

MICHIGAN STATE UNIVERSITY

Report of
THE UNIVERSITY COMMITTEE ON CURRICULUM
to the Faculty Senate
Actions by UCC
April 30, 2026

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

April 30, 2026

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

April 30, 2026

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 **Agricultural Technology Certificate** in **Agricultural Industries** in The Institute of Agricultural Technology.

The concentrations in the Agricultural Technology Certificate in Agricultural Industries will be noted on the student's academic record when the requirements for the certificate have been completed.

- a. Under the heading **Requirements for Agricultural Industries** replace the entire entry with the following:

The student must complete 42 credits from the following:

1. All of the following courses (15 to 18 credits):

AFRE 100	Economics and Management for the Bioeconomy	3
AT 145	Agricultural Communications	2
AT 293	Professional Internship in Agricultural Technology	3 to 6
CROP 101	Introduction to Crop Science	3
CROP 101L	Introduction to Crop Science Laboratory	1
CROP 192	Professional Development Seminar I	1
CROP 292	Career Leadership in Agriculture	2
2. One of the following courses (2 or 3 credits):

SOIL 203	World of Soils	2
SOIL 210	Fundamentals of Soil Science	3
3. Complete one of the following concentrations. The concentration will be noted on the student's transcript.

Agronomy

 1. All of the following courses (10 credits):

CROP 110	Computer Applications in Agronomy	2
CROP 126	Introduction to Weed Management	2
CROP 135	Crop Scouting and Investigation	3
CROP 212	Advanced Crop Production	2
CROP 226L	Weed Science Laboratory	1
 2. Complete 4 credits from the following:

CROP 151	Seed and Grain Quality	2
CROP 201	Forage Crops	3
ENT 111	Basics of Applied Entomology	2
PLP 105	Fundamentals of Applied Plant Pathology	1
PLP 105L	Fundamentals of Applied Plant Pathology Lab	1
 3. Complete a minimum of 7 to 11 elective credits in the college as approved by the program coordinator in the Institute of Agricultural Technology.

Ag Business

 1. All of the following courses (12 credits):

AFRE 130	Foundations of Agribusiness Management	3
AFRE 203	Data Analysis for Managerial Decision-Making	3
AFRE 222	Sales for the Bioeconomy	3
AFRE 232	Commodity Marketing	3
 2. Complete 3 credits from the following:

- AFRE 206 World Food, Population and Poverty 3
- AFRE 240 Product Marketing for the Bioeconomy 3
- 3. Complete a minimum of 6 to 10 elective credits in the college as approved by the program coordinator in the Institute of Agricultural Technology.

Ag Education

- 1. All of the following courses (8 credits):
 - CEP 240 Introduction to Exceptional Learners 3
 - CSUS 200 Introduction to Sustainability 3
 - CSUS 222A Seminar in Instructional Theory I -Agriculture, Food and Natural Resources Education 3
 - CSUS 222B Seminar in Instructional Theory II - Agriculture, Food and Natural Resources Education 3
- 2. Complete 6 credits from the following:
 - ANS 110 Introductory Animal Agriculture 3
 - FOR 202 Introduction to Forestry 3
 - HRT 203 Introduction to Horticulture 3
 - TE 150 Reflections on Learning 3
- 3. Complete a minimum of 6 to 10 elective credits in the college as approved by the program coordinator in the Institute of Agricultural Technology.

Food Processing and Safety

- 1. All of the following courses (16 credits):
 - AE 153 Engine and Equipment Technology 2
 - FSC 113 Basic Commodity Overview of Food Processing and Technology 3
 - FSC 114 Food Processing and Technology Facilities Management 3
 - FSC 125 Food Processing and Technology Unit Operations 2
 - FSC 211 Principles of Food Science 3
 - PKG 101 Principles of Packaging 3
- 2. Complete 3 credits from the following:
 - AE 151 Fabrication Technology 2
 - AFRE 203 Data Analysis for Managerial Decision-Making 3
 - AFRE 222 Sales for the Bioeconomy 3
 - AFRE 240 Product Marketing for the Bioeconomy 3
 - FSC 222 Professional Development and Career Planning in Food Science 1
 - HNF 150 Introduction to Human Nutrition 3
- 3. Complete a minimum of 2 to 6 elective credits in the college as approved by the program coordinator in the Institute of Agricultural Technology.

Effective Fall 2026.

- 2. Change the requirements for the **Minor in Smart Agricultural Systems** in the Department of Biosystems and Agricultural Engineering.
 - a. Under the heading **Requirements for the Minor in Smart Agricultural Systems** make the following changes:
 - (1) In item 2., change the requirement to ‘Complete 6 to 7 credits from the following courses’.
 - (2) In item 2., delete the following courses:
 - CSS 467 Bioenergy Feedstock Production 3
 - ME 451 Control Systems 4
 - TNG 335 Computer Security Fundamentals 3

Add the following courses:

CROP	467	Bioenergy Feedstock Production	3
ME	452	Control Systems	3
ME	452L	Vibrations and Controls Laboratory	1
TNG	345	Mechanical Machine Dynamics	3
TNG	450	Hardware Cybersecurity	3

Effective Fall 2026.

3. Change the requirements for the **Master of Arts** degree in **Agriculture, Food and Natural Resources Education** in the Department of Community Sustainability. The University Committee on Graduate Studies (UCGS) approved this request at its April 20, 2026 meeting.

a. Under the heading **Requirements for the Master of Arts Degree in Agriculture, Food and Natural Resources Education** make the following changes:

(1) Note: This program is now available only online.

(2) In item 2., delete the following courses:

CSUS	430	Non-Profit Organizational Management for Community Sustainability	3
CSUS	433	Grant Writing and Fund Development (W)	3
CSUS	445	Community-Based Environmental and Sustainability Education	3
CSUS	833	Program Evaluation in Agriculture and Natural Resources	3

(3) Renumber item 3. to item 4., and add the following new item 3.:

3. Complete training in Responsible and Ethical Conduct of Research.

Effective Fall 2026.

4. Establish a **Graduate Certificate in Distilled Beverages** in the Department of Food Science and Human Nutrition. The University Committee on Graduate Studies (UCGS) recommended approval of this request at its March 16, 2026 meeting.

a. **Background Information:**

The Department of Food Science and Human Nutrition (FSHN) and the Department of Chemical Engineering and Materials Science (ChEMS) at Michigan State University are developing an online Graduate Certificate in Distilled Beverages to expand access to distilling science education beyond Michigan and the United States. This interdisciplinary collaboration brings together expertise in fermentation science, process engineering, and distilled beverage innovation to meet the growing global demand for skilled professionals in the distilled spirits industry.

The Graduate Certificate in Distilled Beverages will provide academically rigorous and industry-relevant training for both students pursuing advanced education and professionals currently employed in distilleries. Offered fully online, the program enables participants to enhance their technical knowledge and credentials while maintaining full-time employment.

By delivering a high-quality, flexible learning experience, the program minimizes the need for on-campus resources while extending MSU's land-grant mission of global outreach and applied education. Participants will gain a science and engineering-based understanding of raw material selection, fermentation, distillation, maturation, sensory analysis, and regulatory compliance all within the context of sustainability and innovation in the distilled beverage industry.

By leveraging existing strengths and infrastructure, MSU already has a Beverage Science and Technology minor and expertise in fermentation, food science, and chemical engineering. This

gives MSU a strong base to design rigorous, technically advanced course work without needing to build everything from scratch.

While many programs are centered in states with large distilling tradition (Kentucky, etc.), fewer institutions offer fully online programs that reach international learners or working distillers globally. MSU can capture demand from untapped geographies by providing quality remote education.

MSU's program can avoid duplication and improve specialization rather than replicating what's already here (e.g. weekend/hybrid in-person certificates). It can complement them by focusing on process engineering, raw-material science, analytical methods, and rigorous assessment, making graduates technically strong rather than just operationally competent.

