**LYMAN BRIGGS COLLEGE**
*Kendra Spence Cheruvelil,* DEAN

The Lyman Briggs College is a residential college that bridges the science and humanities through interdisciplinary teaching and research. It provides students with a fundamental core science education in mathematics, chemistry, biology, and physics. Additionally, the core program addresses historical, philosophical, and societal concerns and consequences of modern science, technology, the environment, and medicine. Advanced undergraduate courses in the student's major are taken in the respective departmental units of the College of Natural Science, College of Engineering, College of Agriculture and Natural Resources, and the University at large. The majority of Lyman Briggs students pursue programs leading to advanced graduate study in the natural sciences, or professional programs related to medicine, dentistry, veterinary medicine, allied health, education or law. Many other students plan to enter careers in teaching at the secondary level, science writing, product representation, industry, or government service upon completion of their Bachelor of Science degree.

As a residential college, Lyman Briggs College has classrooms, laboratories, faculty offices, academic advisor offices, and administrative offices located in Holmes Hall, where all first year and many upper-level Lyman Briggs students live and learn. Because of this residential organization, students are able to develop a strong living-learning community identity by integrating academic and personal development, with faculty, staff and their peers in residence. Students are encouraged to balance their academic lives with social, cultural, athletic, service-learning, and leadership opportunities on campus and in the greater East Lansing community.

Students admitted to Michigan State University are admissible to Lyman Briggs College based initially on application date. There are no additional academic or program requirements for freshman admissions. Enrollment in the college is limited; therefore students are encouraged to apply early. Applicants should indicate their intention to become a part of the Lyman Briggs College on the Michigan State University Application for Admissions. If a student has already submitted an application and would like to apply to Lyman Briggs College, she/he should contact the Office of Admissions directly as early as possible.

Students work closely with their academic advisors and faculty in developing an individualized academic plan. All students enter the program as 'no major' status and may declare a major as early as summer orientation or by the time they have earned 56 credit hours.

Lyman Briggs College offers two minors: Bioethics; and History, Philosophy and Sociology of Science. Lyman Briggs College also participates in two minors: Entrepreneurship and Innovation; and Science, Technology, Environment, and Public Policy.

Students who are enrolled in the environmental biology/microbiology and microbiology coordinate majors in Lyman Briggs College may elect the Minor in Food Processing and Technology. For additional information, refer to the *Minor in Food Processing and Technology* statement in the *Department of Food Science and Human Nutrition* statement in the *College of Agriculture and Natural Resources* section of this catalog.

### Admission as a Freshman to Lyman Briggs College

Any student who meets the general requirements for admission to the university as shown in the Undergraduate Education section of this catalog may enroll in Lyman Briggs College, pending available space.

### Transfer Students

All students in good academic standing in Lyman Briggs College may transfer at any time to other programs at Michigan State University for which they are eligible, in order to accommodate changing academic needs and interests.

Students who wish to transfer into Lyman Briggs College should contact the Student Success and Advising Office to discuss with a recruiter. Space in Lyman Briggs College is limited.

## UNDERGRADUATE PROGRAM

The Lyman Briggs College program leads to the Bachelor of Science Degree.

### Requirements for the Bachelor of Science Degree in Lyman Briggs College

1. The University requirements for bachelor's degrees as described in the Undergraduate Education section of this University catalog; 120 credits, including general elective credits, are required for the Bachelor of Science degree in Lyman Briggs College.

   Students who are enrolled in Lyman Briggs College may complete the alternative track to Integrative Studies in Biological and Physical Sciences that is described in item 1. under the heading Graduation Requirements in the College statement. Certain courses referenced in requirement 3. below are equivalent to courses in the alternative track and, therefore, may be used to satisfy the alternative track.

   The completion of the Lyman Briggs College mathematics and statistics requirement [referenced in item 3.c.(4) below] may also satisfy the University mathematics requirement.

   The completion of Lyman Briggs 133 or one of the approved alternatives [referenced in requirement 3.a.(5)(a) below] may also be counted toward the University Tier I writing requirement.

