

MICHIGAN STATE UNIVERSITY

Report of
THE UNIVERSITY COMMITTEE ON CURRICULUM
to the Faculty Senate
Actions by UCC
February 18, 2025

The effective date for new programs subject to Statewide Academic Program review is implemented in accordance with the Statewide Academic Program Review calendar.

MICHIGAN STATE UNIVERSITY
University Committee on Curriculum

February 18, 2025

TO: Faculty Senate

This report is prepared and distributed for the following purposes:

1. To report new academic programs, changes in academic programs, discontinuations of academic programs, new courses, permanent changes in courses, and deletions of courses.
2. To notify the initiating colleges, schools, and departments of approval by the University Committee on Curriculum of their requests for new academic programs, changes in academic programs, discontinuations of academic programs, new courses, permanent changes in courses, and deletions of courses.
3. To provide information to members of the faculty in each department about academic programs and courses in all colleges, departments, and schools of the University.

Reports of the University Committee on Curriculum to the Faculty Senate are organized as follows:

PART I - NEW ACADEMIC PROGRAMS AND PROGRAM CHANGES:

Organized by colleges in alphabetical order. For a given college, academic units are organized in alphabetical order. For a given academic unit, degrees, majors, and specializations are organized in alphabetical order.

PART II - NEW COURSES:¹

Organized by academic units in alphabetical order; All-University courses appear last. For a given academic unit, courses are organized according to the names associated with course subject codes, in alphabetical order. Courses with the same subject code are in numerical order.

PART III - COURSE CHANGES:¹

Organized by academic units in alphabetical order; All-University courses appear last. For a given academic unit, courses are organized according to the names associated with course subject codes, in alphabetical order. Courses with the same subject code are in numerical order.

Not all of the above categories, and not all of the colleges and academic units, will necessarily appear in any given Senate Report.

¹One or more of the abbreviations that follow may be included in a course entry:

- P: = Prerequisite monitored in SIS
- C: = Corequisite
- R: = Restriction
- RB: = Recommended background
- SA: = Semester Alias

MICHIGAN STATE UNIVERSITY

February 18, 2025

TO: Faculty Senate
FROM: University Committee on Curriculum
SUBJECT: New Academic Programs and Program Changes:
New Courses and Course Changes

PART I - NEW ACADEMIC PROGRAMS AND PROGRAM CHANGES

COLLEGE OF AGRICULTURE AND NATURAL RESOURCES

1. Change the requirements for the **Bachelor of Science** degree in **Agribusiness Management** in the Department of Agricultural, Food, and Resource Economics.
 - a. Under the heading **Requirements for the Bachelor of Science Degree in Agribusiness Management** replace item 3. with the following:
 - a. All of the following courses (38 credits):

AFRE 100	Economics and Management for the Bioeconomy	3
AFRE 130	Foundations of Agribusiness Management	3
AFRE 203	Data Analysis for Managerial Decision-Making	3
AFRE 206	World Food, Population and Poverty	3
AFRE 210	Professional Seminar in Agricultural, Food, and Resource Economics	1
AFRE 222	Sales for the Bioeconomy	3
AFRE 232	Commodity Marketing	3
AFRE 240	Product Marketing for the Bioeconomy	3
AFRE 265	Ecological Economics	3
AFRE 410	Advanced Professional Seminar in Agricultural Food and Resource Economics	1
AFRE 440	Food Marketing Management	3
AFRE 435	Financial Management for the Bioeconomy	3
EC 201	Introduction to Microeconomics	3
EC 202	Introduction to Macroeconomics	3
SCM 304	Survey of Supply Chain Management	3
 - b. Three of the following courses (9 credits):

AFRE 224	Information and Market Intelligence	3
AFRE 300	Public Policy Analysis	3
AFRE 315	Labor and Personnel Management	3
AFRE 322	Organizational Economics for the Bioeconomy	3
AFRE 327	International Agribusiness and Food Marketing	3
AFRE 330	Advanced Agribusiness Management	3
AFRE 432	Commodity Marketing	3
AFRE 445	Strategic Management for the Bioeconomy	3
AFRE 465	Corporate Environmental Management (W)	3
AFRE 490	Independent Study in Agricultural Food and Resource Economics	3
AFRE 493	Professional Internship in Agricultural Food and Resource Economics	3

A study abroad or independent study experience may also fulfill part of this requirement through enrollment in AFRE 490 with approval by the department.
Agricultural Food and Resource Economics 300, 330 or 432 may be used to fulfill requirement 3.b. if not used to fulfill requirement 3.d.
 - c. One of the following courses (3 credits):

AFRE 445	Strategic Management for the Bioeconomy (W)	3
AFRE 465	Corporate Environmental Management (W)	3
 - d. One of the following courses (3 credits):

AFRE 300	Public Policy Analysis	3
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- | | | | | |
|----|--|-----|---|---|
| | AFRE | 330 | Advanced Agribusiness Management | 3 |
| | AFRE | 432 | Commodity Marketing II | 3 |
| e. | One of the following courses (3 credits): | | | |
| | AFRE | 303 | Managerial Economics | 3 |
| | EC | 301 | Intermediate Microeconomics | 3 |
| f. | One of the following courses (3 or 4 credits): | | | |
| | STT | 200 | Statistical Methods | 3 |
| | STT | 201 | Statistical Methods | 4 |
| | STT | 315 | Introduction to Probability and Statistics for Business | 3 |
| g. | Complete 6 credits in sciences related to agricultural production and processing, as approved by the department. It is recommended that these credits be from the same discipline. | | | |

Effective Fall 2025.

2. Change the requirements for the **Minor in Agribusiness Management** in the Department of Agricultural, Food, and Resource Economics.
 - a. Under the heading **Requirements for the Minor in Agribusiness Management** replace the entire entry with the following:

The student must complete 15 credits from the following:

1. Both of the following courses (6 credits):

AFRE	100	Economics and Management for the Bioeconomy	3
AFRE	203	Data Analysis for Managerial Decision-Making	3
2. One of the following courses (3 credits):

AFRE	130	Foundations of Agribusiness Management	3
AFRE	232	Commodity Marketing	3
3. One of the following courses (3 credits):

AFRE	130	Foundations of Agribusiness Management	3
AFRE	222	Sales for the Bioeconomy	3
AFRE	232	Commodity Marketing	3
AFRE	300	Public Policy Analysis	3
AFRE	303	Managerial Economics	3
AFRE	322	Organizational Economics for the Bioeconomy	3
AFRE	327	International Agribusiness and Food Marketing	3
AFRE	330	Advanced Agribusiness Management	3
AFRE	432	Commodity Marketing	3
AFRE	435	Financial Management for the Bioeconomy	3
AFRE	490	Independent study in Agricultural Food and Resource Economics	3

Agricultural Food and Resource Economics 130 or 232 may be used to fulfill requirement 3. if not used to fulfill requirement 2.

Effective Fall 2025.

3. Change the requirements for the **Minor in Environmental Economics** in the Department of Agricultural, Food, and Resource Economics.
 - a. Under the heading **Requirements for the Minor in Environmental Economics** make the following changes:
 - (1) In item 1. update the title of AFRE 203 to 'Data Analysis for Managerial Decision-Making'.
 - (2) In item 3. update the title of FOR 419 to 'Applications of Geographic Information Systems to Natural Resources Management'.

Effective Fall 2025.

4. Change the requirements for the **Bachelor of Science** degree in **Environmental Economics and Management** in the Department of Agricultural, Food, and Resource Economics.

a. Under the heading **Requirements for the Bachelor of Science Degree in Environmental Economics and Management** make the following changes:

(1) In item 2., delete the following statement:

Students must achieve a grade of at least 2.0 or higher in AFRE courses referenced in items 3. a. and in all courses taken to fulfill requirements 3. b. and 3. c.

(2) In item 3. a. update the following course titles:

AFRE	100	Economics and Management for the Bioeconomy	3
AFRE	203	Data Analysis for Managerial Decision-Making	3
AFRE	222	Sales for the Bioeconomy	3
AFRE	240	Product Marketing for the Bioeconomy	3

(3) In item 3. b. update the following course titles:

AFRE	224	Information and Market Intelligence	3
AFRE	300	Public Policy Analysis	3
AFRE	315	Labor and Personnel Management	3
AFRE	322	Organizational Economics for the Bioeconomy	3
AFRE	327	International Agribusiness and Food Marketing	3
AFRE	435	Financial Management for the Bioeconomy	3
AFRE	445	Strategic Management for the Bioeconomy (W)	3

(4) In item 3. c. update the following course titles:

AFRE	435	Financial Management for the Bioeconomy	3
AFRE	445	Strategic Management for the Bioeconomy (W)	3

(5) In item 3. d. update the following course title:

AFRE	130	Foundations of Agribusiness Management	3
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Effective Fall 2025.

5. Change the requirements for **Bachelor of Science** degree in **Environmental Studies and Sustainability** in the Department of Community Sustainability.

a. Under the heading **Requirements for the Bachelor of Science Degree in Environmental Studies and Sustainability** make the following changes:

(1) In item 3. c. add the following course:

CSUS	492	Capstone in Community Sustainability	1
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(2) In item 3. g. delete the following course:

CSUS	431	Interpretation and Visitor Information Systems	3
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Effective Fall 2025.

6. Change the requirements for the **Bachelor of Science degree in Food Industry Management** in the Department of Agricultural, Food, and Resource Economics.

a. Under the heading **Requirements for the Bachelor of Science Degree in Food Industry Management** replace item 3. with the following:

- a. All of the following courses (38 credits):
- | | | |
|----------|---|---|
| AFRE 100 | Economics and Management for the Bioeconomy | 3 |
| AFRE 203 | Data Analysis for Managerial Decision-Making | 3 |
| AFRE 206 | World Food, Population and Poverty | 3 |
| AFRE 210 | Professional Seminar in Agricultural, Food, and Resource Economics | 1 |
| AFRE 222 | Sales for the Bioeconomy | 3 |
| AFRE 240 | Product Marketing for the Bioeconomy | 3 |
| AFRE 265 | Ecological Economics | 3 |
| AFRE 340 | Food Marketing Research and Analytics | 3 |
| AFRE 410 | Advanced Professional Seminar in Agricultural Food and Resource Economics | 1 |
| AFRE 440 | Food Marketing Management | 3 |
| AFRE 445 | Strategic Management for the Bioeconomy (W) | 3 |
| EC 201 | Introduction to Microeconomics | 3 |
| EC 202 | Introduction to Macroeconomics | 3 |
| SCM 304 | Survey of Supply Chain Management | 3 |
- b. Three of the following courses (9 credits):
- | | | |
|----------|---|---|
| AFRE 224 | Information and Market Intelligence | 3 |
| AFRE 232 | Commodity Marketing | 3 |
| AFRE 300 | Public Policy Analysis | 3 |
| AFRE 315 | Labor and Personnel Management | 3 |
| AFRE 322 | Organizational Economics for the Bioeconomy | 3 |
| AFRE 327 | International Agribusiness and Food Marketing | 3 |
| AFRE 435 | Financial Management for the Bioeconomy | 3 |
| AFRE 465 | Corporate Environmental Management (W) | 3 |
| AFRE 490 | Independent Study in Agricultural Food and Resource Economics | 3 |
| AFRE 493 | Professional Internship in Agricultural Food and Resource Economics | 3 |

A study abroad or independent study experience may also fulfill part of this requirement through enrollment in AFRE 490 with approval by the department.

Agricultural Food and Resource Economics 435 or 465 may be used to fulfill requirement 3.b. if not used to fulfill requirement 3.c.

- c. One of the following courses (3 credits):
- | | | |
|----------|---|---|
| AFRE 435 | Financial Management for the Bioeconomy | 3 |
| AFRE 465 | Corporate Environmental Management (W) | 3 |
- d. One of the following courses (3 credits):
- | | | |
|----------|--|---|
| ACC 201 | Principles of Financial Accounting | 3 |
| ACC 230 | Survey of Accounting Concepts | 3 |
| AFRE 130 | Foundations of Agribusiness Management | 3 |
| FI 320 | Introduction to Finance | 3 |
- e. One of the following courses (3 or 4 credits):
- | | | |
|---------|---|---|
| STT 200 | Statistical Methods | 3 |
| STT 201 | Statistical Methods | 4 |
| STT 315 | Introduction to Probability and Statistics for Business | 3 |
- f. One of the following courses (3 credits):
- | | | |
|----------|-----------------------------|---|
| AFRE 303 | Managerial Economics | 3 |
| EC 301 | Intermediate Microeconomics | 3 |
- g. Complete 6 credits in sciences related to food production and processing, as approved by the department. It is recommended that these credits be from the same discipline.

Effective Fall 2025.

7. Change the requirements for the **Minor in Food Industry Management** in the Department of Agricultural, Food, and Resource Economics.
- a. Under the heading **Requirements for the Minor in Food Industry Management** replace the entire entry with the following:

The student must complete 15 credits from the following:

1. All of the following courses (9 credits):

AFRE	100	Economics and Management for the Bioeconomy	3
AFRE	203	Data Analysis for Managerial Decision-Making	3
AFRE	240	Product Marketing for the Bioeconomy	3
 2. One of the following courses (3 credits):

AFRE	340	Food Marketing Research and Analytics	3
AFRE	440	Food Marketing Management	3
 3. One of the following courses (3 credits):

AFRE	222	Sales for the Bioeconomy	3
AFRE	300	Public Policy Analysis	3
AFRE	303	Managerial Economics	3
AFRE	322	Organizational Economics for the Bioeconomy	3
AFRE	327	International Agribusiness and Food Marketing	3
AFRE	340	Food Marketing Research and Analytics	3
AFRE	440	Food Marketing Management	3
AFRE	445	Strategic Management the Bioeconomy (W)	3
- AFRE 490 Independent study in Agricultural Food and Resource Economics 3
- Agricultural Food and Resource Economics 340 and 440 may be used to fulfill requirement 3. if not used to fulfill requirement 2.

Effective Fall 2025.

8. Change the name of the **Minor in Marine Ecosystem Management** in the Department of Fisheries and Wildlife to **Marine Biology and Ecosystem Management**.

Effective Fall 2025, no new students are to be admitted to the Minor in Marine Ecosystem Management. Effective Fall 2025, no students are to be readmitted to the Minor in Marine Ecosystem Management. Effective Fall 2025, coding for the Minor in Marine Ecosystem Management will be discontinued and the program will no longer be available in the Department of Fisheries and Wildlife. Effective Fall 2025, students admitted to the minor will be awarded a Minor in Marine Biology and Ecosystem Management.

9. Change the requirements in the **Minor in Marine Biology and Ecosystem Management** in the Department of Fisheries and Wildlife.

- a. Under the heading **Requirements for the Minor in Marine Biology and Ecosystem Management** replace the entire entry with the following:

The student must complete 15 credits from the following:

- | | | | CREDITS |
|---|-----|---|---------|
| Marine Biology and Ecosystem Management | | | |
| All of the following courses (12 credits): | | | |
| FW | 110 | Conservation and Management of Marine Resources | 3 |
| FW | 416 | Marine Ecology and Management | 3 |
| FW | 353 | Marine Biology | 3 |
| GLG | 303 | Oceanography | 3 |
| Experiential Learning in Marine Biology and Ecosystem Management | | | |
| The following course which must contain a marine emphasis (3 credits): | | | |
| FW | 494 | Marine Biology and Ecosystem Experience | 3 |

Effective Fall 2025.

COLLEGE OF ARTS AND LETTERS

1. Establish a **Bachelor of Arts** degree in **Korean** in the Department of Linguistics, Languages, and Cultures. The University Committee on Undergraduate Education (UCUE) recommended approval of this request at its November 7, 2024 meeting.

- a. **Background Information:**

The Korean Program has been an integral part of the Asian Studies curriculum in the Department of Linguistics, Languages, and Cultures (LiLaC) at MSU for nearly two decades. The Korean Program offers a full-fledged language program covering all levels of instruction (i.e., first through fourth year). The Korean Program has also offered Korean as a minor since Spring 2015.

Overall enrollment in the Korean Program has continued to increase with 218 students enrolled in the Korean Program for Academic Year 2022-2023. Furthermore, the number of students who have declared a minor in Korean has more than tripled based on data from the Office Registrar in March 2023.

The Korean Program awarded 73 minors between SS15 and FS22 and 15 minors in SS23 and US23.

Based on data collected in 2023 by the Big Ten Academic Alliance (BTAA) Korean Studies e-School administered by the Nam Center for Korean Studies at the University of Michigan, the number of enrollments in MSU's Korean minor was one of the highest in the BTAA. In addition, students minoring in Korean have continually asked that MSU create a Korean major. As the MLA detailed in their 2021 Enrollments in Languages other than English report, enrollment in Korean courses rose 38.3% nationally from 2016 to 2021.

With the healthy enrollments in the Korean minor and the robust interest in a Korean major demonstrated by undergraduate students at MSU, the Korean Program is expected to grow steadily in the foreseeable future.

Around the BTAA, Korean Studies has long been established as a formal program with a Korean major, including at peer institutions such as the Ohio State University, Pennsylvania State University, Indiana University, the University of Michigan, and the University of Illinois.

Against the backdrop of steadily increasing interest in Korean and increased enrollments in the Korean Program, the time is ripe to take the next step to formalize the Korean Studies Program at MSU by creating a major. Given the presence of committed faculty members in the Department of Linguistics, Languages, and Cultures, together with a number of faculty members across campus who teach courses with Korea-related content, there is sufficient demand and sufficient resources to expand the Korean Program to confer a major. A Korean major will enable students to further enrich their educational experience by taking Korean Studies elective courses in other disciplines, including Art, Art History and Design, Economics, History, International Relations, Political Science, and Religious Studies. A Korean major would combine the Korean Program's focus on language proficiency with a commitment to cultural literacy in Korean Studies.

The proposed major in the Korean Program will support MSU's mission and transformative journey to be a land-grant university. It embodies many of the key values outlined in MSU's Mission Statement and 2030 Strategic Plan.

While the Korean major will focus on functional language and cultural proficiencies, it is also critical for MSU's students to develop translanguaging and transcultural competencies. With new courses on Korean norms and values, cultural history, and language and society, the Korean major will equip students with such competencies, preparing them to contribute to national and international communities.

Furthermore, the Asian Studies Center's Title VI grant has supported the development of the Korean major. Benefits of a new Korean major extend beyond LiLaC and the College of Arts and Letters:

The new major will demonstrate MSU's growing strength in Asian Studies, enabling the Asian Studies Center to make a stronger case for renewed Title VI funding for the 2027-30 grant cycle. This grant is valued at between \$2 and \$2.5 million over four years.

It will give MSU greater standing vis-à-vis funding agencies, including the Korea Foundation, whose mission it is, in part, to support the development of Korea-related programs in US institutions of higher education.

Given Korea's global economic position and its cultural, historical, and intellectual connections with other major East Asian countries (China, Japan, and Taiwan), the Korean Program will expand the current intellectual networks for Asian Studies at MSU. This synergy will have a positive impact on MSU's increased focus on China and Chinese Studies, our historical strength in Japanese Studies, and our nascent but rapidly growing interest in Taiwan Studies.

The establishment of the major will also send a strong signal of MSU's commitment to Korean Studies to MSU's Korea affiliated supporters in the U.S. and Korea, such as the Council on Korean Studies (a Korean community organization in the greater Lansing area) and the MSU Alumni Organization in Korea. A Korean major could translate into greater contributions from these important, sizeable, and loyal communities to further develop and expand the proposed program. This support would, in turn, strengthen the existing linkages between MSU and external supporters, both locally and globally.

b. Academic Programs Catalog Text:

The Bachelor of Arts Degree in Korean equips students with linguistic proficiencies in the Korean language and cultural literacy about Korea and its place in the world. Students gain global cultural understanding, develop communication skills, and think analytically about language and cultural products. The major provides the requisite skills and cultural competency for students to participate in education abroad programs, internships, student organizations, and experiential learning opportunities through which they can practice the language and deepen their cultural understanding while becoming conversant with digital technologies as an integrated part of their academic training in preparation for careers beyond MSU.

Requirements for the Bachelor of Arts Degree in Korean

- | | | CREDITS |
|----|---|---------|
| 1. | The University requirements for bachelor's degrees as described in the <i>Undergraduate Education</i> section of this catalog; 120 credits, including general elective credits, are required for the Bachelor of Arts Degree in Korean. | |
| | The University's Tier II writing requirement for the Korean major is met by completing KOR 402 or 461. Those courses are referenced in item 3. a. below. | |
| | The requirements of the College of Arts and Letters for the Bachelor of Arts degree. | |
| 2. | The following requirements for the major: | |
| | a. All of the following courses (19 credits): | |
| | KOR 202 Intermediate Korean II | 4 |
| | KOR 301 Intermediate-High Korean I | 3 |
| | KOR 302 Intermediate-High Korean II | 3 |
| | KOR 401 Advanced Korean I | 3 |
| | KOR 402 Advanced Korean II | 3 |
| | KOR 461 Korean Culture (W) | 3 |
| | Students who place out of any of these courses may take additional electives from category 3.b. below to make up the required number of credits in 3. a. Students may also take KOR 290 to meet the 3.a. requirement. Course work used to meet the 3.a. requirement must be approved by the student's academic advisor. | |
| | b. Four of the following courses, of which 6 credits must be in KOR (12 credits): | |
| | ASN 291 Special Topics in Asian Languages | 3 |
| | HST 209 Traditional East Asia | 4 |
| | HST 210 Modern East Asia | 4 |
| | KOR 291 Intermediate Topics in Korean Studies | 1 to 6 |
| | KOR 351 Korean Identities and Cultural Values | 3 |
| | KOR 451 Korean Language in Culture and Society | 3 |
| | KOR 490 Independent Study | 3 |
| | KOR 491 Advanced Topics in Korean Studies | 1 to 6 |
| | MC 324D Regional Politics, Cooperation and Conflict in Asia | 4 |

- PLS 392 Special Topics in Political Science 3
 Students interested in ASN 291 or PLS 392 must consult with the academic advisor to ensure Korean-related content. Other courses that contain a substantive amount of Korean or Korean-related content may be used for the elective requirement with the approval of the student's advisor. Courses not in the College of Arts and Letters may also be counted toward the college cognate requirement with advisor and program approval.
- c. Complete the following capstone experience:
 KOR 492 Capstone Project: Korean 1
 An approved language study or internship in Korea at the 300 or 400-level will also fulfill this requirement with advisor approval.
- d. Education Abroad requirement:
 Students with a primary major in Korean are highly encouraged to participate in an education abroad experience approved by the Korean Program. MSU study abroad programs are available at various sites in Korea throughout the year. Under special circumstances, equivalent experiences may be approved by the department.

Additional Major in Korean

This option is designed to encourage students to combine a major in Korean with a major in another field. Students electing an additional major must meet the requirements of the College of Arts and Letters for the Bachelor of Arts degree and must complete requirements 3. a., two courses from 3. b., and 3. c. in the Bachelor of Arts Degree in Korean above to fulfill the requirement of 26 semester credits.

Effective Fall 2025.

COLLEGE OF EDUCATION

1. Change the requirements for the **Doctor of Philosophy** degree in **Curriculum, Instruction, and Teacher Education** in the Department of Teacher Education. The University Committee on Graduate Studies (UCGS) approved this request at its January 27, 2025 meeting.
- a. Under the heading **Requirements for the Doctor of Philosophy Degree in Curriculum, Instruction, and Teacher Education** make the following changes:
- (1) Replace item 2. with the following:
- Research Requirement – Educational inquiry and research**
- a. One of the following courses in quantitative methodology:
- | | | |
|---------|--|---|
| CEP 932 | Quantitative Methods in Educational Research I | 3 |
| TE 934 | Introduction to Quantitative Methods in Educational Research | 3 |
- b. The following course:
- | | | |
|--------|---|---|
| TE 931 | Introduction to Qualitative Methods in Educational Research | 3 |
|--------|---|---|
- c. One of the following, either (1) or (2):
- | | | |
|-------------|---|--------|
| (1) CEP 930 | Educational Inquiry | 3 |
| | A course in advanced methodology approved in advance by the guidance committee | 3 or 4 |
| (2) | Two courses in advanced methodology approved in advance by the guidance committee | 6 to 8 |
- d. A research practicum to be taken after the student has completed the courses reference in items 2.a., 2.b., or 2.c. above:
- | | | |
|--------|--|--------|
| TE 995 | Research Practicum in Curriculum, Instruction, and Teacher Education | 1 to 3 |
|--------|--|--------|

Effective Fall 2025.

2. Change the requirements for the **Graduate Specialization in Language and Literacy Education** in the Department of Teacher Education. The University Committee on Graduate Studies (UCGS) approved this request at its January 27, 2025 meeting.

a. Under the heading **Requirements for the Graduate Specialization in Language and Literacy Education** make the following changes:

- (1) In item 1., delete the following course:
CEP 930 Educational Inquiry 3
- (2) Replace item 2. with the following:
Two advanced inquiry/research course related to the student's field of interest 6

Effective Fall 2025.

3. Request to change the requirements for the **Graduate Certificate in Qualitative Research Methods** in the Department of Teacher Education. The University Committee on Graduate Studies (UCGS) approved this request at its January 27, 2025 meeting.

a. Under the heading **Requirements for the Graduate Certificate in Qualitative Research Methods** make the following changes:

- (1) In item 1., delete the following course:
CEP 930 Educational Inquiry 3

Effective Fall 2025.

COLLEGE OF MUSIC

1. Change the requirements for the **Bachelor of Music** degree in **Composition** in the College of Music.

a. Under the heading **Requirements for the Bachelor of Music Degree in Composition** make the following changes:

- (1) In item 1., change paragraph two to the following:
The University's Tier II writing requirement for the Composition major is met by completing two enrollments (4 credits) of Music 485. That course is referenced in item 3. b. below.
- (2) In item 3. b., change the total credits from '21' to '25'.
- (3) Delete the following sentence from item 3. c.:
Students who are enrolled in the composition major for more than eight semesters are required to complete more than 8 credits to satisfy this requirement.
- (4) In item 3. e., change the total credits from '8' to '8 to 10'.
- (5) In item 3. f., make the following changes:
 - (a) Change the total credits from '29' to '28'.
 - (b) Delete the following courses:

MUS	380	Musical Styles and Forms	3
MUS	480	Counterpoint	2

Add the following courses:

MUS	485	Topics in Music Theory	2
MUS	869	Counterpoint	2

- (6) Change the requirement for item 3. h. to the following:
One of the following courses not used to satisfy requirement 2.
- (7) Delete item 3. i.

Effective Fall 2025.