Having such a program positions MSU as a leader in beverage distilling education nationally, enhances its reputation in food science and engineering, attracts students globally, and supports Michigan's (and the U.S.'s) distilled beverage sector by advancing workforce capacity.

b. **Academic Programs Catalog Text:**

The Graduate Certificate in Distilled Beverages is an online, interdisciplinary program offered jointly by the Department of Food Science and Human Nutrition and the Department of Chemical Engineering and Materials Science. Designed for students and professionals seeking a strong foundation in the science and engineering of distilled spirits production, the program provides applied training in fermentation, distillation processes, and product development. Graduates will gain the technical expertise needed to advance in the rapidly growing distilled beverage industry through a flexible, fully online format.

Requirements for the Graduate Certificate in Distilled Beverages

CREDITS

Students must complete 12 credits from the following:

CHE	884	Distillation Science and Technology I	3
CHE	885	Distillation Science and Technology II	3
FSC	480	Fundamentals of Chemistry and Microbiology for Distillers	3
FSC	481	Fermented Beverages	3

Effective Fall 2026.

5. Change the requirements for the **Master of Science** degree in **Construction Management** in the School of Planning, Design and Construction to the following. The University Committee on Graduate Studies (UCGS) approved this request at its April 20, 2026 meeting.

a. Under the heading **Admission** delete paragraph one:

To be considered for admission to the master's degree program in construction management, an applicant must take the Graduate Record Examination General Test and have the scores submitted to the department.

b. Under the heading **Requirements for the Master of Science Degree in Construction Management** make the following changes:

(1) Replace the first sentence with the following:

The student must complete a total of 30 credits for the degree under Plan A (with thesis) or under Plan B (without thesis).

(2) Under the heading **Additional Requirements for Plan A**, replace the entire section with the following:

1. Complete 6 credits of Construction Management 899. No more than 9 credits may be counted toward the requirements for the degree under Plan A.

2. Complete 9 credits of additional course work as advised by the student's academic advisor.
 3. Complete and defend a master's thesis acceptable to the student's guidance committee.
- (3) Under the **Requirements for Plan B**, replace items 1. and 2. with the following:
1. A minimum of 21 credits in 800-900 level courses.
 2. Both of the following courses:

CMP	817	Construction Project Management and Information Systems	3
CMP	822	Contracts and Legal Issues in Construction	3
- (4) Under the heading **Additional Requirements for Plan B**, add the following:
4. Complete 15 to 18 credits of additional course work as advised by the student's academic advisor.

Effective Fall 2026.

COLLEGE OF ARTS AND LETTERS

1. Change the requirements for the **Bachelor of Arts** degree in **English** in the Department of English. The Teacher Education Council (TEC) approved this request at its April 9, 2026 meeting.

The concentrations in the Bachelor of Arts degree in English are 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 English** replace the entire entry with the following:

Please note the deletion of the Popular Culture Studies Concentration and the addition of a Literary Studies Concentration

1. The University requirements for bachelor's degrees 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 English.
 The University's Tier II writing requirement for the English major is met by completing one of the following: English 360, 362, 364, or 368. Those courses are referenced in item 3. below.
2. The requirements of the College of Arts and Letters for the Bachelor of Arts degree.
3. The following requirements for the major:
 - a. One of the following courses (1 credit):

AL	250	Career Strategies for Arts and Letters Students	1
AL	460	Advanced Career Strategies for Arts and Letters Students	1
 - b. Both of the following courses (6 credits):

ENG	210	Introduction to Literary Studies	3
ENG	280	Introduction to Literary Theories	3
 - c. One of the following courses (3 credits):

ENG	360	Studies in Postcolonial and Diaspora Literature (W)	3
ENG	362	Studies in Modern/Contemporary Literature (W)	3
ENG	364	Studies in 18th-/19th-Century Literature (W)	3
ENG	368	Studies in Medieval/Early Modern Literature (W)	3
 - d. One of the following courses on diversity in literature (3 credits):

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	353	Readings in Women Writers	3
ENG	354	Readings in Native American Literature	3

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|----|---|-----|---|---|
| | ENG | 355 | Readings in Sexuality and Literature | 3 |
| | ENG | 356 | Readings in Jewish Literature | 3 |
| | ENG | 360 | Studies in Postcolonial and Diaspora Literature (W) | 3 |
| | ENG | 448 | Seminar in Gender and Literature | 3 |
| | ENG | 449 | Seminar in Race, Ethnicity, and Literature | 3 |
| | ENG | 460 | Seminar in Global and Postcolonial Literature | 3 |
| e. | One of the following courses in literature before 1900 (3 credits): | | | |
| | ENG | 318 | Readings in Shakespeare | 3 |
| | ENG | 368 | Studies in Medieval/Early Modern Literature (W) | 3 |
| | ENG | 441 | Seminar in Early American Literature | 3 |
| | ENG | 443 | Seminar in 18th and 19th Century Literature | 3 |
| f. | English electives: Additional credits in English courses as needed to meet the requirement of at least 34, but not more than 40, credits in courses in the major, including no more than 4 credits in a 100-level English course. | | | |

Note: No single course may count more than once toward the requirements above.

- g. One of the following concentrations (21 to 25 credits):

Creative Writing Concentration

The creative writing concentration is available to students who are enrolled in the Bachelor of Arts in English. Students interested in the concentration should consult with their advisor. Students who elect this concentration must complete the following courses, all of which will count toward the 34 to 40 credits in the Bachelor of Arts in English degree. The concentration will be noted on the student's transcript.

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|----|---|------|---|---|
| 1. | The following foundational courses (4 credits): | | | |
| | ENG | 320D | Methodologies of Literary History:
History and Theory of
Creative Writing | 3 |
| | ENG | 200 | Creative Writing Community | 1 |
| 2. | Two of the following introductory courses (6 credits): | | | |
| | ENG | 223 | Introduction to Creative Non-Fiction Writing | 3 |
| | ENG | 228 | Introduction to Fiction Writing | 3 |
| | ENG | 229 | Introduction to Poetry Writing | 3 |
| | FLM | 334 | Introduction to Screenwriting (W) | 3 |
| 3. | Two of the following advanced courses (6 credits): | | | |
| | ENG | 423 | Advanced Creative Non-Fiction Writing | 3 |
| | ENG | 428 | Advanced Fiction Writing | 3 |
| | ENG | 429 | Advanced Poetry Writing | 3 |
| | FLM | 434 | Advanced Screenwriting (W) | 3 |
| 4. | One creative writing elective, drawn from the following, or an additional workshop above (3 credits): | | | |
| | ENG | 226 | Introduction to Creative Writing | 3 |
| | ENG | 227 | Introduction to Playwriting | 3 |
| | ENG | 323 | Readings in Nonfiction | 3 |
| | ENG | 325 | Readings in Graphic Narrative | 3 |
| | ENG | 326 | Readings in Drama and Performance
Studies | 3 |
| | ENG | 328 | Readings in Novel and Narrative | 3 |
| | ENG | 329 | Readings in Poetry and Poetics | 3 |
| | ENG | 342 | Readings in Popular Literary Genres | 3 |
| | ENG | 392 | Special Topics in English: Creative Writing | 3 |
| | ENG | 475 | History of the Book: From Manuscripts to
Comics | 3 |
| | FLM | 337 | Topics in Film Form | 3 |
| | FLM | 355 | Studies in Film Genres | 3 |
| | TE | 458 | Reading, Writing, and Teaching Poetry | 3 |
| | WRA | 320 | Technical Communication (W) | 3 |
| | WRA | 355 | Writing for Publication Workshop | 3 |
| | WRA | 370 | Introduction to Grammar and Editing (W) | 3 |
| | WRA | 453 | Grant and Proposal Writing | 3 |
| | WRA | 471 | Rhetoric of Grammar | 3 |
| | WRA | 480 | Publication Management | 3 |

5. One creative writing focused capstone course from among the following (3 credits):

ENG 483	Seminar in Literary Editing and Publishing	3
ENG 484E	Creative Writing Capstone	3
ENG 489H	Senior Honors Independent Project	3
ENG 493	English Internship	3

English Education Concentration

The English Education concentration is available to students who are enrolled in the Bachelor of Arts in English and seeking secondary education teacher certification. Students interested in the concentration should consult with their advisor. Students who elect this concentration must complete the following courses, all of which will count toward the 34 to 40 credits in the Bachelor of Arts in English degree. The concentration will be noted on the student's transcript.

