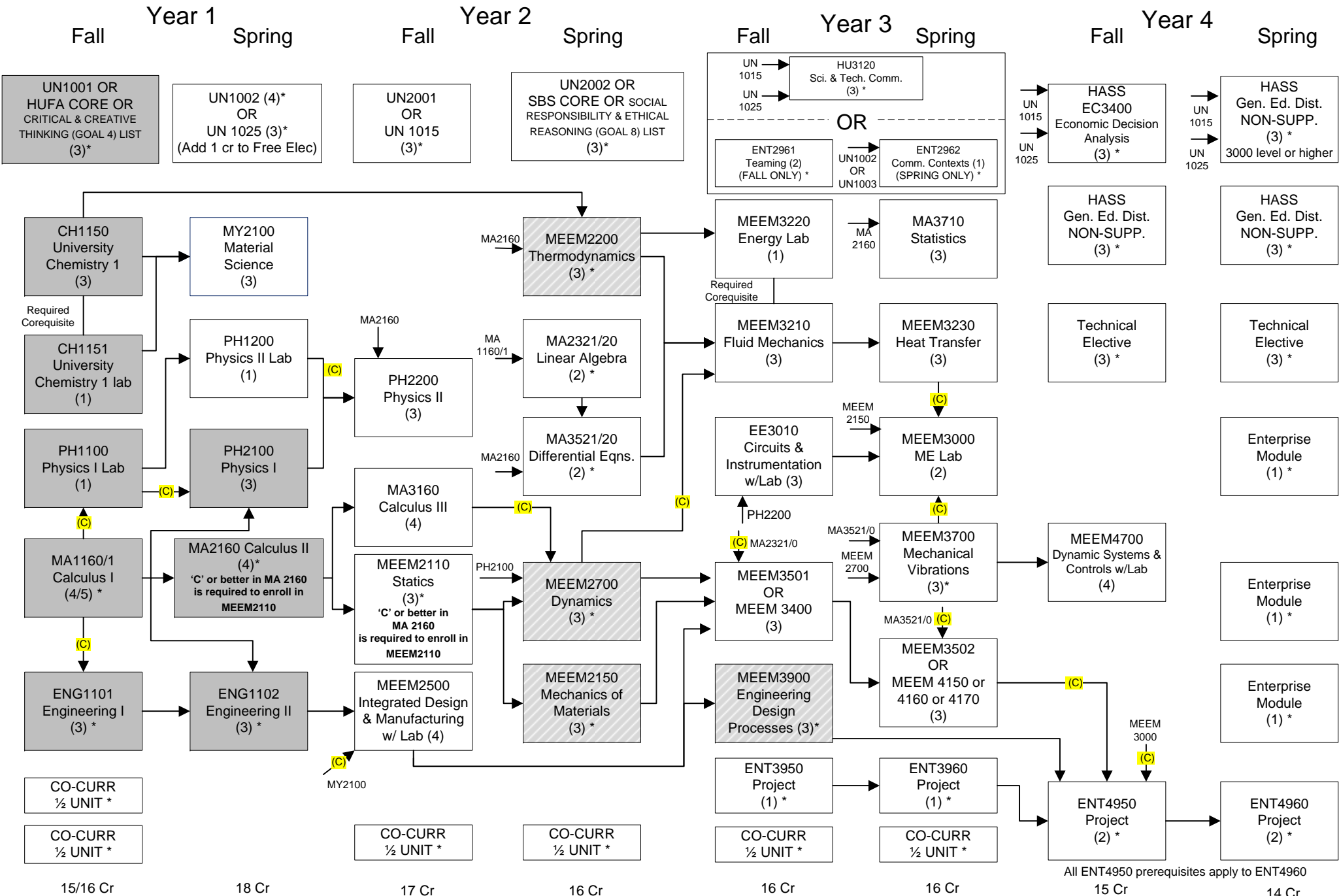




Bachelor of Science-Mechanical Engineering - Enterprise Concentration

For students starting at Michigan Tech from Fall 2009 to Summer 2013



All ENT4950 prerequisites apply to ENT4960

15/16 Cr 18 Cr 17 Cr 16 Cr 16 Cr 16 Cr 15 Cr 14 Cr

 Foundation Course *
 Restricted Course *
 → Prerequisite (Course must be completed prior to enrollment)
 → (C) Concurrent Prerequisite (A prerequisite course that may be taken concurrently)
 → Required Corequisite (Courses must be taken together)
 () Course Credits
 * See notes on back

