KEY:

F: INDICATES COURSE IS OFFERED FALL SEMESTER

S: INDICATES COURSE IS OFFERED SPRING SEMESTER

Su: INDICATES COURSE IS OFFERED SUMMER SEMESTER

ENVIRONMENTAL ENGINEERING FLOWCHART Academic Year 2024-25

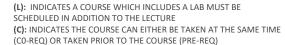
NOTE: LINEAR ALGEBRA & DIFFERENTIAL EQUATIONS

CAN BE TAKEN DURING THE SAME SEMESTER

Michigan Tech

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

Updated: 5.31.2024



(MA2321 & MA3521) OR SEPARATE SEMESTERS (MA2320 & MA3520) Year 2 Year 4 Year 1 Year 3 Spring Spring Spring Fall Fall Spring Fall Fall For other senior design options, please visit the advising website: JR STDG. http://www.mtu.edu/cege/undergraduate/capstone/ MA2320/2321 CEE3620 (L) CEE4506 EC3400 UN1015 MA1160/1161 MA2160 MA3160 CEE3501 CEE4905 MA1160 ECONOMIC LINEAR ALGEBRA WATER RESOURCES SUSTAINABLE UN1025 SENIOR DESIGN CALCULUS CALCULUS II CALCULUS III 4 2 CREDITS ENGINEERING ENGINEERING DECISION ANALYSIS 4/5 CREDITS 4 CREDITS 4 CREDITS 3 CREDITS 4 CREDITS 3 CREDITS 3 CREDITS F, S, Su (TRACK A) F, S, Su F, S, Su SEE BACK MA1160/1161 (C or better) CEE3502 can also be a CEE3200 & FOR PRE-REQS If not, need to take co-rea to CEE3620 ENG2120 & MA1160/61 PRE OR CO-REQ PH2110 with PH2100 PROFFSSIONAL GE2000 (C) PH2100 CEE3810 (L) SEE BACK ELECTIVE PH1100 (L) CEE3501 PHYSICS SOIL MECHANICS CEE4502, PHYSICS LAB Pre-reg or MA2160 SEE BACK MA3520/3521 CEE4505 (L) LECTURE I CFF3501 CEE4503 (C). 4 CREDITS 3 CREDITS 1 CREDIT Co-req CEE4509 (L) DIFFERENTIAL EQ SURFACE WATER 3 CREDITS ENV. ENGRG. CEE3200 F. S F. S. Su F, S, Su ENV. PROCESS. & QUALITY ENGRG. F, S, Su FUNDAMENTALS 2 CREDITS 3 CREDITS SIMULATION 3 CREDITS F, S, Su 2 CREDITS MA1031/1032 or MA1160/61 (C), (TRACK B) MA1031 (C), MA1032 (C), CH1150/1151 CEE3501 CFF4503 MA2160 (C), MA3160 (C) MA1160/61 (C), MA2160 (C) FW3330 (L) CH1150/1151 WATER TREATMENT SOIL SCIENCE CEE3501 & ENG1101 ENG1102 3 CREDITS 4 CREDITS ENGINEERING MODELING & MA2160 CEE3502 & ς F CEE3200 ANALYSIS DESIGN CH1150/1151 3 CREDITS 3 CREDITS GE2000 (L) PROFESSIONAL. CEE4501 (L) F, S, Su F, S, Su UNDERSTANDING