1. The following introductory course (3 credits):

ENG 302	Introduction to English Language Studies	3
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2. The following genre course (3 credits):

ENG 308	Readings in Literature for Young Adults	3
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3. The following seminar (4 credits):

ENG 408	Critical Literacies and Communities	4
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4. The following capstone course (3 credits):

ENG 413	Critical Questions in Language and Composition (W)	3
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5. One of the following courses in creative making (3 or 4 credits):

ENG 226	Introduction to Creative Writing	3
ENG 228	Introduction to Fiction Writing	3
ENG 229	Introduction to Poetry Writing	3
ENG 235	Exploring Digital Humanities: History, Practice, and Speculation	3
FLM 260	Introduction to Digital Film and Emergent Media	4
FLM 334	Introduction to Screenwriting (W)	3

Literary Studies Concentration

The literary studies concentration is available to students who are enrolled in the Bachelor of Arts in English. Students interested in the concentration should consult with their advisor. Students who elect this concentration must complete the following courses, all of which will count toward the 34 to 40 credits in the Bachelor of Arts in English degree. The concentration will be noted on the student's transcript.

1. One of the following courses in creative making (3 or 4 credits):

ENG 223	Introduction to Creative Non-Fiction Writing	3
ENG 226	Introduction to Creative Writing	3
ENG 228	Introduction to Fiction Writing	3
ENG 229	Introduction to Poetry Writing	3
ENG 235	Exploring Digital Humanities: History, Practice, and Speculation	3
FLM 260	Introduction to Digital Film and Emergent Media	4
FLM 334	Introduction to Screenwriting (W)	3
2. Two of the following seminars (6 credits):

ENG 422	Seminar in Genre and Form	3
ENG 440	Seminar in Popular Culture Studies	3
ENG 441	Seminar in Medieval and Early Modern Literature	3
ENG 443	Seminar in 18 and 19th Century Literature	3
ENG 445	Seminar in 20th and 21st Century Literature	3
ENG 448	Seminar in Gender and Literature	3

	ENG	449	Seminar in Race, Ethnicity, and Literature	3
	ENG	460	Seminar in Global and Postcolonial Literature	3
	ENG	473A	Literature and Medicine	3
	ENG	475	History of the Book: From Manuscripts to Comics	3
	ENG	481	Seminar in Critical and Cultural Theory	3
	ENG	492	Seminar in English	3
3.			One of the following capstone course requirements (3 credits):	
	ENG	484	Critical Questions in Literary Studies	3
	ENG	493	English Internship	3

Note: No single course may count more than once toward any of the requirements above.

Effective Spring 2027.

2. Delete the curriculum and degree requirements for the **Minor in Popular Culture Studies** in the Department of English. 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 Spring 2025. No students are to be readmitted to the program effective Spring 2025. Effective Spring 2027, coding for the program will be discontinued and the program will no longer be available in the Department of English. Students who have not met the requirements for the Minor in Popular Culture Studies through the Department of English prior to Spring 2027 will have to change their minor.

Note: This program has been in moratorium since Spring 2025.

3. Change the requirements for the **Minor in Indian and South Asian Studies** in the Department of Linguistics, Languages, and Cultures.
 - a. Under the heading **Requirements for the Minor in Indian and South Asian Studies** replace the entire entry with the following:

Students must complete 15 credits from the following requirements:

1. Complete the equivalent of 2.5 years of academic study in a South Asian language or demonstrate equivalent proficiency through placement testing. Students must choose one of the following language pathways (12 credits):

Hindi

ISA	211	Intermediate Hindi I	3
ISA	212	Intermediate Hindi II	3
ISA	311	Intermediate High Hindi I	3
ISA	312	Intermediate High Hindi II	3
ISA	411	Advanced Hindi I	3
ISA	412	Advanced Hindi II	3

Urdu

ISA	221	Intermediate Urdu I	3
ISA	222	Intermediate Urdu II	3
ISA	321	Intermediate High Urdu I	3
ISA	322	Intermediate High Urdu II	3
ISA	421	Advanced Urdu I	3
ISA	422	Advanced Urdu II	3

Bengali

ISA	231	Intermediate Bengali I	3
ISA	232	Intermediate Bengali II	3
ISA	331	Intermediate High Bengali I	3
ISA	332	Intermediate High Bengali II	3
ISA	431	Advanced Bengali I	3
ISA	432	Advanced Bengali II	3

Tamil				
	ISA	241	Intermediate Tamil I	3
	ISA	242	Intermediate Tamil II	3
	ISA	341	Intermediate High Tamil I	3
	ISA	342	Intermediate High Tamil II	3
	ISA	441	Advanced Tamil I	3
	ISA	442	Advanced Tamil II	3
2.	Complete one of the following language and culture courses below or an additional South Asian language course between the 100-400 level (3 credits):			
	ASN	291	Special Topics in Asian Languages	1 to 4
	ASN	491	Special Topics in Asian Languages	1 to 6
	ENG	360	Studies in Postcolonial and Diaspora Literature (W)	3
	FLM	350	National and Transnational Cinemas	3
	FLM	450	Studies in Ethnic Film	3
	FLM	451	Studies in Postcolonial Cinema	3
	HA	260	Asian Art	3
	HA	261	Modern Asian Art	3
	HA	461	Selected Topics in Modern Asian Art	4
	HST	374	South Asia before Colonialism	3
	HST	375	Modern South Asia	3
	IAH	204	Asia and the World (I)	3
	IAH	211B	Area Studies and Multicultural Civilizations: Asia and the Pacific (I)	3
	ISA	111	Elementary Hindi I	3
	ISA	112	Elementary Hindi II	3
	ISA	121	Elementary Urdu I	3
	ISA	122	Elementary Urdu II	3
	ISA	131	Elementary Bengali I	3
	ISA	132	Elementary Bengali II	3
	ISA	141	Elementary Tamil I	3
	ISA	142	Elementary Tamil II	3
	ISA	291	Special Topics in Indian and South Asian Studies	3
	ISA	491	Special Topics in Indian and South Asian Studies	3
	MUS	425	Music of South Asian and Its Diaspora	2
	REL	340	Hinduism	3
	REL	345	Religions of South Asia	3
	REL	441	Devotional Hinduism (W)	3
	REL	350	Buddhism of South Asia	3

Students must obtain advisor approval before enrolling in ASN 291, ASN 491, ENG 360, FLM 350, FLM 450, FLM 451, HA 461, HST 374, HST 375, IAH 204, or IAH 211B to ensure appropriate South Asian content. Other South Asian language courses not used to fulfill the language requirement in item 1. and other approved courses with South Asian content may be used to fulfill the requirements of the minor.

Effective Fall 2026.

ELI BROAD COLLEGE OF BUSINESS

1. Establish a **Graduate Certificate in Advanced Business Analytics Applications** in the Eli Broad College of Business. The University Committee on Graduate Studies (UCGS) recommended approval of this request at its March 16, 2026 meeting.

a. **Background Information:**

The Graduate Certificate in Advanced Business Analytics Applications expands the Broad College of Business's leadership in applied analytics education by offering a focused, graduate-level credential for professionals seeking advanced, practice-oriented analytics skills. In response to growing employer demand and national trends toward flexible, career-relevant credentials, the certificate delivers a fully asynchronous, business-focused program aligned with the evolving needs of today's analytics workforce.

Few Big Ten peers offer graduate analytics certificates, and even fewer deliver them fully online, positioning this program to strengthen Broad’s competitive standing while expanding access. Built on Broad’s established analytics expertise and faculty strengths, the certificate supports MSU’s goals for workforce development and flexible credentialing while preparing learners to apply advanced analytics to real business challenges.

Housing the certificate in the Dean’s Office supports the Broad College mission to develop leaders who positively transform organizations and society by positioning the program as a collaborative cross-college graduate offering. This structure enables centralized oversight, efficient resource utilization, and rapid market responsiveness, while advancing Broad’s strategic priority to elevate graduate education through innovative, market-aligned programs that drive enrollment growth, interdisciplinary collaboration, and sustainable revenue generation.

b. Academic Programs Catalog Text:

The Graduate Certificate in Advanced Business Analytics Applications is designed for professionals seeking advanced, practice-oriented analytics skills. The curriculum emphasizes advanced analytical methods, analytics project management, and the translation of data into actionable business insight, culminating in a capstone experience focused on real-world business problem solving. The certificate is available only online.