- 2. Change the requirements for the **Bachelor of Music** degree in **Jazz Studies** in the College of Music.
 - a. Under the heading **Requirements for the Bachelor of Music Degree in Jazz Studies** make the following changes:
 - (1) In item 1., change paragraph two to the following:
The University's Tier II writing requirement for the Jazz Studies major is met by completing two enrollments (4 credits) of Music 485. That course is referenced in item 3. a. below.
 - (2) In item 3. a., change the total credits from '21' to '25'.
 - (3) In item 3. c. (2), add 'Guitar' to the list of stringed instruments.
 - (4) Delete item 3. e.
 - (5) Replace item 3. f. with the following:
 - e. Complete 6 additional credits of jazz electives from the following courses:

MUS	131	Jazz Combo	1
MUS	230	Beginning Jazz Improvisation I	2
MUS	231	Beginning Jazz Improvisation II	2
MUS	491	Special Topics in Music (must be an entrepreneurship topic)	2
MUS	496	Your Music Business	2

Completion of 1 credit in a second instrument may also be used to fulfill this requirement. A maximum of 2 credits can be applied to the degree.
A maximum of 4 credits in MUS 131 may be applied to the degree.

Effective Fall 2025.

- 3. Change the requirements for the **Bachelor of Arts** degree in **Music** in the College of Music.
 - a. Under the heading **Requirements for the Bachelor of Arts Degree in Music** make the following changes:
 - (1) In item 1., change paragraph two to the following:
The University's Tier II writing requirement for the Composition major is met by completing two enrollments (4 credits) of Music 485. That course is referenced in item 3. b. below.
 - (2) Change item 3. a. to the following:

Capstone Experience. To complete the B.A. in Music, students must pass an Upper Division screening, which will normally take place at the end of the student's second year. As part of this process, students must declare an area of emphasis that will culminate in a final Capstone experience from one of the following two options:

- (1) Students who elect to pursue a Recital emphasis, the fourth semester barrier jury will serve as the Upper Division screening. The student will convene a faculty committee consisting of their major applied professor, who will serve as the committee chair and primary mentor, a second member of the student's performance area faculty, and a third member of the College of Music faculty. This committee will guide the student through the completion of the Upper Division of the program. The student will perform a public recital as their Capstone experience; the recital must be approved by the student's faculty committee.
 - (2) Students who elect to pursue a Non-Recital emphasis, the student must successfully pass an Upper Division screening. This screening will be conducted by a committee consisting of three members of the College of Music faculty; one member of this committee will serve as the student's primary mentor and committee chair. Upon successful completion of the Upper Division screening, this committee will guide the student through the Upper Division of the program and the completion of the Capstone. Non-recital Capstone experiences may take the form of research papers, internships, public and community engagement activities, or other projects of sufficient scope. The nature of the Capstone will be determined by the student in consultation with the faculty committee, who will have final approval of all projects. In certain cases, students may substitute one committee member from the College of Music faculty with a faculty member from outside the College whose expertise and knowledge are related to the student's course of study or Capstone. Such individuals may not serve as the committee chair. Substitutions must be approved by the mentor/committee chair and the Associate Dean for Undergraduate Studies.
- (3) In item 3. b., change the total credits from '21' to '23'.
 - (4) Delete item 3. f., and reletter item 3. g. to 3. f.
 - (5) In item 3. f., change the requirement to 'One of the following courses not used to satisfy requirement 2.'
 - (6) In item 3. f. add the following course:

MUS	428	Topics in Musicology	2
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Delete the following courses:

MUS	491	Special Topics in Music (Section: Music and Religion in World Cultures)	2
MUS	491	Special Topics in Music (Section: Indigenous Music and Globalization)	2

Effective Fall 2025.

4. Change the requirements for the **Minor in Music** in the College of Music.

a. Under the heading **Requirements for the Minor in Music** make the following changes:

(1) In item 1., make the following changes:

- (a) Change the total credits from '13' to '11'.
- (b) Delete the following courses:

MUS	180	Fundamentals of Music	2
MUS	181	Musicianship I	3

MUS	211	History of Western Music to 1750	3
MUS	212	History of Western Music Since 1750	3

Add the following courses:

MUS	187	Skills in Music Theory	3
MUS	188	Introduction to Music Theory I	3
MUS	214	Introduction to Music Studies	3

(2) In item 3., delete the following course:

MUS	113	Philharmonic Orchestra	1
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(3) Renumber item 4. to item 5.

(4) Add the following new item 4.:

One of the following courses (2 credits):

MUS	409	American Music	2
MUS	410	Jazz History	2
MUS	419	Baroque Music	2
MUS	420	Music of the 18th Century	2
MUS	421	Music of the 19th Century	2
MUS	422	Music of the 20th Century	2
MUS	423	History of Opera	2
MUS	424	Music, Sexuality, and Gender	2
MUS	425	Music of South Asia and Its Diaspora	2
MUS	426	Music of Africa	2
MUS	427	Early Music	2
MUS	428	Topics in Musicology	2
MUS	429	Music of East Asia	2
MUS	430	Music of the Caribbean	2
MUS	431	Indigenous Music in North America	2

Effective Fall 2025.

5. Change the requirements for the **Bachelor of Music** degree in **Music Education** in the College of Music. The Teacher Education Council (TEC) approved this request at its January 13, 2025 meeting.

a. Under the heading **Requirements for the Bachelor of Music Degree in Music Education** make the following changes:

(1) In item 1., change paragraph two to the following:

The University's Tier II writing requirement for the Music Performance major is met by completing two enrollments (4 credits) of Music 485. That course is referenced in item 3. below.

(2) In item 3. a., change the requirement to the following:

All of the core courses that are listed above under the heading **General Requirements for All of the Bachelor's Degree Programs** in the College of Music excluding MUS 101.

(3) Replace item 3. b. with the following:

Music activity requirement:

All students enrolled in the Bachelor of Music degree program in music education are required to participate in a major ensemble as designated by the College of Music during each fall and spring semester of enrollment in the program. A

minimum of 8 credits in courses approved by the College of Music is required. Music Education majors are required to audition for and be placed into an ensemble within their specific area of expertise for 7 semesters, i.e. instrumentalists must audition for instrumental ensembles and voice majors must audition for choral ensembles. The remaining ensemble credit can be fulfilled by performing in any major ensemble listed above. Piano majors are allowed to choose from any major ensemble in the College of Music. Students for whom a jazz instrument is their primary performance focus must participate in a band/wind ensemble, choir, or non-jazz orchestra for at least two of these semesters.

- (4) In item 3. d. add the following course:

MUS	151J	Voice: Jazz	2
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- (5) Change item 3. e. to the following:

One of the following courses not used to satisfy requirement 2.:

MUS	409	American Music	2
MUS	410	Jazz History	2
MUS	419	Baroque Music	2
MUS	420	Music of the 18th Century	2
MUS	421	Music of the 19th Century	2
MUS	422	Music of the 20th Century	2
MUS	423	History of Opera	2
MUS	424	Music, Sexuality, and Gender	2
MUS	425	Music of South Asia and Its Diaspora	2
MUS	426	Music of Africa	2
MUS	427	Early Music	2
MUS	428	Topics in Musicology	2
MUS	429	Music of East Asia	2
MUS	430	Music of the Caribbean	2
MUS	431	Indigenous Music in North America	2

- (6) Change item 3. f. to the following:

All of the following courses (30 credits):

MUS	171	Class Instruction in Stringed Instruments I	1
MUS	173	Class Instruction in Percussion Instruments I	1
MUS	177	Principles of Music Education I	2
MUS	277	Principles of Music Education II	3
MUS	335	Ensemble Conducting I	2
MUS	495	Student Teaching in Music	9
MUS	497	Becoming a School Music Teacher	3
TE	101	Social Foundations of Equity in Education	3
TE	150	Reflections on Learning	3
TE	302	Literacy and Adolescent Learners in Community Contexts (W)	3

- (7) Change item 3. g. to the following:

One of the following:

(1)	All of the following (voice majors only):			
	MUS	143	English Diction	1
	MUS	144	Italian Diction	1
	MUS	166	Survey of Wind Instruments	2
(2)	All of the following (non-voice majors):			
	MUS	145	Class instruction in Voice I	1
	MUS	163	Woodwind Methods	2
	MUS	165	Brass Methods	2

- (8) One of the following courses:

MUS	150M	Piano for Piano Minors	1
MUS	160	Class Instruction in Guitar	1

MUS	172	Class Instruction in Stringed Instruments II	1
MUS	174	Class Instruction in Percussion Instruments II	1

Students who wish to teach strings are strongly encouraged to take MUS 172. Students who wish to teach choral or general music are strongly encouraged to take MUS 150M or 160.

- (9) Delete item 3. i.
- (10) Reletter items 3. j., 3. k., 3. l., 3. m., 3. n. to 3. i., 3. j., 3. k., 3. l., 3. m. respectively.

Note: In new item 3. l., sections 3. j., 3. k., and 3. l. should be updated to 3. i., 3. j., and 3. k.

Effective Fall 2025.

6. Change the requirements for the **Bachelor of Music** degree in **Music Performance** in the College of Music.

a. Under the heading **Requirements for the Bachelor of Music Degree in Music Performance** make the following changes:

- (1) In item 1., change paragraph two to the following:

The University's Tier II writing requirement for the Music Performance major is met by completing two enrollments (4 credits) of Music 485. That course is referenced in item 3. below.

- (2) In item 3. c., change the total credits from '21' to '25'.

- (3) Change item 3. d. (1) (c) to the following:

One of the following courses not used to satisfy requirement 2.:

MUS	409	American Music	2
MUS	410	Jazz History	2
MUS	419	Baroque Music	2
MUS	420	Music of the 18th Century	2
MUS	421	Music of the 19th Century	2
MUS	422	Music of the 20th Century	2
MUS	423	History of Opera	2
MUS	424	Music, Sexuality, and Gender	2
MUS	425	Music of South Asia and Its Diaspora	2
MUS	426	Music of Africa	2
MUS	427	Early Music	2
MUS	428	Topics in Musicology	2
MUS	429	Music of East Asia	2
MUS	430	Music of the Caribbean	2
MUS	431	Indigenous Music in North America	2

- (4) Delete item 3. d. (1) (d).
- (5) Reletter item 3. d. (1) (e) to item 3. d. (1) (d).
- (6) Change the total credits in 3. d. (2) from '50' to '49'.
- (7) Change the total credits in 3. d. (2) (d) from '12' to '11'. and delete the following course:

MUS	380	Musical Styles and Forms	3
-----	-----	--------------------------	---

Add the following course:

MUS	485	Topics in Music Theory	2
-----	-----	------------------------	---

- (8) Replace item 3. d. (2) (e) with the following:

- One of the following courses not used to satisfy requirement 2.:
- | | | | |
|-----|-----|--------------------------------------|---|
| MUS | 409 | American Music | 2 |
| MUS | 410 | Jazz History | 2 |
| MUS | 419 | Baroque Music | 2 |
| MUS | 420 | Music of the 18th Century | 2 |
| MUS | 421 | Music of the 19th Century | 2 |
| MUS | 422 | Music of the 20th Century | 2 |
| MUS | 423 | History of Opera | 2 |
| MUS | 424 | Music, Sexuality, and Gender | 2 |
| MUS | 425 | Music of South Asia and Its Diaspora | 2 |
| MUS | 426 | Music of Africa | 2 |
| MUS | 427 | Early Music | 2 |
| MUS | 428 | Topics in Musicology | 2 |
| MUS | 429 | Music of East Asia | 2 |
| MUS | 430 | Music of the Caribbean | 2 |
| MUS | 431 | Indigenous Music in North America | 2 |
- (9) Delete item 3. d. (2) (f).
- (10) Reletter item 3. d. (2) (g) to item 3. d. (2) (f) and replace with the following:
- One of the following courses (2 credits):
- | | | | |
|-----|-----|---|---|
| MUS | 484 | Instrumentation and Basic Orchestration | 2 |
| MUS | 485 | Topics in Music Theory | 2 |
- (another enrollment beyond requirement 2. and (2) (d).
- (11) In item 3. d. (3) change the total credits from '46' to '45'.
- (12) Change the total credits in 3. d. (3) (d) from '8' to '7'. and delete the following course:
- | | | | |
|-----|-----|--------------------------|---|
| MUS | 380 | Musical Styles and Forms | 3 |
|-----|-----|--------------------------|---|
- Add the following course:
- | | | | |
|-----|-----|------------------------|---|
| MUS | 485 | Topics in Music Theory | 2 |
|-----|-----|------------------------|---|
- (another enrollment beyond requirement 2. and (2) (d)
- (13) Replace item 3. d. (3) (e) with the following:
- One of the following courses not used to satisfy requirement 2.:
- | | | | |
|-----|-----|--------------------------------------|---|
| MUS | 409 | American Music | 2 |
| MUS | 410 | Jazz History | 2 |
| MUS | 419 | Baroque Music | 2 |
| MUS | 420 | Music of the 18th Century | 2 |
| MUS | 421 | Music of the 19th Century | 2 |
| MUS | 422 | Music of the 20th Century | 2 |
| MUS | 423 | History of Opera | 2 |
| MUS | 424 | Music, Sexuality, and Gender | 2 |
| MUS | 425 | Music of South Asia and Its Diaspora | 2 |
| MUS | 426 | Music of Africa | 2 |
| MUS | 427 | Early Music | 2 |
| MUS | 428 | Topics in Musicology | 2 |
| MUS | 429 | Music of East Asia | 2 |
| MUS | 430 | Music of the Caribbean | 2 |
| MUS | 431 | Indigenous Music in North America | 2 |
- (14) Delete item 3. d. (3) (f).
- (15) Reletter item 3. d. (3) (g) to item 3. d. (3) (f) and replace with the following:
- One of the following courses (2 credits):
- | | | | |
|-----|-----|---|---|
| MUS | 484 | Instrumentation and Basic Orchestration | 2 |
|-----|-----|---|---|

- | | | | |
|------|---|--|---|
| | MUS 485 | Topics in Music Theory
(another enrollment beyond requirement 2. and (2) (d). | 2 |
| (16) | In item 3. d. (4) change the total credits from '50' to '49'. | | |
| (17) | Change the total credits in 3. d. (4) (d) from '12' to '11'. and delete the following course: | | |
| | MUS 380 | Musical Styles and Forms | 3 |
| | Add the following course: | | |
| | MUS 485 | Topics in Music Theory
(another enrollment beyond requirement 2. and (2) (d) | 2 |
| (18) | Replace item 3. d. (4) (e) with the following: | | |
| | One of the following courses not used to satisfy requirement 2.: | | |
| | MUS 409 | American Music | 2 |
| | MUS 410 | Jazz History | 2 |
| | MUS 419 | Baroque Music | 2 |
| | MUS 420 | Music of the 18th Century | 2 |
| | MUS 421 | Music of the 19th Century | 2 |
| | MUS 422 | Music of the 20th Century | 2 |
| | MUS 423 | History of Opera | 2 |
| | MUS 424 | Music, Sexuality, and Gender | 2 |
| | MUS 425 | Music of South Asia and Its Diaspora | 2 |
| | MUS 426 | Music of Africa | 2 |
| | MUS 427 | Early Music | 2 |
| | MUS 428 | Topics in Musicology | 2 |
| | MUS 429 | Music of East Asia | 2 |
| | MUS 430 | Music of the Caribbean | 2 |
| | MUS 431 | Indigenous Music in North America | 2 |
| (19) | Delete item 3. d. (4) (f). | | |
| (20) | Reletter item 3. d. (4) (g) to item 3. d. (4) (f) and replace with the following: | | |
| | One of the following courses (2 credits): | | |
| | MUS 484 | Instrumentation and Basic Orchestration | 2 |
| | MUS 485 | Topics in Music Theory
(another enrollment beyond requirement 2. and (2) (d). | 2 |
| (21) | In item 3. d. (5) change the total credits from '52 to 64' to '52 to 63'. | | |
| (22) | In item 3. d. (5) (d) change the total credits from '12' to '11' and change the credits of GRM 101 from '4' to '3'. | | |
| (23) | Replace item 3. d. (5) (h) with the following: | | |
| | One of the following courses not used to satisfy requirement 2.: | | |
| | MUS 409 | American Music | 2 |
| | MUS 410 | Jazz History | 2 |
| | MUS 419 | Baroque Music | 2 |
| | MUS 420 | Music of the 18th Century | 2 |
| | MUS 421 | Music of the 19th Century | 2 |
| | MUS 422 | Music of the 20th Century | 2 |
| | MUS 423 | History of Opera | 2 |
| | MUS 424 | Music, Sexuality, and Gender | 2 |
| | MUS 425 | Music of South Asia and Its Diaspora | 2 |
| | MUS 426 | Music of Africa | 2 |
| | MUS 427 | Early Music | 2 |
| | MUS 428 | Topics in Musicology | 2 |
| | MUS 429 | Music of East Asia | 2 |

MUS	430	Music of the Caribbean	2
MUS	431	Indigenous Music in North America	2

(24) Delete item 3. d. (5) (i).

Effective Fall 2025.

7. Change the **General Requirements for All of the Bachelor’s Degree Programs in the College of Music.**

a. Under the heading **General Requirements for All of the Bachelor’s Degree Programs in the College of Music** replace the entire entry with the following:

1. All of the following core courses (21 credits):

MUS	101	Practical Foundations for Success in Music	1
MUS	180	Fundamentals of Music	2
MUS	183	Ear Training and Sight Singing II	1
MUS	187	Skills in Music Theory	3
MUS	188	Introduction to Music Theory I	3
MUS	214	Introduction to Music Studies	3
MUS	282	Advanced Ear Training and Sight Singing I	1
MUS	283	Advanced Ear Training and Sight Singing II	1
MUS	285	Introduction to Music Theory II	3
MUS	485	Topics in Music Theory	4

MUS 485 must be completed in two separate enrollments.
2. Two of the following musicology courses (4 credits):

MUS	409	American Music	2
MUS	410	Jazz History	2
MUS	419	Baroque Music	2
MUS	420	Music of the 18th Century	2
MUS	421	Music of the 19th Century	2
MUS	422	Music of the 20th Century	2
MUS	423	History of Opera	2
MUS	424	Music, Sexuality, and Gender	2
MUS	425	Music of South Asia and Its Diaspora	2
MUS	426	Music of Africa	2
MUS	427	Early Music	2
MUS	428	Topics in Musicology	2
MUS	429	Music of East Asia	2
MUS	430	Music of the Caribbean	2
MUS	431	Indigenous Music in North America	2

Effective Fall 2025.

COLLEGE OF NATURAL SCIENCE

1. Change the administrative responsibility for the **Bachelor of Science** degree in **Neuroscience** from the College of Natural Science to the Department of Physiology.

Effective Fall 2025.

2. Change the requirements for the **Bachelor of Science** degree in **Neuroscience** in the Department of Physiology.

a. Under the heading **Requirements for the Bachelor of Science Degree in Neuroscience** make the following change:

- (1) In item 3. n. delete the following course:

MMG 409 Eukaryotic Cell Biology 3

Add the following course:

MGI 409 Eukaryotic Cell Biology 3

Effective Fall 2025.

3. Delete the curriculum and degree requirements for **the Disciplinary Teaching Minor in Mathematics-Elementary** in the Department of Mathematics. The University Committee on Undergraduate Education (UCUE) provided consultative commentary to the Provost after considering this request. The Provost made the determination to discontinue the program after considering the consultative commentary from the University Committee on Undergraduate Education.

No new students are to be admitted to the program effective Fall 2023. No students are to be readmitted to the program effective Fall 2023. Effective Spring 2030, coding for the program will be discontinued and the program will no longer be available in the Department of Mathematics. Students who have not met the requirements for the Disciplinary Teaching Minor in Mathematics-Elementary through the Department of Mathematics prior to Spring 2030 will have to change their disciplinary teaching minor.

Note: This program has been in moratorium since Fall 2023.

4. Change the administrative responsibility for the **Bachelor of Science** degree in **Microbiology** from the Department of Microbiology and Molecular Genetics to the Department of Microbiology, Genetics, and Immunology.

Effective Fall 2025.

5. Change the requirements in the **Bachelor of Science** degree in **Microbiology** in the Department of Microbiology, Genetics, and Immunology.
 - a. Under the heading **Requirements for the Bachelor of Science Degree in Microbiology** make the following changes:

- (1) In item 1., replace paragraph two with the following:

The University's Tier II writing requirement for the Microbiology major is met by completing Microbiology, Genetics, and Immunology 408 or 494L. Those courses are referenced in item 3. b. (1) below.

- (2) In item 3. a. (6) replace item (a) with the following:

PHY	221	Studio Physics for Life Scientists, I	4
PHY	222	Studio Physics for Life Scientists, II	4

- (3) In item 3. a. (6) delete items (e) and (f).

- (4) In item 3. b. update all MMG courses to MGI.

Effective Fall 2025.

6. Change the administrative responsibility for the **Bachelor of Science** degree in **Environmental Biology/Microbiology** from the Department of Microbiology and Molecular Genetics to the Department of Microbiology, Genetics, and Immunology.

Effective Fall 2025.

7. Change the requirements in the **Bachelor of Science** degree in **Environmental Biology/Microbiology** in the Department of Microbiology, Genetics, and Immunology.

a. Under the heading **Requirements for the Bachelor of Science Degree in Environmental Biology/Microbiology** make the following changes:

- (1) In item 1., replace paragraph two with the following:

The University's Tier II writing requirement for the Environmental Biology/Microbiology major is met by completing Microbiology, Genetics, and Immunology 408 or 494L. Those courses are referenced in item 3. b. (2) below.

- (2) In item 3. a. (9) replace item (a) with the following:

PHY	221	Studio Physics for Life Scientists, I	4
PHY	222	Studio Physics for Life Scientists, II	4

- (3) In item 3. a. (9) replace item (b) with the following:

LB	273	Physics I	4
LB	274	Physics II	4

- (4) In item 3. a. (9) delete items (d) and (f).

- (5) Reletter item 3. a. (9) (e) to item 3. a. (9) (d).

- (6) In item 3. b. update all MMG courses to MGI.

- (7) In item 3. c. (8) change MMG 433 to MGI 433.

Effective Fall 2025.

8. Change the administrative responsibility for the **Bachelor of Science** degree in **Genomics and Molecular Genetics** from the Department of Microbiology and Molecular Genetics to the Department of Microbiology, Genetics, and Immunology.

Effective Fall 2025.

9. Change the name of the **Bachelor of Science** degree in **Genomics and Molecular Genetics** in the Department of Microbiology, Genetics, and Immunology to **Genetics and Genomics**.

Effective Fall 2025, no new students are to be admitted to the Bachelor of Science degree in Genomics and Molecular Genetics. Effective Fall 2025, no students are to be readmitted to the Bachelor of Science degree in Genomics and Molecular Genetics. Effective Fall 2025, coding for the Bachelor of Science degree in Genomics and Molecular Genetics will be discontinued and the program will no longer be available in the Department of Microbiology, Genetics, and Immunology. Effective Fall 2025, students admitted to the major will be awarded a Bachelor of Science degree in Genetics and Genomics.

10. Change the requirements in the **Bachelor of Science** degree in **Genetics and Genomics** in the Department of Microbiology, Genetics, and Immunology.

a. Under the heading **Requirements for the Bachelor of Science Degree in Genetics and Genomics** make the following changes:

- (1) In item 1., replace paragraph two with the following:

The University's Tier II writing requirement for the Genetics and Genomics major is met by completing Microbiology, Genetics, and Immunology 434 or 494L. Those courses are referenced in item 3. b. (2) below.

- (2) In item 3. a. (7) replace item (a) with the following:

PHY	221	Studio Physics for Life Scientists, I	4
PHY	222	Studio Physics for Life Scientists, II	4

- (3) In item 3. a. (7) delete items (e) and (f).
- (4) In item 3. b. update all MMG courses to MGI.
- (5) In item 3. c. update all MMG courses to MGI.

Effective Fall 2025.

- 11. Change the administrative responsibility for the **Master of Science** degree in **Microbiology and Molecular Genetics** from the Department of Microbiology and Molecular Genetics to the Department of Microbiology, Genetics, and Immunology.

Effective Fall 2025.

- 12. Change the name of the **Master of Science** degree in **Microbiology and Molecular Genetics** in the Department of Microbiology, Genetics, and Immunology to **Microbiology, Genetics, and Immunology**.

Effective Fall 2025, no new students are to be admitted to the Master of Science degree in Microbiology and Molecular Genetics. Effective Fall 2025, no students are to be readmitted to the Master of Science degree in Microbiology and Molecular Genetics. Effective Fall 2025, coding for the Master of Science degree in Microbiology and Molecular Genetics will be discontinued and the program will no longer be available in the Department of Microbiology, Genetics, and Immunology. Effective Fall 2025, students admitted to the major will be awarded a Master of Science degree in Microbiology, Genetics, and Immunology.

- 13. Change the requirements in the **Master of Science** degree in **Microbiology, Genetics, and Immunology** in the Department of Microbiology, Genetics, and Immunology. The University Committee on Graduate Studies (UCGS) approved this request at its January 27, 2025 meeting.

- a. Under the heading **Requirements for the Master of Science Degree in Microbiology, Genetics and Immunology** make the following changes:

- (1) Update all MMG courses to MGI.

Effective Fall 2025.

- 14. Change the administrative responsibility for the **Doctor of Philosophy** degree in **Microbiology and Molecular Genetics** from the Department of Microbiology and Molecular Genetics to the Department of Microbiology, Genetics, and Immunology.

Effective Fall 2025.

- 15. Change the name of the **Doctor of Philosophy** degree in **Microbiology and Molecular Genetics** in the Department of Microbiology, Genetics, and Immunology to **Microbiology, Genetics, and Immunology**.

Effective Fall 2025, no new students are to be admitted to the Doctor of Philosophy degree in Microbiology and Molecular Genetics. Effective Fall 2025, no students are to be readmitted to the Doctor of Philosophy degree in Microbiology and Molecular Genetics. Effective Fall 2025, coding for the Doctor of Philosophy degree in Microbiology and Molecular Genetics will be discontinued and the program will no longer be available in the Department of Microbiology, Genetics, and Immunology. Effective Fall 2025, students admitted to the major will be awarded a Doctor of Philosophy degree in Microbiology, Genetics, and Immunology.

16. Change the requirements in the **Doctor of Philosophy** degree in **Microbiology, Genetics, and Immunology** in the Department of Microbiology, Genetics, and Immunology. The University Committee on Graduate Studies (UCGS) approved this request at its January 27, 2025 meeting.
- a. Under the heading **Requirements for the Doctor of Philosophy Degree in Microbiology, Genetics and Immunology** make the following changes:
- (1) Update all MMG courses to MGI.

Effective Fall 2025.

