



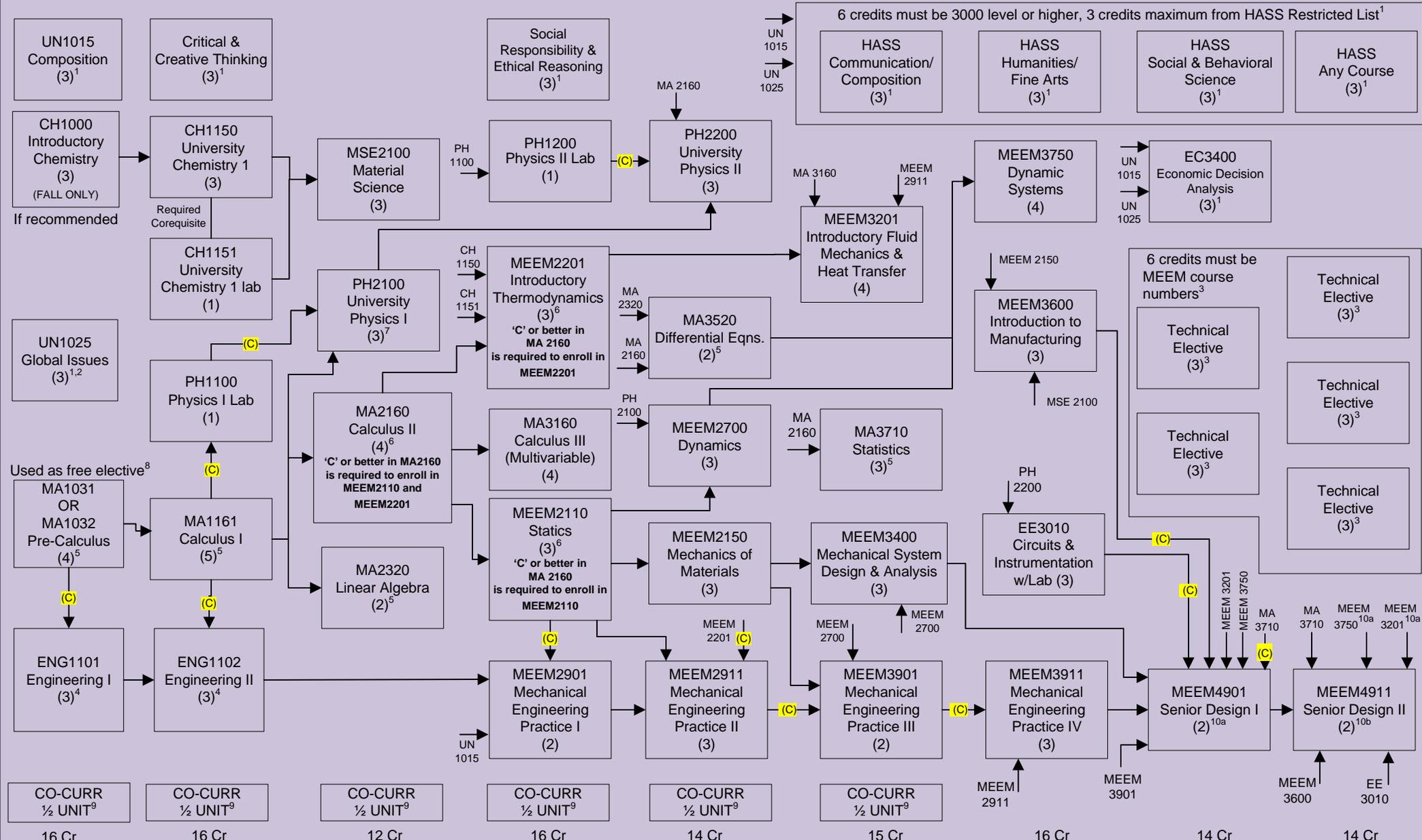
# Michigan Tech

# Bachelor of Science-Mechanical Engineering

For students with math placement below calculus.

Sample Course Plan: All required courses are offered each fall and spring semester.

Students may take courses in any semester as long as pre-requisites are met.