Admission

In addition to meeting the requirements of the university, The Eli Broad College of Business and Graduate School of Management, students must meet the requirements specified below. Applicants must complete an online application through the MSU Office of Admissions.

To be admitted, candidates should:

1. Provide official transcripts of an earned 4-year bachelor's degree from a recognized educational institution with a cumulative grade-point average of 3.0 or higher or equivalent academic credential.
2. Have relevant work experience and/or other evidence of ability to succeed in the program,
3. Provide three academic or professional recommendations.
4. Provide a personal statement, a resume and a video essay.
5. Have completed, with a grade of 3.0 or higher, college-level courses in calculus and statistics.
6. Have experience in programming languages, such as Python, Java, HTML, C and C++, and statistical software tools.

Admission to the program is selective and meeting the minimum standards does not guarantee admission. The applicant’s overall record is considered, including the student’s statement of objectives, recommendations, academic transcripts, and other documentation as required.

Requirements for the Graduate Certificate in Advanced Business Analytics Applications

	CREDITS
Students must complete 10 credits from the following:	
ITM 822 Information Systems Project Management	1
ITM 881 Network Analytics	2
ITM 885 Machine Learning and Optimization in Analytics	2
ITM 888 Capstone: Business Analytics	2
STT 805 Statistical Modeling for Business Analytics	3

Students are expected to maintain a minimum cumulative grade-point average of 3.0 in all courses in the certificate and a minimum 2.0 grade in each course for the course to count towards the certificate program.

Effective Fall 2026.

2. Establish a **Graduate Certificate in AI for Business Leadership** in the Eli Broad College of Business. The University Committee on Graduate Studies (UCGS) recommended approval of this request at its March 16, 2026 meeting.

a. **Background Information:**

The Graduate Certificate in AI for Business Leadership prepares current and emerging leaders to lead AI-enabled transformation - blending application, strategy and ethics to leverage AI to drive value in organizations. Industry and market forces seek shorter credentials that correlate with specific knowledge and skill attainment. This certificate provides a credential that acknowledges the knowledge/skills earned and can serve as a stackable pathway into a graduate program, broadening access to our degree(s).

It supports the college mission to develop leaders who positively transform organizations and society. It also contributes to Broad's strategic initiative to elevate graduate programs through market-aligned innovation, efficient growth, and revenue generation.

Students who successfully complete the program will be able to: integrate AI effectively into business strategy and operations; lead teams and manage change in AI-enabled organizations; evaluate AI opportunities and make recommendations for policy and application; and address ethical, legal and governance issues in AI adoption.

b. **Academic Programs Catalog Text:**

The Graduate Certificate in AI for Business Leadership is designed to prepare current and emerging leaders to guide AI-enabled transformation in organizations. The certificate blends practical application, business strategy, and responsible AI practices to equip learners with the knowledge and skills needed to evaluate AI opportunities, integrate AI into business operations, and lead organizational change. Through course work focused on applied AI, governance, leadership, and emerging technologies, students develop the ability to align AI initiatives with business goals, manage teams in AI-enabled environments, and address ethical, legal, and policy considerations surrounding AI adoption. The certificate is available only online.

Admission

In addition to meeting the requirements of the university, The Eli Broad College of Business and Graduate School of Management, students must meet the requirements specified below. Applicants must complete an online application through the MSU Office of Admissions.

To be admitted, candidates should:

1. Provide official transcripts of an earned 4-year bachelor's degree from a recognized educational institution with a cumulative grade-point average of 3.0 or higher or equivalent academic credential.
2. Have relevant work experience and/or other evidence of ability to succeed in the program,
3. Provide three academic or professional recommendations.
4. Provide a personal statement, a resume and a video essay.

International applicants are required to adhere to all MSU English Language test admission requirements and may be required to provide certified degree documents for degrees earned internationally.

Requirements for the Graduate Certificate in AI for Business Leadership

			CREDITS
Students must complete 9 credits from the following:			
BUS	491	Special Topics in Business	3
FI	491	Topics in Finance	1.5
FI	891	Topics in Finance	1.5
MBA	891	Special Topics in Business Management	1.5
MKT	891	Special Topics in Marketing	1 to 3
PIM	884	Artificial Intelligence Governance	2
PIM	891	Special Topics in Business	1 to 3
Other courses as approved by the college.			

All Special Topics courses must be approved the program director or designee.

Students are expected to maintain a minimum cumulative grade-point average of 3.0 in all courses in the certificate and a minimum 2.0 grade in each course for the course to count towards the certificate program.

Successfully completed (3.0 or higher) courses can be applied to one graduate certificate and one graduate degree program.

Effective Fall 2026.

3. Establish a **Graduate Certificate in Data Decision-Making** in the Eli Broad College of Business. The University Committee on Graduate Studies (UCGS) recommended approval of this request at its March 16, 2026 meeting.

a. **Background Information:**

The Graduate Certificate in Data Decision-Making expands applied analytics education for professionals seeking a strong foundation in data-driven business decision-making. This certificate provides a fully asynchronous option designed to strengthen the ability to use data for informed decision-making.

Few Big Ten institutions offer graduate certificates in business decision-making with analytics, and even fewer offer them fully online. This certificate strengthens MSU's competitive position while expanding access to high-quality, flexible graduate credentials. Built on established analytics course work and faculty expertise, the program supports MSU's goals for expanding its graduate certificate offerings and prepares learners to apply data, analytics, and communication skills to real business contexts.

Housing the certificate in the Dean's Office supports the Broad College mission to develop leaders who positively transform organizations and society by positioning the program as a collaborative cross-college graduate offering. This structure enables centralized oversight, efficient resource utilization, and rapid market responsiveness, while advancing Broad's strategic priority to elevate graduate education through innovative, market-aligned programs that drive enrollment growth, interdisciplinary collaboration, and sustainable revenue generation.

b. **Academic Programs Catalog Text:**

The Graduate Certificate in Data Decision-Making is designed for professionals seeking strong foundations in business analytics, data-driven reasoning, and decision support. The curriculum emphasizes data management, analytics problem solving, communication of insights, and responsible use of analytics to support organizational decision-making. The certificate is available only online.

Admission

In addition to meeting the requirements of the university, The Eli Broad College of Business and Graduate School of Management, students must meet the requirements specified below. Applicants must complete an online application through the MSU Office of Admissions.

To be admitted, candidates should:

1. Provide official transcripts of an earned 4-year bachelor's degree from a recognized educational institution with a cumulative grade-point average of 3.0 or higher or equivalent academic credential.
2. Have relevant work experience and/or other evidence of ability to succeed in the program,
3. Provide three academic or professional recommendations.
4. Provide a personal statement, a resume and a video essay.
5. Have completed, with a grade of 3.0 or higher, college-level courses in calculus and statistics.

6. Have experience in programming languages, such as Python, Java, HTML, C and C++, and statistical software tools.

Admission to the program is selective and meeting the minimum standards does not guarantee admission. The applicant’s overall record is considered, including the student’s statement of objectives, recommendations, academic transcripts, and other documentation as required.

Requirements for the Graduate Certificate in Data Decision-Making

			CREDITS
Students must complete 11 credits from the following:			
CSE	801A	Introduction to Big Data Analysis	3
ITM	818	Data Management and Visualization in Analytics	3
ITM	883	Business Analytics Problem Solving	2
ITM	886	Communication Strategies for Analytics	1
PIM	884	Artificial Intelligence Governance	2

Students are expected to maintain a minimum cumulative grade-point average of 3.0 in all courses in the certificate and a minimum 2.0 grade in each course for the course to count towards the certificate program.

Effective Fall 2026.

4. Establish a **Master of Science** degree in **Financial Technology and Artificial Intelligence** in the Department of Finance. The University Committee on Graduate Studies (UCGS) recommended approval of this request at its March 16, 2026 meeting.

a. **Background Information:**

The program prepares professionals to lead tech-first financial services businesses. The proposed Master of Science degree in Financial Technology and Artificial Intelligence program provides domain knowledge in finance and a deep understanding of technological infrastructure, tech evolution, and enabling technologies. The program is a good choice for those seeking to understand the intersection of finance and technology. It provides specialized knowledge and skills to navigate the rapidly evolving financial landscape, leading to careers in both finance and technology.