   The University's Tier II writing requirement for the Major and Coordinate Majors in Lyman Briggs College is met by completing Lyman Briggs College 492 and one of the following courses: Lyman Briggs College 321A, 321B, 322A, 322B, 323A, 323B, 324A, 324B, 325A, 325B, 326A, 326B, 327A, or 327B. Those courses are referenced in items 3. a. (5) and 3. a. (6) below.
2. The requirements of Lyman Briggs College for the Bachelor of Science degree, referenced in item 3. a. below.

   The credits earned in certain courses referenced in requirement 3. below may be counted toward College requirements as appropriate.
3. The following requirements of Lyman Briggs College for the Bachelor of Science degree:

| | | CREDITS |
|---|---|---|
| a. | CORE PROGRAM | 48 to 57 |

(1) **Biology**: One of the following **groups** of courses (8 to 10 credits):
- (a) Lyman Briggs 144, 145.
- (b) Biological Science 181H, 191H, 182H, 192H.
- (c) Biological Science 161, 171, 162, 172.

(2) **Chemistry**: One of the following **groups** of courses (8 to 10 credits):
- (a) Lyman Briggs 171, 171L, 172, 172L.
- (b) Lyman Briggs 171, 171L; Chemistry 143
- (c) Lyman Briggs 171, 171L; Chemistry 251.
- (d) Chemistry 141, 142, 161.
- (e) Chemistry 141, 143, 161.
- (f) Chemistry 141, 161, 251.
- (g) Chemistry 151, 152, 161.
- (h) Chemistry 181H, 182H, 185H.

(3) **Mathematics and Statistics**: One of the following **groups** of courses (6 to 8 credits):
- (a) Lyman Briggs 118, 119.
- (b) Lyman Briggs 118; Statistics and Probability 231.

(c) Mathematics 132, 133.
(d) Mathematics 132; Statistics and Probability 231.
(e) Mathematics 152H, 153H.

(4) **Physics**: One of the following **groups** of courses (8 to10 credits):
(a) Lyman Briggs 273, 274.
(b) Physics 231, 232, 251, 252.
(c) Physics 183, 184, 191, 192.
(d) Physics 183B, 184B, 191, 192.
(e) Physics 191, 192, 193H, 294H.

(5) **Science and Society**: A total of 11 or 12 credits from the courses in **groups** (a), (b), and (c) below.
(a) One of the following courses: Lyman Briggs 133; Writing, Rhetoric and American Cultures 101.
(b) One of the following courses: Lyman Briggs 321A, 322A, 323A, 324A, 325A, 326A, 327A.
(c) One of the following courses: Lyman Briggs 321B, 322B, 323B, 324B, 325B, 326B, 327B.

(6) **Senior Seminar**: Lyman Briggs 492 (4 credits).

b. MAJOR or COORDINATE MAJOR.

Each student must complete the requirements of a Major or a Coordinate Major. The Major or Coordinate Major must be chosen from the lists of options below. Both the Major or Coordinate Major and the related courses must be approved by the student's academic advisor. With the approval of the appropriate Lyman Briggs College Curriculum Coordinator or Undergraduate Director, courses other than those that are listed as requirements for a Major or Coordinate Major may be used to satisfy degree requirements.

**Majors**:
Biology
Computer Science
Environmental Science and Management
Physical Science
Science and Society

**Coordinate Majors**:

(1) College of Agriculture and Natural Resources:
Animal Science
Entomology
Fisheries and Wildlife
Food Science
Forestry

(2) College of Engineering:
Computer Science
Students are admitted to this Coordinate Major after they have reached junior standing and have met certain other requirements specified by Lyman Briggs College .

(3) College of Natural Science:
Actuarial Science
Astrophysics
Biochemistry and Molecular Biology
Biochemistry/Biotechnology
Biological Science—Secondary Education
Biomedical Laboratory Science
Chemical Physics
Chemistry
Computational Chemistry
Computational Mathematics
Data Science
Environmental Biology/Microbiology
Environmental Biology/Plant Biology
Environmental Biology/Zoology
Environmental Geosciences
Genomics and Molecular Genetics
Geological Sciences
Human Biology
Integrated Science-Secondary Education
Mathematics
Mathematics, Advanced
Microbiology
Neuroscience
Nutritional Sciences
Physical Science—Secondary Education
Physics
Physiology
Plant Biology
Statistics
Zoology