→ Prerequisite<sup>10</sup> (Course must be completed prior to enrollment)  
 (C) → Concurrent Prerequisite<sup>10</sup> (A prerequisite course that may be taken concurrently)  
 → Required Corequisite<sup>11</sup> (Courses must be taken together)  
 (#) Course Credits

**See cited notes on back**

**133 Total Credits (including CH 1000) March 2022**

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: At least 6 credits of tech electives must be MEEM 4000+ course numbers (exceptions below).** Otherwise, any 4000+ level courses in the College of Engineering except MET courses are acceptable for ME technical electives. **MET courses are not acceptable for ME technical elective credits except MET4377.** These prefixes - BE, CM, CEE, EE, ENG, GE, MEEM, MSE - may be used by BSME students for technical elective credits (if allowed to enroll in the course by the offering department) with the following exceptions: BE4000, BE4900, BE4901, BE4910, BE4930, BE5000, BE5900, BE5930, CEE4510, CEE4900, CEE4905, CEE4910, CEE4915, CEE4916, CEE4920, CEE4930, CEE4990, CEE5190, CEE5250, CEE5390, CEE5490, CEE5560, CEE5561, CEE5562, CEE5563, CEE5590, CEE5890, CEE5920, CEE5930, CEE5990, CEE5991, CEE5992, CEE5994, CEE5997, CEE5998, CEE5999, CM4000, CM4020, CM4040, CM4060, CM4080, CM4855, CM4860, CM4861, CM4900, CM4910, CM4990, CM5900, CM5950, CM5990, EE4000, EE4800, EE4805, EE4870, EE4901, EE4910, EE5290, EE5805, EE5900, EE5990, EE5991, EE5992, EE5994, ENG4060, ENG4070, ENG4900, ENG4905, ENG4910, ENG4990, ENG5060, ENG5100, ENG5200, ENG5300, ENG5400, ENG5990, ENG5998, GE4000, GE4900, GE4910, GE4916, GE4930, GE4931, GE4933, GE4934, GE4961, GE4962, GE4970, GE5187, GE5930, GE5940, GE5950, GE5960, GE5970, GE5994, GE5995, GE5998, GE5999, MEEM4990, MEEM4901, MEEM4911, MEEM4999, MEEM5010, MEEM5990, MEEM5994, MEEM5995, MEEM5999, MEEM6000, MSE4130, MSE4131, MSE4140, MSE4141, MSE4970, MSE4990, MSE5100, MSE5900, MSE5970, and MSE5990 or any other research/special topics/seminar/senior design/etc. credits (courses without a specific course description and/or syllabus). Undergraduate students cannot typically enroll in 6000-level courses. Special topics courses (4990, 5990, etc.) may be approved on an individual section/semester basis if a student/faculty member submits or creates a course syllabus for evaluation. OSM 4300 is also acceptable.
4. **Engineering Fundamentals:** ENG1002 or passing the online spatial visualization test is required for ENG1101 as a concurrent pre-requisite. ENG1002 or passing the spatial visualization test is also a pre-requisite (non-concurrent) for ENG1102. MA1032/1031 is a concurrent pre-requisite for ENG1101. MA1160/1161 is a concurrent pre-requisite for ENG1102. ENG1102 project content varies by section number.
5. **Math:** Students are placed into an initial math course based on ACT/SAT math score, the online ALEKS assessment, or a math placement exam score for credit (AP, IB, CLEP). Students with MA1030 (3 credits) math placement must complete MA 1030 before moving on to MA1031 (3 credits). MA1032 (4 credits) or MA1031 (3 credits) are pre-requisites for MA 1160/1161 for students with lower math placement than Calculus I. 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. Both MA2710 and 2720 are acceptable in place of MA3710.
6. **A grade of 'C' or better in MA2160 is required as a pre-requisite for MEEM2110 and MEEM2201.**
7. For students earning a 'CD' or 'D' grade in MA1160/1161, PH2110 (University Physics Workshop 1) is a required co-requisite for PH2100.
8. **Free electives:** Any credits that are 1000-level or above, not on the co-curricular activities list, and not non-repeatable duplicated 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 in addition to the 128 total credits required for the BSME. 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. **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 prerequisite course is completed first.
  - a. **The prerequisites for MEEM4901 are: EE3010 (concurrent), MA2710/2720/3710 (concurrent), MEEM3400, MEEM3600 (concurrent), MEEM3201, MEEM3750, MEEM3901, and MEEM3911.**
  - b. **The prerequisites for MEEM4911 are: EE3010, MA2710/2720/3710, MEEM3201, MEEM3600, MEEM3750, and MEEM4901.**
11. **Co-requisite** courses are courses that must be taken together in the same semester.
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 based on passing a course according to equivalent international standards. Advanced Placement credit is awarded according to published AP Exam score standards (also IB and CLEP).