

Mechanical Engineering Technology
Professional Electives (PE) Policy

2012-2014 2014-2015 2015-2016 2016-2017 2017-2018 2018-2019 2019-2020 Catalogs

MET students must complete TWELVE (12) semester credits (four courses) of professional elective.

Definition of Professional Elective Course

A professional elective (PE) course is intended to enhance the depth and breadth of the educational experience in the Mechanical Engineering Technology curriculum.

Courses listed on the reverse side of this Professional Electives Policy sheet represent "typical" PE courses which satisfy these criteria and, therefore, are pre-approved. At least two of the four required PE courses must be selected from this pre-approved list of classes. Courses outside those listed may be considered for the remaining two PE courses, if they can be shown to meet the definition of an MET PE¹

Courses taken as part of an approved non-teaching minor², (engineering minors, business administration, computer science, economics, entrepreneurship, foreign languages, mathematics, or statistics), or through ROTC programs may qualify for professional elective credit. As early as possible (freshman year), MET students should meet with their academic advisor to discuss these options and integrate the required coursework into their academic plan, as well as to determine which courses can be applied as approved professional electives.

- Any exceptions to the MET PE Policy must be approved by the student's advisor and/or the M&IE Department Head³.
- A maximum of 3 credits of professional electives may be selected from the following choices, with justification³ and advisor approval:
 - ETME 490 – Undergraduate Research⁴
 - ETME 492 – Independent Study⁴
 - ETME 498 – Internship⁵
- ETME 491 Special Topics courses may be substituted with approval. Watch for announcements.

¹ Mechanical Engineering Technology juniors and seniors are invited to explore other professional elective options. Junior-level (300) or higher level courses of 3 or more credits could in some circumstances be appropriate as a PE, and may qualify if adequate justification can be provided. For non-listed courses to be considered, students must submit a justification form to their advisor describing how the proposed course supports the student's professional aspirations.³

² Available non-teaching minors can be found at: <http://catalog.montana.edu/undergraduate/#undergraduateminorstext>.

³ The Justification Form(s) is/are available on the M&IE website:
http://www.montana.edu/mie/students/advising_forms/index.html

⁴ As indicated, ETME 490 or ETME 492 may count as a professional elective. As part of the justification, the following should be considered:

- The faculty advisor(s) must be qualified and agree to administer and evaluate the engineering content.
- The project must include formal meetings and/or formal lecture instruction. The grade will be assigned by the MET advisor/co-advisor.
- The project must result in a quantifiable end result (typically a formal engineering report.)
- An ETME 490 or ETME 492 approval form and documentation must also be completed.

⁵ Other conditions apply. See Internship Criteria materials.

Pre-Approved MET Professional Elective Courses:

Course	Title	Term Offered
ETME 309 & ETME 327	Building Information Modeling in MEP & Commercial Building Energy Assessment Lab	Fall
ETME 410	CNC and CAM Technology	Fall, Spring
ETME 423	Principles of HVAC II	Spring
ETME 430	Fluid Power Systems Design	Fall
ETME 460	Advanced Instrumentation	Unscheduled
ETME 462	Industrial Processing Automation & Controls	Spring
ETME 470	Renewable Energy Applications	Fall
ETME 490	Undergraduate Research – Approval process necessary	Variable
ETME 492	Independent Study – Approval process necessary	Variable
ETME 498	Internship – Approval process necessary	Variable
EMAT 350	Engineering Materials	Spring
EMAT 461	Friction & Wear of Materials	Spring
EMAT 462	Manufacturing of Composites	Spring, even years
EMAT 463	Composite Materials	Fall, odd years
EMAT 464	Biomedical Materials Engineering	Spring
EMEC 444	Mech. Behavior of Materials	Fall, odd years
EMEC 447	Aircraft Structures	Spring
EMEC 465	Bio-inspired Engineering	Spring
EMEC 467	Micro-Electromechanical Systems	Spring
EIND 300	Engineering Management & Ethics	Fall
EIND 313	Work Design and Analysis	Spring
EIND 371	Intro to Computer Integrated Manufacturing	Fall
EIND 373	Production Inventory Cost Analysis	Spring
EIND 410 & EIND 411	Interaction Design & Interaction Design Project	Spring
EIND 413	Ergonomics & Human Factors Engineering	Fall
EIND 422	Introduction to Simulation	Fall
EIND 425	Technology Entrepreneurship	Fall
EIND 434	Project Management for Engineers	Fall
EIND 477	Quality Management Systems	Spring
EGEN 365	Introduction to Mechatronics	Spring