**Majors**

| | | CREDITS |
|---|---|---|
| 1. | **Biology** | 41 |

a. A minimum of 41 credits from the courses listed below including:

(1) *Organic Chemistry* (6 credits):
Both of the following courses:

| | | | |
|---|---|---|---|
| CEM | 251 | Organic Chemistry I | 3 |
| CEM | 252 | Organic Chemistry II | 3 |

(2) *Biochemistry* (4 to 6 credits):
One of the following, either (a) or (b):

| | | | | |
|---|---|---|---|---|
| (a) | BMB | 401 | Comprehensive Biochemistry | 4 |
| (b) | BMB | 461 | Advanced Biochemistry I | 3 |
| | BMB | 462 | Advanced Biochemistry II | 3 |

(3) *Advanced Experiential Biology* (6 credits):
The following course:

| | | | |
|---|---|---|---|
| LB | 348 | Research Experiences in Biology | 3 |

At least 3 credits from the following:

| | | | |
|---|---|---|---|
| LB | 490B | Advanced Directed Study – Biology | 1 to 4 |
| LB | 493 | Field Experience | 1 to 4 |
| LB | 494 | Undergraduate Research | 1 to 4 |

Other courses as approved by advisor.

(4) *Integrative Biology* (16 credits):
All of the following courses:

| | | | |
|---|---|---|---|
| IBIO | 341 | Fundamental Genetics | 4 |
| IBIO | 355 | Ecology | 3 |
| IBIO | 445 | Evolution (W) | 3 |
| MMG | 301 | Introductory Microbiology | 3 |
| MMG | 409 | Eukaryotic Cell Biology | 3 |

(5) *Organismal Diversity* (3 or 4 credits):
One of the following courses:

| | | | |
|---|---|---|---|
| ENT | 404 | Fundamentals of Entomology | 3 |
| ENT | 422 | Aquatic Entomology | 3 |
| ENT | 470 | General Nematology | 3 |
| FW | 471 | Icthyology | 4 |
| IBIO | 306 | Invertebrate Biology | 4 |
| IBIO | 328 | Comparative Anatomy and Biology of Vertebrates (W) | 4 |
| IBIO | 360 | Biology of Birds | 4 |
| IBIO | 365 | Biology of Mammals | 4 |
| IBIO | 384 | Biology of Amphibians and Reptiles (W) | 4 |
| PLB | 402 | Biology of Fungi | 4 |
| PLB | 418 | Plant Systematics | 3 |
| PLB | 424 | Algal Biology | 4 |

Other courses as approved by advisor.

(6) *Ecology, Evolution, and Behavioral Biology* (3 or 4 credits):
One of the following courses:

| | | | |
|---|---|---|---|
| CSS | 442 | Agricultural Ecology | 3 |
| FW | 417 | Wetland Ecology and Management | 3 |
| FW | 420 | Stream Ecology | 3 |
| FW | 431 | Ecophysiology and Toxicology of Fishes | 3 |
| FW | 439 | Conservation Ethics | 3 |
| FW | 444 | Conservation Biology | 3 |
| FW | 463 | Wildlife Disease Ecology | 3 |
| FW | 472 | Limnology | 3 |
| GLG | 434 | Evolutionary Paleobiology | 4 |
| IBIO | 303 | Oceanography | 4 |
| IBIO | 313 | Animal Behavior | 3 |
| IBIO | 415 | Ecological Aspects of Animal Behavior (W) | 3 |
| IBIO | 440 | Field Ecology and Evolution | 4 |
| MMG | 425 | Microbial Ecology | 3 |
| PLB | 441 | Plant Ecology | 3 |
| PLB | 443 | Restoration Ecology | 3 |

(7) *Cellular and Molecular Biology* (3 or 4 credits):
One of the following courses:

| | | | |
|---|---|---|---|
| FSC | 440 | Food Microbiology | 3 |
| IBIO | 320 | Developmental Biology | 4 |
| IBIO | 408 | Histology | 4 |
| IBIO | 425 | Cells and Development (W) | 4 |
| MMG | 404 | Human Genetics | 3 |
| MMG | 413 | Virology | 3 |
| MMG | 421 | Prokaryotic Cell Physiology | 3 |
| MMG | 425 | Microbial Ecology | 3 |
| MMG | 431 | Microbial Genetics | 3 |
| MMG | 433 | Microbial Genomics | 3 |
| MMG | 445 | Microbial Biotechnology (W) | 3 |
| MMG | 451 | Immunology | 3 |
| MMG | 461 | Molecular Pathogenesis | 3 |
| MMG | 463 | Medical Microbiology | 3 |
| PSL | 310 | Physiology for Pre-Health Professionals | 4 |
| PSL | 431 | Human Physiology I | 4 |

Other courses as approved by advisor.

