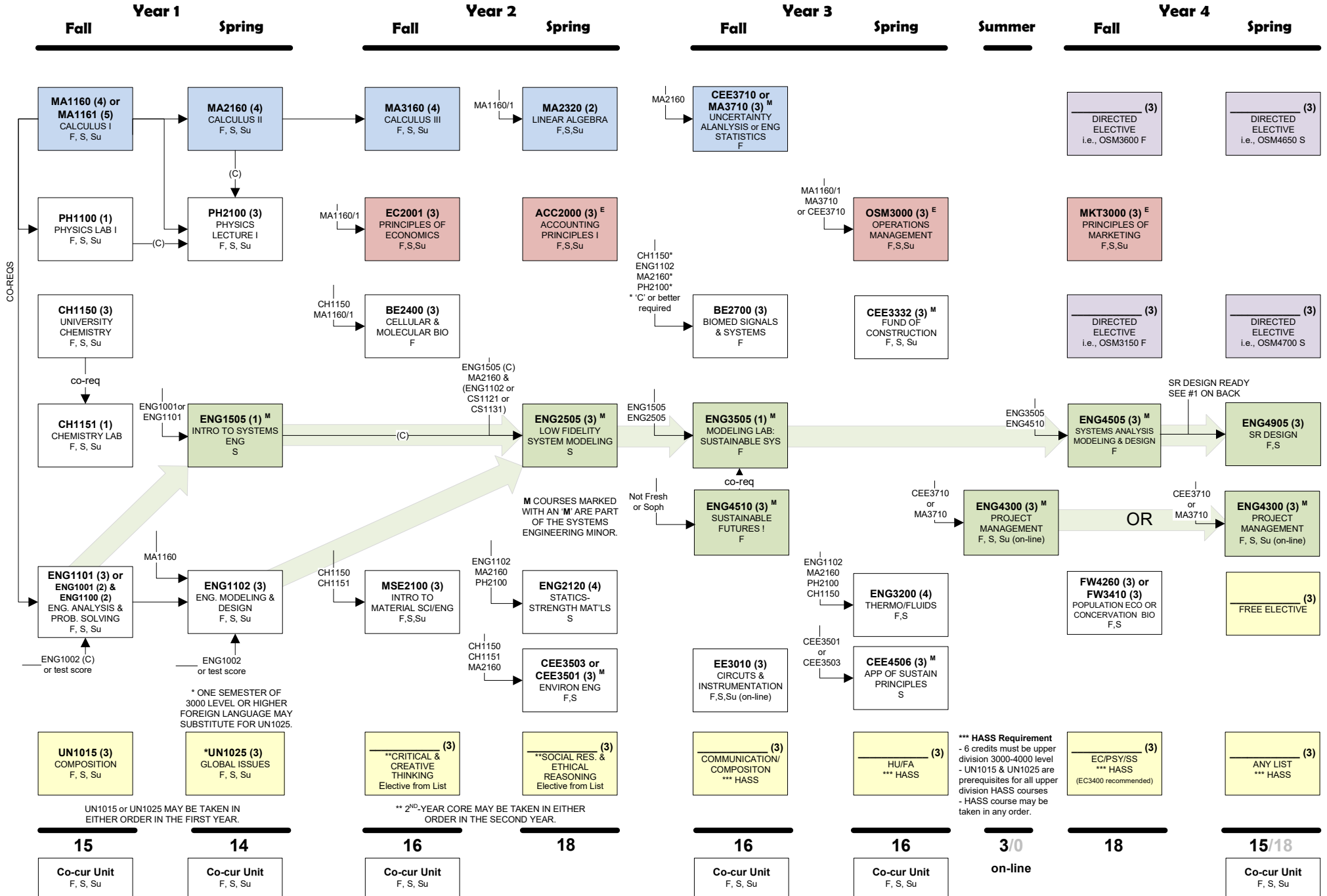
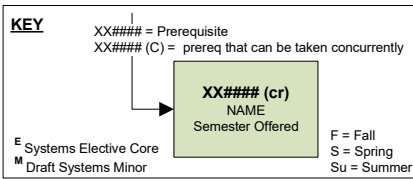


2019-20 BSE with Systems Engineering

Updated May 2019

This is not an official list of degree requirements. Adjustments may be required due to curriculum changes. See back of academic plan for more information on requirements for elective courses.



