical Design
MET 40100 Capstone Projects I
MET 40200 Capstone Projects II
MET 42100 Air Conditional and Refrigeration
MET 43200 Hydraulic Motion Control Systems

MET 43600 Pneumatic Motion Control Systems
MET 49000 Multidisciplinary Capstone I
MET 49000 Multidisciplinary Capstone II

7GLOBAL/PROFESSIONAL SELECTIVE

ANTH 20500 Human Cultural Diversity
***ANTH-A 104**
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 Engineering Tech
EDPS 31600 Leadership: Cross-Cultural
FLL 23500 East Asian Literature in Translation
FLL 23900 Contemporary Foreign Women Writers in Translation
FR 33000 French Cinema
GER 23000 German Folklore & Fairy Tales
GER 23000 German Literature in Translation
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 Intro to Modern Japanese Civ.
MGMT 45500 Legal Background for Business
MSL 30200 Leadership & Ethics
MUS 37800 World Music
***MUS-Z 393**
NS 41300 Naval Leadership Management & Ethics
PHIL 20600 Philosophy of Religion
***PHIL-P 371**
PHIL 29000 Environmental Ethics
PHIL 33000 Religions of the East
PHIL 33100 Religions of the West
***REL-R 152**
POL 23100 Introductions to US Foreign Policy
PSY 33500 Stereotyping & Prejudice
PTGS 33000 Brazilian, Portuguese & African Cinema
SOC 31000 Racial & Ethnic Diversity
***SOC-S 335**
SPAN 23500 Spanish American Lit in Translation
SPAN 33000 Spanish & Latin American Cinema
TECH 33000 Tech and the Global Society
Approved Study Abroad Course

8FRESHMAN COMPOSITION

ENGL 10600

***ENG-W 131**

9ECONOMICS/FINANCE SELECTIVE

CSR 3420 Personal Finance
***BUS-F260**
ECON 2100 Principles of Economics
ECON 25100 Microeconomics

ECON 25200 Macroeconomics
MGMT 45500 Legal Background for Business I
***ECON-E 103**
***ECON-E 104**

10HUMANITIES FOUNDATIONAL SELECTIVE: see <http://www.purdue.edu/provost/initiatives/curriculum/course.html>

Students of Columbus location see the following link to review how IU courses transfer to Purdue Core:

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

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

11BEHAVIORAL/SOCIAL SCIENCE FOUNDATIONAL SELECTIVE: see <http://www.purdue.edu/provost/initiatives/curriculum/course.html>

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*ANTH-E 300, *ANTH-E 320	*PSY-P 216	*PSY-P 103
*ENG-G 205	*POLS-Y 103, *POLS-Y 109, *POLS-Y 324	*SOC-S 100,