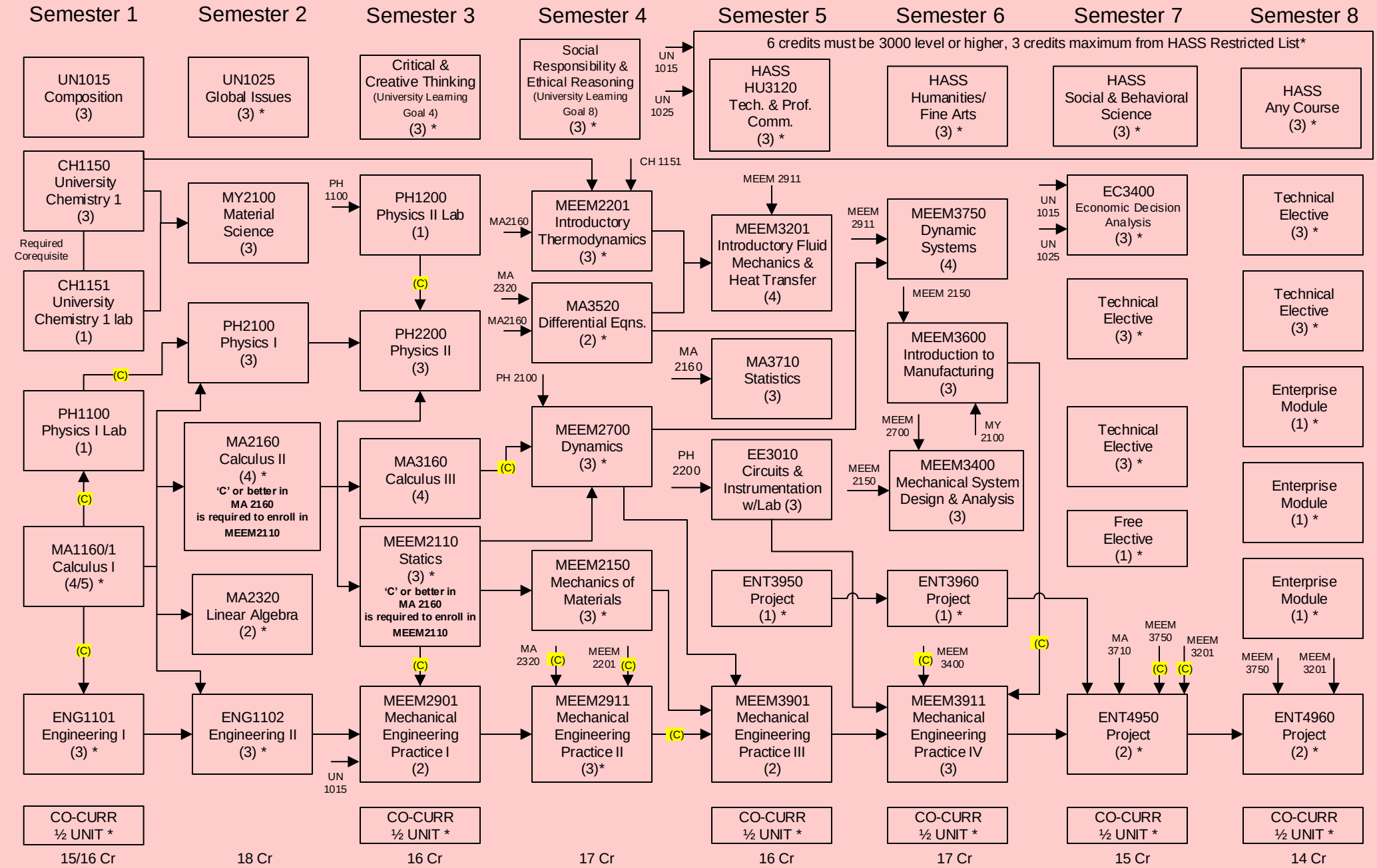
Bachelor of Science-Mechanical Engineering Enterprise Concentration *Academic Year 2015-2016 and later*