2. **Computer Science** 30
   a. A minimum of 37 credits from the courses listed below including:
      (1) All of the following courses (28 credits):
      CSE 231 Introduction to Programming I 4
      CSE 232 Introduction to Programming II 4
      CSE 260 Discrete Structures in Computer Science 4
      CSE 320 Computer Organization and Architecture 3
      CSE 325 Computer System 3
      CSE 331 Algorithms and Data Structures 3
      CSE 335 Objected-oriented Software Design 4
      MTH 314 Matrix Algebra with Computational Applications 3
      (2) Computer Science Electives
      Complete one of the following concentrations (9 credits):
      (a) **Systems** - Three of the following courses:
      CSE 410 Operating Systems 3
      CSE 415 Introduction to Parallel Computing 3
      CSE 422 Computer Networks 3
      CSE 450 Translation Programming Languages 3
      CSE 480 Database Systems 3
      (b) **Intelligent Systems** - Three of the following courses:
      CSE 402 Biometrics and Pattern Recognition 3
      CSE 404 Introduction to Machine Learning 3
      CSE 440 Introduction to Artificial Intelligence 3
      CSE 482 Big Data Analysis 3
      (c) **Media** - Three of the following courses:
      CSE 471 Media Processing and Multimedia Computing 3
      CSE 472 Computer Graphics 3
      CSE 476 Mobile Application Development 3
      CSE 477 Web Application Architecture and Development 3
      (d) **Security** - Three of the following courses:
      CSE 425 Introduction to Computer Security 3
      CSE 410 Operating Systems 3
      CSE 422 Computer Networks 3
      (3) **Ethics Requirement** - One of the following courses:
      LB 322A Advances in Science and Technology - Arts and Humanities (W) 4
      LB 322B Advances in Science and Technology - Social Sciences (W) 4
      The completion of LB 322A or LB 322B satisfies the ethics requirement for the major, but cannot be counted toward the Lyman Briggs College requirement.
3. **Environmental Sciences and Management** 41
   a. A minimum of 41 credits from the courses listed below including:
      (1) One of the following groups of courses (8 or 10 credits):
      (a) LB 118 Calculus I 5
      STT 231 Statistics for Scientists 3
      (b) MTH 132 Calculus I 3
      MTH 133 Calculus II 4
      STT 231 Statistics for Scientists 3
      (2) One course from each of the following 7 areas (24 to 26 credits):
      (a) Ecology:
      ZOL 355 Ecology 3
      ZOL 355L Ecology Laboratory 1
      (b) Geology:
      GLG 201 The Dynamic Earth 4
      (c) Taxonomy or Phylogenetic Biology:
      ENT 404 Fundamentals of Entomology 4
      PLB 418 Plant Systematics 3
      ZOL 306 Invertebrate Biology 4
      (d) Biochemistry:
      BMB 401 Basic Biochemistry 4
      (e) Aquatic Systems:
      FW 420 Stream Ecology 3
      (f) Microbiology:
      MMG 301 Introductory Microbiology 3
      (g) Economics:
      EC 201 Introduction to Microeconomics 3
      (3) One course from each of the following three groups (9 to 11 credits):
      (a) FOR 464 Forest Resource Economics (W) 3
      SOC 452 Environment and Society 3
      (b) FW 424 Population Analysis and Management 4
      FW 444 Conservation Biology 3
      (c) FW 410 Upland Ecosystem Management 3
      FW 417 Wetland Ecology and Management 3
      Students who elect Sociology 452 must also complete Sociology 452L to meet requirement 4. a. (3) (a).
4. **Physical Science** 31
   a. A minimum of 31 credits from the courses listed below including:
      (1) The following course:
      LB 220 Calculus III 4
      (2) At least 27 credits in chemistry courses, in physics courses, or in chemistry and physics courses approved by the student's academic advisor. At least 20 of the 27 credits must be in courses at the 300 level or above, and at least 14 of the 27 credits must be in either chemistry courses or physics courses and must meet the conditions specified below:
      For students who elect to complete at least 14 credits in chemistry courses, at least 4 of the 14 credits must be laboratory credits at the 300–400 level.
      For students who elect to complete at least 14 credits in physics courses, at least 6 of the 14 credits must be in modern physics, and at least 3 of the 14 credits must be laboratory credits.
5. **Science and Society** 24
   A minimum of 24 credits in 300–400 level courses chosen from the following with Science and Society content approved by the student's academic advisor. Courses used to fulfill the Lyman Briggs College graduation requirements and LB 492 may not be used to fulfill these requirements. A minimum of four courses from Lyman Briggs must be selected. Additional courses outside of Lyman Briggs may be used with advisor approval.