COLLEGE OF SOCIAL SCIENCE

1. Change the requirements for the **Bachelor of Arts** degree in **Global and International Studies in Social Science** in the College of Social Science.
- a. Under the heading **Bachelor of Arts Degree in Global and International Studies in Social Science** replace the entire entry with the following:
1. The graduation requirements of the University as described in the *Undergraduate Education* section of this catalog; 120 credits, including general elective credits, are required for the Bachelor of Arts degree in Global and International Studies in Social Science.
 The University’s Tier II writing requirement for the Global and International Studies in Social Science major is met by completing Social Science 499. That course is referenced in item 3. below.
 2. The requirements of the College of Social Science for the Bachelor of Arts degree.
 3. The following requirements for the major:

	CREDITS
a. Three of the following foundational courses. No more than one course can be from a single discipline (9 to 12 credits):	
ANP 201 Introduction to Cultural Anthropology	3
EC 201 Introduction to Microeconomics	3
EC 202 Introduction to Macroeconomics	3
GEO 151 Introduction to Human Geography	3
GEO 204 World Regional Geography	3
HST 140 World History to 1500	4
HST 150 World History since 1500	4
PLS 140 Introduction to Comparative Politics	3
PLS 160 Introduction to International Relations	3
SOC 161 International Development and Change	3
With advisor approval, qualified students may substitute Economics 251H for Economics 201.	
b. The following courses (9 credits):	
SSC 299 Integration of Social Science Perspectives	3
SSC 495 Interdisciplinary Research Methods	3
SSC 499 Capstone in Interdisciplinary Studies in Social Science (W)	3
c. Complete a minimum of 15 credits in one of the following concentrations with no more than two courses from a single discipline. At least 9 credits must be from the College of Social Science.	
Asian Studies	
College of Social Science courses:	
ANP 415 China: Culture and Society	3
EC 413 Economic Analysis of Asia (W)	3
GEO 337 Geography of Asia-Pacific	3
ANP 437 Asian Emigrant Communities: A Global Perspective	3
HST 160 Introduction to Asian History and Culture	4
HST 210 Modern East Asia	4

HST	365	The Vietnam War	3
HST	367	Imperial China	3
HST	368	China since 1900	3
HST	369	Japan in the Age of the Samurai	3
HST	370	Modern Japan: History, Culture, and Society	3
HST	371	Women and Gender in Asia	3
HST	451	Special Topics in Asian History	3
HST	485	Seminar in Asian History (W)	3
PLS	354	Politics of Asia	3
SSC	293	Introduction to Asian Pacific American Studies	3
SSC	393	Topics in Asian Pacific American Studies	3
Courses outside of the College of Social Science:			
CHS	360	Chinese Film Studies	3
DS	481	Indian Film and Media Production	8 to 12
ENG	352	Readings in Asian/Asian American/Asian Diaspora Literature and Visual Culture	3
HA	260	Asian Art	3
HA	261	Modern Asia Art	3
HA	262	Buddhist Art and Architecture across Asia	3
HA	461	Selected Topics in Modern Asian Art	4
HA	462	The Arts of China	4
MC	319	Asian American History	4
MC	324D	Regional Politics, Cooperation, and Conflict in Asia	4
MC	441	Islam and World Politics	4
REL	335	East Asian Religions	3
REL	345	Religions of South Asia	3
REL	350	Buddhism in South Asia	3
REL	355	Southeast Asian Religions	3
Canadian Studies			
College of Social Science courses:			
ANP	411	North American Indian Ethnography	3
ANP	432	American Indian Women	3
ANP	433	Contemporary American Indian Communities	3
ANP	452	North American Archaeology	3
CJ	439	Homeland Security	3
GEO	331	Geography of Canada	3
HST	391	Environmental History of North America	3
SSC	290	Selected Topics in Social Science	3
The content in SSC 290 must be approved by the student's academic advisor.			
Courses outside of the College of Social Science:			
FLM	491	Special Topics in Film Studies	3
FW	207	Great Lakes: Biology and Management	3
FOR	466	Natural Resource Policy	3
HA	253	Native North American Art	3
JRN	472	Environmental, Science, and Health Reporting	3
REL	306	Native American Religions	3
The content in FLM 491 and FW 207 must be approved by the student's academic advisor.			
European and Russian Studies			
College of Social Science courses:			
GEO	336	Geography of Europe	3
GEO	340	Geography of Eurasia	3
HST	206	European History since 1500	4
HST	295	The Nazis	3
HST	335	Europe in the Age of Revolution, 1700-1870	3
HST	336	Europe from Bismarck to Brexit	3
HST	338	European Power, Culture and Thought: The Modern Era	3
HST	344	Russia in the Twentieth Century	3
HST	347	Modern France	3
HST	355	Spain and the Muslim World	3
HST	387	The First World War	3
HST	388	World War II: Causes, Conduct and Consequences	3

HST	392	History of the Holocaust	3
HST	411	European Jewish History	3
HST	452	Special Topics in European History	3
HST	483	Seminar in Modern European History (W)	3
PLS	356	Politics of Europe and the European Union	3
PLS	357	Politics of English-Speaking Democracies	3
PLS	358	Politics of the U.S.S.R. and Its Successor States	3
Courses outside of the College of Social Science:			
AL	431	European Fairy Tale Tradition	3
ENG	205	Topics in British Literature	3
ENG	315	Readings in British Literature	3
ENG	316	Readings in Irish Literature and Culture	3
JRN	486	British and Irish Mass Media Education Abroad	6
MC	321	The Cold War: Culture, Politics and Foreign Policy	4
MC	324E	Regional Politics, Cooperation and Conflict in Europe	4
MC	328	Russian Foreign Policy	4
MC	329	European Security: Challenges and Strategies	4
MC	331	Encounters with Post-Communism	4
MC	387	Jews and Anti-Semitism	4
MC	441	Islam and World Politics	4
PHL	421	Topics in European and Continental Philosophy	3
REL	310	Judaism	3
RUS	231	19th-Century Russian Literature in Translation	3
RUS	232	20th-Century Russian Literature in Translation	3
RUS	241	Russian and Slavic Folklore, Fairy Tales, and Folk Traditions	3
RUS	421	Russian Life and Culture in the 20th Century	3
RUS	440	Contemporary Russian Life and Culture (W)	3
RUS	441	Russian Literature (W)	3
Global Health			
Required course:			
OST	450	Introduction to Global Health	3
College of Social Science courses:			
ANP	270	Women and Health: Anthropological and International Perspectives	3
ANP	370	Culture, Health, and Illness	3
ANP	425	Issues in Medical Anthropology	3
GEO	214	Geography of Drugs	3
GEO	235	Geography of Environment and Health	3
GEO	410	Geography of Food and Agriculture	3
GEO	435	Geography of Health and Disease	3
HST	220	History of Food and Alcohol	3
HST	420	History of Sexuality since the 18th Century	3
HST	425	American and European Health Care since 1800	4
PSY	320	Health Psychology	3
SOC	350	Society and Mental Health	3
SOC	475	Health and Society	3
UP	400	Special Topics in Urban Planning	2-4
The content in UP 400 must be approved by the student's academic advisor.			
Courses outside of the College of Social Science:			
EPI	390	Disease in Society: Introduction to Epidemiology and Public Health	4
FOR	110	Contemporary Issues in Forests and the Environment	1
FSC	211	Principles of Food Science	3
FSC	421	Food Laws and Regulations	3
FW	423	Principles of Fish and Wildlife Disease	3
FW	463	Wildlife Disease Ecology	3
FW	481	Global Issues in Fisheries and Wildlife	3
HNF	385	Public Health Nutrition	3
HNF	406	Global Foods and Culture	3
JRN	372	Environment, Science and Health Journalism Special Topics	3
MC	337	Global Public Health	4

MC	450	International Environmental Law and Policy	3
PDC	491	Special Topics in Planning, Design and Construction	1-4
PH	103	Social Justice and Health Equity: Global Perspectives	3
PHL	344	Ethical Issues in Health Care	4

The content in PDC 491 must be approved by the student's academic advisor.

International Development

College of Social Science courses:

ANP	325	Anthropology of the Environment and Development	3
ANP	436	Globalization and Justice: Issues in Political and Legal Anthropology	3
EC	310	Economics of Developing Countries	3
GEO	113	Introduction to Economic Geography	3
GEO	204	World Regional Geography	3
GEO	413	Urban Geography	3
GEO	414	Transportation Systems and Sustainable Cities	3
GEO	453	Metropolitan Environments: Urban Forms and Land Uses	3
HST	326	United States Foreign Relations since 1914	3
HST	390	History of International Relations	3
PLS	342	Comparative Political Economy	3
PLS	344	Politics of Developing Areas	3
PLS	347	Democratic Regimes	3
PLS	363	International and Domestic Political Conflict	3
PLS	364	Politics of the United Nations and International Organizations	3
SOC	161	International Development and Change	3
SOC	362	Developing Societies	3

Courses outside of the College of Social Science:

AFRE	206	World Food, Population and Poverty	3
ATD	431	Global Context for Sustainable Design	3
CSS	101	Introduction to Crop Science	3
CSS	120	Issues in Food and Agriculture	3
CSS	431	International Agriculture Systems	3
CSUS	215	International Development and Sustainability	3
FW	181	Introduction to Science, Technology, the Environment and Public Policy	3
FW	444	Conservation Biology	3
FW	445	Biodiversity Conservation Policy and Practice	3
GSAH	301	Global Citizenship	3
MC	430	Applied International Development	4
PHL	452	Ethics and Development	3
TE	353	International Education	3
WS	403	Women and Change in Developing Countries	3

Integrative Studies

Similar to other concentrations, students interested in completing an Integrative Studies concentration must complete 15 credits of course work with no more than two courses from a single discipline and at least 9 credits in the College of Social Science. To pursue this concentration, a student must develop a proposal in coordination with a Global and International Studies in Social Science advisor that includes the following:

- a. A proposed outline for the course work to be taken with a rationale for each course.
- b. A statement of purpose for the proposed course work.
- c. A set of learning outcomes that will be achieved through the course work that is not available in other majors at the University, or the College.

The proposed course of study must be approved by a Global and International Studies in Social Science advisor, two faculty members in the College of Social Science, and the Center for Integrative Studies director.

Latin American and Caribbean Studies

College of Social Science courses:

ANP	410	Anthropology of Latin America	3
CLS	201	Introduction to Chicano/Latino Studies	3
CLS	492	Chicano and Latino Studies: Research, Theory and Practice	3
GEO	335	Geography of Latin America	3
HA	254	Latin American Art	3
HA	454	Selected Topics in the Arts of the Americas	4
HST	212	National Latin America	4
HST	382	Modern Brazil	3
HST	383	The Caribbean	3
HST	384	Modern Mexico	3
HST	453	Special Topics in Latin American History	3
HST	486	Seminar in Latin American History (W)	3
PHL	212	Latin American Philosophy	3
PLS	352	Latin American Politics	3
PRT	340	Topics in Luso-Brazilian Language and Culture	3
REL	306	Native American Religions	3
SPN	320	Cultural Readings and Composition (W)	3
Courses outside of the College of Social Science:			
ENG	351	Readings in Chicano and Latino Literatures	3
HA	254	Latin American Art	3
HA	454	Selected Topics in the Arts of the Americas	4
PHL	212	Latin American Philosophy	3
PRT	340	Topics in Luso-Brazilian Language and Culture	3
REL	306	Native American Religions	3
SPN	320	Cultural Readings and Composition (W)	3

Middle Eastern and African Studies

College of Social Science courses:

ANP	417	Introduction to Islam in Africa	3
ANP	419	Anthropology of the Middle East	3
ANP	455	Archaeology of Ancient Egypt	3
EC	414	Economic Analysis of Sub-Saharan African (W)	3
GEO	338	Geography of Africa	3
GEO	339	Geography of the Middle East and North Africa	3
HST	205	The Ancient Mediterranean and the Medieval World	4
HST	208	Introduction to African History, Culture and Society	4
HST	281	Atlantic Slavery	3
HST	355	Spain and the Muslim World	3
HST	363	East Africa in the Twentieth Century	3
HST	364	South Africa: From Shaka Zulu to Mandela	3
HST	372	The Middle East: Islam and Empires	3
HST	373	The Modern Middle East: From Empires to Nation States	3
HST	450	Special Topics in African History	3
HST	484	Seminar in African History (W)	3
HST	487	Seminar in Comparative History (W)	3

The content in HST 487 must be approved by the student's academic advisor.

Courses outside of the College of Social Science:

ENG	350	Readings in African, African American, or African Diaspora Literature	3
HA	271	African Art	3
HA	471	Selected Topics in African Art	4
JRN	488	Visual Storytelling in Kenya	4
MC	324A	Regional Politics, Cooperation, and Conflict in the Middle East	4
MC	335	Israeli Politics, Cultures and Society	4
MC	441	Islam and World Politics	4
PHL	213	Africana Philosophy	3
PHL	315	African Philosophy	3
REL	310	Judaism	3

REL	330	Islam	3
REL	360	African Religion	3
Migration Studies			
College of Social Science courses:			
ANP	330	Race, Ethnicity, and Nation: Anthropological Approaches to Collective Identity	3
ANP	417	Introduction to Islam in Africa	3
ANP	419	Anthropology in the Middle East	3
ANP	437	Asian Emigrant Communities: A Global Perspective	3
ANP	439	Human Rights: Anthropological Perspectives	3
GEO	113	Introduction to Economic Geography	3
GEO	335	Geography of Latin America	3
GEO	338	Geography of Africa	3
GEO	409	Global Climate Change and Variability	3
GEO	413	Urban Geography	3
GEO	436	Spatial Analysis of Populations	3
GEO	440	Geopolitics	3
GEO	441	Cultural Geography	3
HST	254	Migrations in History	3
HST	281	Atlantic Slavery	3
HST	301	Indigenous-European Encounters in North America	3
HST	363	East Africa in the Twentieth Century	3
HST	366	Modern Southeast Asia	3
HST	383	The Caribbean	3
HST	390	History of International Relations	3
PLS	392	Special Topics in Political Science	1 to 4
SOC	460	Advanced Seminar in Human Migration	3
SSC	293	Introduction to Asian Pacific American Studies	3
Courses outside of the College of Social Science:			
ENG	350	Readings in African, African-American, or African Diaspora Literature	3
ENG	351	Readings in Chicano and Latino Literatures	3
ENG	352	Readings in Asian/Asian American/Asian Diaspora Literature and Visual Culture	3
ENG	460	Seminar in Global and Postcolonial Literature	3
FLM	451	Studies in Postcolonial Cinema	3
GSAH	201	Introduction to Global Studies in the Arts and Humanities	3
GSAH	310	Questions of Justice in Global Contexts	3
GSAH	311	Global Perspectives on Borders and Migration	3
MC	281	Immigrants, Minorities, and American Pluralism	4
TE	352	Migration and Education	3

- d. Language Competency
 Students must demonstrate competency in a non-English language relevant to their region of study or thematic concentration. This is achieved through the completion of the second year of study or equivalent language placement scores. This requirement may be satisfied by placing into a 300-level language course based on a Michigan State University placement test. Students will select a language to study in consultation with an academic advisor. We encourage students to study less-commonly taught languages as relevant. Students who already speak a language other than English should contact their academic advisor to discuss placement.

2. Change the name of the **Minor in Global Studies in Social Science** in the College of Social Science to **Contemporary Global Studies**.

Effective Fall 2025, no new students are to be admitted to the Minor in Global Studies in Social Science.
 Effective Fall 2025, no students are to be readmitted to the Minor in Global Studies in Social Science.
 Effective Fall 2025, coding for the Minor in Global Studies in Social Science will be discontinued and the program will no longer be available in the College of Social Science. Effective Fall 2025, students admitted to the minor will be awarded a Minor in Contemporary Global Studies.

3. Change the requirements for the **Minor in Contemporary Global Studies** in the College of Social Science.

- a. Under the heading **Minor in Contemporary Global Studies** replace the entire entry with the following:

Students must complete a minimum of 15 credits from the following:

1. The following course:

SSC	299	Integration of Social Science Perspectives	3
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2. One of the following courses inside the College of Social Science:

ANP	270	Women and Health: Anthropological and International Perspectives	3
ANP	325	Anthropology of the Environment and Development	3
EC	340	Survey of International Economics	3
GEO	441	Cultural Geography	3
HST	220	History of Food and Alcohol	3
HST	326	United States Foreign Relations since 1914	3
HST	397	Global Soccer	3
PLS	333	Public Opinion and Political Behavior	3
PLS	364	Politics of the United Nations and International Organizations	3
SOC	161	International Development and Change	3
SOC	362	Developing Societies	3
SOC	460	Advanced Seminar in Human Migration	3
SOC	475	Health and Society	3
SOC	478	Climate Change and Society	3
SOC	481	Social Movements and Collective Identities	3
3. One of the following courses outside the College of Social Science:

CSUS	265	Exploring Environmental and Sustainability Issues And Policy Using Film	3
CSUS	273	Introduction to Travel and Tourism	3
FLM	350	National and Transnational Cinemas	3
GSAH	301	Global Citizenship	3
GSAH	312	Global Digital Cultures	3
GSAH	314	Race, Gender and Global Identities	3
GSAH	315	Globalization and the Arts	3
HA	240	Modern Art	3
HA	251	History of Photography	3
HA	252	Introduction to Contemporary Art	3
HNF	406	Global Foods and Culture	3
JRN	265	International Journalism and Media	3
JRN	365	International News and Government Dynamics	3
LIN	230	Languages and the World	3
MC	337	Global Public Health	4
PH	103	Social Justice and Health Equity: Global Perspectives	3
TE	352	Migration and Education	3
TE	353	International Education	3
WS	304	Lesbian, Gay, Bisexual, Transgender, Queer (LGBTQ) and Sexuality Studies	3
4. One additional course from requirement 2. or 3.
5. The following course:

SSC	495	Interdisciplinary Research Methods	3
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Effective Fall 2025.

4. Change the requirements for the **Bachelor of Arts** degree in **Criminal Justice**.

The concentration in the Bachelor of Arts degree in Criminal Justice is noted on the student's academic record when the requirements for the degree have been completed.

a. Under the heading **Requirements for the Bachelor of Arts Degree in Criminal Justice** make the following changes:

(1) In item 1., paragraph two, add CJ 485 to the list of courses that will satisfy the Tier II writing requirement.

(2) In item 3. a. (2) add the following course:

CJ	345	Cybercrime and Cybersecurity	3
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(3) In item 3. a. (4) delete the following course:

CJ	445	Cyber Crime and Cyber Security	3
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Add the following courses:

CJ	446	Open-Source Investigations	3
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CJ	447	Digital Forensics	3
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(4) Add the following Optional Concentration:

Concentration in Cyber Investigations

An optional concentration in Cyber Investigations is also available. Students must complete all of the following courses. Courses that are used to satisfy the requirements for the concentration may also be used to satisfy the requirements for the Bachelor of Arts degree in Criminal Justice. The concentration will be noted on the student's transcript.

CJ	345	Cybercrime and Cyber-Security	3
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CJ	429	Interdisciplinary Topics in Cybercrime and CyberSecurity	3
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CJ	446	Open-Source Investigations	3
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CJ	447	Digital Forensics	3
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Effective Fall 2025.

5. Change the requirements for the **Minor in Security Management** in the School of Criminal Justice.

a. Under the heading **Minor in Security Management** make the following changes:

(1) In item 1., change the total credits from '12' to '15' and add the following course:

CJ	345	Cyber-Crime and Cyber-Security	3
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(2) Delete item 2.

(3) In item 3. delete the following course:

CSE	101	Computing Concepts and Competencies	3
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Add the following course:

CSE	102	Algorithmic Thinking and Programming	3
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Effective Fall 2025.

6. Change the requirements for the **Doctor of Philosophy** degree in **Economics**. The University Committee on Graduate Studies (UCGS) approved this request at its January 27, 2025 meeting.

a. Under the heading **Requirements for the Doctor of Philosophy Degree in Economics** make the following changes:

(1) Replace item 2. with the following:

Complete 21 additional credits in EC courses at the 800-900 level, excluding Economics 920A, 920B, 950, and 951. Courses outside of Economics may be substituted for this requirement only with the written approval of the Economics Graduate Program Director.

(2) In item 4., change the word 'dissertation' to 'guidance'.

(3) Renumber item 7. to item 8. and add the following new item 7.:

Complete the following economics research courses, typically in the third year of study:

EC	920A	Economics Research I	1
EC	920B	Economics Research II	1

Effective Fall 2025.

7. Establish a **Minor in Climate Change Studies** in the Department of Geography, Environment, and Spatial Sciences. The University Committee on Undergraduate Education (UCUE) recommended approval of this request at its January 9, 2025 meeting.

a. **Background Information:**

There are only a few weather/climate major/minor plans available at other institutions in Michigan. At MSU, we do offer a major/minor that focuses more on climate science (e.g., Physical Environment and Climate). This proposed minor in Climate Change Studies differs in that it includes introductory foundations, science, impacts, solutions, and advanced foundations. The content is timely and critical for a sustainable future.

The goal of the Minor in Climate Change Studies is to introduce students to the complexities of climate change and its environmental and societal impacts by focusing on physical and social drivers, as well as mitigation and adaptation strategies. Students completing this minor will achieve the following objectives in preparation for the job market or graduate education: (1) develop a basic understanding of global climate patterns and variations; (2) understand the science of climate change by identifying factors underlying contemporary climate change processes; (3) understand the environmental and societal implications of climate change; and (4) identify solutions for climate change by examining climate change policy, impacts, and exploring adaptation strategies across all spatial scales of the environment and society.

The minor combines insights across all of these issues and questions, and prepares students to find solutions for tomorrow's challenges.

b. **Academic Programs Catalog Text:**

The Minor in Climate Change Studies, administered by the Department of Geography, Environment, and Spatial Sciences, provides students with a broad understanding of the causes and consequences of climate change. The minor includes a comprehensive examination of rising temperatures, sea-level rise, and changes in extreme weather patterns such as flooding and drought. It also emphasizes understanding the societal impacts of these changes, spanning across various sectors including water, energy, transportation, wildlife, agriculture, ecosystems, population migration, and human health. Students engage in exploring the fundamental question: "How can society effectively transition towards a more resilient and sustainable future?"

The minor is available as an elective to students enrolled in bachelor's degree programs at Michigan State University. With the approval of the department and college that administer the student's

degree program, the courses that are used to satisfy the minor may also be used to satisfy the requirements for the bachelor's degree.

Students with a primary major in the College of Social Science using this minor toward the College Breadth requirement may apply a maximum of two courses from the student's primary major toward the requirements of this minor. Students who plan to complete the requirements for the minor should consult the undergraduate advisor in the Department of Geography, Environment, and Spatial Sciences.

Requirements for the Minor in Climate Change Studies

			CREDITS
Students must complete a minimum of 15 credits from the following:			
1.	One of the following courses (3 credits):		
	GEO 103	Introduction to Climate Change Studies	3
	GEO 203	Introduction to Meteorology	3
2.	One of the following courses (3 or 4 credits):		
	CMSE 201	Computational Modeling and Data Analysis I	4
	FOR 360	Forest Ecosystems, Carbon, and Climate Change	3
	GEO 302	Climates of the World	3
	GEO 303	Severe and Hazardous Weather	3
	GEO 402	Agricultural Climatology	3
	GEO 403	Dynamic Meteorology (W)	3
	GEO 405	Weather and Climate Forecasting	4
	GEO 429	Programming with Spatial Data	3
	GLG 200	Introduction to Environmental Science and Global Change	4
	GLG 412	Glacial Geology and the Record of Climate Change	4
	GEO 203 may satisfy requirement 2. if GEO 103 satisfies requirement 1.		
3.	One of the following courses (3 credits):		
	AFRE 265	Ecological Economics	3
	CSS 411	Fire and Environmental Quality	3
	EC 450	Economics of Environmental Policy (W)	3
	GEO 201	Introduction to Plant Geography	3
	GEO 235	Geography of Environment and Health	3
	GEO 410	Geography of Food and Agriculture	3
	GEO 436	Spatial Analysis of Populations	3
	HST 391	Environmental History of North America	3
	SOC 310	Global Migration	3
	SOC 478	Climate Change and Society	3
4.	One of the following courses (3 or 4 credits):		
	CSUS 200	Introduction to Sustainability	3
	CSUS 259	Sustainable Energy and Society	3
	FW 181	Introduction to Science, Technology, the Environment and Public Policy	3
	GEO 211	Environmental Policy and Practice	3
	GEO 414	Transportation Systems and Sustainable Cities	3
	GEO 440	Geopolitics	3
	IBIO 446	Environmental Issues and Public Policy	3
	MC 338	Environmental Justice and Global Change	4
	JRN 372	Environment, Science, and Health Journalism Special Topics	3
	JRN 472	Environment, Science, and Health Reporting	3
	PLS 313	American Public Policy	3
5.	The following course (3 credits):		
	GEO 409	Global Climate Change and Variability	3

Effective Fall 2025.

8. Change the administrative responsibility for the **Bachelor of Science** degree in **Urban and Regional Planning** in the School of Planning, Design and Construction in the College of Social Science to the School of Planning, Design and Construction in the College of Agriculture and Natural Resources.
9. Change the requirements for the **Bachelor of Science** degree in **Urban and Regional Planning** in the School of Planning, Design and Construction.

a. Under the heading **Requirements for the Bachelor of Science Degree in Urban and Regional Planning** make the following changes:

- (1) In item 2., replace 'Social Science' with 'Agriculture and Natural Resources' and delete paragraphs two and three.
- (2) In item 3. a., change the total credits from '32' to '35' and add the following course:

UP	310	Data Fluency and Writing for Urban Planners	3
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- (3) In item 3. b., change the credits from '6' to '12'.
- (4) Replace item 3. c. with the following:

One of the following courses (3 or 4 credits):			
STT	200	Statistical Methods	3
STT	201	Statistical Methods	4

Effective Fall 2025.

10. Change the administrative responsibility for the **Master of Science in Urban and Regional Planning** degree in **Urban and Regional Planning** in the School of Planning, Design and Construction in the College of Social Science to the School of Planning, Design and Construction in the College of Agriculture and Natural Resources.

Effective Fall 2025.

11. Change the administrative responsibility for the **Master of International Planning Studies** degree in **International Planning Studies** in the School of Planning, Design and Construction in the College of Social Science to the School of Planning, Design and Construction in the College of Agriculture and Natural Resources.

Effective Fall 2025.

12. Change the requirements for the **Master of Arts** degree in **Psychology** in the Department of Psychology. The University Committee on Graduate Studies (UCGS) approved this request at its January 27, 2025 meeting.

Any current concentrations should no longer be transcriptable.

a. Under the heading **Admission** replace the entire entry with the following:

Admissions decisions are made by a holistic evaluation of candidate applications. Factors given major consideration for admission to the graduate program at the first-year level include (1) an approved bachelor's degree from a college or university recognized by MSU as comparable to a 4-year bachelor's degree from an accredited institution, (2) a junior-senior undergraduate grade-point average of 3.20 or better in academic studies, (3) undergraduate courses in relevant psychology content and statistics, (4) favorable evaluations of the applicant by three referees, preferably instructors or research advisors in the applicants undergraduate major; and (5) approval by faculty in the area of interest and the Graduate Program Director that an applicant has achieved the above is not sufficient for admission. The number of applicants with superior qualifications exceeds the number of students that can be accommodated.

