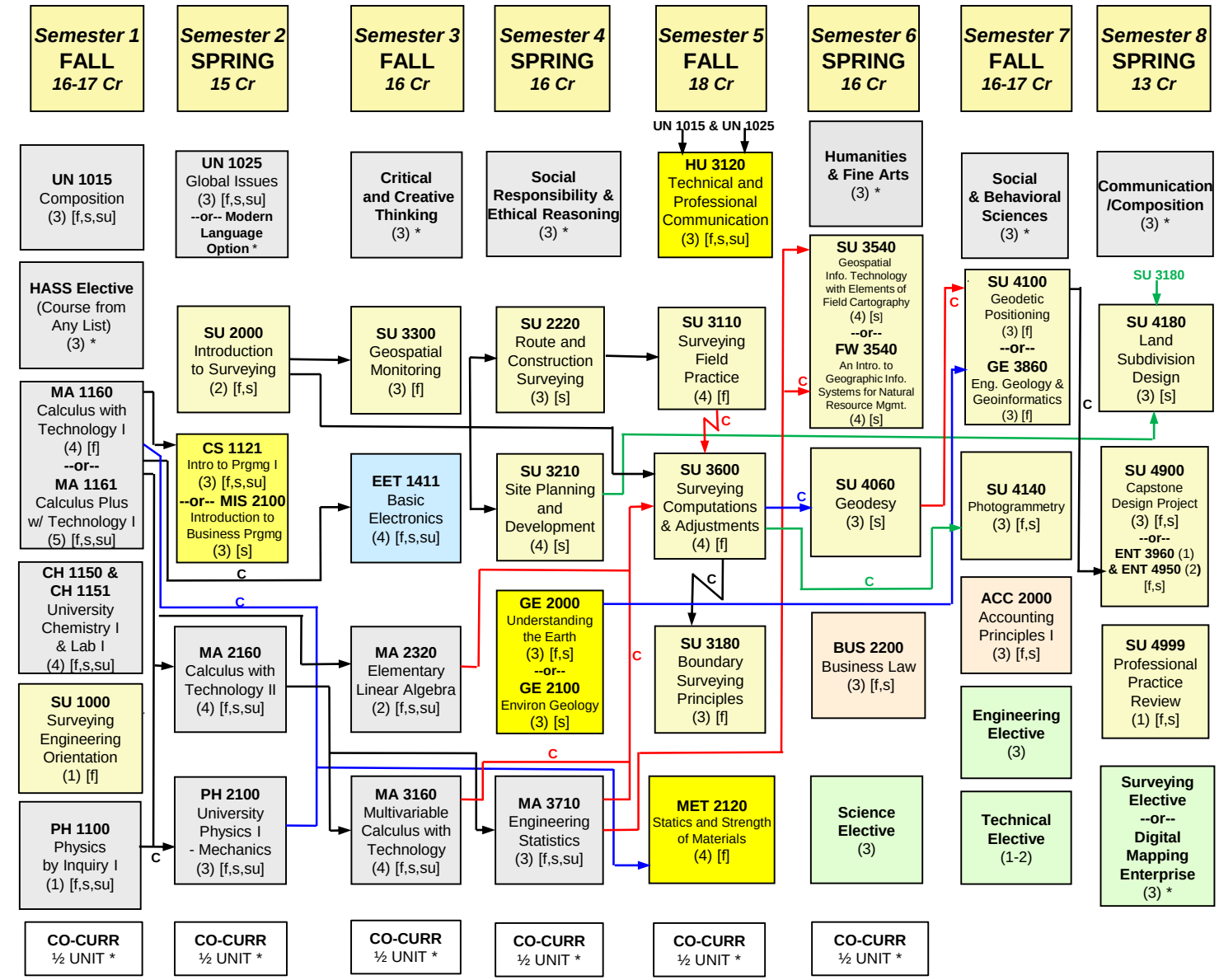
Bachelor of Science – Surveying Engineering

(Professional Surveying Emphasis)

Academic Year 2018-19 – Recommended Course Sequence

127 Total Credits



Electives (Prerequisite/s) (Choose 10-11 credits)

