General Education: Science, Technology, Engineering and Mathematics (STEM)
15 credits required: 4 credits (minimum) from Mathematics & 7 credits (minimum) from Science 2017-2018

Students must take a minimum of 15 credits in STEM following these requirements:

- A minimum of 4 credits are required from the Mathematics list.
- Complete at least two courses in two different disciplines (different course prefixes) from the Science list:
  - Minimum of 7 Science credits required
  - At least one of the Science courses must include or be taken with the accompanying laboratory
- No more than 4 credits from the Restricted STEM list may be counted toward the STEM requirement.
- Some courses are on the STEM list and the HASS list, but each course can satisfy only one requirement.

Some degree programs specify some or all STEM requirements; students should check with their academic advisor for specific requirements.

Mathematics

- Minimum of 4 credits required

- BUS2300 Quantitative Problem Solving 3
- MA1020 Quantitative Literacy 4
- MA1030 College Algebra I and
- MA1031 College Algebra II with Trigonometry 6
- MA1032 Precalculus 4
- MA1135 Calculus for Life Sciences 4
- MA1160 Calculus with Technology I 4
- MA1161 Calculus Plus with Technology I 5
- MA2720 Statistical Methods 4
- MAA8888 Approved Math Elective (transfer credit only) var
- PSY2720 Statistics for the Behavioral Sciences 4
- SS4010 Social Statistics 3

Science

- At least two courses in two different disciplines are required; at least one must include or be taken with the accompanying laboratory.
- Courses or course-groups satisfying the laboratory requirement are designated by an asterisk (*).
- Minimum of 7 credits required

- BL1010* General Biology I 4
- BL1020* General Biology II (applies to Science list if student receives transfer credit for a first-semester Biology course; applies to Restricted STEM list if taken at Michigan Tech) 4
- BL1040* Principles of Biology 4
- BL2010* Anatomy & Physiology I (plus BL2011) 4
- BL2160* Botany 4
- BL2940 Human Nutrition 3
- BL3970 Current Health Issues 3
- BL4090 Tropical Island Biology 2
- BL9900 Approved Science — Biology (transfer credit only) var
- BLL9900* Approved Lab Sci — Biology (transfer credit only) var
- CH1112* University Chemistry — Studio Lab I 5
- CH1150* University Chemistry I (plus CH1151/1153) 4/5
- CH9900 Approved Science — Chemistry (transfer credit only) var
- CHL9900* Approved Lab Sci — Chemistry (transfer credit only) var
- EH3100* Exercise Assessment and Prescription 3

- EH3700* Lifetime Fitness 3
- FW1035* Wood Anatomy and Properties 4
- FW2010* Vegetation of North America 4
- FW3075 Introduction to Biotechnology 3
- FW3320 Fundamentals of Forest Genetics & Genomics 3
- FW3330* Soil Science 4
- FW3610* Ornithology 4
- FW3620 Field Ornithology 1
- FW4120 Tree Physiology 3
- FW4128 Conservation Genetics 3
- FW4220* Wetlands 4
- FW4240* Mammalogy 4
- FW4260* Population Ecology 3
- FW9900 Approved Sci — Forest/Env Sci (transfer credit only) var
- FWL9900* Approved Lab Sci — For/Env Sci (transfer credit only) var
- GE2000* Understanding the Earth 3
- GE9900 Approved Science — Geology (transfer credit only) var
- GEL9900* Approved Lab Sci — Geology (transfer credit only) var
- PH1090* The Physics Behind Music (plus PH1091**) 4
- PH1110* College Physics I (plus PH1111) 4
- PH1140* Applied College Physics I (plus PH1141) 4
- PH1160* Honors Physics I-Mechanics (plus PH1161 or PH1100) 5
- PH1600* Introductory Astronomy (plus PH1610**) 3
- PH2100* University Physics I-Mechanics (plus PH1100) 4
- PH9900 Approved Science — Physics (transfer credit only) var
- PHL9900* Approved Lab Sci — Physics (transfer credit only) var
- SCI9900 Approved Science (transfer credit only) var
- SCIL9900* Approved Lab Science (transfer credit only) var

**This laboratory is optional with the associated course. If the laboratory is not taken, the associated course can count as a Science course, but it will not satisfy the laboratory portion of the requirement.

Restricted STEM

- No more than 4 credits
- No course may count in a degree audit toward both STEM and HASS requirements

- BL1020 General Biology II 4
- CH1122 University Chemistry Studio Laboratory II *** 5
- CH1160 University Chemistry II (plus CH1161/1163) *** 4/5
- CMG1000 Introduction to Construction Management 3
- CS1121 Introduction to Programming I 3
- CS1122 Introduction to Programming II 3
- CS1131 Accelerated Introduction to Programming *** 5
- CS1142 Programming at the Hardware Software Interface 3
- EC3002 Microeconomic Theory 3
- EC4050 Game Theory/Strategic Behavior 3
- EC4100 Mathematical Economics 3
- EC4200 Econometrics 3
- EET1120 Circuits I 4
- EET1411 Basic Electronics 4
- EH1500 Foundations of Kinesiology 3
- ENGl001 Engineering Problem Solving 2
- ENGl003 Introduction to Computer Aided Drafting 1
- ENGl100 Engineering Analysis 2
- ENGl101 Engineering Analysis and Problem Solving 3
ENG1102  Engineering Modeling and Design  3  
FA2701  Drafting for the Entertainment Industry  3  
FA4740  Transducer Theory  3  
FA4741  Transducer Theory Lab  1  
HU3700  Philosophy of Science  3  
HU3701  Philosophy of Technology  3  
MIS2100  Introduction to Business Programming  3  
PH1210  College Physics II (plus PH1200)  4  
PH1360  Honors Physics II (plus PH1361)  3  
PSY3060  Physiological Psychology  3  
SAT1700  Cyber Ethics  3  
SS2200  Introduction to Archaeology  3  
SS3210  Field Archaeology  var  
SS3230  Archaeology of Industry  3  
SS3250  Biological Anthropology  3  
SS3510  History of American Technology  3  
SS3511  History of Science in America  3  
SS3580  Technology and Western Civilization  3  
SS3820  Ethical, Legal, and Societal Implications (ELSI) of Nanotechnology  3  
SS4009  Survey Methods  3  
SS4050  GIS Applications for Social Science  3  

***A maximum of 4 credits will count toward STEM requirements

Any course at the 2000-level or higher in the following STEM disciplines (with the exception of BE2100):
Biological Sciences (BL), Chemistry (CH), Computer Science (CS),
Engineering (BE, CE, CEE, CM, EE, ENG, ENVE, GE, MEEM, MY, SSE), Forest Resources and Environmental Science (FW),
Geological Sciences (GE), Mathematics (MA), Physics (PH),
Technology (EET, MET, SAT, SU, TE)

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