The department is especially interested in quality students and generally considers applicants regardless of their undergraduate majors if they have adequate background for graduate study in psychology.

Completed applications must be received by December 1 for consideration for the subsequent fall semester.

- b. Under the heading **Requirements for the Master of Arts Degree in Psychology** replace the entire entry with the following:

To meet individual needs, every student has a guidance committee with the student's advisor as chairperson. The committee develops a program of studies in consultation with the student. The program is only available under both Plan A (with thesis) The student must complete a total of 30 credits as follows:

Requirements for Plan A

1. Complete 4 credits of PSY 899 Master's Thesis Research.
2. Preparation of an approved thesis proposal and successful oral defense of the proposal.
3. Successful oral defense of the thesis.
4. Complete Responsible Conduct of Research requirements.

Academic Standards

Students must maintain a grade-point average of 3.0 with not more than two courses with a grade of 3.0 or lower.

Effective Fall 2025.

13. Change the requirements for the **Doctor of Philosophy** degree in **Psychology** in the Department of Psychology. The University Committee on Graduate Studies (UCGS) approved this request at its January 27, 2025 meeting.

Any current concentrations should no longer be transcriptable.

- a. Under the heading **Admission** replace the entire entry with the following:

Admissions decisions are made by a holistic evaluation of candidate applications, with the goal of determining if the candidates are qualified to complete a doctoral degree in Psychology, as the MA sequence is an integral part of the doctoral degree. Factors given major consideration for admission to the graduate program at the first-year level include (1) an approved bachelor's degree from a college or university recognized by MSU as comparable to a 4-year bachelor's degree from an accredited institution, (2) a junior-senior undergraduate grade-point average of 3.20 or better in academic studies, (3) undergraduate courses in relevant psychology content and statistics, (4) favorable evaluations of the applicant by three referees, preferably instructors or research advisors in the applicants undergraduate major; and (5) approval by faculty in the area of interest and the Graduate Program Director that an applicant has achieved the above is not sufficient for admission. The number of applicants with superior qualifications exceeds the number of students that can be accommodated.

The department is especially interested in quality students and generally considers applicants regardless of their undergraduate majors if they have adequate background for graduate study in psychology.

Completed applications must be received by December 1 for consideration for the subsequent fall semester.

- b. Under the heading **Requirements for the Doctor of Philosophy Degree in Psychology** replace the entire entry with the following:

To meet individual needs, every student has a guidance committee with the student's advisor as chairperson. The committee develops a program of studies in consultation with the student.

Students who are accepted into the doctoral program will fulfill the following program requirements for the degree:

1. Successful completion of all components of the comprehensive examination.
2. Completion of 24 to 36 credits of PSY 999 Doctoral Dissertation Research.
3. Develop a written dissertation proposal and a successfully complete the oral defense of the proposal.
4. Successful completion and defense of a dissertation.
5. Complete Responsible Conduct of Research requirements.

Academic Standards

Students must maintain a grade-point average of 3.0 with not more than two courses with a grade of 3.0 or lower.

Effective Fall 2025.

PART II - NEW COURSES

COLLEGE OF ARTS AND LETTERS

- XA 490 Independent Study
Fall of every year. Spring of every year. Summer of every year. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. P: XA 242 R: Approval of department.
Special projects arranged by an individual student and a faculty member in areas supplementing regular course offerings.
Effective Fall Semester 2025

THE ELI BROAD COLLEGE OF BUSINESS

- HCM 890 Independent Study
Fall of every year. Spring of every year. Summer of every year. 1 to 4 credits. A student may earn a maximum of 4 credits in all enrollments for this course. R: Open to graduate-professional students in the Healthcare Compliance Graduate Certificate or in the Healthcare Leadership Graduate Certificate or in the Healthcare Management Major. Approval of department.
Special projects, directed reading, and research arranged by an individual graduate student and a faculty member in areas supplementing regular course offerings.
Effective Fall Semester 2025
- HCM 891 Special Topics in Healthcare Management
On Demand. 1 to 4 credits. A student may earn a maximum of 4 credits in all enrollments for this course. R: Open to graduate students in the Healthcare Compliance Graduate Certificate or in the Healthcare Leadership Graduate Certificate or in the Healthcare Management Major. Approval of department.
Special topics supplementing regular course offerings proposed by faculty on a group study basis for graduate students.
Effective Fall Semester 2025

DEPARTMENT OF COMMUNITY SUSTAINABILITY

- CSUS 492 Capstone in Community Sustainability
Spring of every year. 1(1-0) P: (CSUS 200 and (CSUS 300 or concurrently) and (CSUS 301 or concurrently)) and completion of Tier I writing requirement R: Open to seniors in the Department of Community Sustainability.
Professional development including reflections, considerations of competencies, and post-degree preparation for Community Sustainability students.
Effective Spring Semester 2026

DEPARTMENT OF COUNSELING, EDUCATIONAL PSYCHOLOGY, AND SPECIAL EDUCATION

- CEP 887 Human Growth and Development for Counseling Professions
Fall of every year. 3(3-0) RB: Prior undergraduate or graduate coursework in psychology, counseling, human development, or related field. R: Open to graduate students.
Human development content required for professional practice in rehabilitation and mental health counseling. Theory and research in human development and growth over the lifespan with applications for counselors.
Effective Fall Semester 2025

DEPARTMENT OF ECONOMICS

- EC 821D Advanced Econometrics IV
Spring of even years. 1.5(1.5-0) P: EC 820A or EC 820B R: Open to graduate students in the Department of Economics or approval of department.
Numerical methods in econometrics; Monte Carlo simulation; finite sample properties of estimators and test statistics; the bootstrap; subsampling; simulated method of moments Offered half of semester.
Effective Fall Semester 2025

- EC 823B Applied Econometrics II
Spring of every year. 1.5(1.5-0) P: EC 820A or EC 820B R: Open to graduate students in the Department of Economics or approval of department.
Applying formal econometrics to data with focusing on estimation of treatment effects and applying to topics in applied research. Covers theory and emphasizes implementation. Topics may include instrumental variables, regression discontinuity, difference-in-differences, synthetic control, semi-parametric, and non-parametric methods. Offered half of semester.
SA: EC 823
Effective Fall Semester 2025
- EC 823C Applied Econometrics III
Fall of even years. 1.5(1.5-0) P: EC 820A or EC 820B R: Open to graduate students in the Department of Economics or approval of department.
Applying formal econometrics to data focusing on estimation of structural models derived from economic theory. Covers theory and emphasizes implementation. Topics may include maximum likelihood estimation, discrete-choice models, and demand estimation. Offered half of semester.
Effective Fall Semester 2025
- EC 824A Econometric Theory I
Spring of every year. 1.5(1.5-0) P: EC 820A or EC 820B R: Open to graduate students in the Department of Economics or approval of department.
Large sample theory for extremum estimators and M-estimation; asymptotic normality with non-smooth objective functions; nonparametric estimation; semiparametric methods Offered half of semester.
Effective Fall Semester 2025
- EC 824B Econometric Theory II
Spring every year. 1.5(1.5-0) P: EC 820A or EC 820B R: Open to graduate students in the Department of Economics or approval of department.
Unsupervised learning; dimension reduction; post-selection inference; double selection; incidental parameters problem; bias aware inference. Offered half of semester.
Effective Fall Semester 2025
- EC 825A Numerical Methods I
Fall of every year. 1.5(1.5-0)
Estimation techniques for static general equilibrium and heterogeneous agent models. Offered half of semester.
Effective Fall Semester 2025
- EC 825B Numerical Methods II
Fall of every year. 1.5(1.5-0) P: EC 813A and EC 813B R: Open to graduate students in the Department of Economics or approval of department.
Calibration, simulation and estimation methods for dynamic models and general equilibrium environments. Offered half of semester.
Effective Fall Semester 2025
- EC 835B Public Economics II
Fall of every year. 1.5(1.5-0) P: EC 812A and EC 812B R: Open to graduate students in the Department of Economics or approval of department.
Efficiency and equity issues around market failure and income redistribution. Topics include optimal design for expenditure programs (including social insurance) and revenue for funding expenditure programs and achieving social goals. Offered half of semester.
SA: EC 835
Effective Fall Semester 2025

- EC 850B Development Economics II
Fall of every year. 1.5(1.5-0) P: EC 812A or EC 812B or EC 820A or EC 820B R: Open to graduate students in the Department of Economics or approval of department.
Further topics in development economics. May include human capital, health, gender, taxation and public expenditures, and insurance. Offered half of semester.
SA: EC 850
Effective Fall Semester 2025
- EC 911B Applied Microeconomic Theory II
Fall of every year. 1.5(1.5-0) P: EC 812A or EC 812B R: Open to graduate students in the Department of Economics or approval of department.
Models of beliefs, information, and learning with an emphasis on explaining human behavior and applications of economic interest. Offered half of semester.
SA: EC 911
Effective Fall Semester 2025
- EC 911D Applied Microeconomic Theory IV
Spring of every year. 1.5(1.5-0) P: EC 812A or EC 820A or EC 820B R: Open to graduate students in the Department of Economics or approval of department.
Applied theory of contracts and bargaining, including topics in industrial organization, labor and organizational economics, with an emphasis on developing model-building skills that complement empirical applications. Offered half of semester.
SA: EC 912
Effective Fall Semester 2025
- EC 920A Economics Research I
Fall of every year. 1(1-0) P: EC 812A R: Open to graduate students in the Department of Economics or approval of department.
How to write research papers in economics. Planning and executing a paper, writing exercises, and how to constructively provide and receive feedback on written work.
Effective Fall Semester 2025
- EC 920B Economics Research II
Spring of every year. 1(1-0) P: EC 812A R: Open to graduate students in the Department of Economics or approval of department.
How to write research papers in economics. Writing complete papers. Effective presentation of research findings. Techniques for polishing manuscripts and delivering professional presentations.
Effective Fall Semester 2025

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING

- ECE 446 Biomedical Signal Processing
Fall of odd years. 3(3-0) P: ECE 366 RB: Basic linear systems and probability theory. R: Open to students in the Department of Electrical and Computer Engineering.
Deterministic and random digital signal processing theory in the context of biomedical applications with computer projects on the analysis of real physiologic signals.
Effective Fall Semester 2025

DEPARTMENT OF FINANCE

- FI 465 Sales and Relationship Management in Wealth Management
Fall of every year. Spring of every year. 3(3-0) P: FI 311 R: Open to juniors or seniors in the Eli Broad College of Business and The Eli Broad Graduate School of Management and open to students in the Financial Planning and Wealth Management Minor. Not open to students with credit in FI 840.
Issues, concepts, and tactics used in the financial planning and wealth management profession to market, sell, and manage ongoing client relationships. Focus will be on those who will be working in the industry after graduation.
Effective Fall Semester 2025

- FI 840 Sales and Relationship Management in Wealth Management
Fall of every year. Spring of every year. 3(3-0) P: FI 801 R: Open to students in the Financial Planning and Wealth Management Minor. Not open to students with credit in FI 465.
Issues, concepts, and tactics used in the financial planning and wealth management profession to market, sell, and manage ongoing client relationships. Focus will be on those who will be working in the industry after graduation.
Effective Spring Semester 2025

DEPARTMENT OF FISHERIES AND WILDLIFE

- FW 417L Wetland Ecology and Management Laboratory
Fall of every year. 1(0-3) P: FW 417 or concurrently R: Open to students in the Department of Fisheries and Wildlife or approval of department.
Methods and tools for assessing wetland ecosystems and applying that information to develop conservation and management plans. Field trips required.
Effective Fall Semester 2025

- FW 494 Marine Biology and Ecosystem Experience
On Demand. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. RB: FW 110 or FW 416 or FW 353 R: Open to undergraduate students in the Marine Biology and Ecosystem Management Minor or approval of department; application required.
Marine-based experiential learning field experience.
Effective Summer Semester 2025

DEPARTMENT OF INTEGRATIVE BIOLOGY

- IBIO 897 Ecosystem Ecology and Global Change
Fall of odd years. 4(4-0) Interdepartmental with Fisheries and Wildlife, Plant Biology
Structure and function of natural ecosystems and their responses to global environmental change. Biogeochemical cycles, food webs, energy flow, nutrient cycling, and ecosystem management and restoration.
SA: ZOL 897
Effective Spring Semester 2026

SCHOOL OF JOURNALISM

- JRN 811A Advanced Documentary Filmmaking I
Fall of every year. 3(2-2) RB: Undergraduate degree and/or professional experience in journalism or documentary filmmaking; Beginner-level camera, editing and reporting skills R: Open to graduate students.
Design and development of documentaries in a team setting using video and audio, still photography, web design, and print media. Participation in a production cycle including idea generation, research, design, production, and distribution.
Effective Fall Semester 2025
- JRN 811B Advanced Documentary Filmmaking II
Spring of every year. 3(2-2) P: JRN 811A RB: Undergraduate degree and/or professional experience in journalism or documentary filmmaking; Beginner-level camera, editing and reporting skills R: Open to graduate students.
Design and development of documentaries in a team setting using video and audio, still photography, web design, and print media. Participation in a production cycle including idea generation, research, design, production, and distribution.
Effective Spring Semester 2026

MSU COLLEGE OF LAW

- LAW 542C Elder Law Practice
On Demand. 0 to 6 credits. R: Open to students in the MSU College of Law. Not open to students with credit in LAW 541C.
Preparation of elder law related legal documents
Effective Spring Semester 2025

LAW 811M Food Law Capstone
On Demand. 0 to 6 credits. RB: Students should complete a minimum of 18 credits in the program before enrolling in this class. R: Open to law advanced students in the MSU College of Law or in the Global Food Law Major.
Complex issues in the realm of food regulation.
Effective Fall Semester 2024

DEPARTMENT OF LINGUISTICS, LANGUAGES AND CULTURES

KOR 351 Korean Identities and Cultural Values
Spring of even years. 3(3-0) RB: Background in Korean language
Major themes in Korean identity and culture through literature, music, films, photographs, folktales, and the arts. Everyday life in traditional and contemporary Korean culture as well as attitudes, ideas, feelings, and beliefs that are associated with Korean culture and identities.
Taught in English.
Effective Fall Semester 2025

KOR 451 Korean Language in Culture and Society
Spring of odd years. 3(3-0) RB: Familiarity with Korean language, culture, and/or history recommended, but not required.
Contrastive analysis of the Korean language in culture and society, examining sociolinguistic phenomena in contemporary Korea. Confucianism and honorifics, language changes, gender differences, generation differences, linguistic identities, North and South Korean languages, and Korean contacts with other languages such as Chinese, Japanese and English. Taught in English and Korean.
Effective Fall Semester 2025

KOR 461 Korean Culture (W)
Fall of every year. 3(3-0) P: Completion of Tier I Writing Requirement RB: Familiarity with Korean language, culture, and/or history recommended, but not required.
In-depth analysis of historical, social, and cultural developments in the Korean-speaking world. The Korean War, North Korea, modernization, economic crisis, the women's movement, family life, multiculturalism, globalization, and digital Korea. Taught in English and Korean.
Effective Fall Semester 2025

KOR 492 Capstone Project: Korean
Fall of every year. Spring of every year. 1(1-0) C: KOR 401 concurrently or KOR 402 concurrently or KOR 451 concurrently or KOR 461 concurrently or KOR 491 concurrently
Completion of a capstone paper or project reflective of student's academic achievements in Korean Studies.
Effective Fall Semester 2025

DEPARTMENT OF MECHANICAL ENGINEERING

ME 823 Fracture Mechanics and Fatigue
Fall of even years. 3(3-0) RB: Undergraduate solid mechanics, Linear Elasticity, Engineering Mathematics
Brittle and ductile fracture. Elastic stress fields near cracks. Elastic-plastic analysis of crack extension. Plastic instability. Cyclic crack propagation. Models of cyclic deformation and fatigue failure. Environmental effects. Case studies. Fracture behavior of thin films.
Effective Fall Semester 2025

COLLEGE OF MUSIC

- MUS 187 Skills in Music Theory
Fall of every year. 3(3-1) R: Open to undergraduate students in the College of Music or approval of college.
Fundamental skills in music theory including pitch notation, rhythmic notation, keys and key signatures, scales, intervals, transposition, triads, seventh chords, and shorthands for representing chords.
Effective Fall Semester 2024
- MUS 188 Introduction to Music Theory I
Spring of every year. 3(3-1) P: MUS 187 or approval of college R: Open to undergraduate students in the College of Music or approval of college.
Elements of music including meter, rhythm, melody, collections, counterpoint, form, harmony, texture, and timbre. Analysis, communication, and simple composition using these elements. Developing interpretive skills as listeners and performers of music.
Effective Spring Semester 2025
- MUS 285 Introduction to Music Theory II
Fall of every year. 3(3-1) P: MUS 188 R: Open to undergraduate students in the College of Music or approval of college.
A continuation of MUS 188. Elements of music including meter, rhythm, melody, collections, counterpoint, form, harmony, texture, and timbre. Analysis, communication, and simple composition using these elements. Developing interpretive skills as listeners and performers of music. Musical processes that introduce ambiguity and require interpretation.
Effective Fall Semester 2025
- MUS 428 Topics in Musicology
Fall of every year. Spring of every year. 2(2-0) P: MUS 214 R: Open to students in the College of Music.
Focused study of topics in Musicology and Ethnomusicology not covered by regular course offerings. Topic varies by semester.
Effective Fall Semester 2025
- MUS 431 Indigenous Music in North America
Spring of odd years. 2(2-0) P: MUS 214 R: Open to students in the College of Music.
An Ethnomusicological study of Indigenous music and dance practices in North America.
Effective Fall Semester 2025
- MUS 485 Topics in Music Theory
Fall of every year. Spring of every year. 2(2-0) A student may earn a maximum of 12 credits in all enrollments for this course. P: MUS 285 R: Open to undergraduate students in the College of Music or approval of college.
Deep creative and/or interpretive engagement with selected musical repertoire(s) and analytical methodologies. Communication about music, including written communication. Content varies with each offering.
Effective Spring Semester 2026

SCHOOL OF PLANNING, DESIGN AND CONSTRUCTION

Please note that all UP courses are changing administrative responsibility to solely the College of Agriculture and Natural Resources

- UP 310 Data Fluency and Writing for Urban Planners
Fall of every year. 3(3-0) P: UP 201 R: Approval of school.
Data collection, analysis, and evidence-based argumentation for urban planners.
Effective Fall Semester 2025

- UP 462 Urban Placemaking in an Age of Globalization
Fall of every year. 3(3-0) R: Not open to freshmen.
Application of placemaking to neighborhoods, communities, and cities. Planning and community building practices through a sustainability lens.
Effective Fall Semester 2025
- UP 473 Healthy Cities
Spring of every year. 2 to 4 credits. A student may earn a maximum of 4 credits in all enrollments for this course. R: Not open to freshmen.
Impact of urban environments on public health. Causes of health disparities and policies that impact health outcomes.
Effective Fall Semester 2025
- UP 491 Special Topics in Urban Planning
On Demand. 1 to 4 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Open to students in the College of Agriculture and Natural Resources or in the School of Planning, Design and Construction.
Issues and problems in contemporary urban planning.
Effective Spring Semester 2025
- UP 891 Special Topics in Urban Planning
On Demand. 2 to 4 credits. A student may earn a maximum of 6 credits in all enrollments for this course.
Issues and current research in urban planning.
Effective Fall Semester 2025

DEPARTMENT OF RELIGIOUS STUDIES

- GNL 816 Introduction to the Nonprofit Sector
On Demand. 2(2-0)
History, diversity, and societal impact of the nonprofit sector. Theories and key issues related to the existence, structures, and functions of nonprofit organizations.
Effective Fall Semester 2025
- GNL 833 Nonprofit Financial Management
On Demand. 2(2-0)
Financial management of nonprofit organizations. Theoretical and applied aspects of nonprofit management issues, principles, and tools required for effective management of finances.
Effective Fall Semester 2025
- GNL 834 Nonprofit Volunteer Management
On Demand. 2(2-0)
Strategies for building an effective volunteer management process. Theoretical foundations and practical skills necessary for managing volunteers in nonprofit organizations.
Effective Fall Semester 2025
- GNL 898 Master's Research Project
On Demand. 2(2-0) R: Open to graduate students or master's students in the College of Arts and Letters or in the Department of Religious Studies or in the Nonprofit Leadership, Global Cultures, and Social Enterprise Graduate Certificate or in the Nonprofit Leadership, Global Cultures, and Social Enterprise Major.
Directed research leading to a master's project in partial fulfillment of Plan B master's degree requirements.
Effective Fall Semester 2025
- REL 255 Religion and Social Media
On Demand. 3(3-0)
Survey and analysis of social media use to disseminate religious knowledge and forge identities online and offline.
Effective Fall Semester 2025

- REL 315 Women and Judaism
On Demand. 3(3-0)
Jewish texts, histories, and cultures centering experiences and representations of Jewish women. A gender studies approach to the history of religious life that emphasizes the structures that have limited Jewish women's agency, as well as the many ways that Jewish women have exercised agency on their own terms.
Effective Fall Semester 2025
- REL 445 Untouchability, Religion, and Social Change in Asia (W)
On Demand. 3(3-0) P: Completion of Tier I Writing Requirement
Ideas and practices of untouchability in Asia, with religious, economic, social, and cultural factors. Effects of untouchability and attempts to overcome it across Hindu, Buddhist, Muslim, Sikh, Christian, indigenous, and nonreligious groups, especially from 1800 to the present. Although focused on Asia, how people have invoked religion variously to justify, challenge, and change social hierarchy.
Effective Fall Semester 2025

RESIDENTIAL COLLEGE IN THE ARTS AND HUMANITIES DEAN

- RCAH 101 The First-Year Experience
Fall of every year. 1(1-0) R: Open to undergraduate students in the Residential College in the Arts and Humanities or in the Arts and Humanities Major. Approval of college.
Academic skills to support students' transition from high school to their first year of college. Build a first-year cohort and relationships with faculty and staff before start of the fall semester.
Curricular and cocurricular experiences in an interdisciplinary, residential college.
Request the use of the Pass-No Grade (P-N) system.
Effective Summer Semester 2025

DEPARTMENT OF SMALL ANIMAL CLINICAL SCIENCES

- SCS 656 Advanced Small Animal Orthopedics
On Demand. 3(2-2) A student may earn a maximum of 3 credits in all enrollments for this course. P: VM 569 RB: Successful completion of year 3 of the graduate-professional program in the College of Veterinary Medicine, including VM 569. R: Open to veterinary medicine students in the College of Veterinary Medicine.
Basic biomechanics in orthopedics, fracture management, joint pathology, arthroscopy and joint replacement. Practical exercises on cadavers.
Request the use of ET-Extension to postpone grading.
The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment.
Effective Spring Semester 2025

COLLEGE OF VETERINARY MEDICINE

- VM 851 Independent Study
Fall of every year. Spring of every year. Summer of every year. 1 to 9 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Open to graduate students in the College of Veterinary Medicine or in the Comparative Medicine Integrative Biology-Environmental Toxicology Major or in the Comparative Medicine and Integrative Biology Major. Approval of department.
Non-thesis research.
Request the use of the Pass-No Grade (P-N) system.
Effective Fall Semester 2024
- VM 862 Grant Writing in the Biomedical Sciences
Fall of every year. 2(2-0) RB: Minimum of 1 year completed in a graduate program and active engagement in biomedical research. R: Open to graduate students in the College of Veterinary Medicine or in the Comparative Medicine Integrative Biology-Environmental Toxicology Major or in the Comparative Medicine and Integrative Biology Major or approval of department.
Practical approach to grant application development, preparation and submission
Effective Fall Semester 2024

PART III – COURSE CHANGES

DEPARTMENT OF ACCOUNTING AND INFORMATION SYSTEMS

- ACC 824 ~~Governance and Control of Enterprise Systems~~ Information Systems Security and Assurance
Fall of every year. 3(3-0) Interdepartmental with Information Technology Management R: Open to master's students in the Accounting Major or approval of department.
~~Governance and control of information technologies. Design and control of IT general controls. Modeling and forecasting system IT internal control performance. Identification and valuation of key information and communication technologies. Frameworks for assessing information system risk and cybersecurity. Information system auditing, and international standards for information technology governance and control. Cyber security.~~ Coverage of the eight domains of cybersecurity (CISSP): security and risk management, asset security, security architecture and engineering, communication and network security, identity and access management, security assessment and testing, security operations, and software development security. Information system controls, auditing, and international standards for information technology governance and control are presented. Topics reflect the materials tested in the Certified Information Systems Security Professional (CISSP) and Certified Information Systems Auditor (CISA) examinations.
Effective Fall Semester 2025

DEPARTMENT OF ANIMAL SCIENCE

- ANS 810 ~~Stem Cells in Reproduction and Development~~
~~Fall of odd years.~~ Fall of every year. 3(3-0) RB: ANS 307 and ANS 425 Not open to students with credit in ANS 410.
Properties and classification of stem cells; methodology to isolate, culture, and differentiate stem cells; mechanisms underlying stemness and differentiation of stem cells; application of stem cells in agricultural studies, veterinary medicine, and biomedical research. Advanced problem solving in agricultural and biomedical research using stem cell technologies. Advanced problem solving in agricultural and biomedical research using stem cell technologies.
Effective Fall Semester 2025
- ANS 936 ~~Protein Nutrition and Metabolism~~ Amino Acid Nutrition and Metabolism
~~Spring of odd years.~~ Spring of every year. 3(3-0) Interdepartmental with Human Nutrition and Foods RB: Courses in biochemistry and nutrition.
~~Nutritional and endocrine regulation of protein synthesis and degradation, protein quality assessment, protein status, and protein energy malnutrition. Protein metabolism during exercise. Metabolism, digestion, and absorption of amino acids and proteins. Physiological and nutritional significances of proteins and amino acids as applied to higher animals. Classification, digestion, absorption, utilization, and metabolism of protein, amino acids, and peptides. Topics in dietary deficiencies, excess of amino acids as well as nutritional regulation of protein turnover.~~
Effective Fall Semester 2025

COLLEGE OF ARTS AND LETTERS

- ACM 480 Arts and Cultural Experience
Fall of every year. Spring of every year. Summer of every year. 1(0-2) A student may earn a maximum of 10 credits in all enrollments for this course. RB: ACM 271 Not open to students with credit in ACM 880.
Experience in arts and cultural management through cooperative and collaborative activities with arts and cultural professionals and organizations, investigating the creative process from project inception to audience reception.
Effective Fall Semester 2025
- ACM 880 Arts and Cultural Management Experience
Fall of every year. Spring of every year. Summer of every year. 1(0-2) A student may earn a maximum of 10 credits in all enrollments for this course. RB: ACM 801 or MUSM 885 Not open to students with credit in ACM 480.
Experience in arts and cultural management through cooperative and collaborative activities with arts and cultural professionals and organizations, investigating the creative process from project inception to audience reception.
Effective Fall Semester 2025