Pursuing this master’s degree can be a valuable decision. Growing industry and career Opportunities, the fintech industry is experiencing significant growth, creating a high demand for professionals with specialized knowledge in financial technology. It provides diverse career paths where fintech graduates can find opportunities in various roles including digital banking, electronic payments, online lending, investment management, data analytics, fintech, Insurtech, and crypto assets. Fintech professionals often command competitive salaries, reflecting the high-skill demand.

The program provides specialized knowledge and skills in the domain with in-depth knowledge of financial concepts, markets, and regulations, alongside technical skills. The program equips students with skills in artificial intelligence, machine learning, big data, blockchain, and data analytics, which are crucial in the fintech sector. Students learn to apply technology to solve financial challenges and create innovative solutions.

A graduate can position themselves for leadership roles in fintech companies and traditional financial institutions and provide the necessary knowledge and skills for aspiring fintech entrepreneurs.

The skills and knowledge gained through the master’s degree can lead to faster career advancement and increased earning potential.

The program is a unique undertaking at MSU that combines the knowledge base of two MSU Colleges, the College of Engineering and Eli Broad College of Business. The Department of Finance has a strong presence in this field through its undergraduate Finance curriculum. In the last five years, the Finance program has built a strong offering covering different parts of the fintech landscape (Machine Learning, Financial Data Analytics, Fintech, and AI). The Finance Department’s

research covers several areas that are of interest to the program. Our faculty are involved in Financial Data analytics, AI, Big Data, Investments, and other related areas. The department is also home to the Financial Big Data Center. The department plans to obtain STEM-certification, recognizing this progress. Finance major graduates achieve a 98% employment rate at graduation and represent the biggest major in the Broad College (and one of largest at MSU). The Department of Computer Science and Engineering (CSE) is now the largest academic unit in the College of Engineering and one of the largest at MSU. Because modern life is full of connected, computational devices, CSE offers a tailored blend of fundamental learning, cutting-edge technologies, and 20 laboratories with 21st-century research strengths. It helps our students obtain high-quality first jobs and build life-long careers in a rapidly changing world. CSE's range of research includes artificial intelligence, biometrics, image processing, machine learning, software engineering, and mobile computing. Additionally, CSE focuses on distributed systems, computer networking, multimedia technologies, natural language processing, data mining, and genetic algorithms. Connecting the expertise of two departments and colleges allows us to better address the industry's deepest problems and prepare the workforce for the cutting-edge technology and business.

b. **Academic Programs Catalog Text:**

The Master of Science degree in Financial Technology and Artificial Intelligence focuses on innovation in the financial services sector and collaboration among incumbents, start-ups, and investors. The program focuses on the three critical areas of fintech-tech transformation, firm adaptation and innovation, and enabling technologies-that are critical for emerging leadership roles in the space. The program prepares professionals to lead tech-first financial services businesses.

It provides domain knowledge in finance as well as a deep understanding of tech technology, tech evolution, and enabling technologies and is a superior choice for those seeking to understand the intersection of finance and technology. Providing specialized knowledge and skills to navigate the rapidly evolving financial landscape, it leads to careers in both finance and technology.

The program requires students to attend one online (half-semester) and three in-person (one half-semester and two full-semester) module sessions.

Admission

In addition to meeting the requirements of the university, and The Eli Broad College of Business and Graduate School of Management, students must meet the requirements specified below.

To be considered for admission, candidates should:

1. Submit a completed application packet available on the program Web site to the program director. Applications must be received by March 15.
2. Take the Graduate Management Admission (GMAT) or Graduate Record Examination (GRE) and have the scores submitted to the program director. The test must be taken not more than two years before submitting the application for admission the program. Current Michigan State University students with an overall grade-point average of 3.0 or higher are not required to take the GMAT or GRE.
3. Have a bachelor's degree from a recognized educational institution with a minimum grade-point average of 3.0.
4. Have a strong GMAT or GRE score. Students with qualifying credentials may be able to waive the GMAT or GRE requirement. Applicants should consult with the program director to see if they are eligible for the waiver.

Admission to the program is competitive. Meeting the minimum standards above does not guarantee admission. The applicant's overall record is considered including three letters of recommendation, the student's statement of objectives, any relevant work experience, extracurricular activities, and TOEFL or IELTS scores, when appropriate. Admission is also subject to space availability. The program director can waive up to 13.5 credits of equivalent 300-and 400-level courses in Finance or Computer Science taken in their undergraduate degree program, based on prior educational experience. The program director maintains a list of course equivalencies for courses in the Department of Finance and in the Department of Computer Science and Engineering.

Requirements for the Master of Science Degree in Financial Technology and Artificial Intelligence

The Master of Science degree in Financial Technology and Artificial Intelligence is available only under Plan B (non-thesis). A total of 45 credits are required for the degree.

	CREDITS
1. All of the following pre-core courses (10.5 credits):	
CSE 801C Introduction to Python Programming	3
FI 801 Managerial Finance	3
FI 891 Topics in Finance	1.5
MTH 800 Quantitative Foundations for Machine Learning	3
2. All of the following core courses (22.5 credits):	
CSE 801A Introduction to Big Data Analysis	3
CSE 801B Introduction to Data Mining	3
CSE 840 Computational Foundations in Artificial Intelligence	3
FI 422 Financial Data Analytics	3
Or	
FI 872 Financial Data Analytics	3
FI 492 Additional Topics in Finance	1.5
FI 824 Deep Learning and Neural Networks in Finance	3
FI 826 Financial Technology	3
FI 844 Corporate Financial Strategies	3
3. Complete 12 credits from an approved list of elective courses from the Finance (6 credits) and Computer Science and Engineering (6 credits) Departments. Other courses may be used to fulfill this requirement with approval of the program director.	

Academic Standards

Students enrolled in the Master of Science in Financial Technology and Artificial Intelligence program are expected to maintain a minimum grade-point average of 3.0 each semester and a minimum cumulative grade-point average of 3.0. A student who does not maintain a 3.0 grade-point cumulative average will be placed on probation. The student will be given the next semester of enrollment to achieve a 3.0 grade-point cumulative average; otherwise, dismissal from the program will result.

Effective Spring 2027.

5. Change the requirements for the **Minor in Entrepreneurship and Innovation** in the Department of Management.
 - a. Under the heading **Requirements for the Minor in Entrepreneurship and Innovation** make the following changes:
 - (1) Replace the introductory text with the following:

Students must complete 15 credits in courses from the following list. A 2.0 grade-point average must be maintained in courses completed for the minor. Students must also complete two Entrepreneurship and Innovation Experiences.
 - (2) In item 2., add the following courses:

AAAS 405 Black Entrepreneurship and Hustle	3
BE 440 Entrepreneurial Engineering for Innovation in Health and Safety	3
ESHP 255 Entrepreneurship for the Social Good	3
ESHP 424 iOS Design Lab I	3
ESHP 425 iOS Design Lab II	3
ESHP 490 Independent Study in Entrepreneurship	1 to 3
ESHP 491 Special Topics in Entrepreneurship	3
FOR 435 Business Innovation Toward a Sustainable BioEconomy	3

FSC	470	Integrated Approaches to Food Product Development	3
GD	295	Design Thinking for Entrepreneurs	3
HRT	407	Horticulture Marketing	3
ME	497	Biomechanical Design in Product Development	3
WRA	401	Rhetoric, Leadership, and Innovation	3

Effective Fall 2026.

6. Change the requirements for the **Minor in Sports Business Management** in the Department of Management.
 - a. Under the heading **Requirements for the Minor in Sports Business Management** make the following changes:
 - (1) Under the heading **Relevant Electives, Planning, Operations, and Strategy**, delete the following course:

KIN	454	Facility Planning and Construction	3
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 - b. **Note** – in the entry text of the list of majors that the minor is available to was updated to reflect the name change in the major in the College of Social Science of 'Human Capital and Society' to 'Human Resources and Labor Relations'.

Effective Fall 2026.