CEE 3101 - 3 [f,s] (Engineering) (ENG 2120) Civil Engineering Materials

CEE 3331 - 2 [f,s] Professional Practice

CEE 3332 - 3 [f,s,su] (Engineering) Fundamentals of Construction Engineering

CEE 3401 - 3 [f,s] (Engineering) Transportation Engineering

CEE 3810 - 4 [f,s,su] (Engineering) (GE 2000 & ENG 2120 & ENG 3200) Soil Mechanics for Engineers

CH 1153 - 1 [f,s,su] (Science) *Co-Requisite: CH 1150* (MA 1160(C) or MA 1161(C)) University Chemistry Recitation I

ENG 3200 - 4 [f,s] (MA 2160 & (CH 1150 & CH 1151) & PH 2100 & ENG 1102) Thermodynamics/Fluid Mechanics

ENT XXXX - variable 1-2 Enterprise Project Work

ENT 1960 - 1 (Perm. of Instructor) [f,s,su] Enterprise Orientation-Spring

—OR—

ENT 2000 level
ENT 3000 level (except ENT 3960)
ENT 4000 level (except ENT 4950)

FW 2010 - 4 [f] (Science) Vegetation of North America

PH 1200/PH 2200 - 4 [f,s,su] (Science) (PH 1100 & PH 2100 & MA 2160) Physics by Inquiry II/Univ. Physics II – Electricity & Magnetism

PH 1600 & PH1610 - 3 [f,s,su] (Science) Introductory Astronomy & Lab

SU 4010 - 3 ** (Surveying) Geospatial Concepts, Technologies, and Data

SU 4011 - 3 ** (Surveying) (MA 3710) Cadastre and Land Information Systems

SU 4012 - 3 [s] (Surveying) (SU 3540 or FW 3540) Geospatial Data Mining and Crowd Sourcing

SU 4013 - 3 ** (Surveying) Hydrographic Mapping

SU 4045 - 3 [s] (Engineering or Surveying) (SU 4140) Geospatial Data Fusion

SU 4142 - 3 [s] (Surveying) 3D Surveying and Modeling with Laser Scanner Data

SU 4996 - 1-3 ** (Surveying) Special Topics in Geospatial Technologies

SU 4997 - 1-3 ** (Surveying) Independent Study in Geospatial Technologies

SU 4998 - 1-6 ** (Surveying) Undergraduate Research in Geospatial Technologies

UN 3002 - 1-2 [f,s,su] Undergraduate Cooperative Education I

** See Enterprise Minor **
*** On Demand*

→ Prerequisite (Course must be completed prior to enrollment)

C → Concurrent Prerequisite (A prerequisite course that may be taken concurrently)

( ) Course Credits

[ ] Semester Offered

*** See Notes on Back**

May 2018

1. ***General Education Requirements:*** 24 total credits. Required courses: UN 1015-Composition (3 credits); UN1025-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 School of Technology's "Advising" web page. http://www.mtu.edu/registrar/pdfs/core-and-hass-list-18-19-v2.pdf

2. ***UN 1025 Global Issues Language Option:*** 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. ***HASS (Humanities, Arts, & Social Sciences):*** 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 School of Technology's "Advising" web page. http://www.mtu.edu/registrar/pdfs/core-and-hass-list-18-19-v2.pdf **Six (6) credits must be 3000 level or higher (does not include HU 3120). HU 3120 is not a HASS course for School of Technology 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):*** http://www.mtu.edu/registrar/pdfs/stem-requirements18-19.pdf

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 (AP, IB, CLEP). MA 1160 (4 credits) or MA 1161 (5 credits) satisfy the Calculus I requirement. MA 2320, MA 2321, or MA 2330 are equivalent Linear Algebra courses. MA 2710, MA 2720, and MA 3710 are all approved Statistics courses.

6. ***Enterprise Minor (for Surveying Engineering majors):*** http://www.mtu.edu/registrar/students/major-degree/minors/audit/technology/201808/minor-in-surveying-tsum.pdf

7. ***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.

8. ***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 total credits required for the degree. A co-curricular list is available in EERC 423 and is linked on the School of 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).

9. ***Pre-requisite*** courses are noted by a plain arrow. The pre-requisite course must be successfully completed **prior** to taking the subsequent course.

10. ***Concurrent Pre-requisites*** 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.

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 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.