- DH 450 Digital Studies Capstone
~~Fall of even years. Spring of every year.~~ Spring of every year. 3(3-0) P: DH 285
Create portfolio and professional documents in preparation for life beyond academia and connect with digital arts and humanities communities through lecture and event attendance.
Effective Fall Semester 2025
- DH 865 Digital Humanities Methods Seminar
~~Fall of every year.~~ Spring of every year. ~~3 credits.~~ 3(3-0) Not open to students with credit in HST 812.
Brainstorming, creating, and managing digital humanities research projects. Selecting appropriate methodologies, methods, and tools for digital humanities research. Applying project management tools. Seeking funding and support for digital humanities research projects.
Effective Fall Semester 2025
- MUSM 480 Museums and Cultural Experience
Fall of every year. Spring of every year. Summer of every year. 1(0-2) A student may earn a maximum of 10 credits in all enrollments for this course. RB: MUSM 485 Not open to students with credit in MUSM 880.
Experience in museums and cultural management through cooperative and collaborative activities with museum and cultural professionals and organizations, investigating the creative process from project inception to audience reception.
Effective Fall Semester 2025
- MUSM 880 Museums and Cultural Management Experience
Fall of every year. Spring of every year. Summer of every year. 1(0-2) A student may earn a maximum of 10 credits in all enrollments for this course. RB: ACM 801 or MUSM 885 Not open to students with credit in MUSM 480.
Experience in museums and cultural management through cooperative and collaborative activities with museum and cultural professionals and organizations, investigating the creative process from project inception to audience reception.
Effective Fall Semester 2025

BIOMEDICAL LABORATORY DIAGNOSTICS PROGRAM

- BLD 204 Mechanisms of Disease
~~Fall of every year. Spring of every year. Summer of every year.~~ Spring of every year. Summer of every year. 3(3-0) P: PSL 310 or PSL 431 R: Not open to seniors.
Pathophysiological mechanisms of diseases. Selected applications to organ system pathology.
SA: MT 204
Effective Fall Semester 2025
- BLD 313 Quality in Clinical Laboratory Practice
~~Fall of every year. Spring of every year.~~ Spring of every year. 3(3-0) P: ((BLD 121 or concurrently) and BLD 213L) and ((STT 201 or STT 200 or STT 231) and completion of Tier I writing requirement) RB: PHY 232
Concepts and principles of clinical laboratory analysis and the statistical evaluation of the data produced as related to quality.
SA: BLD 414, BLD 417
Effective Fall Semester 2025
- BLD 434 Clinical Immunology
~~Fall of every year. Spring of every year. Summer of every year.~~ Fall of every year. Summer of every year. 3(3-0) P: PSL 250 or PSL 310 or PSL 432 ~~RB: (MMG 201 or MMC 301) and BLD 204~~ RB: (MGI 201 or MGI 301) and BLD 204 ~~Not open to students with credit in MMC 451.~~ Not open to students with credit in MGI 451.
Concepts of innate and adaptive immunity. Immunodeficiency and autoimmunity. Principles and applications of immunoassays in medical laboratories.
SA: MT 432, MT 434
Effective Fall Semester 2025

- BLD 456 Medical Laboratory Professionalism (W)
~~Fall of every year. Spring of every year.~~ Fall of every year. 2(2-0) P: (BLD 121 and BLD 313) and completion of Tier I writing requirement ~~RB: (BLD 302 and BLD 324 and BLD 435) and (MMG 201 or MMG 301)~~ RB: (BLD 302 and BLD 324 and BLD 435) and (MGI 201 or MGI 301) R: Open to seniors in the Biomedical Laboratory Diagnostics Program.
Basic principles and concepts in education and professional behavior in clinical laboratories.
Systematic approach to instructional design, delivery and evaluation. Principles of leadership.
Effective Fall Semester 2025
- BLD 461 Advanced Biomedical Technologies
Fall of every year. 3(3-0) P: (BLD 430) and (BLD 434 or MMG 451) RB: BLD 314L R: Open to students in the Biomedical Laboratory Science Major.
Common and specialized molecular and antibody-based diagnostic technologies applied to medical diagnostics and related biomedical research applications.
SA: BLD 460
DELETE COURSE
Effective Fall Semester 2025
- BLD 461L Advanced Biomedical Technologies Laboratory
Fall of every year. 1(0-3) P: (BLD 461 or concurrently) and (BLD 314L or concurrently) R: Open to students in the Biomedical Laboratory Science Major.
Laboratory in molecular and antibody-based technologies with emphasis on clinical and diagnostic applications.
SA: BLD 430L, BLD 452L
DELETE COURSE
Effective Fall Semester 2025
- BLD 830 Concepts in Molecular Biology
~~Fall of every year. Spring of every year.~~ Fall of every year. 2(2-0) Interdepartmental with Pathobiology and Diagnostic Investigation RB: One course in biochemistry or concurrently.
Techniques and theories of molecular biology, nucleic acid synthesis and isolation, enzymatic digestion and modification, electrophoresis, hybridization, amplification, library construction, and cloning.
Request the use of ET-Extension to postpone grading.
The work for the course must be completed and the final grade reported within 3 semesters after the end of the semester of enrollment.
SA: MT 830
Effective Fall Semester 2025

THE ELI BROAD COLLEGE OF BUSINESS

- HCM 804 Financial Management in Healthcare
Fall of every year. Spring of every year. Summer of every year. 1 to 3 credits. ~~P: HCM 803~~ R: Open to master's students in the Healthcare Management Major.
Financial management tools for investment and financing decision making in healthcare firms.
Risk, valuation, capital budgeting. Analysis of the financial condition of the firm through the examination of financial statements. Current events and applications.
Effective Spring Semester 2025

COLLEGE OF COMMUNICATION ARTS AND SCIENCES

- CAS 828 Persuasion Techniques for Working Professionals
~~Fall of every year.~~ Fall of every year. Spring of every year. 3(3-0) R: Open to master's students in the Strategic Communication Major.
Application of scientific principles of persuasion and compliance gaining, persuasive message construction, audience response to persuasion attempts.
Effective Fall Semester 2025

- CAS 837 Catalyst Thinking in the C-Suite
~~Fall of every year.~~ Spring of every year. 3(3-0) R: Open to master's students in the Strategic Communication Major or in the Organizational Communication for Leadership Graduate Certificate. Knowledge, skills and abilities relevant to organizational leaders including communication, collaboration, creativity, community, conflict, change and core values.
Effective Spring Semester 2025
- CAS 844 Capstone/Practicum
~~Fall of every year.~~ Fall of every year. Spring of every year. 3(3-0) R: Open to master's students in the Strategic Communication Major. Final project designed to integrate program learning and demonstrate facility with digital communication.
Effective Fall Semester 2025

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

- CSE 845 Multi-disciplinary Research Methods for the Study of Evolution
~~Spring of every year. 3(3-0) Interdepartmental with Integrative Biology, Microbiology and Molecular Genetics~~ Interdepartmental with Integrative Biology, Microbiology, Genetics, and Immunology
Techniques for engaging in multi-disciplinary research collaborations, including biology, computer science, and engineering. Students engage in group projects to answer fundamental questions about the dynamics of actively evolving systems including both natural and computational. Multi-disciplinary teams will learn to overcome discipline-specific language and conceptual issues. Experimental design, statistical analysis, data visualization, and paper and grant writing for multi-disciplinary audiences.
Effective Fall Semester 2025

DEPARTMENT OF COUNSELING, EDUCATIONAL PSYCHOLOGY, AND SPECIAL EDUCATION

- CEP 801 Psychological Development: Learner Differences and Commonalities
~~Fall of every year. Spring of every year. Summer of every year.~~ Spring of every year. 3(3-0) ~~Interdepartmental with~~
Development of differences and commonalities in learners across the lifespan. Contextual influences on development. Implications for learning in schools and other settings.
Effective Summer Semester 2025
- CEP 817 Learning Technology through Design
Spring of every year. Summer of every year. 3(3-0) A student may earn a maximum of 6 credits in all enrollments for this course.
~~Design of educational tools and software. Designing for learners. Human-computer interaction. Art and aesthetics of design. Iterative design. Collaboration in design. Five phases of the~~ Stanford Model of Design Thinking: empathize, define, ideate, prototype, and test.
Effective Summer Semester 2025
- CEP 848 ~~Supervision in Applied Behavior Analysis~~ Organizational Behavior Management
~~Summer of every year. 3(3-0) R: Open to students in the Applied Behavior Analysis Major or in the Applied Behavior Analysis in Special Education Graduate Certificate. R: Open to students in the Applied Behavior Analysis Major or in the Applied Behavior Analysis and Autism Spectrum Disorder Major.~~
Effective supervision strategies in behavior analytic practice. Effective supervision and organizational management strategies in behavior analysis for practitioners in the field of applied behavior analysis. Organizational behavior management related to performance analysis and management, supervision of others, training staff, and behavioral systems analysis.
Effective Summer Semester 2026

- CEP 855 ~~Verbal Behavior in Education~~ Foundations of Behavior Analysis
Fall of every year. ~~3(3-0) P: CEP 844 and CEP 845 and CEP 854 R: Open to graduate students in the Department of Counseling, Educational Psychology, and Special Education. R: Open to students in the Applied Behavior Analysis Major or in the Applied Behavior Analysis and Autism Spectrum Disorder Major.~~
Applications of verbal behavior to language and literacy instruction for students with disabilities. The underlying historical, theoretical, and philosophical foundations of behavior analysis.
Effective Fall Semester 2026
- CEP 911 Intellectual History of Educational Psychology
~~Fall of every year. Fall of odd years. 3(3-0) R: Open to doctoral students.~~
Ideas and perspectives on learning and development that have shaped educational psychology. Learning of school subject matters. Learning and development in relation to educational settings. Historical theories, ideas and perspectives that have influenced the discipline of educational psychology. Impacts and practices in educational institutions (in U.S. and other countries.)
Effective Fall Semester 2025
- CEP 916 Intellectual History of Educational Technology
~~Spring of every year. Spring of odd years. 3(3-0) R: Open to doctoral students in the College of Education. R: Open to doctoral students.~~
History of technology and learning in formal and informal settings. Historical, theoretical, empirical, methodological, and philosophical issues in the study of technology in education. Teachers' use of educational technology. Western history of educational technology. Methodological and philosophical issues of educational and technology (including feminist, anti-racist, queer, and/or decolonial scholars).
Effective Fall Semester 2025

DEPARTMENT OF EARTH AND ENVIRONMENTAL SCIENCES

- GLG 301 Geology of the Great Lakes Region
Spring of every year. 3(3-0) P: (PHY 231 or PHY 183 or LB 273 or PHY 193H) and (CEM 141 or CEM 151 or LB 171 or CEM 181H) RB: Physical science, environmental engineering, civil engineering R: Open to undergraduate students in the Department of Civil and Environmental Engineering. Not open to students with credit in GLG 201.
Geological, physical and chemical processes related to the origin and evolution of the Earth, North American continent, and the Great Lakes environment. Soils, hydrology, Earth structure and materials, geologic hazards.
DELETE COURSE
Effective Spring Semester 2025
- GLG 435 Geomicrobiology (W)
~~Spring of odd years. 4(3-2) Interdepartmental with Microbiology and Molecular Genetics~~ Interdepartmental with Microbiology, Genetics, and Immunology P: Completion of Tier I Writing Requirement ~~RB: GLG 201 or MMC 201 or BS 161 or LB 145~~ RB: GLG 201 or MGI 201 or BS 161 or LB 145 R: Open to juniors or seniors or graduate students in the College of Natural Science or in the Lyman Briggs College.
Geological and microbiological perspectives on microbial activities in diverse environmental settings, including geological change mediated by microorganisms, microbial evolution driven by geologically diverse habitats.
Effective Fall Semester 2025

DEPARTMENT OF ECONOMICS

- EC 821A Cross-Section and Panel Data Econometrics I Advanced Econometrics I
Fall of every year. Spring of every year. 3(3-0) 1.5(1.5-0) P: EC 820B P: EC 820A and EC 820B R: Open to graduate students in the Department of Economics or approval of department.
Analyses of systems of equations, panel data models, instrumental variables and generalized method of moments, M-estimation, quantile regression, maximum likelihood estimation, binary and multinomial response models, Tobit and two part models, and other selected topics. Systems of equations; static and dynamic linear panel data models; generalized least squares; generalized method of moments. Offered half of semester.
SA: EC 824
Effective Fall Semester 2025
- EC 821B Cross-Section and Panel Data Econometrics II Advanced Econometrics II
Spring of every year. 3(3-0) 1.5(1.5-0) P: EC 821A P: EC 820A and EC 820B R: Open to graduate students in the Department of Economics or approval of department.
Analyses of quasi maximum likelihood estimation, count data models, fractional response models, duration models, sample selection and attrition, stratified sampling, estimating treatment effects, stochastic frontier models, and other advanced topics. Nonlinear models for cross-section and panel data; discrete response models; count data and corner solutions; sample selection issues. Offered half of semester.
Effective Fall Semester 2025
- EC 822A
EC 821C Time Series Econometrics I Advanced Econometrics III
Fall of every year. 3(3-0) 1.5(1.5-0) P: EC 820B P: EC 820A or EC 820B R: Open to graduate students in the Department of Economics or approval of department.
Analyses of time series regression, stationary time series analysis, ARMA models, Wold decomposition, spectral analysis, vector autoregressions, generalized method of moments, functional central limit theorem, nonstationary time series, unit root processes, cointegration, and other advanced topics. Fundamentals of time series econometrics; stationary time series; autoregressive moving average models; spectral analysis; vectors of time series; functional central limit theorem; nonstationary time series; deterministic trends and unit roots; stationary and cointegrating regression. Offered half of semester.
SA: EC 822 SA: EC 822A
Effective Fall Semester 2025
- EC 823
EC 823A Applied Econometrics Applied Econometrics I
Fall of every year. Spring of every year. 3(3-0) 1.5(1.5-0) P: EC 820A and EC 820B R: Open to graduate students in the Department of Economics or approval of department.
Problems of estimating models and testing hypotheses from economic theory. Applications of various econometric models to economic problems and policy analysis. Applying formal econometrics to data focusing on estimation of treatment effects and applying to topics in applied research. Covers theory and emphasizes implementation. Topics may include linear regression based methods, nonlinear regression adjustment, and propensity score methods. Offered half of semester.
SA: EC 823
Effective Fall Semester 2025
- EC 830 Advanced Macroeconomics and Monetary Theory Advanced Macroeconomics
Fall of every year. Spring of every year. 3(3-0) 1.5(1.5-0) P: EC 812B and EC 813B P: EC 812A and EC 812B and EC 813A and EC 813B R: Open to graduate students in the Department of Economics or approval of department.
General equilibrium models of monetary economics. Money and growth. Monetary and financial models of the business cycle. Hyperinflation. Bubbles, sunspots, cycles, and multiple equilibria. Macro-finance, monetary economics (theory and applied), macroeconomic aspects of international finance and trade, financial intermediation. Offered half of semester.
Effective Fall Semester 2025

~~EC 835~~

EC 835A

~~Public Expenditures~~ Public Economics I

~~Fall of every year. 3(3-0) 1.5(1.5-0) P: EC 812A P: EC 812A and EC 812B R: Open to graduate students in the Department of Economics or approval of department.~~

~~Allocative and distributional effects of public expenditure. Public goods and externalities. Selected topics in public expenditure analysis such as cost benefit analysis, fiscal federalism, mechanism design, public choice, and general equilibrium models. Efficiency and equity issues around market failure and taxation. Topics include public goods, externalities, public choice, and optimal tax theory Offered half of semester.~~

~~SA: EC 835~~

~~Effective Fall Semester 2025~~

EC 840

~~International Trade: Theory and Commercial Policy~~ International Economics

~~Fall of every year. Spring of every year. 3(3-0) 1.5(1.5-0) P: EC 812A P: EC 812A or EC 812B R: Open to graduate students in the Department of Economics or approval of department.~~

~~Commodity composition of trade. Welfare and distributional effects of measures such as tariffs, quotas, and export subsidies. International economic policy. Regional and multilateral trade policy. Composition of trade and foreign direct investment. Welfare effects of trade policy. Additional topics may include trade and capital market frictions, trade and innovation. Offered half of semester.~~

~~Effective Fall Semester 2025~~

EC 843

Advanced Topics in International Trade

Spring of every year. 3(3-0) P: EC 812A and EC 812B and EC 840

Selected topics in international trade.

DELETE COURSE

Effective Fall Semester 2025

~~EC 850~~

EC 850A

~~Growth, Development, and Human Resources~~ Development Economics I

~~Fall of every year. 3(3-0) 1.5(1.5-0) P: EC 812A P: EC 812A or EC 812B or EC 820A or EC 820B R: Open to graduate students in the Department of Economics or approval of department.~~

~~Theoretical and empirical models of the microeconomics of development, focusing on household and individual behavior related to investment in human resources and its consequences. Topics in development economics. May include growth, institutions, credit markets, and political economy. Offered half of semester.~~

~~SA: EC 850~~

~~Effective Fall Semester 2025~~

~~EC 860~~

EC 860A

~~Market Structure and Behavior~~ Industrial Organization I

~~Fall of every year. 3(3-0) 1.5(1.5-0) P: EC 812A P: EC 812A or EC 812B R: Open to graduate students in the Department of Economics or approval of department.~~

~~The consequences of concentration and entry conditions. Theory of the firm as it relates to size, scope, integration, and motivation. Static market behavior. Antitrust treatment of cartels and mergers. Key theoretical models in industrial organizations. Topics may include price discrimination, dynamic monopoly, strategic firm behavior in oligopoly, entry deterrence and exclusionary conducts, advertising, platform markets, research and development, and innovation. Offered half of semester.~~

~~SA: EC 860, EC 861~~

~~Effective Fall Semester 2025~~

EC 861

EC 860B

Dynamic Market Behavior and Performance Industrial Organization II

Spring of every year. Fall of every year. -3(3-0) 1.5(1.5-0) P: EC 812A P: EC 812A and EC 812B R: Open to graduate-professional students in the Department of Economics or approval of department.

Theoretical and empirical treatments of dynamic aspects of industry behavior. Strategic behavior, predation, and antitrust treatment. Research, development, and innovation. Government controls. Public utilities and regulation. Advanced tools and methods utilized in empirical industrial organizations. Topics may include differentiated product market, demand and supply, entry and exit, production function, productivity, and industry structures. Offered half of semester.

SA: EC 860, EC 861

Effective Fall Semester 2025

EC 880

EC 880A

Labor Economics I

Fall of every year. Spring of every year. -3(3-0) 1.5(1.5-0) P: EC 812A and EC 820B P: EC 812A or EC 820B or EC 820A R: Open to graduate students in the Department of Economics or approval of department.

Labor supply and measurement of the labor force. Labor demand. Mobility, turnover, and migration. Equalizing wage differentials. Trade union growth, goals, bargaining and effects. Labor supply and demand. Labor market equilibrium and the structure of wages. Additional topics may include retirement, minimum wage. Offered half of semester.

SA: EC 880, EC 881

Effective Fall Semester 2025

EC 881

EC 880B

Labor Economics II

Spring of every year. -3(3-0) 1.5(1.5-0) P: EC 812A and EC 820B P: EC 812A or EC 820B or EC 820A R: Open to graduate students in the Department of Economics or approval of department.

Theories and empirical evidence of the human capital model and alternatives to the human capital model. Economics of discrimination and gender differences in labor markets. Employment and distributional effects of minimum wages. Human capital, education, and job training. Labor market discrimination. Unemployment. Additional topics may include job mobility, employer and employee learning. Offered half of semester.

SA: EC 880, EC 881

Effective Fall Semester 2025

EC 911

EC 911A

Strategic Behavior in Economic Environments Applied Microeconomic Theory I

Fall of every year. Fall of every year. -3(3-0) 1.5(1.5-0) P: EC 812B P: EC 812B or EC 812A R: Open to graduate students in the Department of Economics or approval of department.

Topics in cooperative and non-cooperative game theory. Applications include: oligopoly and bargaining theories, strategic voting and principal-agent models, endogenous coalition formation, signalling, strategic trade, and auctions theories. Analyses of strategic environments through the tools of Game Theory, using equilibrium concepts and refinements in static and dynamic settings focused on economics applications. Offered half of semester.

SA: EC 911

Effective Fall Semester 2025

EC 912

EC 911C

Risk, Uncertainty and Information Applied Microeconomic Theory III

Spring of every year. -3(3-0) 1.5(1.5-0) P: EC 812A and EC 812B-RB: EC 812A R: Open to graduate students in the Department of Economics or approval of department.

Effects of risk in economic environments. Topics include: expected utility theory, risk aversion, stochastic dominance, mean-variance models, state preference models, general equilibrium models with risk, information theory. Applied theory of institution design, including topics such as mechanism design, matching theory, and political economy, with an emphasis on developing model-building skills that complement empirical applications. Offered half of semester.

SA: EC 912

Effective Fall Semester 2025

DEPARTMENT OF FINANCE

- FI 312 ~~Introduction to Investments~~ Foundations of Investments
Fall of every year. Spring of every year. Summer of every year. 3(3-0) ~~P: (FI 311 or FI 311H) and (ACC 202 or ACC 230) and (STT 315 or STT 200 or STT 201 or STT 351 or STT 421 or STT 231 or STT 441)~~ P: (FI 311 or FI 311H) and (ACC 202 or ACC 230) and (STT 315 or STT 200 or STT 201 or STT 351 or STT 421 or STT 231 or STT 441) and (FI 355 or concurrently) ~~R: Open to juniors or seniors in the Eli Broad College of Business and The Eli Broad Graduate School of Management.~~ R: Open to students in the Eli Broad College of Business and The Eli Broad Graduate School of Management.
~~Theoretical and empirical analyses of securities. Risk and return formation. Security analysis and concepts of market efficiency. Common stocks, bonds, options, futures, and mutual funds.~~ Theoretical and empirical analyses of securities. Risk and return information. Security analysis and concepts of market efficiency. Common stocks, bonds, options, futures, and mutual funds.
Effective Fall Semester 2025
- FI 355 Financial Modeling
Fall of every year. Spring of every year. Summer of every year. 3(3-0) ~~P: FI 311 and (FI 312 or concurrently)~~ P: FI 311 and (ITM 208 or concurrently) R: Open to students in the Finance Major.
Development of computer spreadsheet-based models to analyze corporate financial strategies and valuation issues.
SA: FI 455
Effective Fall Semester 2025
- FI 862 ~~Corporate Strategy Valuation~~ Public and Private Equity Valuation and Analysis
~~Spring of every year. Fall of every year. 4 to 3 credits. 3(3-0)~~ P: MBA 822 or approval of department R: Open to master's students in the Finance major and open to MBA students or approval of department.
~~Measuring and managing the valuation of corporate strategies. Valuation techniques used in investment banking and private equity transactions, including comparables, precedent transactions, discounted cash flows and leveraged buyouts.~~
Effective Fall Semester 2025
- FI 863 ~~Corporate Restructuring and Governance~~ Corporate Restructuring and Governance (W)
Fall of every year. 1 to 3 credits. ~~P: (FI 859 or approval of department) and FI 859~~ P: FI 869 or approval of department R: Open to master's students in the Finance Major and open to MBA students.
~~Provides a broad overview of mergers, corporate restructuring, divestitures and bankruptcy from the finance perspective.~~ Mergers, corporate restructuring, divestitures and bankruptcy from the finance perspective.
Effective Spring Semester 2025
- FI 870 Venture Capital and Private Equity
Spring of every year. 1 to 3 credits. ~~P: FI 859 or approval of department~~ P: FI 869 or approval of department R: Open to master's students in the Finance major and open to MBA students or approval of department.
Advanced topics in the financing of entrepreneurial startups, venture capital and private equity. Valuation for entrepreneurial startups, venture capital and private equity, and institutions. Corporate venture capital. Venture capital investing and fundraising. Private equity investments. Sale of venture capital-backed entrepreneurial firms, and initial public equity offerings.
Effective Spring Semester 2025

DEPARTMENT OF FISHERIES AND WILDLIFE

~~IBIO 353~~

FW 353

~~Marine Biology (W)~~ Marine Biology

~~Fall of every year. 4(4-0)~~ 3(3-0) P: (BS 162 or LB 144 or BS 182H) and completion of Tier I writing requirement

~~Analysis of marine and estuarine systems. Integration of biology, chemistry, and physics. Life histories of marine organisms. Biology of special marine habitats including rocky intertidal zones, upwellings, coral reefs and deep sea.~~ Integration of biology, chemistry, and physics on organisms and habitats in the ocean and estuaries. Life history, functional adaptation, reproduction and physiology of marine organisms.

~~SA: ZOL 353~~ SA: IBIO 353, ZOL 353

Effective Spring Semester 2025

FW 364

Ecological Problem Solving

~~Fall of every year. Spring of every year.~~ Spring of every year. 3(2-2) P: ((MTH 124 or concurrently) or (MTH 132 or concurrently) or (LB 118 or concurrently)) and (STT 224 or STT 231 or STT 421) and (IBIO 355 or BE 230)

Application of ecological concepts and models to problems in natural resource and ecosystem management.

Effective Fall Semester 2025

FW 417

Wetland Ecology and Management

~~Fall of every year. 3(2-3)~~ 3(3-0) P: (BS 162 or BS 182H or LB 144 or FOR 340) and Completion of Tier I Writing Requirement RB: IBIO 355

Biological, physical, and chemical processes controlling wetland structure and function.

Utilization, mitigation, and conservation of wetlands on a sustainable basis.

SA: FW 412

Effective Fall Semester 2025

DEPARTMENT OF FOOD SCIENCE AND HUMAN NUTRITION

FSC 807

Advanced Food Toxicology

~~Fall of even years.~~ Fall of odd years. 3(3-0) R: Approval of department.

Toxicology related to food safety. Metabolism of toxicants as influenced by food constituents, mutagenesis, and chemical carcinogenesis. Risk assessment.

Effective Fall Semester 2024

DEPARTMENT OF GEOGRAPHY, ENVIRONMENT, AND SPATIAL SCIENCES

GEO 221L

Introduction to Geographic Information Laboratory

~~Fall of every year. Spring of every year. Summer of every year.~~ Fall of every year. Spring of every year. 1(0-2) P: GEO 221 or concurrently RB: Basic computer and math skills

Basic skills for working with Geographic Information Systems, remotely sensed imagery, design of maps, geospatial tools and technologies for data analysis and problem-solving.