COLLEGE OF EDUCATION

1. Change the requirements for the **Master of Arts** degree in **Educational Technology** in the Department of Counseling, Educational Psychology and Special Education. The Committee on Graduate Studies (UCGS) approved this request at its April 20, 2026 meeting.
 - a. Under the heading **Admission** replace paragraph two with the following:

To be admitted to the Master of Arts Degree in Educational Technology program, applicants must:

 1. Submit both departmental and university application forms and applicable the application fee. Individuals are admitted to the program once per year with an enrollment due date of June 1.
 2. Have an undergraduate degree from an accredited institution.
 3. Have a minimum cumulative grade-point average of 3.0 in the undergraduate degree program.
 4. Have a minimum TOEFL score of 80 if you are a first-language speaker of a language other than English.
 5. Be applying from a state where degrees from Michigan State University are recognized.
 6. Have professional references including three letters of recommendation.
 7. Provide a personal statement answering three given questions.
 8. Submit a CV/Resume.
 9. Submit all official transcripts from all higher educational institutions attended.
 - b. Under the heading **Requirements for the Master of Arts Degree in Educational Technology** make the following change:
 - (1) Replace the first sentence with the following:

The program is available only under Plan B (without thesis) and only online.

Effective Fall 2026.

2. Change the requirements for the **Doctor of Education** degree in **Educational Leadership** in the Department of Educational Administration. The University Committee on Graduate Studies (UCGS) approved this request at its April 20, 2026 meeting.

- a. Under the heading **Requirements for the Doctor of Education Degree in Educational Leadership** make the following changes:

- (1) Replace item 4. with the following:

Successful completion of an individual preliminary examination, and group comprehensive examination, proposal defense and dissertation in practice defense.

Effective Fall 2026.

3. Delete the curriculum and degree requirements for the **Graduate Certificate in Teacher Leadership** in the Department of Teacher Education. The University Committee on Graduate Studies (UCGS) 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 Graduate Studies.

No new students are to be admitted to the program effective Summer 2026. No students are to be readmitted to the program effective Summer 2026. Effective Fall 2026, coding for the program will be discontinued and the program will no longer be available in the Department of Teacher Education. Students who have not met the requirements for the Graduate Certificate in Teacher Leadership through the Department of Teacher Education prior to Fall 2026 will have to change their certificate.

Note: This program has been in moratorium since Summer 2026.

COLLEGE OF ENGINEERING

1. Change the **Graduation Requirements for All Majors** statement in the **College of Engineering**. The University Committee on Undergraduate Education (UCUE) approved this request at its April 9, 2026 meeting.

- a. Under the heading **Graduation Requirements for All Majors** make the following changes:

- (1) In item 1. a., replace 'Microbiology and Molecular Genetics' with 'Microbiology, Genetics, and Immunology'.
- (2) In item 1. b., delete 'Physics 183B' and 'Physics 184B'.
- (3) In item 2. b., delete 'Biosystems Engineering'.
- (4) In item 2. c., delete 'Physics 183B' and 'Physics 184B'.
- (5) In item 2. e., add 'CMSE 201 (Materials Science and Engineering)'.
- (6) In item 3. c., delete 'Physics 183B' and 'Physics 184B'.

Effective Fall 2026.

2. Change the **Admission to the College** statement in the **College of Engineering**. The University Committee on Undergraduate Education (UCUE) approved this request at its April 9, 2026 meeting.

- a. Under the heading **Admission to the College**, paragraph three, make the following changes:

- (1) In item 4., delete 'Biosystems Engineering'.
- (2) In item 6., 'Computational Mathematics, Science and Engineering 202' and replace with 'Computational Mathematics, Science and Engineering 201'.

Effective Fall 2026.

3. Change the requirements for the **Bachelor of Science** degree in **Technology Engineering** in the College of Engineering.

The concentrations in the Bachelor of Science degree in Technology Engineering are 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 Science Degree in Technology Engineering** replace the entire entry with the following:

1. The University requirements for bachelor's degrees as described in the *Undergraduate Education* section of this catalog; 128 credits, including general elective credits, are required for the Bachelor of Science degree in Technology Engineering.

The University's Tier II writing requirement for the Technology Engineering major is met by completing Technology Engineering 480. That course is referenced in item 3. b. below.

Students who are enrolled in the College of Engineering may complete the alternative track to Integrative Studies in Biological and Physical Sciences that is described in item 1. under the heading *Graduation Requirements for All Majors* in the College statement. Certain courses referenced in requirement 3. Below may be used to satisfy the alternative track.

2. The requirements of the College of Engineering for the Bachelor of Science degree.

The credits earned in certain courses referenced in requirement 3. below may be counted toward College requirements as appropriate.

3. The following requirements for the major:

- a. All of the following courses (45 credits):

CEM	161	General Chemistry Laboratory I	1
CSE	232	Introduction to Programming II	4
ECE	230	Digital Logic Fundamentals	3
ME	280	Graphic Communications	2
MSE	250	Materials Science and Engineering	3
PHY	251	Introductory Physics Laboratory I	1
PHY	252	Introductory Physics Laboratory II	1
STT	180	Introduction to Data Science	4
STT	201	Statistical Methods	4
TNG	210	Manufacturing Processes and Prototyping	2
TNG	220	Electrical Circuits	4
TNG	310	Computer Aided Manufacturing and Simulation	3
TNG	320	Sensors and Signal Processing	3
TNG	322	Electronics and Embedded Systems Lab	1
TNG	335	Computer Security Fundamentals	3
TNG	430	Engineering Project Management	3
TNG	480	Technology Engineering Capstone (W)	3

- b. One of the following courses (3 credits):

MGT	325	Management Skills and Processes	3
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Or

SCM	304	Survey of Supply Chain Management	3
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- c. One of the following courses (3 or 4 credits):

CSE	260	Discrete Structures in Computer Science	4
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Or

TNG	330	Quality and Continuous Improvement	3
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Or

A basic math or science elective from an approved list of courses, approved by the student's academic advisor.

d. One of the following courses (3 or 4 credits):

BS	161	Cell and Molecular Biology	3
CEM	142	General and Inorganic Chemistry	4
CEM	144	Organic Chemistry and Applications	4
CEM	152	Principles of Chemistry	4
ENT	205	Pests, Society and Environment	3
IBIO	150	Integrating Biology: From DNA to Populations	3
MGI	141	Introductory Human Genetics	3
MGI	201	Fundamentals of Microbiology	3
PLB	105	Plant Biology	3
PSL	250	Introductory Physiology	4
MTH	133	Calculus II	4

Students cannot fulfill both the math/basic science elective and the University Bioscience requirement with the same course.

e. In consultation with their academic advisor, students must select one of the following: Embedded Cybersecurity concentration or Mechatronics concentration, or Semiconductors concentration or the Smart Agricultural Systems Minor. The concentration or minor will be noted on the student's academic record. (16 credits)

Mechatronics

TNG	340	Engineering Statics and Mechanics of Materials	3
TNG	345	Mechanical Machine Dynamics	3
TNG	440	Robotics, Automation, and Controls	3
TNG	445	Troubleshooting Mechatronic Systems	4
TNG	447	Topics in Mechatronics	3

Embedded Cybersecurity

TNG	350	Operating System Fundamentals	3
TNG	355	Networks and Network Security	3
TNG	450	Hardware Cybersecurity	3
TNG	455	Engineering Secure Hardware and Software	4
TNG	457	Topics in Embedded Cybersecurity	3

The concentration will be noted on the student's academic record.