BSE Systems Emphasis 2019-20
(minimum of 131 credits)

Academic questions: E-mail eadvise@mtu.edu

1 Senior Design Ready:

a. Senior Design Prerequisite courses:

EE3010, ENG1101, ENG1102, ENG2120, ENG2505, ENG3200, ENG4505.

b. Core Competency Check test - Take and pass the test; test topics include all ENG4905 prerequisite courses except ENG4505.

2 General Education Requirements (24 credits + 3 PE units):

I. Core Courses (12 credits)

- ___ UN1015 Composition
- ___ UN1025 Global Issues or 3000+ Modern Language _____
- ___ Critical/Creative Think List _____
- ___ Social Resp./Ethical Reason List _____

II. HASS Courses Requirements (12 credits)

([www.admin.mtu.edu/em/documents/HASS Distribution List.pdf](http://www.admin.mtu.edu/em/documents/HASS_Distribution_List.pdf))

- 6 credits upper level (3000- 4999)

- 3 credits from each listed below

- ___ Communication/Composition _____
- ___ Humanities/Fine Arts List (HU/FA) _____
- ___ Social & Behavioral Science List (EC/PSY/SS) _____
- ___ 3 credits from any list _____

* Either **EC2001** or **EC3400** is required by the degree, if both are taken only **ONE** may be counted as a Social Resp./ Ethical Reason or HASS course. If one is taken it may **NOT** be counted as a Social Resp./ Ethical Reason or HASS course.

III. Co-curricular activities (3 units)

In the co-curricular requirement, the three semester units will be physical education activities. These units are required for graduation, but are not included in the calculation of the GPA, nor in the overall degree-credit requirement. Note: most physical education activities will last for 7 ½ weeks or ½ semester. A student would need **six** of these ½-semester units to fulfill the 3-semester unit co-curricular requirement.

- PE _____ PE _____ PE _____
- PE _____ PE _____ PE _____

3 *Systems Engineering Minor Requirements (20 credits):*

Required courses (14 credits)

- ENG1505 (1) Introduction to Systems Engineering
- ENG2505 (3) Low Fidelity Systems Modeling
- ENG3505 (1) Modeling Laboratory for Sustainable Systems
- ENG4300 (3) Engineering Project Management
- ENG4505 (3) Systems Analysis, Modeling, and Design
- ENG4510 (3) Sustainable Futures I

Select 6 credits from one of the following groups (6 credits)

- A. Environmental Engineering and Sustainability
 - (CEE3501 OR CEE3503) AND CEE4506
- B. Supply Chain, Logistics, Procurement, and Management
 - ___ (OSM3150 OR OSM4700) AND OSM3600
- C. Design, LEAN, and Six Sigma
 - ___ MEEM4650 OR OSM4650 OR (ENT3959, ENT3967, & ENT3982)
 - AND
 - ___ HON3300 OR (3 of: ENT3953, ENT3958, ENT3963, ENT3983)

4 *Systems (Focus) Directed Electives (12 credits):*

Select 12 credits from one of the following groups.

Enterprise (12 credits)

- ___ ENT3950 (1) Enterprise Project Work III
- ___ ENT3960 (1) Enterprise Project Work IV
- ___ ENT4950 (2) Enterprise Project Work V Capstone
- ___ ENT4960 (2) Enterprise Project Work VI Capstone
- ___ ENT2961 (2) Teaming in the Enterprise
- ___ ENT2962 (1) Communication Contexts
- ___ ENT3984 (3) Lean Six Sigma Principles OR
 - ___ ENT3959 (1) Fundamentals of Six Sigma I AND
 - ___ ENT3967 (1) Design for Six Sigma AND
 - ___ ENT3982 (1) Continuous Improvement Using Lean Principles

Minor (12 credits): Select 12 credits in a coherent plan of study as partial fulfillment of a university minor, with BSE program approval.

- ___ _____
- ___ _____
- ___ _____
- ___ _____