Effective Spring Semester 2025

GEO 326

Cartographic Design and Production

~~Summer of every year.~~ Fall of every year. 4(2-4) P: GEO 221 and GEO 221L

Map design, layout, and usability. Typography and color theory. Techniques of map production, print and digital display.

SA: GEO 423

Effective Spring Semester 2025

GEO 330

Geography of the United States

~~Fall of every year. Spring of every year. Summer of every year.~~ Fall of every year. Spring of every year. 3(3-0)

Geographic examination of United States landscapes, cultures, and economies. Investigation of interactions between human, economic, and physical geographies in U.S. regions.

SA: GEO 230

Effective Spring Semester 2025

DEPARTMENT OF HUMAN DEVELOPMENT AND FAMILY STUDIES

- HDFS 424 Student Teaching in an Early Childhood Program
Fall of every year. Spring of every year. Summer of every year. ~~6(4-10)~~ 6(3-17) P: HDFS 321 and HDFS 321L R: Open to students in the Department of Human Development and Family Studies. Approval of department.
Supervised teaching practicum. Planning, implementing, and evaluating an ecological educational program for children and their families.
Request the use of the Pass-No Grade (P-N) system.
Request the use of ET-Extension to postpone grading.
The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment.
SA: FCE 424
Effective Fall Semester 2025
- HDFS 438 ~~Applied Resource Management Practicum~~ Applied Financial Literacy
Fall of every year. Spring of every year. Summer of every year. 3(3-0) P: HDFS 238 R: Open to juniors or seniors in the College of Social Science.
Strategies and techniques to apply resource management with individuals, households, and communities.
Effective Fall Semester 2025

SCHOOL OF HUMAN RESOURCES AND LABOR RELATIONS

- HRLR 313 Employment Relations
~~Fall of every year. Spring of every year.~~ Spring of every year. 3(3-0) P: HRLR 201 or concurrently
Labor relations, collective bargaining involving unions, dispute resolution, and arbitration.
Effective Fall Semester 2025
- HRLR 490 Special Topics in Human Resources and Labor Relations
~~Spring of every year.~~ On Demand. 3(3-0) A student may earn a maximum of 6 credits in all enrollments for this course. P: HRLR 201 or approval of department
Special issues in human resources and labor relations.
Effective Fall Semester 2025
- HRLR 899 Master's Thesis Research
Fall of every year. Spring of every year. Summer of every year. ~~3 to 6 credits.~~ 1 to 6 credits. A student may earn a maximum of 6 credits in all enrollments for this course. RB: 9 graduate credits. R: Open to students in the School of Human Resources and Labor Relations. Approval of school.
Master's thesis research.
Request the use of the Pass-No Grade (P-N) system.
SA: LIR 899
Effective Spring Semester 2025

CENTER FOR INTEGRATIVE STUDIES IN GENERAL SCIENCE

- ISP 220 Quarks, Spacetime, and the Big Bang
~~Spring of odd years.~~ Fall of every year. 3(3-0) P: (MTH 101 or MTH 103 or MTH 103B or (MTH 116 or concurrently) or (MTH 124 or concurrently) or (MTH 132 or concurrently) or (MTH 201 or concurrently) or (LB 118 or concurrently) or (STT 200 or concurrently) or (STT 201 or concurrently)) or designated score on Mathematics Placement test
Elementary particle physics and the Big Bang for non-scientists. A survey of particles and forces in the early universe as it is recreated at high energy particle colliders in laboratories around the world.
Effective Spring Semester 2024

CENTER FOR INTEGRATIVE STUDIES IN SOCIAL, BEHAVIORAL AND ECONOMIC SCIENCES

~~SSC 299~~

IDS 299

~~Integration of Social Science Perspectives~~ Introduction to Interdisciplinary Inquiry

~~Fall of every year. Spring of every year. Summer of every year. 3(3-0) P: (ANP 201 or ANP 203 or ANP 206 or EC 201 or EC 202 or GEO 151 or GEO 204 or HST 110 or HST 140 or HST 150) or (PLS 140 or PLS 160 or PLS 200 or PSY 101 or SOC 100 or SOC 161 or UP 100) RB: Recommended background: two or more prerequisite courses in different disciplines.~~

Multidisciplinary study. Integration of social science perspectives and policy issues. Introduction to interdisciplinary ways of thinking and knowing in the social sciences.

SA: SSC 299

Effective Fall Semester 2025

~~SSC 495~~

IDS 495

~~Interdisciplinary Research Methods~~

~~Fall of every year. Spring of every year. Summer of odd years. 3(3-0) P: IDS 299 or concurrently RB: SSC 299 or concurrently~~

Interdisciplinary research questions and methods. Practical and ethical issues involved with primary, qualitative research methodologies. Interdisciplinary/integrative approaches to producing knowledge.

SA: SSC 495

Effective Fall Semester 2025

~~SSC 499~~

IDS 499

~~Capstone in Interdisciplinary Studies in Social Science (W)~~ Capstone in Interdisciplinary Studies (W)

~~Fall of every year. Spring of every year. Summer of every year. 3(3-0) P: (SSC 299) and completion of Tier I writing requirement R: Open to seniors in the Interdisciplinary Studies in Social Science Major or in the Interdisciplinary Studies in Social Science Major or in the Global and International Studies in Social Science Major or approval of college.~~

Integration and application of interdisciplinary methods, models and theories in social science.

SA: SSC 499

Effective Fall Semester 2025

MSU COLLEGE OF LAW

LAW 501J

~~Secured Transactions and Practice~~

~~Fall of every year. Spring of every year. Summer of every year. On Demand. 0 to 6 credits. P: LAW 530B R: Open to students in the MSU College of Law. Not open to students with credit in LAW 504E. Not open to students with credit in LAW 501E or LAW 594C.~~

Intricacies of a secured transaction under the Revised Article 9 of the Uniform Commercial Code.
Effective Spring Semester 2025

LAW 594A

~~Contract Drafting~~

~~Fall of every year. On Demand. 1 to 6 credits. P: LAW 530B R: Open to Law students or master of laws students or law lifelong students or law non-degree students in the MSU College of Law. R: Open to Law students in the MSU College of Law. Not open to students with credit in LAW 594C.~~

A study of common pitfalls in contract drafting & how to avoid them through proper drafting. Common pitfalls in drafting and how to avoid them through proper drafting.

SA: DCL 370

Effective Spring Semester 2025

LAW 601

~~Construction Law~~

~~Spring of every year. On Demand. 2 to 4 credits. 0 to 6 credits. R: Open to students in the MSU College of Law. Not open to students with credit in LAW 594C.~~

A survey of legal issues in the construction industry.

SA: DCL 314

Effective Spring Semester 2025

DEPARTMENT OF MANAGEMENT

MGT 908 ~~Seminar in Strategy Process~~ Seminar in Organization Theory
Spring of even years. 3(3-0) RB: MGT 906 R: Open to doctoral students in the Eli Broad College of Business and The Eli Broad Graduate School of Management or approval of department.
~~Strategy development as a process that drives the parallel issues of formulation and implementation. Survey of theory and research in this area. Theories and empirical research examining organizations. Classical and contemporary approaches. Practice developing research that contributes to this field of study.~~
Effective Fall Semester 2024

DEPARTMENT OF MICROBIOLOGY, GENETICS, AND IMMUNOLOGY

MMG 141
MGI 141
Introductory Human Genetics
Fall of every year. Spring of every year. 3(3-0)-R: ~~Not open to students in the Biochemistry and Molecular Biology major or in the Biological Science Major or in the Biomedical Laboratory Science Major or in the Clinical Laboratory Sciences Major or in the Environmental Biology/Microbiology Major or in the Environmental Biology/Plant Biology Major or in the Environmental Biology/Zoology Major or in the Genomics and Molecular Genetics Major or in the Human Biology Major or in the Microbiology Major or in the Neuroscience Major or in the Physiology Major or in the Plant Biology Major or in the Zoology Major and not open to students in the Lyman Briggs Biochemistry and Molecular Biology Coordinate Major or in the Lyman Briggs Biological Science-Interdepartmental Coordinate Major or in the Lyman Briggs Biomedical Laboratory Science Coordinate Major or in the Lyman Briggs Environmental Biology/Plant Biology Coordinate Major or in the Lyman Briggs Environmental/Biology/Microbiology Coordinate Major or in the Lyman Briggs Environmental Biology/Zoology Coordinate Major or in the Lyman Briggs Genomics and Molecular Genetics Coordinate Major or in the Lyman Briggs Human Biology Coordinate Major or in the Lyman Briggs Neuroscience Major or in the Lyman Briggs Microbiology Coordinate Major. R: Not open to students in the Biochemistry and Molecular Biology major or in the Biological Science-Secondary Education Major or in the Biomedical Laboratory Science Major or in the Environmental Biology/Microbiology Major or in the Environmental Biology/Plant Biology Major or in the Environmental Biology/Zoology Major or in the Genomics and Molecular Genetics Major or in the Human Biology Major or in the Integrated Science-Secondary Education Major or in the Microbiology Major or in the Neuroscience Major or in the Physiology Major or in the Plant Biology Major or in the Bachelor of Science in Zoology and not open to students in the Lyman Briggs Biochemistry and Molecular Biology Coordinate Major or in the Lyman Briggs Biological Science-Secondary Education Coordinate Major or in the Lyman Briggs Biomedical Laboratory Science Coordinate Major or in the Lyman Briggs Environmental Biology/Plant Biology Coordinate Major or in the Lyman Briggs Environmental/Biology/Microbiology Coordinate Major or in the Lyman Briggs Environmental Biology/Zoology Coordinate Major or in the Lyman Briggs Genomics and Molecular Genetics Coordinate Major or in the Lyman Briggs Human Biology Coordinate Major or in the Lyman Briggs Neuroscience Coordinate Major or in the Lyman Briggs Microbiology Coordinate Major. Not open to students with credit in IBIO 341.~~
Inheritance of human traits. Impact of genetic technology on society. Ethical and legal issues. Risks and benefits of genetic technology.
SA: ZOL 141 SA: MMG 141, ZOL 141
Effective Fall Semester 2025

MMG 201
MGI 201
Fundamentals of Microbiology
~~Spring of every year. Fall of every year. 3(3-0)-RB: (CEM 141 or ISP 207 or ISP 209 or ISP 217 or LB 171) and (BS 161 or BS 181H or LB 145) RB: (CEM 141 or LB 171 or ISP 209) and (BS 161 or BS 181H or LB 145)~~
Microbial structure, function, growth, control, and diversity. Role of microbes in health, industry, and the environment.
SA: MMG 105, MMG 205 SA: MMG 105, MMG 205, MMG 201
Effective Fall Semester 2025

~~MMG 301~~
MGI 301

Introductory Microbiology
Fall of every year. Spring of every year. Summer of every year. 3(3-0) P: (BS 161 or LB 145 or BS 181H) and ((CEM 251 or concurrently) or (CEM 351 or concurrently) or (CEM 143 or concurrently) or (LB 271 or concurrently))
Fundamentals of microbiology, including microbial structure and function, nutrition and growth, death and control. Importance and applications of major microbial groups.
~~SA: MIC 301~~ SA: MIC 301, MMG 301
Effective Fall Semester 2025

~~MMG 302~~
MGI 302

Introductory Laboratory for General and Allied Health Microbiology
~~Spring of every year. Fall of every year. Spring of every year. Summer of every year.~~ 1(0-3) P: ~~(MMG 201 or concurrently) or (MMG 301 or concurrently)~~ P: (MGI 201 or concurrently) or (MGI 301 or concurrently)
Methodology of microbiology. Microscopy, staining, aseptic technique, media, quantification, diagnostics, and laboratory safety.
~~SA: MIC 302~~ SA: MIC 302, MMG 302
Effective Fall Semester 2025

~~MMG 365~~
MGI 365

Medical Microbiology
Spring of every year. 3(3-0) Interdepartmental with Biomedical Laboratory Diagnostics P: ~~(BS 161 or LB 145) and (MMG 201 or MMG 301) and (CEM 141 or LB 171)~~ P: (BS 161 or LB 145) and (MGI 201 or MGI 301) and (CEM 141 or LB 171) ~~Not open to students with credit in MMG 463.~~
Laboratory diagnosis, disease and epidemiology of the most common bacterial, viral, fungal and parasitic pathogens and concepts in infectious disease control, prevention and treatment.
SA: MMG 365
Effective Fall Semester 2025

~~MMG 365L~~
MGI 365L

Medical Microbiology Laboratory
Spring of every year. 1(0-2) Interdepartmental with Biomedical Laboratory Diagnostics P: ~~(MMG 365 or concurrently) and (MMG 201 or MMG 301)~~ P: (MGI 365 or concurrently) and (MGI 201 or MGI 301) ~~Not open to students with credit in MMG 464.~~
Practical experience in safely and accurately performing standard clinical microbiology tests to diagnose disease-causing microbes.
SA: MMG 365L
Effective Fall Semester 2025

~~MMG 404~~
MGI 404

Human Genetics
Fall of every year. 3(3-0) P: IBIO 341
Inheritance of human traits. Medical, molecular, physiological and forensic applications. Biochemical, clinical, and molecular genetics of human disease. Prenatal, pre-symptomatic, and clinical diagnosis. Ethical, legal and social considerations.
~~SA: ZOL 344, ZOL 404~~ SA: MMG 404, ZOL 344, ZOL 404
Effective Fall Semester 2025

~~MMG 408~~
MGI 408

Advanced Microbiology Laboratory (W)
Fall of every year. 3(1-6) ~~P: (MMG 302 and (MMG 431 or concurrently)) and completion of Tier I writing requirement~~ P: (MGI 302 and (MGI 431 or concurrently)) and completion of Tier I writing requirement ~~R: Open to students in the Environmental Biology/Microbiology Major or in the Genomics and Molecular Genetics Major or in the Microbiology Major or in the Lyman Briggs Environmental/Biology/Microbiology Coordinate Major or in the Lyman Briggs Genomics and Molecular Genetics Coordinate Major or in the Lyman Briggs Microbiology Coordinate Major.~~ R: Open to students in the Environmental Biology/Microbiology Major or in the Genomics and Molecular Genetics Major or in the Microbiology Major or in the Lyman Briggs Environmental/Biology/Microbiology Coordinate Major or in the Lyman Briggs Genomics and Molecular Genetics Coordinate Major or in the Lyman Briggs Microbiology Coordinate Major or approval of department.

Microbiological techniques and procedures to study physiology and genetics of bacteria and bacteriophages. Collection and critical assessment of quantitative data and written communication of results.

~~SA: MPH 408~~ SA: MMG 408
Effective Fall Semester 2025

~~MMG 409~~
MGI 409

Eukaryotic Cell Biology
Spring of every year. 3(3-0) P: (BS 161 or LB 145 or BS 181H) and ((BMB 401 or concurrently) or (BMB 462 or concurrently))

Structure and function of nucleated cells. Emphasis on the molecular mechanisms that underlie cell processes.

~~SA: MIC 403, MPH 403~~ SA: MIC 403, MMG 409
Effective Fall Semester 2025

~~MMG 413~~
MGI 413

Virology
Spring of every year. 3(3-0) P: (BMB 462 or concurrently) or BMB 401

Viruses and modern molecular biology. Viral replication and gene expression of the major classes of viruses. Virus-cell interactions and viral diseases.

SA: MMG 413
Effective Fall Semester 2025

~~MMG 421~~
MGI 421

Prokaryotic Cell Physiology
Fall of every year. 3(3-0) ~~P: (MMG 301 and (BMB 461 or concurrently)) or (MMG 301 and (BMB 401 or concurrently))~~ P: (MGI 301 and (BMB 461 or concurrently)) or (MGI 301 and (BMB 401 or concurrently))

Prokaryotic cell structure and function. Growth and replication. Macromolecular synthesis and control.

~~SA: MIC 401, MPH 401~~ SA: MIC 401, MMG 421
Effective Fall Semester 2025

~~MMG 425~~
MGI 425

Microbial Ecology
Fall of every year. 3(3-0) Interdepartmental with Crop and Soil Sciences P: MGI 301 ~~RB: MMG 301~~ RB: MGI 301

Microbial population and community interactions. Microbial activities in natural systems, including associations with plants or animals.

SA: MPH 425 SA: MMG 425
Effective Fall Semester 2025

~~MMG 431~~
MGI 431

Microbial Genetics
Fall of every year. 3(3-0) P: (BMB 461 or concurrently) or (BMB 401 or concurrently) ~~RB: MMG 301 or ZOL 341~~ RB: MGI 301 or IBIO 341
Genetics of bacteria, their viruses, plasmids, and transposons. Emphasis on genetic principles.
~~SA: MIC 401, MPH 401~~ SA: MIC 401, MMG 431
Effective Fall Semester 2025

~~MMG 433~~
MGI 433

Genomics (W)
Spring of every year. 3(3-0) ~~P: MMG 431~~ P: MGI 431 ~~RB: (MMG 421 or BMB 461) and CSE 101~~ RB: MGI 421 or BMB 461
High-throughput DNA sequencing and the study of genome structure, replication, evolution. Application of bioinformatics analyses for functional annotation, genetic diversity, ecology, and human health.
SA: MMG 433
Effective Fall Semester 2025

~~MMG 434~~
MGI 434

~~Laboratory in Genomics and Molecular Genetics (W)~~ Laboratory in Genetics & Genomics (W)
Spring of every year. 4(1-8) ~~P: (MMG 301 and (MMG 433 or concurrently)) and completion of Tier I writing requirement~~ P: (MGI 301 and (MGI 433 or concurrently)) and completion of Tier I writing requirement ~~R: Open to students in the Genomics and Molecular Genetics Major or in the Lyman Briggs Genomics and Molecular Genetics Coordinate Major.~~ R: Open to students in the Genomics and Molecular Genetics Major or in the Lyman Briggs Genomics and Molecular Genetics Coordinate Major.
~~Genomics and molecular genetic techniques using microbes. Collection and critical assessment of quantitative data and written communication of results.~~ Genetics & genomics techniques using microbes. Collection and critical assessment of quantitative data and written communication of results.
SA: MMG 434
Effective Fall Semester 2025

~~MMG 451~~
MGI 451

Immunology
Fall of every year. 3(3-0) P: (BS 161 or LB 145 or BS 181H) and ((BMB 401 or concurrently) or (BMB 461 or concurrently)) Not open to students with credit in BLD 434.
Structure and function of molecules involved in immune responses. Quantification of immune responses and cellular participants. Immunologic abnormalities. Immunotherapy. Experimental approaches to dissection of immune functions.
SA: MMG 451
Effective Fall Semester 2025

~~MMG 461~~
MGI 461

Molecular Pathogenesis
Spring of even years. 3(3-0) ~~P: (MMG 301)~~ P: MGI 301 ~~RB: MMG 431~~ RB: MGI 431
Molecular basis of microbial virulence. Nature of determinants and their role in overcoming host defense mechanisms.
~~SA: MPH 461~~ SA: MMG 461
Effective Fall Semester 2025

~~MMG 465~~
MGI 465

Advanced Medical Microbiology
Fall of every year. 3(3-0) Interdepartmental with Biomedical Laboratory Diagnostics ~~P: MMG 365~~ P: MGI 365 ~~Not open to students with credit in MMG 463.~~
Advanced laboratory diagnosis, epidemiology, and prevention of infectious diseases using an anatomical system specimen approach to study a comprehensive set of human pathogens and microbiota.
SA: MMG 465
Effective Fall Semester 2025

MMG 465L
MGI 465L

Advanced Medical Microbiology Laboratory
Fall of every year. 2(0-6) Interdepartmental with Biomedical Laboratory Diagnostics ~~P: MMG 365L and (MMG 465 or concurrently) P: MGI 365L and (MGI 465 or concurrently)~~ ~~Not open to students with credit in MMG 464. C: MMG 465 concurrently C: MGI 465 concurrently~~
Practical experience in safely and accurately performing standard clinical microbiology tests to process clinical specimens, identify pathogens and perform and interpret susceptibility testing.
SA: MMG 465L
Effective Fall Semester 2025

MMG 490
MGI 490

Special Problems in Microbiology
Fall of every year. Spring of every year. Summer of every year. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Approval of department.
Library research or tutorial instruction in advanced laboratory techniques.
SA: MMG 490
Effective Fall Semester 2025

MMG 491
MGI 491

Current Topics in Microbiology and Molecular Genetics
Spring of every year. 3(4-0) ~~R: Open to seniors in the Lyman Briggs College or in the Department of Microbiology and Molecular Genetics or in the Lyman Briggs Genomics and Molecular Genetics Coordinate Major. R: Open to seniors in the Lyman Briggs College or in the Department of Microbiology, Genetics, and Immunology or in the Lyman Briggs Genomics and Molecular Genetics Coordinate Major.~~
Capstone experience for microbiology majors. Presentation and discussion of journal articles. Writing of position papers. Topics such as microbial physiology, ecology, genetics, molecular biology, virology, immunology, or pathogenesis.
SA: MIC 491 SA: MIC 491, MMG 491
Effective Fall Semester 2025

MMG 492
MGI 492

Undergraduate Research Seminar
Spring of every year. 1(2-0) ~~P: MMG 499 or MMG 499H P: MGI 499 or MGI 499H R: Open to students in the Department of Microbiology and Molecular Genetics or in the Lyman Briggs Genomics and Molecular Genetics Coordinate Major. R: Open to students in the Department of Microbiology, Genetics, and Immunology or in the Lyman Briggs Genomics and Molecular Genetics Coordinate Major.~~
Presentation and group discussion of undergraduate research results.
SA: MIC 492 SA: MIC 492, MMG 492
Effective Fall Semester 2025

MMG 493
MGI 493

Professional Internship in Microbiology and Molecular Genetics
Fall of every year. Spring of every year. Summer of every year. 1 to 3 credits. A student may earn a maximum of 3 credits in all enrollments for this course. P: Completion of Tier I Writing Requirement ~~R: Open to sophomores or juniors or seniors in the Department of Microbiology and Molecular Genetics. Approval of department. R: Open to sophomores or juniors or seniors in the Department of Microbiology, Genetics, and Immunology. Approval of department.~~
Professional work experience in a private or public sector organization related to the student's major.
Request the use of ET-Extension to postpone grading.
The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment.
SA: MMG 493
Effective Fall Semester 2025

MMG 494L
MGI 494L

Summer Undergraduate Research Institute in Genomics (W)
Summer of every year. 3(2-12) ~~P: (Completion of Tier I Writing Requirement) and (MMG 301 and MMG 302) P: (Completion of Tier I Writing Requirement) and (MGI 301 and MGI 302) RB: MMG 434 or IBIO 344 RB: MGI 431 or IBIO 341~~ R: Open to undergraduate students in the Environmental Biology/Microbiology Major or in the Genomics and Molecular Genetics Major or in the Microbiology Major. ~~Not open to students with credit in MMG 408 or MMG 434. Not open to students with credit in MGI 408 or MGI 434.~~
Directed independent research in teams using state-of-the-art genetic and genomic methods.
Offered first half of semester.
SA: MMG 494L
Effective Fall Semester 2025

MMG 499
MGI 499

Undergraduate Research
Fall of every year. Spring of every year. Summer of every year. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. ~~R: Open to students in the Department of Microbiology and Molecular Genetics or in the Lyman Briggs Environmental/Biology/Microbiology Coordinate Major or in the Lyman Briggs Genomics and Molecular Genetics Coordinate Major or in the Lyman Briggs Microbiology Coordinate Major. R: Open to students in the Department of Microbiology, Genetics, and Immunology or in the Lyman Briggs Environmental/Biology/Microbiology Coordinate Major or in the Lyman Briggs Genomics and Molecular Genetics Coordinate Major or in the Lyman Briggs Microbiology Coordinate Major.~~
Participation in a laboratory research project.
Request the use of ET-Extension to postpone grading.
The work for the course must be completed and the final grade reported within 2 semesters after the end of the semester of enrollment.
~~SA: MIC 499~~ SA: MIC 499, MMG 499
Effective Fall Semester 2025

MMG 499H
MGI 499H

Honors Research
Fall of every year. Spring of every year. Summer of every year. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. ~~R: Open to students in the Department of Microbiology and Molecular Genetics or in the Lyman Briggs Environmental/Biology/Microbiology Coordinate Major or in the Lyman Briggs Genomics and Molecular Genetics Coordinate Major or in the Lyman Briggs Microbiology Coordinate Major. R: Open to students in the Department of Microbiology, Genetics, and Immunology or in the Lyman Briggs Environmental/Biology/Microbiology Coordinate Major or in the Lyman Briggs Genomics and Molecular Genetics Coordinate Major or in the Lyman Briggs Microbiology Coordinate Major.~~
Research project with thesis and oral report. A portion of Microbiology or Genomics and Molecular Genetics capstone experience.
Request the use of ET-Extension to postpone grading.
The work for the course must be completed and the final grade reported within 2 semesters after the end of the semester of enrollment.
~~SA: MIC 499H~~ SA: MIC 499H, MMG 499H
Effective Fall Semester 2025

MMG 531
MGI 531

Medical Immunology
Fall of every year. 2(2-0) R: Open to graduate-professional students in the College of Osteopathic Medicine.
Basic principles of immunology. Overview of concepts and terminology in relation to human disease defenses.
Request the use of the Pass-No Grade (P-N) system.
SA: MMG 531
Effective Fall Semester 2025

~~MMG 532~~
MGI 532

Medical Microbiology
Fall of every year. 2(1-2) R: Open to graduate-professional students in the College of Osteopathic Medicine.
Basic principles of microbiology including bacteriology, virology, mycology, and parasitology and their relationship to disease in humans.
Request the use of the Pass-No Grade (P-N) system.
SA: MMG 532
Effective Fall Semester 2025

~~MMG 660~~
MGI 660

Veterinary Clinical Bacteriology Clerkship
~~Fall of every year. Spring of every year. Summer of every year. Fall of every year. Spring of every year. Summer of every year.~~ 3 credits. ~~RB: Completion of semester 5 of the graduate professional program in the College of Veterinary Medicine. RB: Completion of the preclinical phase of year 3 of the veterinary professional program.~~ R: Open to students in the Professional Program in Veterinary Medicine.
Guided clinical bacteriology experience.
Request the use of ET-Extension to postpone grading.
The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment.
SA: MMG 660
Effective Fall Semester 2025

~~MMG 662~~
MGI 662

Clinical Veterinary Virology Clerkship
~~Fall of every year. Spring of every year. Summer of every year. Fall of every year. Spring of every year. Summer of every year.~~ 3 credits. ~~RB: Completion of semester 5 of the graduate professional program in the College of Veterinary Medicine. RB: Completion of the preclinical phase of year 3 of the veterinary professional program.~~ R: Open to students in the Professional Program in Veterinary Medicine.
Guided clinical virology experience.
Request the use of ET-Extension to postpone grading.
The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment.
SA: MMG 662
Effective Fall Semester 2025