Semiconductors

MSE	260	Electronic, Magnetic, Thermal, and Optical Properties of Materials	3
MSE	460	Electronic Structure and Bonding in Materials and Devices	3
TNG	345	Mechanical Machine Dynamics	3
TNG	462	Automation in Semiconductor Fabrication	3
TNG	465	Electronic Failure Analysis	4

Smart Agricultural Systems Minor

Students must complete a minimum of 16 credits from the following:

1.	All of the following courses (10 credits):			
	BE	221	Introduction to Smart Agriculture	1
	BE	321	Principles of Precision Agriculture	3
	BE	421	Sensors and Robotics for Agricultural Systems	3
	BE	422	Crop Modeling and Optimization	3
2.	Complete 6 to 7 credits from the following courses:			
	BE	449	Human Health Risk Analysis for Engineering Controls	3
	BE	456	Electric Power and Control 3	
	BE	481	Water Resources Systems Analysis and Modeling	3
	BE	482	Engineering Ecological Treatment Systems	3
	CROP	467	Bioenergy Feedstock Production	3
	CSE	404	Introduction to Machine Learning	3
	CSE	440	Introduction to Artificial Intelligence	3
	CSE	480	Database Systems	3
	CSE	482	Big Data Analysis	3

ECE	416	Digital Control	3
ECE	417	Robotics	3
ECE	431	Smart Sensor Systems	3
ECE	434	Autonomous Vehicles	3
ECE	477	Microelectronic Fabrication	3
FOR	419	Applications of Geographic Information Systems to Natural Resources Management	4
ME	417	Design of Alternative Energy Systems	3
ME	452	Control Systems	3
ME	452L	Vibrations and Controls Laboratory	1
ME	456	Mechatronic System Design	3
TNG	345	Mechanical Machine Dynamics	3
TNG	355	Networks and Network Security	3
TNG	440	Robotics Automation and Controls	3
TNG	450	Hardware Cybersecurity	3

Effective Fall 2026.

4. Change the requirements for the **Bachelor of Science degree in Biosystems Engineering** in the Department of Biosystems and Agricultural Engineering.

The concentrations in the Bachelor of Science degree in Biosystems Engineering are 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 Science Degree in Biosystems Engineering** make the following changes:

- (1) In item 3. a. delete the following courses:

CEM	143	Survey of Organic Chemistry	4
CEM	151	General and Descriptive Chemistry	4

Add the following courses:

CEM	144	Organic Chemistry Survey and Applications	4
CEM	145L	Basic Organic Chemistry Laboratory	1

- (2) In item 3. c. change 'MMG 301' to 'MGI 301'.

- (3) In item 3. d. delete the following courses:

CSS	442	Agricultural Ecology	3
CSS	451	Biotechnology Applications for Plant Breeding and Genetics	3
MMG	365	Medical Microbiology	3
MMG	404	Human Genetics	3
MMG	425	Microbial Ecology	3
MMG	445	Microbial Biotechnology (W)	3

Add the following courses:

CROP	442	Agricultural Ecology	3
CROP	451	Biotechnology Applications for Plant Breeding and Genetics	3
MGI	365	Medical Microbiology	3
MGI	404	Human Genetics	3
MGI	425	Microbial Ecology	3
MGI	445	Microbial Biotechnology (W)	3

- b. Under the heading **Concentration ins Biosystems Engineering** make the following changes:

(1) In the **Bioenergy and Bioproduct Engineering** concentration make the following changes:

(a) In item 1., change 'CSS 467' to 'CROP 467'.

(b) In item 2., delete the following courses:

CSS	442	Agricultural Ecology	3
CSS	451	Biotechnology Applications for Plant Breeding and Genetics	3
MMG	425	Microbial Ecology	3
MMG	445	Microbial Biotechnology (W)	3

Add the following courses:

CROP	442	Agricultural Ecology	3
CROP	451	Biotechnology Applications for Plant Breeding and Genetics	3
MGI	425	Microbial Ecology	3

(2) In the **Biomedical Engineering** concentration make the following changes:

(a) In item 2., delete the following courses:

MMG	365	Medical Microbiology	3
MMG	404	Human Genetics	3

Add the following courses:

MGI	365	Medical Microbiology	3
MGI	404	Human Genetics	3

(b) In item 3., delete the following courses:

MMG	365	Medical Microbiology	3
MMG	404	Human Genetics	3
PLB	400	Introduction to Bioinformatics	3

Add the following courses:

MGI	365	Medical Microbiology	3
MGI	404	Human Genetics	3

(3) In the **Ecosystems Engineering** concentration make the following changes:

(a) In item 2., delete the following courses:

CSS	442	Agricultural Ecology	3
MMG	425	Microbial Ecology	3

Add the following courses:

CROP	442	Agricultural Ecology	3
MGI	425	Microbial Ecology	3

(b) In item 3., delete the following courses:

CSS	210	Fundamentals of Soil Science	3
CSS	330	Soil Chemistry	2
CSS	360	Soil Biology	3
CSS	442	Agricultural Ecology	3
CSS	455	Environmental Pollutants in Soil and Water	3
MMG	425	Microbial Ecology	3

Add the following courses:

SOIL 210	Fundamentals of Soil Science	3
SOIL 330	Soil Chemistry	2
SOIL 360	Soil Biology	3
CROP 442	Agricultural Ecology	3
SOIL 455	Environmental Pollutants in Soil and Water	3
MGI 425	Microbial Ecology	3

Effective Fall 2026.

5. Establish a **Minor in Artificial Intelligence** in the Department of Computer Science and Engineering. The University Committee on Undergraduate Education (UCUE) recommended approval of this request at its March 12, 2026 meeting.

a. **Background Information:**

Artificial Intelligence (AI) is a transformative technology and is impacting nearly every aspect of modern society. As a technological enabler, it is growing at double-digit annual rates and is expected to contribute over \$13 trillion to the global economy by 2030. <https://www.statista.com/outlook/tmo/artificial-intelligence/worldwide#market-size>. The impact of AI is being felt in a wide range of industries ranging from health care and finance to manufacturing and business services. As AI becomes more prevalent and widely accepted, there is a strong demand for graduates with AI skills in a wide range of majors.

AI has long been a major research focus area of the Department of Computer Science and Engineering and we offer a range of courses in AI technologies at the undergraduate and graduate levels. The Bachelor of Science degree in Computer Science has also recently added a concentration in Artificial Intelligence. The existing Minor in Computer Science is very popular. There are currently 58 students in that program from 27 different majors in 8 colleges. Many of those students take AI-related courses as part of the minor.

The most closely related program at MSU would be the Minor in Cognitive Science. This introduces students to the nature of the mind and how biological systems process complex information to produce thought and adaptive behavior, and how artificial systems can be endowed with the same capabilities. Three CSE courses currently serve as electives for that minor. However, the prerequisites for those courses limit students who choose to take those courses to students in computing majors such as Computer Science and Computer Engineering.

Many peer institutions offer a Minor in Artificial Intelligence including Northwestern University, UCLA, Purdue, USC, Carnegie Mellon University, Cornell, and Georgia Tech.

Curriculum guidelines for computer science and related programs are published by the Association for Computer Machinery (ACM). The most recent curriculum recommendations are Computer Science Curricula 2023, <https://dl.acm.org/doi/book/10.1145/3664191>.

The accrediting agency for computer science and related programs is ABET, www.abet.org. The Computer Science (B.S.) program is accredited by the Computing Accreditation Commission of ABET, under the General Criteria and the Program Criteria for Computer Science and Similarly Named Computing Programs. Criteria for accreditation can be found at <https://www.abet.org/accreditation/accreditation-criteria/criteria-for-accrediting-computing-programs-2024-2025/>.

b. **Academic Programs Catalog Text:**

The Minor in Artificial Intelligence is administered by the Department of Computer Science and Engineering. The minor provides students with a foundation in artificial intelligence that applies to many disciplines and also provides opportunities for students in industry or government, as well as prepare students for graduate-level study in artificial intelligence.

The minor is available as an elective to students who are enrolled in bachelor's degree programs at Michigan State University other than the Bachelor of Science Degree in Computer Science or the Bachelor of Science Degree in Computer Engineering or the Bachelor of Science Degree in Computational Data Science, or the Bachelor of Science Degree in Data Science. The minor is not available to students with a Minor in Computer Science. With the approval of the department and college that administers 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 who plan to complete the requirements for the minor must apply to the Department of Computer Science and Engineering. The minimum criteria for acceptance are the completion of Computer Science and Engineering 231 and 260 with a minimum grade in each of those two courses of 3.0. Enrollment may be limited. Calculus I is an implied component of the Artificial Intelligence Minor, since the course is a prerequisite for a required course in the Minor.

