**Bachelor of Science - Mechanical Engineering Technology** 128 **Total Credits** Academic Year 2019-20 - Recommended Course Sequence **Technical Electives** (Prerequisite/s) Semester ' Semester 3 Semester 5 Semester 7 Semester 8 Semester 2 Semester 4 Semester 6 (Choose 7-9 credits) **SPRING FALL** SPRING **FALL SPRING SPRING FALL** FALL Computer-Aided Eng. Focus: MET 4355 - 3 [s] 14-16 Cr 17 Cr 14-15 Cr 17 Cr 16-17 Cr 17 Cr 17 Cr 14 Cr Industrial Systems Simulation MET 4550 - 3 (MET 2153 & UN 1015 & UN 1025 MET 2400) [s] **MET 4675 ACC 2000** Computer Aided Manufacturing Senior Accounting **UN 1025** Project II EC 3400 Principles I MET 4660 - 3 Critical Social **EET 2233** Global Issues (2) [f,s]**UN 1015** (3) [f,s]Economic (MET 2400 & MET 3242 (C)) [f] and Creative Responsibility & Electrical (3) [f,s,su] -or-- ENT 4960\* CAE and FEA Methods Decision Composition --or-- OSM 3000 **Thinking** Ethical Reasoning Machinery --or-- Modern (3) [f,s,su] Operations & Supply Analysis (2) [f,s](3) \*(3) \*(4) [f,su] Language Chain Management (3) [f,s,su] Fluids & Power Systems Focus: Option \* (3) [f,s,su] MET 4350 - 3 (MET 4300) [s] MET 4999 Principles and Application of Professional Heating, Ventilating, and Practice Air Conditioning Systems **MET 1020** MET 2153 **EET 1411** MET 3500 **MET 4210** Seminar **EET 3131** Technology Machine Tool Manufacturing Applied Quality MET 4377 - 3 (MET 3400 & Basic (1) [f,s] Computer **Fundamentals** Instrumentation MET 4360 (C)) [s] Electronics Processes Techniques and Applications (3)[s]Applications Applied Fluid Power (4) [f,s,su] (3) [f] (4) [f] (2) [f,s](3) [f,s]**Technical** MET 4390 - 3 (MET 3700 & Elective MET 4360 (C)) [f] **MET 3451** Internal Combustion Engines (3) **MET 4575** Machine Senior Design II CH 1150 & Project I Manufacturing Focus: **MET 2120** (3)[s]**MET 3242** CH 1151 **MET 1540** (2) [f,s]MET 4510 - 3 [s] Statics and **MET 2130** University Materials Machine Technical Lean Manufacturing and -or-- ENT 4950° Strength **Dynamics** Design I Elective Production Planning Chemistry I Science (2) [f,s]of Materials (3) [s](3) [f] (1-3)& Lab I (3) [s] **MET 4460** nstructor perm. rega (4) [f] MET 4585 - 3 [f] (4) [f,s,su] Product Facilities Layout & Safety Design Design and MA 1160 **MET 4360** Development MET 4780 - 3 (MET 3500) [s] Calculus with **MET 4300** Thermal-Advanced Manufacturing **MET 2400** (2) [f,s]Technology I Applied MA 2160 Fluids Lab Practical (4) [f] MET 3400 Heat Transfer MA 1032 Calculus (1) [f,s]**Applications** --or-- MA 1161 Applied Fluid Other Technical Electives: MET 3700 (3) [f] Precalculus with in Parametric EET 3373 - 3 (EET 1411) [f] Calculus Plus Mechanics Applied Technology II (4) [f,s,su] Modeling Introduction to Prog Controllers w/ Technology (3) [f]Thermodynamics Social (4) [f,s,su] (3)[s](5) [f,s,su] (3)[s]ENT XXXX - variable 1-2 and Behavioral Enterprise Project Work **Sciences** (except 3959, 3967, 4950, 4960) UN 1015 & UN 1025 (3) \*MA 2720 Statistical PH 1140 PH 1200 MET 4996 - 1-3 \*\* HASS Elective Methods **HU 3120** & PH 1141 & PH 1240 Spec Topics in Mech Eng Tech (Course from Applied College Applied College (4) [f,s,su] Technical and **Humanities** Technical Communication Any List) MET4997 - 1-3 \*\* Physics I & Lab Physics II & Lab or-- MA 3710 Professional and Fine Arts (3) \*Elective /Composition Ind Study in Mech Eng Tech (4) [s](4) [f] Eng. Statistics Communication (3) \*(3) \*(3) \*(3) [f,s,su] (3) [f,s,su] MET4998 - 1-6 \*\* Undergrad Res in Mech Eng Tech CO-CURR CO-CURR CO-CURR CO-CURR CO-CURR CO-CURR 1/2 UNIT UN 3002 - 1-2, may be repeated ½ UNIT ½ UNIT ½ UNIT ½ UNIT ½ UNIT [f,s,su] Undergraduate Cooperative Education I \_c