~~MMG 664~~
MGI 664

Veterinary Clinical Parasitology Clerkship
~~Fall of every year. Spring of every year. Summer of every year. Fall of every year. Spring of every year. Summer of every year.~~ 3 credits. ~~RB: Completion of semester 5 of the graduate professional program in the College of Veterinary Medicine. RB: Completion of the preclinical phase of year 3 of the veterinary professional program.~~
Guided clinical parasitology experience.
Request the use of ET-Extension to postpone grading.
The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment.
SA: MMG 664
Effective Fall Semester 2025

~~MMG 690~~
MGI 690

Veterinary Microbiology Clerkship
~~Fall of every year. Spring of every year. Summer of every year.~~ Fall of every year. Spring of every year. 1 to 6 credits. A student may earn a maximum of 6 credits in all enrollments for this course. ~~RB: Completion of 5 semesters of the graduate professional program in the College of Veterinary Medicine.~~ RB: Completion of the preclinical phase of year 3 of the veterinary professional program.
Laboratory-based investigation of microbiological problems pertinent to veterinary medicine.
Request the use of ET-Extension to postpone grading.
The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment.
~~SA: MPH 690~~ SA: MMG 690
Effective Fall Semester 2025

~~MMG 801~~
MGI 801

Integrative Microbial Biology
~~Fall of every year.~~ Fall of every year. 4(4-0) RB: Completion of an undergraduate program in Microbiology, Genetics, or similar. R: Open to graduate students. ~~Not open to students with credit in MMG 821 or MMG 829 or MMG 841 or MMG 827.~~
Structural, metabolic, phylogenetic, and genomic diversity of microbes and microbial communities. Microbial ecology, evolution, and behavior. Regulation of gene expression.
Microbial interactions with other microbes, animals, or plants
SA: MMG 801
Effective Fall Semester 2025

~~MMG 803~~
MGI 803

Topics in Integrative Microbial Biology
Fall of every year. Spring of every year. 2(2-0) A student may earn a maximum of 10 credits in all enrollments for this course. ~~P: MMG 801 or concurrently~~ P: MGI 801 or concurrently RB: Completion of an undergraduate program in Microbiology, Genetics, or similar. R: Open to graduate students.
In-depth study of a particular topic from integrative microbial biology.
Request the use of the Pass-No Grade (P-N) system.
SA: MMG 803
Effective Fall Semester 2025

~~MMG 813~~
MGI 813

Molecular Virology
~~Spring of even years.~~ Spring of even years. 3(3-0) RB: Completion of an undergraduate program in Microbiology, Genetics, or similar. ~~R: Open only to graduate students in the Colleges of Human Medicine, Osteopathic Medicine, Veterinary Medicine, Natural Science, and Agriculture and Natural Resources.~~ R: Open to graduate students or human medicine students or osteopathic medicine students in the College of Natural Science or in the College of Agriculture and Natural Resources or in the College of Human Medicine or in the College of Osteopathic Medicine or in the College of Veterinary Medicine.
Molecular nature and biochemistry of replication of animal viruses. Current advances, research concepts, and the role of viruses in molecular biology research.
~~SA: MPH 813~~ SA: MMG 813
Effective Fall Semester 2025

~~MMG 833~~
MGI 833

Microbial Genetics
~~Fall of every year.~~ Fall of every year. 3(3-0) RB: Completion of an undergraduate program in Microbiology, Genetics, or similar. ~~R: Open only to graduate students in the Colleges of Human Medicine, Osteopathic Medicine, Veterinary Medicine, Natural Science, and Agriculture and Natural Resources.~~ R: Open to graduate students or human medicine students or osteopathic medicine students in the College of Natural Science or in the College of Agriculture and Natural Resources or in the College of Human Medicine or in the College of Osteopathic Medicine or in the College of Veterinary Medicine.
Gene structure and function. Genetic regulation at classical and molecular levels in prokaryotes and lower eukaryotes.
~~SA: MPH 833~~ SA: MMG 833
Effective Fall Semester 2025

~~MMG 835~~
MGI 835

Eukaryotic Molecular Genetics
Spring of every year. 3(3-0) ~~Interdepartmental with Genetics-RB: BMB 462 and ZOL 341 RB: Completion of BMB 462 and IBIO 341 or successful completion of the equivalent: 2-semester undergraduate major's biochemistry sequence and upper-level genetics course.~~ R: Open only to graduate students in the colleges of Agriculture and Natural Resources, Engineering, Human Medicine, Natural Science, Osteopathic Medicine, and Veterinary Medicine. R: Open to graduate students or human medicine students or osteopathic medicine students in the College of Human Medicine or in the College of Agriculture and Natural Resources or in the College of Engineering or in the College of Natural Science or in the College of Osteopathic Medicine or in the College of Veterinary Medicine.

Gene structure and function in animals, plants, and fungi. Basic aspects of modern human genetics and the genetic basis for disease. Molecular genetic analyses. Eukaryotic modeling systems.

SA: MMG 835

Effective Fall Semester 2025

~~MMG 852~~
MGI 852

Molecular Immunology
Fall of every year. 1(1-0) ~~RB: (MMG 451) or Basic knowledge of molecular biology, cell biology, physiology and genetics.~~ RB: Basic knowledge of molecular biology, cell biology, physiology, immunology, and genetics. R: Open to graduate students.

Protein structures and functions of immune receptors and molecules, gene expression and regulation, DNA rearrangements and antigen receptors diversifications.

~~SA: MMG 851~~ SA: MMG 851, MMG 852

Effective Fall Semester 2025

~~MMG 853~~
MGI 853

Cellular Immunology
Fall of every year. 1(1-0) ~~RB: (MMG 451) or Basic knowledge of molecular biology, cell biology, physiology, and genetics.~~ RB: Basic knowledge of molecular biology, cell biology, physiology, and genetics. R: Open to graduate students.

Cells in the immune system, lymphocytes development and differentiation, cellular interactions in immune responses.

~~SA: MMG 851~~ SA: MMG 851, MMG 853

Effective Fall Semester 2025

~~MMG 854~~
MGI 854

Applied Immunology
Fall of every year. 1(1-0) ~~RB: (MMG 451) or Basic knowledge of molecular biology, cell biology, physiology, and genetics.~~ RB: Basic knowledge of molecular biology, cell biology, physiology, and genetics. R: Open to graduate students.

Immunity against bacterial and viral infections, and cancer cells. Vaccines, Transplantation and Immunotherapies. Immunodeficiency and autoimmune diseases.

~~SA: MMG 851~~ SA: MMG 851, MMG 854

Effective Fall Semester 2025

~~MMG 861~~
MGI 861

Advanced Microbial Pathogenesis
Spring of odd years. 3(3-0) ~~RB: MMG 461 or MMG 409~~ RB: (MGI 461 or MGI 409) or Or equivalent R: Open to graduate students.

Molecular basis of microbial virulence. Virulence factors of microorganisms and the relationship of these factors to disease; host-pathogen interactions.

SA: MMG 861

Effective Fall Semester 2025

~~MMG 890~~
~~MGI 890~~

Special Problems in Microbiology

~~Fall of every year. Spring of every year. Summer of every year. 1 to 6 credits. A student may earn a maximum of 16 credits in all enrollments for this course. RB: Completion of an undergraduate program in Microbiology, Genetics, or similar. ~~R: Open to master's students in the Department of Microbiology and Molecular Genetics.~~ R: Open to master's students in the Department of Microbiology, Genetics, and Immunology.~~

~~Individualized laboratory or library research.~~

~~Request the use of ET-Extension to postpone grading.~~

~~The work for the course must be completed and the final grade reported within 2 semesters after the end of the semester of enrollment.~~

~~SA: MIC 890 SA: MIC 890, MMG 890~~

~~Effective Fall Semester 2025~~

~~MMG 892~~
~~MGI 892~~

Seminar

~~Fall of every year. Spring of every year. Fall of every year. Spring of every year. 1(1-0) A student may earn a maximum of 6 credits in all enrollments for this course. RB: Completion of an undergraduate program in Microbiology, Genetics, or similar. ~~R: Open only to graduate students in the College of Agriculture and Natural Resources or College of Engineering or College of Human Medicine or College of Natural Science or College of Osteopathic Medicine or College of Veterinary Medicine.~~ R: Open to graduate students or human medicine students or osteopathic medicine students in the College of Human Medicine or in the College of Agriculture and Natural Resources or in the College of Engineering or in the College of Natural Science or in the College of Osteopathic Medicine or in the College of Veterinary Medicine.~~

~~Student review and presentation of selected topics in microbiology and public health.~~

~~Request the use of the Pass-No Grade (P-N) system.~~

~~SA: MPH 892 SA: MMG 892~~

~~Effective Fall Semester 2025~~

~~MMG 899~~
~~MGI 899~~

Master's Thesis Research

~~Fall of every year. Spring of every year. Summer of every year. Fall of every year. Spring of every year. Summer of every year. 1 to 12 credits. A student may earn a maximum of 36 credits in all enrollments for this course. RB: Completion of an undergraduate program in Microbiology, Genetics, or similar. ~~R: Open only to graduate students in the Department of Microbiology and Molecular Genetics.~~ R: Open to graduate students in the Department of Microbiology, Genetics, and Immunology.~~

~~Master's thesis research.~~

~~SA: MPH 899 SA: MMG 899~~

~~Effective Fall Semester 2025~~

~~MMG 991~~
~~MGI 991~~

Topics in Microbiology

~~Fall of every year. Spring of every year. Fall of every year. Spring of every year. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. RB: Completion of an undergraduate program in Microbiology, Genetics, or similar. R: Open to graduate students.~~

~~Topics are selected from traditional subdisciplines such as bacteriology, virology, cell biology, and immunology or from transecting subdisciplines such as microbial genetics, physiology, molecular biology and ecology.~~

~~SA: MPH 991 SA: MMG 991~~

~~Effective Fall Semester 2025~~

~~MMG 999~~
MGI 999

Doctoral Dissertation Research
Fall of every year. Spring of every year. Summer of every year. 1 to 24 credits. A student may earn a maximum of 36 credits in all enrollments for this course. RB: Completion of an undergraduate program in Microbiology, Genetics, or similar. ~~R: Open to graduate students in the Genetics Major or in the Microbiology and Molecular Genetics Major.~~ R: Open to doctoral students in the Department of Microbiology, Genetics, and Immunology.
Doctoral dissertation research.
Request the use of the Pass-No Grade (P-N) system.
SA: MMG 999
Effective Fall Semester 2025

COLLEGE OF MUSIC

- MUS 117 Concert Band
Fall of every year. Spring of every year. ~~1(0-3)~~ 1(0-6) A student may earn a maximum of 10 credits in all enrollments for this course. R: Audition required.
Rehearsal and performance of broad range of wind literature from various historical periods and styles.
Effective Fall Semester 2025
- MUS 119 Symphony Band
Fall of every year. Spring of every year. ~~1(0-4)~~ 1(0-6) A student may earn a maximum of 10 credits in all enrollments for this course. R: Audition required.
Rehearsal and performance of a broad range of wind and percussion literature.
Effective Fall Semester 2025
- MUS 122 Concert Orchestra
Fall of every year. Spring of every year. ~~1(0-2)~~ 1(0-3) A student may earn a maximum of 10 credits in all enrollments for this course. R: Audition required.
Rehearsal and performance of symphonic and concert literature written for large orchestra.
Conducted by staff conductors under the supervision of faculty.
Effective Fall Semester 2025

SCHOOL OF PACKAGING

- PKG 491 Special Topics
Fall of every year. Spring of every year. Summer of every year. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course.
Selected topics of current interest.
Effective Fall Semester 2025

- PKG 493 Professional Internship in Packaging
Fall every year. Spring of every year. Summer of every year. ~~3 credits.~~ 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. ~~P: (PKG 322 and PKG 323) and (PKG 315 or EGR 102) P: (PKG 101 and PKG 102) or (PKG 315 and PKG 322 and PKG 323) R: Open to juniors or seniors or graduate students in the School of Packaging. Approval of department; application required. A student may earn a maximum of 6 credits in all enrollments for any or all of these courses: ABM 493, ANR 493, ANS 493, CMP 493, CSS 493, CSUS 493, EEP 493, FIM 493, FSC 493, FW 493, HRT 493, PKG 493, and PLP 493 R: Open to undergraduate students in the School of Packaging and open to graduate students in the School of Packaging. Approval of department; application required. A student may earn a maximum of 6 credits in all enrollments for any or all of these courses: ABM 493, ANR 493, ANS 493, CMP 493, CSS 493, CSUS 493, EEP 493, FIM 493, FSC 493, FW 493, HRT 493, PKG 493, and PLP 493~~
Supervised professional experience in the field of packaging offered through corporations and other businesses throughout the U.S.
Request the use of the Pass-No Grade (P-N) system.
Request the use of ET-Extension to postpone grading.
The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment.
Effective Fall Semester 2025

DEPARTMENT OF PHYSICS AND ASTRONOMY

- AST 207 The Science of Astronomy
Fall of every year. 3(3-0) ~~P: ((PHY 231 or concurrently) or (PHY 231C or concurrently) or (PHY 183 or concurrently) or (PHY 183B or concurrently) or (PHY 173 or concurrently) or (LB 273 or concurrently)) and ((MTH 114 or concurrently) or (MTH 116 or concurrently) or (MTH 132 or concurrently)) P: ((PHY 231 or concurrently) or (PHY 183 or concurrently) or (PHY 193H or concurrently) or (LB 273 or concurrently)) and ((MTH 114 or concurrently) or (MTH 116 or concurrently) or (MTH 132 or concurrently) or (MTH 152H or concurrently) or (LB 117 or concurrently) or (LB 118 or concurrently))~~
In-depth study of one topic in astronomy with emphasis on key discoveries. Topics may be cosmology, the solar system, and the life of stars.
Effective Fall Semester 2025
- AST 208 Planets and Telescopes
Spring of every year. 3(2-2) ~~P: (PHY 183 or PHY 183B or PHY 193H or LB 273) and ((MTH 103 or concurrently) or (MTH 114 or concurrently) or (MTH 116 or concurrently) or (MTH 132 or concurrently) or (LB 118 or concurrently)) P: (PHY 183 or PHY 193H or LB 273) and ((MTH 103 or concurrently) or (MTH 114 or concurrently) or (MTH 116 or concurrently) or (MTH 132 or concurrently) or (MTH 152H or concurrently) or (LB 117 or concurrently) or (LB 118 or concurrently))~~ RB: AST 207 R: Open to undergraduate students in the Astrophysics Major or in the LB-Astrophysics Coordinate Major.
Origin and nature of the solar system. Planets of the solar system and other star systems.
Determination of time and celestial coordinates. Astronomical instruments and observational methods.
SA: AST 303, AST 312
Effective Fall Semester 2025
- AST 308 Galaxies and Cosmology
~~Fall of odd years.~~ Spring of every year. 3(3-0) ~~P: (AST 208) and ((PHY 215 or concurrently) or PHY 215B) and (PHY 321 or concurrently) P: (AST 208) and (PHY 215 or concurrently) and (PHY 321 or concurrently)~~
The Milky Way. Structure and content of galaxies. Active galaxies and quasars. The expanding universe. Modern cosmological models.
SA: AST 402
Effective Spring Semester 2026

- PHY 183 Physics for Scientists and Engineers I
~~Fall of every year. Spring of every year. Fall of every year. Spring of every year. Summer of every year. 4(5-0) 4(4-0)~~ P: (MTH 132 or concurrently) or (MTH 152H or concurrently) or (LB 118 or concurrently) ~~Not open to students with credit in LB 273 or PHY 193H or PHY 231 or PHY 231C or PHY 183B or PHY 233B. Not open to students with credit in PHY 193H.~~
Mechanics, Newton's laws, momentum, energy conservation laws, rotational motion, oscillation, gravity, and waves.
SA: PHY 183B
Effective Fall Semester 2025
- PHY 183B Physics for Scientists and Engineers I
Summer of every year. 4 credits. P: (MTH 132 or concurrently) or (MTH 152H or concurrently) or (LB 118 or concurrently) Not open to students with credit in LB 273 or PHY 183 or PHY 193H or PHY 231 or PHY 231C.
Mechanics, Newton's laws, momentum, energy conservation laws, rotational motion, oscillation, gravity, waves. This course is given in the competency based instruction format.
DELETE COURSE
Effective Summer Semester 2025
- PHY 184 Physics for Scientists and Engineers II
~~Fall of every year. Spring of every year. Fall of every year. Spring of every year. Summer of every year. 4(5-0) 4(4-0)~~ P: ~~{(PHY 183 or PHY 183B or PHY 193H or LB 273) or (PHY 231 and PHY 233B) or (PHY 231C and PHY 233B)} and ((MTH 133 or concurrently) or (MTH 153H or concurrently) or (LB 119 or concurrently))~~ P: ~~{(PHY 183 or PHY 193H or LB 273) or (PHY 231 and PHY 233)}~~ and ~~((MTH 133 or concurrently) or (MTH 153H or concurrently) or (LB 119 or concurrently))~~. ~~Not open to students with credit in LB 274 or PHY 184B or PHY 232 or PHY 232C or PHY 234B or PHY 294H. Not open to students with credit in PHY 294H.~~
Electricity and magnetism, electromagnetic waves, light and optics, interference and diffraction.
SA: PHY 184B
Effective Fall Semester 2025
- PHY 184B Physics for Scientists and Engineers II
Summer of every year. 4 credits. P: ~~{(PHY 183 or PHY 183B or PHY 193H or LB 273) or (PHY 231 and PHY 233B) or (PHY 231C and PHY 233B)}~~ and ~~((MTH 133 or concurrently) or (MTH 153H or concurrently) or (LB 119 or concurrently))~~ Not open to students with credit in LB 274 or PHY 184 or PHY 232 or PHY 232C or PHY 234B or PHY 294H.
Electricity and magnetism, electromagnetic waves, light and optics, interference and diffraction. This course is given in the competency based instruction format.
DELETE COURSE
Effective Summer Semester 2025
- PHY 191 Physics Laboratory for Scientists, I
~~Fall of every year. 1(0-3) 1(0-2)~~ P: ~~{(PHY 183 or concurrently) or (PHY 193H or concurrently) or PHY 183B or (PHY 231 and (PHY 233B or concurrently)) or (PHY 231C and (PHY 233B or concurrently))}~~ P: ~~{(PHY 183 or concurrently) or (PHY 193H or concurrently) or (PHY 231 and (PHY 233 or concurrently))}~~. ~~Not open to students with credit in LB 273 or PHY 251. Not open to students with credit in PHY 251.~~
Error analysis, exercises in motion, forces, conservation laws and some electricity and magnetism studies.
Effective Fall Semester 2025
- PHY 192 Physics Laboratory for Scientists, II
Spring of every year. 1(0-3) P: ~~{(PHY 191 and ((PHY 184 or concurrently) or PHY 184B)) or (PHY 232 and (PHY 234B or concurrently)) or (PHY 232C and (PHY 234B or concurrently))}~~ P: ~~{(PHY 191) and ((PHY 184 or concurrently) or (PHY 294H or concurrently))}~~ or (PHY 191 and PHY 232 and (PHY 234 or concurrently)). ~~Not open to students with credit in LB 274 or PHY 252. Not open to students with credit in PHY 252.~~
Electric and magnetic fields, circuits, wave optics, modern physics.
Effective Fall Semester 2025

- PHY 193H Honors Physics I-Mechanics
Fall of every year. 4(4-0) P: (MTH 132 or concurrently) or (MTH 152H or concurrently) or (LB 118 or concurrently) ~~Not open to students with credit in LB 273 or PHY 183 or PHY 183B or PHY 231 or PHY 231C.~~ Not open to students with credit in PHY 183.
Mechanics and waves. Mechanics, Newton's laws, momentum, energy conservation laws, rotational motion, oscillations, gravity, and waves.
Effective Fall Semester 2025
- PHY 221 Studio Physics for Life Scientists I
Fall of every year. Spring of every year. 4(3-2) P: (MTH 124 or concurrently) or (MTH 132 or concurrently) or (MTH 152H or concurrently) or (LB 118 or concurrently) ~~Not open to students with credit in LB 273 or PHY 173 or PHY 183 or PHY 183B or PHY 193H or PHY 231 or PHY 231C or PHY 233B or PHY 241 or PHY 251.~~ Not open to students with credit in LB 273.
Basic principles of mechanics including applications to biological systems, development of scientific skills and problem-solving through integrated physics laboratory and discussion.
Effective Fall Semester 2025
- PHY 222 Studio Physics for Life Scientists II
Fall of every year. Spring of every year. 4(3-2) P: ~~{{(PHY 221 or LB 273) or (PHY 231 and PHY 251) or (PHY 231C and PHY 251) or (PHY 183 and PHY 191) or (PHY 193H and PHY 191)}} and (MTH 124 or MTH 132 or MTH 152H or LB 118)~~ P: ~~{{(PHY 221 or LB 273) or (PHY 231 and PHY 251)} or (PHY 183 and PHY 191) or (PHY 193H and PHY 191)} and (MTH 124 or MTH 132 or MTH 152H or LB 118)~~ Not open to students with credit in LB 274 or PHY 174 or PHY 184 or PHY 184b or PHY 192 or PHY 232 or PHY 232c or PHY 234b or PHY 242 or PHY 252. Not open to students with credit in LB 274.
Basic principles of electricity and magnetism including applications to biological systems, development of scientific skills and problem-solving through integrated physics laboratory and discussion.
Effective Fall Semester 2025
- PHY 231 Introductory Physics I
~~Fall of every year. Spring of every year.~~ Fall of every year. Spring of every year. Summer of every year. ~~3(4-0) 3(3-0)~~ P: MTH 114 or MTH 116 or MTH 124 or (MTH 132 or concurrently) or (MTH 152H or concurrently) or LB 117 or (LB 118 or concurrently) ~~Not open to students with credit in LB 273 or PHY 183 or PHY 183B or PHY 193H or PHY 231C or PHY 241.~~
Mechanics, Newton's Laws, momentum, energy, conservation laws, thermodynamics, waves, sound.
SA: PHY 231C
Effective Fall Semester 2025
- PHY 231C Introductory Physics I
Fall of every year. Spring of every year. Summer of every year. 3 credits. P: MTH 114 or MTH 116 or MTH 124 or (MTH 132 or concurrently) or (MTH 152H or concurrently) or LB 117 or (LB 118 or concurrently) RB: MTH 116 Not open to students with credit in LB 273 or PHY 183 or PHY 183B or PHY 193H or PHY 231 or PHY 241.
Mechanics, Newton's Laws, momentum, energy, conservation laws, thermodynamics, waves, sound. This course is an internet based course.
DELETE COURSE
Effective Summer Semester 2025
- PHY 232 Introductory Physics II
~~Fall of every year. Spring of every year.~~ Fall of every year. Spring of every year. Summer of every year. ~~3(4-0) 3(3-0)~~ P: PHY 231 or PHY 231C or PHY 183 or PHY 183B or PHY 193H or PHY 221 or LB 273 P: PHY 231 or PHY 183 or PHY 193H or PHY 221 or LB 273 Not open to students with credit in LB 274 or PHY 184 or PHY 184B or PHY 232C or PHY 294H or PHY 222 or PHY 234B.
Electricity and magnetism; optics; atomic, nuclear, and subnuclear physics.
SA: PHY 232C
Effective Fall Semester 2025

- PHY 232C Introductory Physics II
Fall of every year. Spring of every year. Summer of every year. 3 credits. P: PHY 183 or PHY 183B or PHY 193H or PHY 231 or PHY 231C or LB 273 Not open to students with credit in PHY 184 or PHY 184B or PHY 232 or PHY 294H or LB 274.
Electricity and magnetism; optics; atomic, nuclear, and subnuclear physics. This course is an internet based course.
DELETE COURSE
Effective Summer Semester 2025
- ~~PHY 233B~~
PHY 233 Calculus Concepts in Physics I
Fall of every year. Spring of every year. Summer of every year. 2 credits. ~~P: (PHY 231 or PHY 231C) and ((MTH 132 or concurrently) or (MTH 152H or concurrently) or (LB 118 or concurrently))~~ P: (PHY 231) and ((MTH 132 or concurrently) or (MTH 152H or concurrently) or (LB 118 or concurrently)). Not open to students with credit in LB 273 or PHY 183 or PHY 183B or PHY 193H.
~~Kinematics, dynamics, applications of Newton's laws. This course is given in the competency based instruction format.~~ Kinematics, dynamics, applications of Newton's laws. PHY 233 with PHY 231 meets the requirements for calculus-based physics.
SA: PHY 233B
Effective Fall Semester 2025
- ~~PHY 234B~~
PHY 234 Calculus Concepts in Physics II
~~Spring of every year. Summer of every year. Fall of every year. Spring of every year. Summer of every year.~~ 2 credits. ~~P: (PHY 232 or PHY 232C) and ((MTH 133 or concurrently) or (MTH 153H or concurrently) or (LB 119 or concurrently))~~ P: (PHY 232) and ((MTH 133 or concurrently) or (MTH 153H or concurrently) or (LB 119 or concurrently)). Not open to students with credit in LB 274 or PHY 184 or PHY 184B or PHY 294H.
~~Electricity and magnetism. This course is given in the competency based instruction format.~~ Electricity and magnetism. PHY 234 with PHY 232 meets the requirements for calculus-based physics.
SA: PHY 234B
Effective Fall Semester 2025
- PHY 241 Physics for Cellular and Molecular Biologists I
Fall of every year. 4(4-0) P: (MTH 124 or concurrently) or (MTH 132 or concurrently) or (MTH 152H or concurrently) or (LB 118 or concurrently) RB: CEM 141 and BS 161 R: Not open to students in the College of Engineering or in the Department of Physics and Astronomy. Not open to students with credit in LB 273 or PHY 183 or PHY 183B or PHY 193H or PHY 231 or PHY 231C or PHY 233B.
Physics of cellular and molecular biology. Examples will be drawn from systems such as bacterial flagella, myosin and protein folding.
DELETE COURSE
Effective Fall Semester 2025
- PHY 242 Physics for Cellular and Molecular Biologists II
Spring of every year. 4(4-0) P: PHY 241 RB: CEM 141 and BS 161 R: Not open to students in the College of Engineering or in the Department of Physics and Astronomy. Not open to students with credit in PHY 184 or PHY 184B or PHY 294H or PHY 232 or PHY 232C or PHY 234B or LB 274.
Physics of cellular and molecular biology. Examples will be drawn from systems such as ATPase and photosynthesis.
DELETE COURSE
Effective Fall Semester 2025
- PHY 251 Introductory Physics Laboratory I
~~Fall every year. Spring of every year. Summer of every year. Fall of every year. Summer of every year.~~ 1(0-2) P: (PHY 183 or concurrently) or (PHY 183B or concurrently) or (PHY 193H or concurrently) or (PHY 231 or concurrently) or (PHY 231C or concurrently) or (PHY 241 or concurrently) P: (PHY 183 or concurrently) or (PHY 193H or concurrently) or (PHY 231 or concurrently) RB: MTH 103 Not open to students with credit in LB 273 or PHY 191. Not open to students with credit in PHY 191.
Laboratory exercises involving simple mechanical systems.
Effective Fall Semester 2025

