Michigan Technological University Bachelor of Science Degree Audit
Major Program: Data Science
Program Code: IDS, Academic Year 2024-2025
Total credits required for the degree: 120

Core Requirements: 53 to 57 credits

- CS 1121 (3) and CS 1122 (3)
  - or CS 1131 (5)
- CS 2311 (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) or MA 2720 (4) or MA 3710 (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 (3)
- HU 2645 (3) or MIS 3500 (3) or DATA 2600 (3)
- CS 3000 (3) or SAT 1700 (3) or DATA 3000 (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/AI 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

Lab Science Requirements: 7 credits minimum
Students must complete two science courses in two different disciplines (BL, CH, KIP, FW, GE, PH, SS) from the general education science course list; at least one of these must include or be taken with the accompanying laboratory. Find eligible courses on the General Education webpage.

Free Electives: 5 to 9 credits
Any coursework is allowable, excluding co-curricular and coursework below the 1000- level.

Focus Area: 15 credits
Choose a focus area below to complete

Software Engineering
- CS 1142 (3)

Choose 12 credits:
- CS 3311 (3)
- CS 3712 (3)
- CS 4710 (3)
- CS 4711 (3)
- CS 4760 (3)

Cybersecurity
- CS 1111 (3) or CS 1142 (3) or MIS 2100

Select two or more:
- CS 4471 (3)
- EE 4723 (3)
- MA 3203 (3)
- SAT 4812 (3)

Select one course if needed:
- CS 3712 (3)
- CS 4471 (3)
- CS 4710 (3)
- MIS 4200 (3)
- SAT 2711 (3)
- SAT 3310 (3)

Design your own Focus Area
Students can make a plan with their advisor and program director for a selection of 5 courses in their technical focus area, e.g., forestry, biology financial technology, physics, chemistry, engineering, etc.

Statistics
- MA 3740 (3)

Select two to three:
- MA 4710 (3)
- MA 4720 (3)
- MA 4730 (3)
- MA 4760 (3)
- MA 4770 (3)
- MA 4780 (3)
- MA 4790 (3)

Select one to two from below or above:
- MA 2600 (3)
- MA 3203 (3)
- MA 3310 (3)
- Any 4000-level Math course

Business Technology
- MIS 2000 (3)
- MIS 3100 (3)
- MIS 3200 (3)

Select two courses from one area:

Usability and Human Factors in IT Design
MIS 2200, MIS 3500, HU 2642, HU 3120, HU 4628, HF 3850, HF 4015

Systems Thinking for Design
MIS 3500, MIS 4000

Data and IT
MIS 4400, MIS 4000, MA 2330, MA 3740

General Education Core, Humanities, Fine Arts, and Social Science (HASS) Requirements: 24 credits

Courses used to complete Core and HASS requirements may not be used to complete other degree requirements. Students must complete 12 credits of Core coursework and 12 credits of Humanities, Fine Arts, and Social Science (HASS) coursework. Repeatable courses may not be repeated for general education credit. Core and HASS courses can be found on the General Education page.

Core: 12 credits
- UN 1015 (3)
- UN 1025 or an upper level modern language (3)
- Critical and Creative Thinking (3)
- Social Responsibility and Ethical Reasoning (3)

HASS: 12 credits, six of the 12 credits must be at the 3000- or 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 course list (0 to 3 credits)

Co-curricular Activities: 3 credits

Required for graduation, but not included in the GPA calculation or in the overall credits required for the degree. Only courses on the co-curricular course list are eligible. Half (0.5) credit courses may be repeated to a maximum of one time for co-curricular credit. Find eligible courses on the General Education page.