1. ***General Education Requirements:*** 24 total credits. Required courses are UN1015-Composition (3 credits), UN1025-Global Issues (3 credits), a Critical & Creative Thinking course (3 credits), a Social Responsibility & Ethical Reasoning course (3 credits), and 12 HASS (Humanities, Arts, & Social Sciences) credits. The 12 total credits of HASS must include a minimum of 3 credits each in Communication/ Composition, Humanities/Fine Arts and Social & Behavioral Science. Approved course lists are available in the ME Advising Center and are linked on the ME Advising web page. **6 credits must be 3000 level or higher (does not include EC3400). EC3400 is not a HASS course for ME students, but is still required for the BSME.** No more than 3 credits may be used from the HASS Restricted List. All 3000 level or higher HASS courses require UN1015 and UN1025 as non-concurrent prerequisites.
2. ***UN1025 Global Issues Language Option:*** 3 credits of 3000-level or higher modern language may be substituted directly for UN1025. A list of approved courses is located on the Modern Language webpage. **Any students with previous language experience in Spanish, French, or German must take the Modern Language Online Placement Test.** Instructions are linked on the ME Advising web page.
3. ***Technical electives***: Approved list is available in the ME Advising Center and is linked on the ME Advising web page.
4. ***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 non-concurrent 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. ENG1102 project content varies by section number.
5. ***Math:*** Students are placed into an initial math course based on required assessment using the ALEKS software program, or a math placement exam score for credit (AP, IB, CLEP). MA1160 (4 credits) or MA1161 (5 credits) satisfy the Calculus I requirement. MA2320 and MA3520 are offered as full semester courses for students taking these courses in separate semesters. The Math department also teaches MA2321 as an accelerated course (equivalent to MA2320) in the first half of a given semester and MA3521 as an accelerated course (equivalent to MA3520) in the second half of the semester (registration must be for the same section number of both MA2321 and MA3521 in the same semester). MA2320, MA2321, or MA2330 are all equivalent and are approved pre-requisites for MA3520 or MA3521. MA3530 or 3560 are also equivalent to MA3520/3521.
6. ***A grade of 'C' or better in MA2160 is required as a pre-requisite for MEEM2110.***
7. ***Enterprise***:

a) Choose from the following modules: ENT2950, ENT2960, ENT3953 (2 CR), ENT3954, ENT3955, ENT3956, ENT3958, ENT3959, ENT3961, ENT3962, ENT3963, ENT3964, ENT3966, ENT3967, ENT3969, ENT3971, ENT3972, ENT3973, ENT3974, ENT3975, ENT3976, ENT3979, ENT3980, ENT3982, ENT3983, ENT3984, ENT3985, ENT3987 (2 CR), ENT4951, ENT4954, ENT4955, ENT4961, and ENT4962. UN3002 and/or UN3003 (Cooperative Education): Up to 2 credits total can be used as Enterprise module credits in the BSME-Enterprise curriculum. Modules may not be offered every semester and may have pre-requisites and/or restrictions.

b) The minimum degree requirement of 128 credits includes use of HU3120 as HASS in addition to an Enterprise Concentration requirement. HU3120 also fulfills a portion of the upper level HASS requirement (6 HASS credits must be 3000 level or higher, does not include EC3400).

c) In order to enroll in ENT4950 to begin Enterprise capstone project work, the Verification of Senior Design Objectives through Enterprise Experience form must be completed and approved by the ME-EM department. Complete instructions for this process are available in the ME Advising Center and are linked on the ME Advising web page.

d) **All four required Enterprise project semesters, ENT3950/3960/4950/4960, must be completed with the same Enterprise team.**

8. ***Free electives***: Any Michigan Tech course(s) or approved transfer course(s) that are 1000-level or above, and are not duplicate or equivalent courses.
9. ***Co-curricular Activities***: Mainly physical education courses with some 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. These are additional to the 128 total credits required for the BSME. Co-curricular list 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. ***Prerequisite*** courses are noted by a plain arrow. The prerequisite course must be successfully completed **prior** to taking the subsequent course. ***Concurrent prerequisites*** are noted by a **'C'** within the arrow and may be taken at the same time, although it is not necessary to take these courses together if the pre-requisite course is completed first.
    a. ***The prerequisites for ENT4950 are: MA3710, MEEM3911, MEEM3201(concurrent), MEEM3750(concurrent), ENT 3950(same team), & ENT 3960(same team).***
    b. ***The prerequisites for ENT4960 are: MA3710, MEEM3911, MEEM3201(non-concurrent), MEEM3750 (non-concurrent), & ENT 4950(same team).***
11. ***Co-requisite*** courses are courses that <u>must</u> be taken together.
12. ***Transfer, Advanced Placement, 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. Advanced Placement credit is awarded according to published AP Exam score standards.

February 2017

This 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/