| | | | |
|---|---|---|---|
| CSUS | 310 | History of Environmental Thought and Sustainability | 3 |
| CSUS | 463 | Food Fight: Politics of Food | 3 |
| CSUS | 464 | Environmental and Natural Resource Policy in Michigan | 3 |
| ENG | 473A | Literature and Medicine | 3 |
| FW | 439 | Conservation Ethics | 3 |
| GEO | 435 | Geography of Health and Disease | 3 |
| HST | 420 | History of Sexuality since the 18th Century | 3 |
| HST | 425 | American and European Health Care since 1800 | 4 |
| HRT | 486 | Biotechnology in Agriculture: Applications and Ethical Issues | 3 |
| IBIO | 446 | Environmental Issues and Public Policy | 3 |
| LB | 304 | Lesbian, Gay, Bisexual, Transgender, Queer (LGBTQ) and Sexuality Studies | 3 |
| LB | 321A | Science and the Public- Arts and Humanities (W) | 4 |
| LB | 321B | Science and the Public- Social Sciences (W) | 4 |
| LB | 322A | Advances in Science and Technology- Arts and Humanities (W) | 4 |
| LB | 322B | Advances in Science and Technology- Social Sciences (W) | 4 |
| LB | 323A | Science in a Global Context- Arts and Humanities (W) | 4 |
| LB | 323B | Science in a Global Context- Social Sciences (W) | 4 |
| LB | 324A | Science and Sex, Gender, Sexuality- Arts and Humanities (W) | 4 |
| LB | 324B | Science and Sex, Gender, Sexuality- Social Sciences (W) | 4 |
| LB | 325A | Science and the Environment- Arts and Humanities (W) | 4 |
| LB | 325B | Science and the Environment- Social Sciences (W) | 4 |
| LB | 326A | Medicine and Health- Arts and Humanities (W) | 4 |
| LB | 326B | Medicine and Health- Social Sciences (W) | 4 |
| LB | 327A | Scientific Practice- Arts and Humanities (W) | 4 |
| LB | 327B | Scientific Practice- Social Sciences (W) | 4 |
| LB | 490E | Advanced Directed Study- Science and Society (W) | 1 to 4 |
| MC | 351 | Science and Social Policy | 4 |
| PHL | 380 | Nature of Science | 3 |
| PHL | 462 | Philosophy of Mind | 3 |
| PHL | 480 | Philosophy of Science | 4 |
| SOC | 368 | Science, Technology, and Society | 4 |
| SOC | 452 | Advanced Seminar in Environmental Sociology | 3 |
| SOC | 475 | Health and Society | 3 |

## *MINOR IN BIOETHICS*

The Minor in Bioethics, which is administered by Lyman Briggs College, is available as an elective to students who are enrolled in bachelor's degree programs at Michigan State University. The minor is designed to prepare students to engage with the evolving set of ethical issues in biomedicine that they will encounter in their careers or their daily lives. The minor's interdisciplinary character fosters students' abilities to understand and question health care systems from a wide variety of intellectual viewpoints. Such interdisciplinary study also promotes communication across disciplinary boundaries.

