

**Departmental/Program Major Courses (120 credits)**

**Required Major Courses (62 credits)**

- \_\_\_\_\_ (3) MET 10200 – Production Specifications
- \_\_\_\_\_ (3) MET 11100 – Applied Statics
- \_\_\_\_\_ (1) MET 11300 -- Mechanics Applications
- \_\_\_\_\_ (3) Materials and Processes Selective
- \_\_\_\_\_ (3) MET 23000 -- Fluid Power
- \_\_\_\_\_ (3) MET 24500 – Manufacturing Systems
- \_\_\_\_\_ (3) MET 28400 – Introduction to Industrial Controls
- \_\_\_\_\_ (3) MET 38200 – Controls and Instrumentation for Automation
- \_\_\_\_\_ (3) MFET 34400 – Automated Manufacturing Processes
- \_\_\_\_\_ (3) MFET 37400 – Manufacturing Integration
- \_\_\_\_\_ (3) Manufacturing Selective
- \_\_\_\_\_ (3) CNIT 10500 – Introduction to C Programming
- \_\_\_\_\_ (3) ENGT 18000—Engineering Technology Foundations
- \_\_\_\_\_ (1) ENGT 18100—Engineering Technology Applications

MHET courses– (24 credits included in required major courses total)

- \_\_\_\_\_ (3) Mechatronics Selective
- \_\_\_\_\_ (3) Controls Selective
- \_\_\_\_\_ (3) ECET 17900—Introduction to Digital Systems
- \_\_\_\_\_ (3) ECET 27900 – Embedded Digital Systems
- \_\_\_\_\_ (3) ECET 32700 – Instrumentation and DAQ Design
- \_\_\_\_\_ (3) ECET 33700 – Analog Signal Processing
- \_\_\_\_\_ (3) ECET 43000 – Electronics Product and Program Management
- \_\_\_\_\_ (3) ECET 46000 – Project Design and Development

**Other Departmental/Program Course Requirements (54 credits)**

- \_\_\_\_\_ (3) COM 11400 (SPCH-S121\*IU) - 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 – Electronic Systems
- \_\_\_\_\_ (3) ECET 38001 --- Global/Professional Issues
- \_\_\_\_\_ (3) CHM 11100 (CHEM-C101/C121\*IU) – General Chemistry
- \_\_\_\_\_ (4) PHYS Selective (choose from PHYS 21800, PHYS 22000, PHYS 17200) (PHYS-P201\*IU) (*satisfies Science for core*)
- \_\_\_\_\_ (3) TECH 12000 - Design Thinking in Technology (*satisfies Information Literacy and Science, Technology & Society for core*)
- \_\_\_\_\_ (3) Science Selective
- \_\_\_\_\_ (3) Freshmen Composition Selective (ENG-W131\*IU) (*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 Selective (choose from CGT 11000, CGT 16300, or IT 10500)
- \_\_\_\_\_ (3) Statistics/Quality Selective (choose between STAT 30100 or IT 34200) (MATH-K300\*IU)
- \_\_\_\_\_ (0) Professional Requirement
- \_\_\_\_\_ (0) Intercultural Requirement

**Free Electives (4 credits)**

- \_\_\_\_\_ (4) Free Electives

**University Core Requirements**

Human Cultures: Behavioral/Social Sciences	<input type="checkbox"/>	_____	Science	<input type="checkbox"/>	_____
Human Cultures: Humanities	<input type="checkbox"/>	_____	Science	<input type="checkbox"/>	_____
Information Literacy	<input type="checkbox"/>	_____	Science, Technology & Society	<input type="checkbox"/>	_____
Oral Communication	<input type="checkbox"/>	_____	Written Communication	<input type="checkbox"/>	_____
Quantitative Reasoning	<input type="checkbox"/>	_____			

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The student is ultimately responsible for knowing and completing all degree requirements.



School of Engineering Technology

Name: \_\_\_\_\_

Major: Mechatronics Engineering Technology (MHET)

MFET-BS Suggested Arrangement of Courses

Catalog Term: \_\_\_\_\_ PUID: \_\_\_\_\_

For Catalog Terms beginning in Fall 2017

Major Code: MHET Program Code: PIMFET-BS

Accredited by the Engineering Technology Accreditation Commission of ABET, <http://www.abet.org>

Fall 1 <sup>st</sup> Year	CR	GR	Sem	Fulfilled by	Spring 1 <sup>st</sup> Year	CR	GR	Sem	Fulfilled by
<b>TECH 12000</b> Design Thinking in Tech.*	3				<b>Computer Graphics Selective (CGT 16300)</b>	2			
<b>MA 16010</b> Applied Calculus I * (Prereq: ALEKS score of 75)	3				<b>ECET 17900</b> Intro to Digital Systems	3			
<b>CNIT 10500 (CSCI-C105*IU)</b> Intro to C Programming	3				<b>MET 11100</b> Applied Statics (Prereq: ENGT 18000)	3			
<b>ENGT 18000</b> ENG Tech Foundations	3				<b>Materials and Processes Selective</b>	3			
<b>ENGT 18100</b> ENG Tech Applications	1				<b>ECET 22400</b> Electronics Systems (Prereq: MA 15300 or higher math course)	3			
Freshman Comp* ( <b>ENG-W131*IU</b> )	3								
<b>TOTAL CREDIT HOURS</b>	<b>16</b>				<b>TOTAL CREDIT HOURS</b>	<b>14</b>			