- PHY 294H Honors Physics II-Electromagnetism
Spring of every year. 4(4-0) ~~P: (PHY 193H or PHY 183 or PHY 183B) and ((MTH 133 or concurrently) or (MTH 153H or concurrently) or (LB 119 or concurrently))~~ P: (PHY 193H or PHY 183) and ((MTH 133 or concurrently) or (MTH 153H or concurrently) or (LB 119 or concurrently)). ~~Not open to students with credit in PHY 184 or PHY 184B or PHY 232 or PHY 232C or LB 274. Not open to students with credit in PHY 184.~~
Electricity and magnetism, electromagnetic waves and optics. Electricity and magnetism, circuits, electromagnetic waves and optics.
Effective Fall Semester 2025
- PHY 440 Electronics
~~Fall of every year. Spring of every year. Fall of every year.~~ 4(3-3) P: ~~(((PHY 184 or PHY 184B) or (PHY 232 and PHY 234B) or (PHY 232C and PHY 234B)) and PHY 192) or LB 274 and (((MTH 235 or concurrently) or (MTH 340 or concurrently) or (MTH 347H or concurrently))) and completion of Tier I writing requirement~~ P: (((PHY 184 or PHY 294H) or (PHY 232 and PHY 234B)) and PHY 192) or LB 274 and (((MTH 235 or concurrently) or (MTH 340 or concurrently) or (MTH 347H or concurrently))) and completion of Tier I writing requirement
Concepts of electronics used in investigating physical phenomena. Circuits, amplifiers, diodes, LEDs, transistors.
Effective Spring Semester 2024

SCHOOL OF PLANNING, DESIGN AND CONSTRUCTION

Please note that all UP courses are changing administrative responsibility to solely the College of Agriculture and Natural Resources

- UP 100 The City
~~Spring of every year. Fall of every year. Summer of every year.~~ 3(3-0)
Evolution, character, dimensions and elements of cities.
Effective Fall Semester 2025
- UP 201 Introduction to Urban and Regional Planning
~~Fall of every year. Spring of every year. Fall of every year. Spring of every year. Summer of every year.~~ 4(4-0)
Urban planning concepts, contemporary urban issues, historical contexts, and the politics and theory of planning.
Effective Fall Semester 2025
- UP 314 Methods for Investigation of Urban Systems
Spring of every year. ~~4(3-2) 3(3-0)~~ P: ~~UP 353 or concurrently~~ P: (UP 353) and (STT 200 or STT 201) R: Open to students in the Urban and Regional Planning Major.
Models, approaches, and techniques for urban and regional problem analysis, research, program evaluation, and project management. Application of related computer software.
Effective Fall Semester 2025
- UP 353 Land Use Planning
Fall of every year. 4(4-0) ~~P: UP 201~~ P: UP 201 and (UP 310 or concurrently) ~~R: Approval of department.~~ R: Approval of school.
Principles and techniques of land use planning, including role of social, economic and political systems. Comprehensive planning, neighborhood/sector planning, practical tools for land regulation and environmentally sensitive development.
SA: UP 323
Effective Fall Semester 2025
- UP 365 Planning Law and Ethics (W)
Spring of every year. 4(4-0) P: (UP 353) and completion of Tier I writing requirement R: Open to students in the Urban and Regional Planning Major.
Legal and ethical concepts and processes involved in planning and development.
SA: UP 465
Effective Fall Semester 2025

- UP 410 Urban Design
Spring of every year. 3(3-0) R: Not open to freshmen in the School of Planning, Design and Construction or approval of school.
Fundamentals of urban design and design tools for planners. Topics such as why aesthetics matter, what good design looks and functions like, and theories of urban design.
Effective Fall Semester 2025
- UP 424 ~~Geographic Information Systems and Design Tools for Planning~~
Geographic Information Systems for Urban Planning
Fall of every year. Spring of every year. ~~3(0-3)~~ 3(3-0) P: (UP 314 or concurrently) or LA 230 ~~R: Open to students in the Urban and Regional Planning Major and open to students in the Bachelor of Landscape Architecture and open to students in the Master in Urban and Regional Planning or in the Environmental Design Major. R: Open to students in the Environmental Design Major or in the Bachelor of Landscape Architecture or in the Master in Urban and Regional Planning Major or in the Urban and Regional Planning Major.~~
Introduction to geographic information systems and its applicability to planning. Methods and techniques for analyzing land use planning issues.
Effective Fall Semester 2025
- UP 433 Introduction to Environmental Planning
Fall of every year. 4(4-0) P: UP 353 ~~R: Open to students in the Urban and Regional Planning Major or approval of department. R: Open to students in the Urban and Regional Planning Major.~~
Nature and magnitude of contemporary environmental issues. Political, social and cultural forces that influence environmental policy and planning. Processes and tools available to planning professionals.
Effective Fall Semester 2025
- UP 434 Race and the City
Spring of every year. 2 to 4 credits. R: Not open to freshmen.
Explores how the city is experienced and imagined differently when using race as our lens. Topics such as racial segregation, concentrated poverty, and public policy structures.
Effective Fall Semester 2025
- UP 454 Local Economic Planning
Fall of every year. 3(3-0) P: UP 314 R: Open to students in the Urban and Regional Planning Major or approval of department.
The economic component of comprehensive community planning. Taxation and services delivery. Fiscal health and physical and social development of a community.
SA: UP 354
Effective Fall Semester 2025
- UP 458 Housing and Real Estate Development
Fall of every year. ~~3(2-2)~~ 3(3-0) R: Not open to freshmen.
Real estate development process from idea inception to asset management. Finance, organization, design and implementation. Housing, social impacts, and public sector involvement.
Effective Fall Semester 2025
- UP 478 ~~Urban Transportation Planning~~ Transportation Planning and Smart Land Use
~~Fall of every year.~~ Spring of every year. 3(3-0) Interdepartmental with Geography R: Not open to freshmen.
Principles of decision-making in urban transportation planning. Demand and supply analysis, social and environmental impacts, implementation programs. Use of computer models.
Effective Fall Semester 2025
- UP 490 Independent Study in Urban Planning
Fall of every year. Spring of every year. Summer of every year. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Not open to freshmen or sophomores.
Approval of school.
Faculty-supervised individual study in aspects of urban planning.
Effective Fall Semester 2025

- UP 494 Planning Practicum
Spring of every year. 6(0-12) P: (UP 424 or UP 824) and UP 433 and (UP 454 or UP 854) and (UP 365 or UP 865) R: Open to students in the Urban and Regional Planning Major.
Collection, analysis and synthesis of planning information for an established urban or regional area. Problem identification and alternative plan formulation. Formulation of comprehensive physical development policies and plans, implementation of programs.
SA: UP 494A, UP 494B
Effective Fall Semester 2025
- UP 801 Planning History and Theory
Fall of every year. 3(3-0)
Examines the concepts, history and theory of urban planning and development in the United States.
Effective Fall Semester 2025
- UP 814 Methods for Investigation of Urban Systems
Spring of every year. 3(3-0) RB: UP 801
Techniques in urban and regional planning analysis. Forecasting models. Methods of urban project evaluation.
Effective Fall Semester 2025
- UP 823 Planning Process and Development Review
Fall of every year. 3(3-0) RB: UP 801 or concurrently R: Open to graduate students in the Master in Urban and Regional Planning Major.
Introduction to land use including history, approaches, policy, current challenges, and techniques employed by the private and public sector to manage the use of land.
Effective Fall Semester 2025
- UP 824 Geographic Information Systems for Planning
Fall of every year. ~~3(0-3)~~ 3(3-0) R: Open to graduate students in the Master in Urban and Regional Planning or approval of school. R: Open to graduate students in the Master in Urban and Regional Planning Major or approval of school.
Introduction to geographic information systems and its applicability to planning. Methods and techniques for analyzing land use and planning issues.
Effective Fall Semester 2025
- UP 854 Economics of Planning and Development
Fall of every year. 3(3-0) RB: UP 801 R: Open to master's students in the Master in Urban and Regional Planning Major.
Physical urban environment and local economic development.
Effective Fall Semester 2025
- UP 855 Environmental Planning and Climate Change
Fall of even years. ~~3(3-0) Not open to students with credit in UP 455.~~
Urban sustainability in the context of the global climate change, tools for sustainability planning, adaptation to climate change, risk and vulnerability in different climate zones
Effective Fall Semester 2025
- UP 865 Planning and Development Law and Ethics
Spring of every year. 3(3-0) RB: UP 801
Constitutional and statutory bases for planning and development. Effects of case law on design, administration, and implementation of regulations.
Effective Fall Semester 2025
- UP 884 Community Engagement: Charrette Systems
On Demand. 3 to 4 credits. R: Open to students in the Master in Urban and Regional Planning.
Introduction to Charrettes. Emphasis on collaboration by design, along with advanced collaborative innovation processes.
Effective Fall Semester 2025

- UP 889 Master's Research
~~Fall of every year. Spring of every year. Summer of every year. On Demand. 2(2-0) R: Open to master's students in the Master in Urban and Regional Planning. Approval of school. R: Open to master's students in the Master in Urban and Regional Planning Major. Approval of school.~~
Supervised individual master's research.
Request the use of the Pass-No Grade (P-N) system.
Effective Fall Semester 2025
- UP 890 Independent Study
~~Fall of every year. Spring of every year. Summer of every year. 1 to 4 credits. 1 to 6 credits. A student may earn a maximum of 8 credits in all enrollments for this course. A student may earn a maximum of 6 credits in all enrollments for this course.~~ R: Approval of department.
Faculty-supervised study in aspects of urban planning.
Effective Fall Semester 2025
- UP 893 Internship in Urban Planning
~~Fall of every year. Spring of every year. Summer of every year. On Demand. 2 to 4 credits. 1 to 6 credits. A student may earn a maximum of 8 credits in all enrollments for this course. A student may earn a maximum of 6 credits in all enrollments for this course.~~ R: Approval of department.
Supervised individual experience in approved agencies and departments in the Lansing area.
Request the use of the Pass-No Grade (P-N) system.
Effective Fall Semester 2025
- UP 894 Planning Practicum
Spring of every year. 4(0-8) RB: (UP 801 and UP 823 and UP 865) and Second-year masters student in Urban and Regional Planning. R: Open to master's students in the Urban and Regional Planning Major.
Professional practice in the collection, analysis and synthesis of information by students or student groups under faculty supervision. Developing solutions to specific urban problems.
SA: UP 894A, UP 894B
Effective Fall Semester 2025
- UP 899 Master's Thesis Research
~~Fall of every year. Spring of every year. Summer of every year. On Demand. 1 to 6 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Open to master's students in the Master in Urban and Regional Planning. Approval of school. R: Open to master's students. Approval of school.~~
Master's thesis research.
Request the use of the Pass-No Grade (P-N) system.
Effective Fall Semester 2025

DEPARTMENT OF PLANT, SOIL AND MICROBIAL SCIENCES

- CSS 424 ~~Sustainable Agriculture and Food Systems: Integration and Synthesis~~
~~Sustainable Agriculture and Food Systems Capstone~~
~~Fall of every year. Spring of every year. 3(3-0) Interdepartmental with Animal Science, Community Sustainability, Horticulture Interdepartmental with Animal Science, Community Sustainability, Horticulture, Human Nutrition and Foods. P: CSS 124 and (CSS 224 or concurrently) P: CSS 124 and CSS 224 RB: At least one SAFS Minor selective course in a discipline outside a student's major area of study. Prior coursework in scientific writing and formal citations.~~ R: Open to juniors or seniors or graduate students.
~~Biogeochemical and socio-economic aspects of food, fiber, and fuel production. Environmental impacts and social context. Experiential learning projects. Application of interdisciplinary considerations of sustainable agriculture and food systems. Community-engagement, small-group projects, and practitioner speakers prepare students for potential career pathways.~~
Effective Summer Semester 2025

- CSS 441 Plant Breeding and Biotechnology
Spring of every year. ~~3(3-0)~~ 4(4-0) ~~Interdepartmental with Forestry, Horticulture P: (CSS 350 or concurrently) or (IBIO 341 or concurrently) RB: Knowledge of plant biology, genetics, and basic statistics.~~ Plant improvement by genetic manipulation. History of plant breeding. Traditional and biotechnological means of improving plant cultivars by genetic manipulation. Importance of plant breeding to our food system, economy, and environment. Plant improvement by genetic manipulation. Genetic variability in plants. Traditional and biotechnological means of creating and disseminating recombinant genotypes and cultivars.
Effective Fall Semester 2025
- CSS 480 Soil Fertility and Management
Fall of every year. ~~3(3-0)~~ 4(4-0) ~~P: CSS 210 and (CSS 330 or CSS 340 or CSS 360 or (CSS 470 or concurrently)) R: Open to seniors in the Agronomy minor or in the Crop and Soil Sciences major. R: Open to seniors.~~ P: (CSS 210) and (CSS 330 or CSS 340 or CSS 360 or (CSS 470 or concurrently)) R: Comprehensive management of agricultural soils. Soil fertility, including liming and fertilizer materials and other nutrient sources. Site specific soil management. Environmental impacts including soil erosion, runoff, and organic matter mineralization. Comprehensive nutrient management of agricultural and urban soils. Site- and field-specific soil and nutrient management strategies. Cation exchange capacity, soil pH, liming requirements, macro and micronutrient crop requirements, water and soil quality.
Effective Fall Semester 2025
- PLP 105L Fundamentals of Applied Plant Pathology Lab
Spring of every year. 1(0-2) ~~R: Open to students in the Agricultural Industries Major. R: Open to agricultural technology students in the College of Agriculture and Natural Resources. C: PLP 105 concurrently~~ C: PLP 105 concurrently
Identification of disease signs and symptoms in major agronomic and horticultural plants. Disease management techniques.
Effective Spring Semester 2025

DEPARTMENT OF POLITICAL SCIENCE

- PLS 920 Research Seminar in American Politics
~~Spring of every year. Fall of every year. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. A student may earn a maximum of 15 credits in all enrollments for this course.~~
Intensive study of one subfield of American politics. Critical evaluation of the literature.
Effective Fall Semester 2025

DEPARTMENT OF PSYCHOLOGY

- PSY 834 ~~Social Psychology~~ Advanced Social Psychology
Fall of even years. 3(3-0) ~~R: Open to graduate students in the Department of Psychology. Not open to students with credit in SOC 870.~~
Classic and contemporary theoretical and empirical issues in social psychology.
Effective Fall Semester 2025
- PSY 836 ~~Personality Psychology~~ Advanced Personality Psychology
~~Fall of odd years. Fall of odd years. 3(3-0) R: Open only to graduate students in the Psychology major or approval of department. R: Open to graduate students in the Department of Psychology or approval of department.~~
Classic and contemporary theoretical and empirical issues in personality psychology.
Effective Fall Semester 2025

DEPARTMENT OF ROMANCE AND CLASSICAL STUDIES

- FRN 320 ~~Exploring Diversity and Minorities in the Francosphere~~
Exploring Professional Communications in French
Fall of every year. Spring of every year. Summer of every year. 3(3-0) P: ((FRN 202 or FRN 204) or designated score on French Placement test) and Completion of Tier I Writing Requirement
~~Exploration of diverse perspectives in the French-speaking world. Study of the cultures and arts from various geographical regions, historical periods, and minority groups.~~ Exploration of communication in French in a variety of professional settings. Preparation for internship or professional experiences in French, including application documents.
Effective Fall Semester 2025
- FRN 420 ~~French for Professional Uses~~
French for Professional Uses
~~Fall of every year. Spring of every year. Fall of every year. Spring of every year. Summer of every year.~~ 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. ~~P: (FRN 310 or FRN 320 or FRN 330 or FRN 340 or FRN 350) and (FRN 310 or FRN 320 or FRN 330 or FRN 340 or FRN 350) and (FRN 310 or FRN 320 or FRN 330 or FRN 340 or FRN 350) P: (FRN 320) and (FRN 310 or FRN 330 or FRN 340 or FRN 350) and (FRN 310 or FRN 330 or FRN 340 or FRN 350)~~
French language skills to different professional career trajectories. Topics will vary depending on the semester including translation, French for the business world, economics, the industry of French culture or tourism. The application of advanced French language skills to different professional career trajectories. These might include translation, French for the business world, economics, the industry of French culture or tourism.
Effective Fall Semester 2025

SCHOOL OF SOCIAL WORK

- SW 310 ~~Human Behavior and Social Environment~~
Human Behavior and Social Environment
Fall of every year. 3(3-0) ~~P: (SOC 100 and PSY 101 and SW 200) and (HNF 150 or PSY 209 or PSL 250 or MMG 141) and (PSY 200 or PSY 235 or PSY 236 or PSY 244 or PSY 270 or PSY 280 or PSY 374) P: (SOC 100 and PSY 101 and SW 200) and (HNF 150 or PSY 209 or PSL 250) and (PSY 200 or PSY 235 or PSY 236 or PSY 244 or PSY 270 or PSY 280 or PSY 371) R: Open to juniors or seniors in the School of Social Work or approval of school. C: SW 320 concurrently C: SW 320 concurrently~~
Integration of general systems, ecological, and developmental theories within the context of lifespan development. Integration of biological, psychological, structural, environmental, and socio-cultural perspectives. Integration of general systems, ecological, and lifespan developmental theories with special attention to diverse populations and discussion of how intersectionality shapes experiences. Knowledge of internal, social, structural, and contextual factors that impact human functioning. Critical reflection of professional identity and social positionality.
Effective Fall Semester 2025
- SW 810 ~~Theories of Groups, Organizations, and Communities in Social Work~~
Theories of Groups, Organizations, and Communities in Social Work
Fall of every year. 3(3-0) R: Open to graduate students in the School of Social Work.
~~Ecological and social systems perspectives. Theories of groups, formal organizations, and communities in a systems framework. Ethical and historical foundations of social work. Knowledge of the social, structural, and contextual factors that impact human functioning in a multi-system context. History of the social work profession and NASW Code of Ethics. Theories of groups, organizations, and communities through an ecological, social systems, and leadership perspective. Historical and contemporary social, structural, economic, and racial injustices that impact human functioning.~~
Ecological and social systems perspectives. Theories of groups, formal organizations, and communities in a systems framework. Ethical and historical foundations of social work. Knowledge of the social, structural, and contextual factors that impact human functioning in a multi-system context. History of the social work profession and NASW Code of Ethics. Theories of groups, organizations, and communities through an ecological, social systems, and leadership perspective. Historical and contemporary social, structural, economic, and racial injustices that impact human functioning.
Effective Fall Semester 2025

- SW 811 Social Work Perspectives in Human Development
Spring of every year. 3(3-0) P: SW 810 R: Open to graduate students in the School of Social Work. ~~Not open to students with credit in SW 812A or SW 812B.~~
~~Developmental theories applied to individuals and families within an ecological and systems perspective. Biopsychosocial factors and interactions in human development for social work assessment and intervention.~~ Developmental and stage theories applied to individuals and families within an ecological and systems perspective. Impact of diversity and intersectionality on individual, family, and generational functioning.
Effective Fall Semester 2025
- SW 822 Topics in Policy Practice and Advocacy
Spring of every year. 3(3-0) P: SW 820 ~~R: Open to graduate students in the School of Social Work.~~ R: Open to graduate students in the School of Social Work or in the Master of Social Work in Clinical Social Work - Two Year Program or in the Master of Social Work in Clinical Social Work - One Year Program or in the Organization and Community Leadership Major or in the Organization and Community Leadership Advanced Standing Major.
Exploration of specific target populations or areas of need and related public policies. Information and skills for policy practice and advocacy.
Effective Fall Semester 2025
- SW 829 Social Work Research Methods I
Fall of every year. Spring of every year. Summer of every year. 2(2-0) ~~RB: Bachelors degree required.~~ RB: Bachelor's degree required. R: Open to graduate students in the School of Social Work.
~~Knowledge and skills in critical thinking and statistical methods. Concepts of data, distributions, samples and populations, measurement, descriptive statistics, inferential statistics and related topics using either SPSS or Excel. Ethics, diversity, social justice issues.~~ Knowledge in statistical methods: Descriptive and basic inferential statistics. Application for statistical knowledge to research-informed practice in social work problem settings. Ethics, diversity, social justice issues.
Effective Fall Semester 2025
- SW 830 Social Work Research Methods II
Fall of every year. Spring of every year. Summer of every year. 2(2-0) P: SW 829 ~~RB: One introductory research methods course and one introductory data analysis course.~~ R: Open to graduate students in the School of Social Work. R: Open to graduate students in the School of Social Work or in the Master of Social Work in Clinical Social Work - Two Year Program or in the Master of Social Work in Clinical Social Work - One Year Program or in the Organization and Community Leadership Major or in the Organization and Community Leadership Advanced Standing Major.
~~Foundation of research skills and methodologies. Evidence-based practice. Literature reviews. Advanced single system designs. Experimental and quasi-experimental research designs. Measurement and sampling. Social work research ethics. Qualitative and quantitative research methods. Evidence-based practice.~~
Effective Fall Semester 2025
- SW 832 Evaluating Social Work Programs and Practice
Fall of every year. Spring of every year. 2(2-0) P: SW 830 R: Open to graduate students in the School of Social Work.
~~Applied social work methods in a program evaluation framework. Evaluation in the context of research. Evaluation of program process and outcomes objectives. Scales of measurement. Survey, field and qualitative research methods. Sampling strategies. Computer technologies in social work evaluation. Data analysis and dissemination of findings.~~ Applied social work methods using a program evaluation framework. Evaluation of program process and outcomes, stakeholder engagement, ethical considerations, data analysis and dissemination of findings.
Effective Fall Semester 2025

- SW 843 Clinical Assessment and Diagnosis
Fall of every year. Spring of every year. Summer of every year. 2(2-0) P: SW 840 or concurrently-R: Open to graduate students in the School of Social Work or in the Master of Social Work in Clinical Social Work - Two Year Program or in the Master of Social Work in Clinical Social Work - One Year Program.
Biopsychosocial disturbances and clinical assessment. Social work perspectives of the person-in-environment as related to maladaptive behavior and psychosocial disorders. Cultural perspectives, including gender, age, and minority status in relation to psychological and behavior disorders. Clinical assessment focusing on biopsychosocial distress. Social work perspectives of the person-in-environment as related to symptoms of psychosocial disorders as defined by the American Psychiatric Association's (APA) latest edition of the Diagnostic and Statistical Manual of Mental Disorders. Cultural perspectives, including gender, age, and minoritized status in relation to psychological and behavior disorders are also addressed.
Effective Fall Semester 2025
- SW 844 Essential Theories in Organizations and Communities Social Work Practice
Fall of every year. 2(2-0) P: SW 810-R: Open to graduate students in the School of Social Work or approval of school. R: Open to graduate students in the School of Social Work or in the Organization and Community Leadership Major or in the Organization and Community Leadership Advanced Standing Major or approval of school.
Apply selected macro theoretical frameworks associated with the study of leadership, organizations and communities to social work practice.
Effective Fall Semester 2025
- SW 850 Clinical Social Work Practice I
Fall of every year. 3(3-0) P: (SW 841) and SW 894B-R: Open to master's students in the School of Social Work or in the Master of Social Work in Clinical Social Work - One Year Program or approval of school. R: Open to master's students in the School of Social Work or in the Master of Social Work in Clinical Social Work - Two Year Program or in the Master of Social Work in Clinical Social Work - One Year Program or approval of school.
Theoretical base of advanced clinical social work practice with individuals and groups. Evidence-based and culturally sensitive intervention strategies and techniques. Professional development and use of self to enhance clinical effectiveness. Theoretical base of advanced clinical social work practice with individuals and groups. Evidence-based and culturally responsive intervention strategies and techniques. Professional development and use of self to enhance clinical effectiveness.
Effective Fall Semester 2025
- SW 865 Social Work Leadership in Organizations
Fall of every year. 3(3-0)-P: ~~(SW 841) and SW 894B~~ P: (SW 841) and SW 894G-R: Open to master's students in the School of Social Work or approval of school. R: Open to master's students in the School of Social Work or in the Organization and Community Leadership Major or in the Organization and Community Leadership Advanced Standing Major or approval of school.
Knowledge and skills to promote change in programs and organizations using adaptive leadership. Knowledge and skills to promote change in programs and organizations.
Effective Fall Semester 2025

COLLEGE OF VETERINARY MEDICINE

- VM 518 Cardiovascular System I
~~Fall of every year.~~ Spring of every year. 3(1-4) R: Open to graduate-professional students in the College of Veterinary Medicine.
Structure and function of the cardiovascular system in health.
Effective Fall Semester 2025
- VM 519 Cutaneous System I
Fall of every year. ~~3(1-4)~~ 2(1-2) R: Open to graduate-professional students in the College of Veterinary Medicine.
Structure and function of the cutaneous system in health.
Effective Fall Semester 2025

- VM 523 Immunologic and Hematologic Systems I
~~Spring of every year.~~ Fall of every year. 3(1-4) R: Open to graduate-professional students in the College of Veterinary Medicine.
Structure and function of the immunological and hematologic systems in health.
Effective Fall Semester 2025
- VM 531 ~~Immunologic and Hematologic System II~~ Immunologic and Hematologic Systems II
~~Fall of every year.~~ Spring of every year. 3(1-4) R: Open to graduate-professional students in the College of Veterinary Medicine.
Immunologic and hematologic disorders of animals.
Effective Fall Semester 2025
- VM 534 Cutaneous System II
~~Fall of every year.~~ Spring of every year. 3(1-4) R: Open to graduate-professional students in the College of Veterinary Medicine.
Cutaneous system disorders of animals.
Effective Fall Semester 2025
- VM 565 Cardiovascular System II
~~Spring of every year.~~ Fall of every year. 2(1-2) R: Open to graduate-professional students in the College of Veterinary Medicine.
Cardiovascular system disorders of animals.
Effective Fall Semester 2025
- VM 568 Urinary System II
~~Spring of every year.~~ Fall of every year. 3(1-4) R: Open to graduate-professional students in the College of Veterinary Medicine.
Urinary system disorders of animals.
Effective Fall Semester 2025
- VM 569 Musculoskeletal System II
Spring of every year. ~~2(1-2)~~ 3(1-4) R: Open to graduate-professional students in the College of Veterinary Medicine.
Musculoskeletal disorders of animals
Effective Fall Semester 2025
- VM 577 Endocrine System II
~~Spring of every year.~~ Fall of every year. 3(1-4) R: Open to graduate-professional students in the College of Veterinary Medicine.
Endocrine system disorders of animals.
Effective Fall Semester 2025