Students wishing to pursue careers in health-related fields may find the minor particularly appealing. In addition, students pursuing academic programs outside health-related fields often find that the minor complements their major. With the approval of the department and college that administer the student's degree program, the courses that are used to satisfy the requirements for the minor may also be used to satisfy the requirements for the bachelor's degree.

### Requirements for the Minor in Bioethics

| | | | | CREDITS |
|---|---|---|---|---|
| 1. | Both of the following courses (3 credits): | | | |
| | LB | 240 | Bioethics: Theories and Methods | 2 |
| | LB | 440 | Bioethics Capstone | 1 |
| 2. | Complete 15 credits from at least four courses. No more than 8 credits may be from the same discipline. Students should work with the advisor for appropriate substitution requests. | | | |
| | ANP | 270 | Women and Health: Anthropological and International Perspectives | 3 |
| | ANP | 370 | Culture, Health, and Illness | 3 |
| | ANP | 423 | Psychological Anthropology | 3 |
| | ANP | 425 | Issues in Medical Anthropology | 3 |
| | ANP | 471 | The Anthropology of Alternative Medicine | 3 |
| | ANS | 427 | Environmental Toxicology and Society | 3 |
| | CEP | 470 | Disability in a Diverse Society | 3 |
| | EC | 498 | Economics of Health Care (W) | 3 |
| | ENG | 473A | Literature and Medicine | 3 |
| | EPI | 390 | Disease in Society: An Introduction to Epidemiology and Public Health | 4 |
| | GEO | 435 | Geography of Health and Disease | 3 |
| | HNF | 375 | Community Nutrition | 3 |
| | HNF | 406 | Global Foods and Culture | 3 |
| | HST | 420 | History of Sexuality since 18th Century | 3 |
| | HST | 425 | American and European Health Care since 1800 | 4 |
| | KIN | 445 | Sport and Physical Activity in Society (W) | 3 |
| | LB | 324A | Science and Sex, Gender, Sexuality – Arts and Humanities (W) | 4 |
| | LB | 324B | Science and Sex, Gender, Sexuality – Social Sciences (W) | 4 |
| | LB | 326A | Medicine and Health – Arts and Humanities (W) | 4 |
| | LB | 326B | Medicine and Health – Social Sciences (W) | 4 |
| | LB | 355 | Philosophy of Technology (W) | 4 |
| | MC | 351 | Science and Social Policy | 4 |
| | PHL | 344 | Ethical Issues in Health Care | 4 |
| | PHL | 380 | Nature of Science | 3 |
| | PHL | 444 | Philosophical Issues in Biomedicine | 4 |
| | PHL | 480 | Philosophy of Science | 4 |
| | PHL | 485 | Philosophy of Social Science | 3 |
| | PSY | 280 | Abnormal Psychology | 3 |
| | PSY | 320 | Health Psychology | 3 |
| | REL | 385 | Religion, Health, and Healthcare | 3 |
| | SOC | 368 | Science, Technology and Society | 4 |
| | SOC | 451 | Dynamics of Population | 3 |
| | SOC | 475 | Health and Society | 3 |
| | SW | 472 | Social Work in Health Care | 3 |
| | WS | 304 | Lesbian, Gay, Bisexual, Transgender, Queer (LBGTQ) and Sexuality Studies | 3 |

## *MINOR IN SCIENCE AND SOCIETY*

The Minor in Science and Society, which is administered by Lyman Briggs College, is designed to increase students understanding of the epistemological foundations and ethical elements of science while learning more of the history of some areas of science and appreciating the complex ways that science is connected to other social institutions and practices.

The minor is available as an elective to students who are enrolled in a bachelor's degree program in Lyman Briggs College at Michigan State University. Students majoring in Science and Society in Lyman Briggs College are not eligible for the minor. With the approval of the college, the courses that are used to satisfy the minor may also be used to satisfy the requirements for the bachelor's degree.

Students who plan to complete the requirements for the minor should consult an undergraduate advisor in Lyman Briggs College.