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Semester Offered

Prerequisite

(Course must be completed

prior to enrollment)

Concurrent Prerequisite

(A prerequisite course that may be

taken concurrently)

Course Credits

\* See Notes

on Back

\*\* On Demand

July 2019

- 1. <u>General Education Requirements</u>: 24 total credits. Required courses: UN 1015-Composition (3 credits); UN 1025-Global Issues (3 credits); Critical and Creative Thinking (3 credits); Social Responsibility & Ethical Reasoning (3 credits); and 12 HASS credits. Approved lists are available in EERC 423 and linked on the Department of Manufacturing and Mechanical Engineering Technology's "Advising" web page. <a href="https://www.mtu.edu/registrar/201920/core-and-hass-list-19-20v2.pdf">https://www.mtu.edu/registrar/201920/core-and-hass-list-19-20v2.pdf</a>
- 2. <u>UN 1025 Global Issues Language Option</u>: 3 credits of 3000-level or higher modern language may be substituted directly for UN 1025. Any students with previous language experience in Spanish, French, German, or Mandarin must take the Modern Language Online Placement Test.
- 3. <u>HASS (Humanities, Arts, & Social Sciences)</u>: 12 total credits that include a minimum of 3 credits each in: Communication/Composition, Humanities/Fine Arts, and Social & Behavioral Sciences. Approved lists are available in EERC 423 and are linked on the Department of Manufacturing and Mechanical Engineering Technology's "Advising" web page. <a href="https://www.mtu.edu/registrar/201920/core-and-hass-list-19-20v2.pdf">https://www.mtu.edu/registrar/201920/core-and-hass-list-19-20v2.pdf</a> Six (6) credits must be 3000 level or higher (does not include HU 3120). HU 3120 is not a HASS course for MET students, but still is a degree requirement. No more than 3 credits may be used from the HASS Restricted List. All 3000-level or higher HASS courses require UN 1015 and UN 1025 as prerequisites.
- 4. Science Elective (STEM): https://www.mtu.edu/registrar/pdfs/stem-requirements19-20.pdf
- 5. <u>Math</u>: Math placement is based on ACT/SAT math score. Students have the option to take the ALEKS placement test in place of the ACT/SAT placement. For more information, see: https://www.mtu.edu/math/undergraduate/placement/
- 6. Free Electives: Any Michigan Tech course(s) or approved transfer course(s) that are 1000-level or above, and are not duplicated or equivalent courses.
- 7. <u>Co-curricular Activities</u>: 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 total credits required for the degree. A co-curricular list is available in EERC 423 and is linked on the Department of Manufacturing and Mechanical Engineering Technology's "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 or departmental).
- 8. <u>Pre-requisite</u> courses are noted by a plain arrow. The pre-requisite course must be successfully completed **prior** to taking the subsequent course.
- 9. <u>Concurrent Pre-requisites</u> are noted by a 'C' by 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.
- 10. Co-requisite courses are courses that must be taken together in the same semester.
- 11. <u>Transfer, Advanced Placement, or Study Abroad Courses</u> 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.

This flow chart is not an official list of degree requirements. Adjustments may be required due to curriculum changes.

Advising web page: https://www.mtu.edu/mmet/undergraduate/advising/