BS Data Science

Cybersecurity Focus Area (Cybersecurity Minor)

Year 1
- Fall: MA1031/1032 (C) or MA 1160, MA 1120
  - DATA 1201: Data Science Programming I
  - CS 1121: Introduction to Programming I
- Spring: CS 1122: Introduction to Programming II
  - MA 1160: Calculus 3
  - UN 1015: Composition 3

Year 2
- Fall: MA 1031 or MA 1032 or MA 1120
  - DATA 1202: Data Science Programming II
  - CS 1120 or MA 1120 or Placement based on test scores
- Spring: CS 2311: Discrete Structures
  - MA 2710: Intro to Statistical Analysis
  - MA 3720: Probability
- Fall: CS 2321: Data Structures
  - MA 3203: Introduction to Cryptography

Year 3
- Spring: CS 2311 or MA 3210 and CS 2321
  - DATA 2201: Foundations of Data Science
  - CLASS 112 or MA 1121 or MA 1125 or MA 1121
- Fall: DATA 1012 or CS 1112 or MA 2301 or MA 2300 or MA 2301
  - DATA Elective: Communication, Context, and Ethics Viz/UX
  - SAT 2711: Linux Fundamentals
  - DATA 3801: Foundations of Machine Learning

Year 4
- Spring: DATA 3401: Data Engineering
  - CS 1122 or CS 1131
  - SAT 2711 or CS 1111 or CS 1142 or CS 2100

- Fall: DATA 4812: Cybersecurity II
  - MA 1120 or MA 1160 or MA 1121
  - MA 1160 or MA 1161 or MA 1121
- Spring: Social and Behavioral Science HASS
  - DATA Elective: Machine Learning or Artificial Intelligence 3
  - SAT 2711 or CS 1111 or CS 1142 or CS 2100

- Fall: Social and Behavioral Science HASS
  - SAT 2711 or CS 1111 or CS 1142 or CS 2100
- Spring: Critical and Creative Thinking HASS
  - Lab Science 4
  - Communication/Composition 3

Total Academic Credits: 120
Total co-curricular: 3 credits

This is an example of one path toward your degree, but there are other options. Please check the link below to see more information and options.
If you have any questions regarding this program please email the academic advisor for the program at swyeth@mtu.edu

BS DATA SCIENCE 2023-2024

CORE REQUIREMENTS  55-57 Credits

- CS 1121 (3) and CS1122 (3) or CS 1131 (5)
- CS 23211 (3) or MA 3210 (3)
- CS 2321 (3)
- CS 3425 (3) or SAT 3210 (3)
- CS 4321 (3)
- MA 1160 (4)
- MA 2320 (2) or MA 2330 (3)
- MA 2710 (3)
- MA 3720 (3)
- MA 3740 (3) or MA 4710 (3) or MA 4790 (3)
- DATA 1201 (2)
- DATA 1202 (3)
- DATA 2201 (3)
- DATA 3801 (3)
- DATA 3401 (3)
- DATA 4891
- HU 2645 (3) or MIS 3500 (3) or DATA 2600
- CS 3000 (3) or SAT 1700 (3) or D 3000 (3)

Free Electives: 5 to 7 credits
Any coursework is allowable, including co-curricular and coursework below the 1000 level.

Cybersecurity
- Select 0-2 course(s) if needed
  - CS 3712 (3)
  - CS 4471 (3)
  - CS 4710 (3)
  - MIS 4200 (3)
  - SAT 2711 (3)
  - SAT 3310 (3)

DATA SCIENCE ELECTIVES  12 credits
Up to 6 credits in Data Science Electives can be 2000-3000 level
Select one course from a list of Machine Learning/Artificial Intelligence related topics:
  - CS 4811 (3)
  - CS 4821 (3) or CS 5831 (3)
  - CS 5811 (3)
  - CS 5821 (3)
  - CS 5841 (3)
  - EET 4501 (3)
Select three remaining courses from below or any course above not already used:
  - CS 3141, CS 4001, CS 4471, CS 4760, MA 2600, MA 3740, MA 4330, MA 4710, MA 4720, MA 4760, MA 4770, MA 4780/5780, MA 4790/5790, SAT 2711, SAT 3310, SAT 3812, SAT 4144, SAT 4283, SAT 5165, MIS 4000, MIS 4400

7 Credits Minimum
Complete two science courses in two different disciplines (BL, CH, KIP, FW, GE, PH, SS). At least one must include or be taken with the accompanying laboratory.

LAB SCIENCE REQUIREMENTS

Core Courses: 12 credits

Year One
  - UN 1015 (3)
  - UN 1025 or upper level modern language (3)

Year Two
  - Critical and Creative Thinking
  - Social Responsibility and Ethical Reasoning (3)

HASS: 12 credits, 6 of the 12 must be at the 3000-4000 level
  - Communication/Composition (minimum 3 credits)
  - Humanities and Fine Arts (minimum 3 credits)
  - Social and Behavioral Sciences (minimum 3 credits)
  - Any course from the General Education Core, HASS, or restricted HASS (0-3 credits)
  + Co-curricular Activities: 3 credits

See course catalog for prerequisites
Connect with your advisor @ www.mtu.edu/computing/undergraduate/advising

FOCUS AREA

GENERAL EDUCATION REQUIREMENTS