ENV. MONITORING SEE BACK ELECTIVE CHEM PROCESS THE EARTH & MEAS. ANALYSIS (SEE BACK) CFF4502 4 CREDITS JR. STDG. CEE3501 3 CREDITS 3 CREDITS 3 CREDITS **PROFESSIONAL** WASTEWATER F, S, Su PRACTICE TREATMENT CH1150 CH1160 (2 CREDITS) 3 CREDITS UNIVERSITY UNIVERSITY CHEMISTRY CHEMISTRY II MA2160 3 CREDITS 3 CREDITS JR. STDG. CH1150/1151 F, S, Su F, S, Su PH2100 BI 1400 FREE ELECTIVE CEE3200 BL3310 (L) CEE3501 CEE4504 ENG1102 PRINCIPLES OF CH1161 (L) CH1151 (L) MICROBIOLOGY ANY 1000+ COURSE THERMO/FLUIDS AIR OUALITY BIOLOGY UNIVERSITY UNIVERSITY 4 CREDITS 3 CREDITS 3 CREDITS 3 CREDITS 3 CREDITS CHEMISTRY II LAB CHEMISTRY LAB F, S, Su F, S S 1 CREDIT 1 CREDIT F, S, Su THINK ABOUT TAKING **HIGHLY RECOMMENDED SEE BACK HU3120!! HUMANITIES & FNG2120 ANY HASS/HASS SOCIAL & SELECTED TECH. COMPOSITION/ BUT NOT REQUIRED CEE1501 MA2160 STATICS/STRGTH OF BEHAVIORAL SCI COMMUNICATION FINE ARTS RESTRICTED **ELECTIVE** INTRO TO ENV. PH2100 . (SEE HASS LIST) MATERIALS (SEE HASS LIST) (SEE HASS LIST) (SEE HASS LIST) (SEE BACK) CEE1003 **ENGINEERING** ENG1102 4 CREDITS 3 CREDITS 3 CREDITS 3 CREDITS 3 CREDITS 3 CREDITS INTRO TO CAD 1 CREDIT 1 CREDIT F, S F, S, Su F, S, St S NOTE: SEE REVERSE SIDE FOR EXPLANATION OF SELECTED HASS ELECTIVES TECHNICAL ELECTIVE, PROFESSIONAL ELECTIVES, GENERAL • 6 credits must be upper level CRITICAL/CREATIVE EDUCATION (HASS), AND CO-CURRICULAR COURSES ***UN1025 SOC RESP/ETHICAL UN1015 *** ONE (3000-4000) THINKING REASONING COMPOSITION **GLOBAL ISSUES** • UN1015 and UN1025 are **Total Academic Credits: 131** SEMESTER (SEE LIST ON BACK) (SEE LIST ON BACK) 3 CREDITS 3 CREDITS prerequisites for all upper level OF 3000 **Total Co-Curricular Units: 3** 3 CREDITS SAMPLE = GENERAL EDUCATION REQUIREMENTS 3 CREDITS F. S, Su F, S, Su HASS courses LEVEL F, S, Su F. S. Su OR HIGHER LANGUAGE COLIRSE CAN REPLACE 18 **17 17** 14 16 **17** 16 16 UN1025 CAN BE TAKEN IN FITHER ORDER IN THE SOPHOMORE YEAR. CO-CUR CO-CUR CO-CUR CO-CUR CO-CUR CO-CUR 0.5 UNIT 0.5 UNIT 0.5 UNIT 0.5 UNIT 0.5 UNIT 0.5 UNIT F, S, Su F, S, Su F. S. Su F. S. Su F, S, Su F, S, Su