Fall 2 <sup>nd</sup> Year	CR	GR	Sem	Fulfilled by	Spring 2 <sup>nd</sup> Year	CR	GR	Sem	Fulfilled by
<b>MA 16020</b> Applied Calculus II (Prereq: MA 16010 with a grade of C- or better)	3				<b>ECET 27900</b> Embedded Digital Systems (Prereq: EET 17900)	3			
<b>MET 10200</b> Production Specifications (Prereqs: CGT Selective and ENGT 18000)	3				<b>MET 24500</b> Manufacturing Systems (Prereqs: (MET 14300 or MET 14400) and CGT Sel)	3			
<b>MET 11300</b> Mechanics Applications (Prereq: MET 11100)	1				<b>MET 28400</b> Intro to Industrial Controls (Prereq: ECET 22400)	3			
Physics Selective* ( <b>PHYS-P201 or PHYS P218</b> )	4				Behavioral/Social Science Foundation Elective*	3			
<b>COM 11400 (SPCH-S121*IU)</b> Fund of Speech Communication*	3				<b>CHM 11100 (CHEM-C101/C121*IU)</b> General Chemistry*	3			
Humanities Foundation Selective*	3								
<b>TOTAL CREDIT HOURS</b>	<b>17</b>				<b>TOTAL CREDIT HOURS</b>	<b>15</b>			

Fall 3 <sup>rd</sup> Year	CR	GR	Sem	Fulfilled by	Spring 3 <sup>rd</sup> Year	CR	GR	Sem	Fulfilled by
<b>MET 23000</b> Fluid Power (Prereq: (MET 11100 or PHYS 22000) and MA 16010)	3				<b>MFET 37400</b> Mfg Integration I (Prereq: MET 28400)	3			
<b>MFET 34400</b> Automated Mfg Processes (Prereq: MET 24500)	3				<b>ECET 33700</b> Analog Signal Processing (Prereq: ECET 22400 + MA 16020)	3			
<b>ECET 38001</b> Global Professional Issues in Engineering Technology	3				<b>ECET 32700</b> Instrument & DAQ Design (Prereqs: ECET 22400, MA 16010, PHYS Sel.)	3			
<b>ENGL 42100</b> Technical Writing (Prereq: ENG-W131)	3				Manufacturing Selective	3			
Science Selective*	3				Statistics or Quality 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	Sem	Fulfilled by	Spring 4 <sup>th</sup> Year	CR	GR	Sem	Fulfilled by
<b>ECET 43000</b> Electronic Product and Program management	3				<b>ECET 46000</b> Product Design and Development (Prereq: ECET 43000)	3			
<b>COM 32000 (SPCH-S229*IU)</b> Small Group Communication	3				<b>MET 38200</b> Controls/Instr for Automation (Prereq: MET 28400)	3			
Controls Selective	3				Humanities/Social Science Elective	3			
Mechatronics Selective	3				Technical Elective	3			
<b>TLI 33400</b> engineering economics	3				Free Elective	1			
<b>TOTAL CREDIT HOURS</b>	<b>15</b>				<b>TOTAL CREDIT HOURS</b>	<b>13</b>			

Refer to the 2017 MFET Mechatronics Engineering Technology supplemental Information form for options for elective, selectives, and pre-requisites. \*Fulfills University core.

- 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.
- Complete a Professional Requirement.  Complete an Intercultural Requirement.

The student is ultimately responsible for knowing and completing all degree requirements.

myPurduePlan is knowledge source for specific requirements and completion.

**2017-2018 MFET PROGRAM SUPPLEMENTAL INFORMATION**

**Mechatronics Engineering Technology Major (MHET)**

All prerequisites must be met.

**Bold indicates courses offered at New Albany Campus.**

**\*Indicates IU Southeast course for New Albany Campus only (See Student Services Coordinator for availability.)**

**FRESHMAN COMPOSITION**

ENGL 10600 First-Year Composition

**\*ENG-W131 Reading, Writing, & Inquiry**

**COMPUTER GRAPHICS SELECTIVE**

CGT 11000 Technical Graphics Communications

IT 10500 Intro to Engineering Design

CGT 16300 Graphical Communication and Spatial Analysis

**TECHNICAL ELECTIVE**

All COT courses at the 3xxxx level or above that are not required for the major plus FNR 30100, MGMT 45500, and OLS 28400.