### Requirements for the Minor in Science and Society

A minimum of 20 credits in 300–400 level courses chosen from the following with Science and Society content approved by the student's academic advisor. A minimum of three courses from Lyman Briggs must be selected. Additional courses outside of Lyman Briggs may be used with advisor approval.

| | | | CREDITS |
|---|---|---|---|
| CSUS | 310 | History of Environmental Thought and Sustainability | 3 |
| CSUS | 463 | Food Fight: Politics of Food | 3 |
| CSUS | 464 | Environmental and Natural Resource Policy in Michigan | 3 |
| ENG | 473A | Literature and Medicine | 3 |
| FW | 439 | Conservation Ethics | 3 |
| GEO | 435 | Geography of Health and Disease | 3 |
| HST | 420 | History of Sexuality since the 18th Century | 3 |
| HST | 425 | American and European Health Care since 1800 | 4 |
| HRT | 486 | Biotechnology in Agriculture: Applications and Ethical Issues | 3 |
| IBIO | 446 | Environmental Issues and Public Policy | 3 |
| LB | 304 | Lesbian, Gay, Bisexual, Transgender, Queer (LGBTQ) and Sexuality Studies | 3 |
| LB | 321A | Science and the Public- Arts and Humanities (W) | 4 |
| LB | 321B | Science and the Public- Social Sciences (W) | 4 |
| LB | 322A | Advances in Science and Technology- Arts and Humanities (W) | 4 |
| LB | 322B | Advances in Science and Technology- Social Sciences (W) | 4 |
| LB | 323A | Science in a Global Context- Arts and Humanities (W) | 4 |
| LB | 323B | Science in a Global Context- Social Sciences (W) | 4 |
| LB | 324A | Science and Sex, Gender, Sexuality- Arts and Humanities (W) | 4 |
| LB | 324B | Science and Sex, Gender, Sexuality- Social Sciences (W) | 4 |
| LB | 325A | Science and the Environment- Arts and Humanities (W) | 4 |
| LB | 325B | Science and the Environment- Social Sciences (W) | 4 |
| LB | 326A | Medicine and Health- Arts and Humanities (W) | 4 |
| LB | 326B | Medicine and Health- Social Sciences (W) | 4 |
| LB | 327A | Scientific Practice- Arts and Humanities (W) | 4 |
| LB | 327B | Scientific Practice- Social Sciences (W) | 4 |
| LB | 490E | Advanced Direct Study – Science and Society (W) | 1 to 4 |
| MC | 350 | Evolution and Society | 4 |
| MC | 351 | Science and Social Policy | 4 |
| PHL | 380 | Nature of Science | 3 |
| PHL | 462 | Philosophy of Mind | 3 |
| PHL | 480 | Philosophy of Science | 4 |
| SOC | 368 | Science, Technology, and Society | 4 |
| SOC | 452 | Advanced Seminar in Environmental Sociology | 3 |
| SOC | 475 | Health and Society | 3 |

## *LYMAN BRIGGS COLLEGE 3 + 4 OPTION*

Lyman Briggs College, in collaboration with the MSU College of Osteopathic Medicine, offers an opportunity for selected Lyman Briggs College students to earn a baccalaureate degree after satisfactory completion of a minimum of 90 credits at Michigan State University and a minimum of 30 credits through subsequent enrollment at the Michigan State University College of Osteopathic Medicine. Only students who matriculate as first-year students at Lyman Briggs College may pursue this option. Students interested in this option must be admissible to MSU and accepted into the Osteopathic Medical Scholars Program (OMSP).

Admission to the MSU College of Osteopathic Medicine component of this program is limited to a small number of students who complete the specified university and college requirements and who fulfill admission requirements for the MSU College of Osteopathic Medicine Doctor of Osteopathic Medicine program.

All students in this program will complete a minimum of 90 credits at Michigan State University in the Lyman Briggs College Biology major. The requirements for the program are as follows:

1. Completion of all the Michigan State University graduation requirements, including integrative studies and general education.
2. Completion of the Lyman Briggs College graduation requirements including mathematics, chemistry, biology, physics, and history, philosophy and sociology of science.
3. Be pursuing the curriculum for the Lyman Briggs College Biology major.
4. Completion of a minimum of 30 credits at the MSU College of Osteopathic Medicine in the preclerkship component of the Doctor of Osteopathic Medicine degree program.

Upon satisfactory completion of the specified 120 credits, students in this program will be eligible for the Bachelor of Science degree in Lyman Briggs College with a major in Biology.