PROFESSIONAL ELECTIVES (6 cr)

- ANY 1000 OR HIGHER LEVEL COURSE IN BIOLOGY, CHEMISTRY, COMPUTER SCIENCE, CONSTRUCTION MANAGEMENT, GEOLOGY, FORESTRY, OR PHYSICS (BL, CH, CS, CMG, GE, FW, PH)
- ANY 2000 OR HIGHER LEVEL COURSE IN BUSINESS OR ECONOMICS. (ACC, BUS, EC, FIN, MGT, MIS, MKT, OSM)
- ANY 2000 OR HIGHER LEVEL COURSE IN GEOSPATIAL ENGINEERING (SU)
- ANY 3000 OR HIGHER LEVEL COURSE IN CIVIL AND ENVIRONMENTAL ENGINEERING OR IN ANY OTHER ENGINEERING DEPARTMENT
- ANY 3000 OR HIGHER LEVEL COURSE IN HUMANITIES, SOCIAL SCIENCES, OR UNIVERSITY WIDE. (HU, SS, UN)
- ANY 4000 OR HIGHER LEVEL COURSE IN MATHEMATICS (MA)

INTERESTS?

- REMEDIATION think about taking GE 3850 (Geohydrology) and CEE 4511 (Solid & Hazardous Waste Engineering)
- NATURAL SYSTEMS think about taking CEE 4518 (Aquatic Biogeochemistry), CEE 4665 (Stream Restoration), and FW 4220 (Wetlands)
- MUNICIPAL ENGINEERING think about taking CEE 4507 (Water Distribution and Wastewater Collection), CEE 4511 (Solid & Hazardous Waste Engineering), and SU 2000 (Surveying and GIS Fundamentals)* (only 2 credits)
- ATMOSPHERIC PROCESSES & AIR POLLUTION think about taking MEEM 4240 (Combustion & Air Pollution) and CH 4515 (Atmospheric Chemistry)
- WATER RESOURCES think about taking CEE 4620 (River and Floodplain Hydraulics), CEE 4640 (Stormwater Management and Low Impact Development), and CEE 4665 (Stream Restoration)

NOTES:

AN OVERALL GPA OF 3.00 IS REQUIRED TO TAKE GRADUATE LEVEL COURSES (5000 LEVEL). A MAXIMUM OF TWO (2) GRADUATE LEVEL COURSES MAY BE USED TOWARD YOUR BS ENVE DEGREE.

OTHER COURSES MAY BE USED TO SATISFY THE PROFESSIONAL ELECTIVES REQUIREMENT IF APPROVED BY THE DEPARTMENT OF CIVIL, ENVIRONMENTAL, AND GEOSPATIAL ENGINEERING ACADEMIC ADVISOR.

SELECTED TECHNICAL ELECTIVES (3 cr)

GE3850 Geohydrology (Spring)

CEE4507 Water Distribution and Wastewater Collection (Spring)

CEE4511 Solid and Hazardous Waste Engineering (Spring)

CEE4518 Aquatic Biogeochemistry (Fall – Alt Years beg 2014-2015)

CEE4521 Bioremediation Engineering (Spring)

CEE4528 Global Biogeochemistry (Fall – Alt Years beg 2015-2016)

CEE4620 River & Floodplain Hydraulics (Fall)

CEE4640 Stormwater Management and LID (Summer)

CEE4665 Stream Restoration (Spring)

CEE4993 Engineering with Developing Communities (Fall)

CH4515 Atmospheric Chemistry (Spring)

MEEM4240 Combustion & Air Pollution (Fall/Spring)

SENIOR DESIGN PREREQUISITES

Complete 7 of the following courses: CEE3620, CEE3810/FW3330, CEE4501, CEE4502, CEE4503, CEE4504, CEE4505, CEE4506, CEE4509

UNDERGRADUATE CATALOG (COURSE DESCRIPTIONS):

www.mtu.edu/catalog/courses/

GENERAL EDUCATION (CO-CURRICULAR & HASS LIST):

www.mtu.edu/registrar/faculty-staff/advisors/gen-ed/

GENERAL EDUCATION REQUIREMENTS

- A. CORE COURSES (12 CREDITS)
- 1. UN1015 (COMPOSITION)
- 2. UN1025 (GLOBAL ISSUES) or 3000+ level Modern Language Course
- 3. CRITICAL AND CREATIVE THINKING

ART1000, ART2195, HU2130, HU2324, HU2501, HU2503, HU2538, HU2700, HU2701, HU2820, HU2910, MUS1000, MUS1140, SND1000, SS1500, SS2300, THEA1000

4. SOCIAL RESP. & ETHICAL REASONING

EC2001, PSY2000, SS2100, SS2200, SS2400, SS2500, SS2501, SS2502, SS2503, SS2504, SS2505, SS2600, SS2610, SS2700

B. HASS COURSES (12 CREDITS)

(General Ed Website, left)

1. COMM/COMP:
2. HUMANITIES & FINE ARTS:
3. SOCIAL & BEHAVIORAL SCIENCES:

- 4. ANY HASS OR HASS RESTRICTED COURSE:_
- 6 credits must be upper division 3000-4000 level courses
- No more than 3 credits from the HASS Restricted list can be used to satisfy HASS requirements.
- Each course can satisfy only one requirement.

C. CO-CURRICULAR ACTIVITIES ((3 UNITS)
(General Ed Website, left)	

1	2	3
4	5	6