

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 - 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 – General Chemistry
- _____ (4) PHYS Selective (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) Freshmen Composition Selective (*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)
- _____ (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"/>	_____			

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 st Year	CR	GR	Fulfilled by	Spring 1 st Year	CR	GR	Fulfilled by
Materials and Processes Selective	3			Freshman Composition Selective* (ENG-W131)	3		
MA 16010 Applied Calculus I (Prereq: ALEKS score of 75)	3			MA 16020 Applied Calculus II (Prereq: MA 16010 with a grade of C- or better)	3		
TECH 12000 - Design Thinking in Technology	3			MET 11100 Applied Statics (Prereqs: ENGT 18000)	3		
ENGT 18000 ENG Tech Foundations	3			Humanities Foundation Selective*	3		
ENGT 18100 ENG Tech Applications	1			ECET 17900 Intro to Digital Systems	3		
CNIT 10500 Intro to C Programming	3						
TOTAL CREDIT HOURS	16			TOTAL CREDIT HOURS	15		

Fall 2 nd Year	CR	GR	Fulfilled by	Spring 2 nd Year	CR	GR	Fulfilled by
MET 24500 Manufacturing Systems (Prereqs: (MET 14300 or MET 14400) and Computer graphics selective)	3			MET 10200 Production Specifications (Prereqs: CGT Selective and ENGT 18000)	3		
ECET 22400 Electronic Systems (Prereq: MA 16010)	3			ECET 27900 Embedded Digital Systems (Prereq: EET 17900)	3		
MET 11300 Mechanics Applications (Prereq: MET 11100)	1			MET 28400 Intro to Industrial Controls (Prereq: ECET 22400)	3		
Behavioral/Social Science Foundation Elective*	3			COM 11400 Fund of Speech Communication* (SPCH-S121)	3		
Computer Graphics Selective	2			Physics Selective*	4		
CHM 11100 General Chemistry*	3						
TOTAL CREDIT HOURS	15			TOTAL CREDIT HOURS	16		

Fall 3 rd Year	CR	GR	Fulfilled by	Spring 3 rd Year	CR	GR	Fulfilled by
Statistics or Quality Selective	3			MFET 37400 Mfg Integration I (Prereq: MET 28400)	3		
MFET 34400 Automated Mfg Processes (Prereq: MET 24500)	3			ECET 38001 Global Professional Issues in Engineering Technology	3		
ENGL 42100 Technical Writing (Prereq: ENGL 10600)	3			ECET 32700 Instrument & DAQ Design (Prereqs: ECET 22400, MA 16010, PHYS Sel.)	3		
ECET 33700 Analog Signal Processing (Prereq: ECET 22400 + MA 16020)	3			MET 23000 Fluid Power (Prereqs: (MET 11100 or PHYS 22000) and MA 16010)	3		
Science Selective*	3			Manufacturing Selective	3		
TOTAL CREDIT HOURS	15			TOTAL CREDIT HOURS	15		

Fall 4 th Year	CR	GR	Fulfilled by	Spring 4 th Year	CR	GR	Fulfilled by
ECET 43000 Electrical and Electronic Product and Program Management	3			ECET 46000 Project Design and Development (Prereq: ECET 43000)	3		
COM 32000 Small Group Communication	3			MET 38200 Controls/Instr for Automation (Prereq: MET 28400)	3		
Controls Selective	3			Humanities/Social Science Elective	3		
Mechatronics Selective	3			Free Elective	3		
TLI 33400 Monetary Analysis for Industrial Decisions	3			Free Elective	1		
TOTAL CREDIT HOURS	15			TOTAL CREDIT HOURS	13		

*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 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.**

***** Updated 3/31/2017

2017-2018 MFET PROGRAM SUPPLEMENTAL INFORMATION
Mechatronics Engineering Technology Major (MHET)
All prerequisites must be met.

Bold indicates courses offered at the Kokomo Campus.
See Student Services Coordinator for course availability.

FRESHMAN COMPOSITION SELECTIVE

ENGL 10600 First-Year Composition
ENGL 10800 Accelerated First-Year Composition

ENG-W131

COMPUTER GRAPHICS SELCTIVE

CGT 11000 Technical Graphics Communications
CGT 16300 Graphical Communication and Spatial Analysis

IT 10500 Intro to Engineering Design

TECHNICAL ELECTIVE

All Polytechnic courses at the 3xxx 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
IT 34200 Introduction To Statistical Quality

TLI 31600 Statistical Quality Control

PHYSICS SELECTIVE

PHYS 21800 General Physics
PHYS 22000 General Physics

PHYS 17200 Modern Mechanics
PHYS-P201 or P221

SCIENCE SELECTIVE

BIOL 11000 Fundamentals of Biology I
BIOL 20300 Human Anatomy and Physiology
CHM 11200 General Chemistry II
CHM 11600 General Chemistry
PHYS 21900 General Physics II
PHYS 2210 General Physics

PHYS 24100 Electricity and Optics
BIOL-L100
CHEM-C101 & C121
CHEM-C102 & C122
PHYS-P202 or P222

MECHATRONICS SELECTIVE

MET 43200 Hydraulic Motion Control Systems
MET 43600 Pneumatic Motion Control Systems
MET 48200 Mechatronics

MET 58100 Design for Mechatronics
MFET 34800 Industrial Robotics and Motion Control

CONTROLS SELECTIVE

MET 33400 Advanced Fluid Power

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 Advanced Projects In Automation, Robotics, and Mechatronics

MANUFACTURING SELECTIVE

AT 27200 Introduction To Composite Technology
AT 30802 Aircraft Materials Processes
AT 47200 Advanced Composite Technology
CGT 32600 Graphics Standards For Product Definition
CGT 42300 Product Data Management
CGT 42600 Industry Applications Of Simulation And Visualization

ECET 27400 Wireless Communication

ECET 49900 Appl Comp Vision Sensing & Automation
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 43200 Hydraulic Motion Control Systems
MET 43600 Pneumatic Motion Control Systems
MET 45100 Manufacturing Quality Systems
MFET 24800 Introduction to Robotics
MFET 29200 Projects in Automation, Robotics, and Mechatronics
MFET 34800 Industrial Robotics and Motion Control
MFET 39200 Advanced Projects In Automation, Robotics, and Mechatronics
MGMT 45500 Legal Background For Business I
OLS 28400 Leadership Principles
TLI 33620 Total Productive Maintenance
TLI 44275 Global Transportation And Logistics Management

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

ENG-L204, HIST-H105, HIIST-H106, HIST-H113, HIST-H114, PHIL-P100, PHIL-P140, FINA-A101, FINA-A102, MUS-M174, SPAN S100-400, FREN-F100-400, GER-G100-400

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

ANTH-A104, ECON-E201, ECON-E202, POLS-Y103, PSY-P103, SOC-S100

HUMANITIES/SOCIAL SCIENCE ELECTIVE: any 2xxxx course or higher in PSY, SOC, HIS, ECON, POL, PHIL, REL, ANTH, a foreign language, plus AD 22600, AD 22700, AD 25100, AD 25500, AD 30701, AD 31100, AD 31200, MUS 25000, MUS 35500, MUS 37400, MUS 37600, MUS 37800, MUS 38100, MUS 38200

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 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

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