127 Total Credits * August 2015

1. **Required General Education (UN) Courses:** Any UN courses not completed before Fall 2013 may be completed with a substitute course from the revised general education curriculum (UN 1015, UN 1025, Humanities/Fine Arts Electives list, Social/Behavioral Sciences Electives list). Substitution of UN 1025 (3 credits) for UN 1002 (4 credits) requires an increase in free electives by 1 credit.
2. **World Cultures/Global Issues Language Option:** 3 credits of 3000-level or higher modern language may be substituted directly for UN 1002 or UN 1025. **Any students with previous language experience in Spanish, French, German, or Mandarin must take the Modern Language Online Placement Test.** Instructions are linked on the ME Advising web page. If this substitution is used for UN 1002 then an increase in free electives by 1 credit is required. Students who have taken UN 1003 prior to Fall 2013 may substitute any 6 credits of enrolled (not placement) language credit along with UN 1003 for UN 1002 and 3 credits of HASS General Education Distribution.
3. **HASS General Education Distribution:** 6 credits must be 3000 level or higher, includes EC 3400 (i.e. 3 additional credits at 3000 level with EC 3400 satisfies the requirement). Approved list of courses and requirements is available linked on the ME Advising web page.
4. **Technical electives:** Approved list is available in the ME Advising Center and is linked on the ME Advising web page.
5. **Engineering Fundamentals:** ENG1001 (2 credits) plus ENG1100 (2 credits) is equivalent to ENG1101 (3 credits). ENG1002 or passing spatial visualization test is required for ENG1001 and ENG1101 as a concurrent pre-requisite. ENG1002 or passing the spatial visualization test is also a pre-requisite for ENG1102. MA1160/1161 is a concurrent pre-requisite for ENG1101 and MA1031 or MA1032 are concurrent pre-requisites for ENG1001. MA1160/1161 is a non-concurrent pre-requisite for ENG1102. ENG 1102 project content varies by section number.
6. **Math:** Students are placed into an initial math course based on ACT math or math placement exam score (AP, IB, CLEP). MA1160 (4 credits) or MA1161 (5 credits) satisfy the Calculus I requirement. The Math department teaches MA2321 accelerated in the first half of a given semester and MA3521 accelerated in the second half of the semester (i.e., register for the same section number of both MA2321 and MA3521 in the same semester). For the accelerated sequence, both MA 2321 and 3521 must be registered for together. MA2320 and MA3520 are offered as full semester courses for those students choosing to take only one of these courses in a given semester. MA2320, MA2321, or MA 2330 are approved pre-requisites for MA3520 or MA3521. MA 2330 and MA 3530 or 3560 are approved substitutes for MA 2320 and MA 3520, respectively.
7. **A grade of 'C' or better in MA 2160 is required as a pre-requisite for MEEM 2110. This grade requirement applies to students who first attempt MEEM 2110 in the Fall 2013 semester or later and who first attempted MA 2160 during the Spring 2013 semester or later.**
8. **Enterprise:**
 - a) Choose from the following one credit modules: ENT2950, ENT2960, ENT3954, ENT3955, ENT3956, ENT3958, ENT3959, ENT3961, ENT3962, ENT3963, ENT3964, ENT3966, ENT3967, ENT3969, ENT3971, ENT3972, ENT3973, ENT3974, ENT3975, ENT3976, ENT3980, ENT4951, ENT4954, ENT4955, ENT4961, and ENT4962.
 - b) The minimum degree requirement of 127 credits includes double-listing of ENT2961 and ENT2962 (or HU3120) as HASS General Education Distribution credits (Supplemental). Without double-listing, the minimum requirement is 130 credits. HU3120 or CM3410 may be substituted for ENT2961/2962 and may be used as HASS Supplemental list credit (if 3-credit Supplemental HASS limit has not already been met). All other HASS credits may not be from the Supplemental list. If HU 3120 or CM 3410 are used, these may also fulfill a portion of the upper level HASS requirement (6 HASS credits must be 3000 level or higher, includes EC 3400).
 - c) In order to enroll in ENT 4950 to begin Enterprise capstone project work, the Verification of Senior Design Objectives through Enterprise Experience form must be completed and approved by the d) ME-EM department. Complete instructions for this process are available in the ME Advising Center and are linked on the ME Advising web page. All four required Enterprise project semesters, ENT3950/3960/4950/4960, must be completed with the same Enterprise team.
 - e) UN3002 (Cooperative Education): Up to 2 credits can be used as Enterprise module credits in the BSME-Enterprise curriculum.
9. **Co-curricular Activities:** Mainly physical education courses with some other additions. Three units (or six half units) are required for graduation. These units will be included as earned hours and may be used to determine full-time enrollment status, but are additional to 127 total credits required for the BSME-Enterprise. Co-curricular list is available in the ME Advising Center and is linked on the ME Advising web page. These units are graded pass/fail and are not included in credit hours used for calculation of any grade point averages (cumulative, engineering, or departmental).
10. **Pre-requisite** courses are noted by an arrow. The pre-requisite course must be successfully completed prior to taking the subsequent course. **Concurrent pre-requisites** are noted by a 'C' next to the arrow and can be taken at the same time.
11. **Co-requisite** courses are courses that must be taken together.
12. **Transfer or study abroad courses** are not included in credit hours used for GPA calculations. Transfer credit is awarded for Michigan Tech equivalent course work only if a grade of 'C' or better (2.00/4.00) or equivalent is earned at a transfer institution. Study abroad credit will be awarded by International Programs and Services based on passing a course according to equivalent international standards.
13. **EnGPA - Engineering Grade Point Average** is comprised of the following Foundations Concentration (ECO) courses (shown shaded on flow chart). An EnGPA ≥ 2.75 will automatically allow progression into MEEM2200, MEEM2700, MEEM2150, MEEM3900 and subsequent MEEM courses. These courses are restricted until the required EnGPA is met or academic advisor approval for enrollment is granted.

CH1150 + CH1151	4 credits	MA2160	4 credits
ENG1101 (or ENG1001 + ENG1100)	3/4 credits	PH1100	1 credit
ENG1102	3 credits	PH2100	3 credits
MA1160/61	4/5 credits	UN1001 OR UN 1015	3 credits

June 2013

This flow chart is not an official list of degree requirements. Adjustments may be required due to curriculum changes.
ME Advising web page: <http://www.mtu.edu/mechanical/undergraduate/advising/>