**STATISTICS OR QUALITY SELECTIVE**

STAT 30100 Elementary Statistical Methods

TLI 31600 Statistical Quality Control

IT 34200 Introduction To Statistical Quality

**\*MATH-K300 Statistics for Health Professionals**

**PHYSICS SELECTIVE**

PHYS 21800 General Physics

PHYS 17200 Modern Mechanics

PHYS 22000 General Physics

**\*PHYS-P201 Physics I**

**SCIENCE SELECTIVE**

BIOL 11000 Fundamentals of Biology I (**\*BIOL-L100**)

PHYS 21900 General Physics II (**\*PHYS-P202**)

BIOL 20300 Human Anatomy and Physiology (**\*ANAT-A215**)

PHYS 22100 General Physics (**\*PHYS-P222**)

CHM 11200 General Chemistry II (**\*CHEM-C102**)

PHYS 24100 Electricity and Optics

CHM 11600 General Chemistry

**MECHATRONICS SELECTIVE**

MET 43200 Hydraulic Motion Control Systems

MET 58100 Design for Mechatronics

MET 43600 Pneumatic Motion Control Systems

MFET 34800 Industrial Robotics and Motion Control

**MET 48200 Mechatronics**

**CONTROLS SELECTIVE**

MET 33400 Advanced Fluid Power

MFET 29200 Projects in Automation, Robotics, and Mechatronics

MET 43200 Hydraulic Motion Control Systems

MFET 39200 Advanced Projects In Automation, Robotics, and Mechatronics

MET 43600 Pneumatic Motion Control Systems

Mechatronics

**MET 48200 Mechatronics**

**MANUFACTURING SELECTIVE**

AT 27200 Introduction To Composite Technology

**MET 34600 Advanced Materials In Manufacturing**

AT 30802 Aircraft Materials Processes

MET 43200 Hydraulic Motion Control Systems

AT 47200 Advanced Composite Technology

MET 43600 Pneumatic Motion Control Systems

CGT 32600 Graphics Standards For Product Definition

**MET 45100 Manufacturing Quality Systems**

CGT 42300 Product Data Management

MFET 24800 Introduction to Robotics

CGT 42600 Industry Applications Of Simulation And Visualization

MFET 29200 Projects in Automation, Robotics, and Mechatronics

**ECET 27400 Wireless Communication**

MFET 34800 Industrial Robotics and Motion Control

ECET 49900 Appl Comp Vision Sensing & Automation

MFET 39200 Advanced Projects In Automation, Robotics, and Mechatronics

**IT 38100 Total Productive Maintenance**

Mechatronics

**IT 43400 Global Transportation And Logistics Management**

MGMT 45500 Legal Background For Business I (**\*BUS-L201**)

**IT 44200 Production Planning**

**OLS 28400 Leadership Principles**

**IT 48300 Facility Design For Lean Manufacturing**

**TLI 33620 Total Productive Maintenance**

**MET 30200 CAD In The Enterprise**

**TLI 44275 Global Transportation And Logistics Management**

MET 33400 Advanced Fluid Power

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

**\*ENG-L104, FINA-F100, FINA-H100, HIST-H105, HIST-H106, MUS-M174, EALC-J101**

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

**\*POLS-Y103, PSY-P101, SOC-S163**

**HUMANITIES/SOCIAL SCIENCE ELECTIVE:** any 2xxxx course or higher in PSY, SOC, HIS, ECON, POL, PHIL, REL, ANTH, a foreign language

**FREE ELECTIVE:** Any non-remedial course

**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	Industry-sponsored senior capstone
Automatic	EPICS courses, minimum of two
Automatic	Lab Assistant (satisfactory completion of a minimum of one lab division for one term; e.g., ECET 29900 or MET 39200)
Advisor	Any approved internship (assuming student and/or employer provide documentation)
Advisor	Military service (ROTC, reservist, active duty, veteran)
Faculty	Other undergraduate research experiences (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

**Intercultural Requirement**

All students must complete the SOET (Polytechnic) Growth Plan for Global Awareness and Intercultural Competency at the Developmental Level (see below). Polytechnic Growth Plans for Global Awareness & Intercultural Competency

Intercultural Growth Plan #1	Developmental Level Competency
Assessment	<ul style="list-style-type: none"> <li>___ Complete the Pre- and Post-Intercultural Development Inventory Assessments (1st year and 4th year)</li> <li>___ Complete the pre- and post- BEVI (1st and 4th years)</li> </ul>
	<ul style="list-style-type: none"> <li>___ Complete one of the following Intercultural Knowledge and Effectiveness components below: (This list will be reviewed and updated each year)                             <ul style="list-style-type: none"> <li>· Crosswalk Commons (residential living Experience for a minimum of one semester)</li> <li>· Serve as a BGRI Program leader</li> <li>· PUPIL (Purdue University Passport to Intercultural Learning) (Obtain at least two badges)</li> <li>· Participate in two (2) Boiler Out Program Activities</li> <li>· Participate in Host-a-Boiler</li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li>Complete one of the following:                             <ul style="list-style-type: none"> <li>· An international project or collaborative project, or</li> <li>· An international internship, or</li> <li>· A Faculty-led Study Abroad program, or</li> <li>· Three credit hours of courses** from the Polytechnic list of approved of recommended Global/Intercultural courses. **<i>Must be in a category other than Increasing Self-awareness</i></li> </ul> </li> </ul>