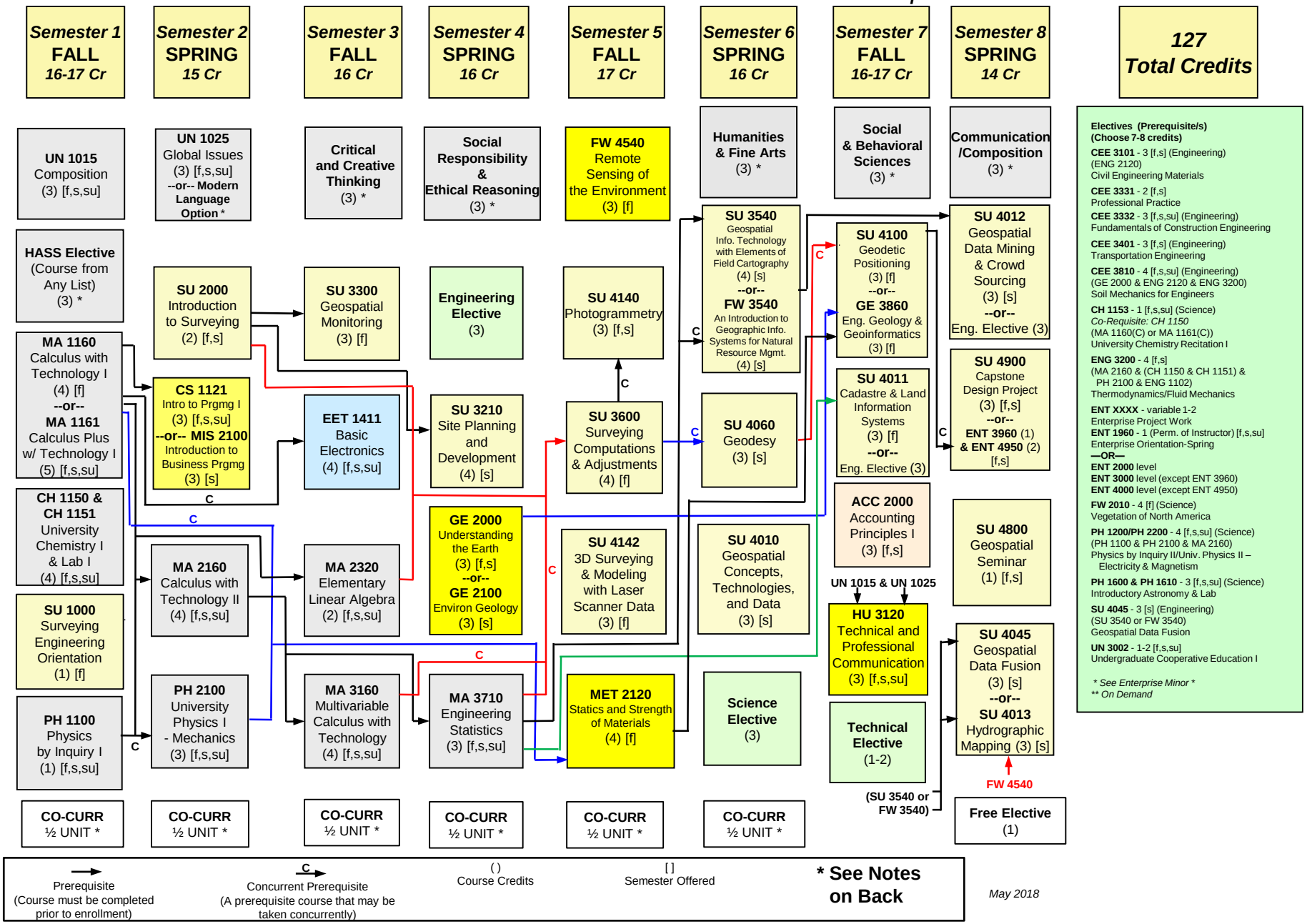
This flow chart is not an official list of degree requirements. Adjustments may be required due to curriculum changes.
Advising web page: http://www.mtu.edu/technology/resources/undergraduate/advising/

May 2018

Bachelor of Science – Surveying Engineering

(Geoinformatics Emphasis)

Academic Year 2018-19 – Recommended Course Sequence



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