Requirements for the Minor in Artificial Intelligence

Complete a minimum of 22 credits from the following:

				CREDITS
1.	All of the following courses (19 credits):			
	CSE	231	Introduction to Programming I	4
	CSE	232	Introduction to Programming II	4
	CSE	260	Discrete Structures in Computer Science	4
	CSE	300	Social, Ethical, and Professional Issues in Computing	1
	CSE	331	Algorithms and Data Structures	3
	CSE	345	Fundamentals of Artificial Intelligence	3
2.	One of the following courses (3 credits):			
	CSE	402	Biometrics and Pattern Recognition	3
	CSE	404	Introduction to Machine Learning	3
	CSE	434	Autonomous Vehicles	3
	CSE	440	Artificial Intelligence	3
	CSE	446	AI Agents	3
	MTH	483	Mathematical Machine Learning	3

Effective Fall 2026.

COLLEGE OF NATURAL SCIENCE

1. Change the requirements for the **Bachelor of Science** degree in **Physiology** in the Department of Physiology.
 - a. Under the heading **Requirements for the Bachelor of Science Degree in Physiology** make the following changes in item 3.:
 - (1) In item a. (1) (b), delete the following courses:

STT	200	Statistical Methods	3
STT	231	Statistics for Scientists	3
STT	421	Statistics I	3
STT	464	Statistics for Biologists	3

Add the following courses:

STT	200	Statistical Methods	4
STT	231	Statistics for Scientists	4
 - (2) In item a., change the total credits from '62 to 71' to '66 to 73'.
 - (3) In item a. (2) (a), change the credits of 'CEM 142' from '3' to '4'.
 - (4) In item a. (2) (b), change the credits of 'CEM 152' from '3' to '4'.

- (5) In item a. (5), change the credits of 'CEM 251 and CEM 255' from '3' to '4'.
- (6) In item a. (7), change the credits of 'ANTR 350' from '3' to '4'.

Effective Fall 2026.

COLLEGE OF NURSING

- 1. Change the requirements for the **Master of Science in Nursing** degree in **Nursing**. The University Committee on Graduate Studies (UCGS) approved this request at its April 20, 2026 meeting.

The concentrations in the Doctor of Nursing Practice degree in Nursing Practice are noted on the student's academic record when the requirements for the degree have been completed.

- a. Under the heading **Admission** replace item 9. with the following:

If the applicant's native language is not English, the applicant must complete an English Language Proficiency Exam, in accordance with the Graduate School's English Language Competency policy. (<https://grad.msu.edu/english-language-competency>).

- b. Under the heading **Requirements for the Master of Science Degree in Nursing in Nursing** make the following changes:

- (1) Replace the entry text with the following:

A total of 54 or 56 credits is required for the degree under Plan B (without thesis) depending on the student's area of concentration. Students must meet the requirements specified below:

- (2) In item 1., change the total credits from '24' to '24 or 27' and add the following course and note:

NUR 914 Biostatistics for the APRN 3

NUR 906 is **not** required for the Nurse Practitioner-Family and Nurse Practitioner-Adult-Gerontological Primary Care concentrations.

- (3) In item 2., under the **Nurse Practitioner-Family** concentration, change the total credits from '30' to '32' and replace the entry with the following:

NUR	912	Health Promotion and Population Health for the Primary Care NP	3
NUR	915	Clinical Diagnosis and Management I - Family	6
NUR	916	Diagnosis and Management for the Primary Care Nurse Practitioner	6
NUR	917	Diagnosis and Management for the Family Nurse Practitioner II	6
NUR	918	Diagnosis and Management for the Family Nurse Practitioner III	6
NUR	941	Introduction to Diagnostic Reasoning for the Family Nurse Practitioner	3
NUR	943	Pediatric and Perinatal Concepts for the Family Nurse Practitioner (FNP)	2

- (4) In item 2., under the **Nurse Practitioner-Adult-Gerontological Primary Care** concentration, change the total credits from '30' to '32' and replace the entire entry with the following:

NUR 912 Health Promotion and Population Health for the Primary Care NP 3

NUR	916	Diagnosis and Management for the Primary Care Nurse Practitioner	6
NUR	925	Diagnosis and Management for the Adult Gerontology Primary Care Nurse Practitioner I	6
NUR	927	Diagnosis and Management for the Adult Gerontology Primary Care Nurse Practitioner II	6
NUR	928	Diagnosis and Management for the Adult Gerontology Primary Care Nurse Practitioner III	6
NUR	942	Introduction to Diagnostic Reasoning for the Adult-Gerontology Primary Care Nurse Practitioner	3
NUR	944	Gerontologic Concepts for the Adult Gerontology Primary Care Nurse Practitioner	2
(5)	In item 2., under the Nurse Practitioner-Psychiatric Mental Health concentration, change the total credits from '30' to '27' and delete the following course:		
	EPI	840 Clinical Epidemiology for Healthcare Practice	3
(6)	In item 2., under the Adult-Gerontology-Clinical Nurse Specialist concentration, change the total credits from '30' to '27' and delete the following course:		
	EPI	840 Clinical Epidemiology for Healthcare Practice	3

Effective Fall 2026.

2. Change the requirements for the **Doctor of Nursing Practice** degree in **Nursing Practice**. The University Committee on Graduate Studies (UCGS) approved this request at its April 20, 2026 meeting.

The concentrations in the Doctor of Nursing Practice degree in Nursing Practice are noted on the student's academic record when the requirements for the degree have been completed.

- a. Under the heading **Admission** replace item 10. with the following:

If the applicant's native language is not English, the applicant must complete an English Language Proficiency Exam, in accordance with the Graduate School's English Language Competency policy. (<https://grad.msu.edu/english-language-competency>).

- b. Under the heading **Requirements for the Doctor of Nursing Practice Degree in Nursing Practice** make the following changes:

- (1) In item 2., under the **Nurse Practitioner-Family** concentration, add the following courses and change the total credits from '42' to '47':

NUR	941	Introduction to Diagnostic Reasoning for the Family Nurse Practitioner	3
NUR	943	Pediatric and Perinatal Concepts for the Family Nurse Practitioner (FNP)	2

- (2) In item 2., under the **Nurse Practitioner-Adult-Gerontological Primary Care** concentration, delete the following courses and change the total credits from '42' to '47':

NUR	913	Health Promotion – Adult Gerontology	3
NUR	926	Clinical Diagnosis and Management I – Adult-Gerontology	6
NUR	929	Clinical Diagnosis and Management V – Clinical Immersion – Adult Gerontology	6

Add the following courses:

NUR	912	Health Promotion – Family	3
NUR	916	Clinical Diagnosis and Management II – Family	6
NUR	919	Clinical Diagnosis and Management V- Clinical Immersion – Family	6
NUR	942	Introduction to Diagnostic Reasoning for the Adult-Gerontology Primary Care Nurse Practitioner	3
NUR	944	Gerontologic Concepts for the Adult Gerontology Primary Care Nurse Practitioner	2

- (3) In item 3. **Admission to the Post-Master's Degree** replace item 10. with the following:

If the applicant's native language is not English, the applicant must complete an English Language Proficiency Exam, in accordance with the Graduate School's English Language Competency policy. (<https://grad.msu.edu/english-language-competency>).

Effective Fall 2026.

3. Change the requirements for the **Graduate Certificate in Adult-Gerontology – Clinical Nurse Specialist** in the College of Nursing. The University Committee on Graduate Studies (UCGS) approved this request at its April 20, 2026 meeting.

The Graduate Certificate in Adult-Gerontology – Clinical Nurse Specialist is a Type 2 graduate certificate and will appear on the transcript as "Graduate Certificate Program in Adult-Gerontology - - Clinical Nurse Specialist".

- a. Under the heading **Admission** replace item 9. with the following:

If the applicant's native language is not English, the applicant must complete an English Language Proficiency Exam, in accordance with the Graduate School's English Language Competency policy. (<https://grad.msu.edu/english-language-competency>).

Effective Fall 2026.

4. Change the requirements for the **Graduate Certificate in Nurse Practitioner – Adult - Gerontological Primary Care** in the College of Nursing. The University Committee on Graduate Studies (UCGS) approved this request at its April 20, 2026 meeting.

The Graduate Certificate in Nurse Practitioner – Adult-Gerontological Primary Care is a Type 2 graduate certificate and will appear on the transcript as "Graduate Certificate Program in Nurse Practitioner – Adult-Gerontological Primary Care".

- a. Under the heading **Admission** replace item 9. with the following:

If the applicant's native language is not English, the applicant must complete an English Language Proficiency Exam, in accordance with the Graduate School's English Language Competency policy. (<https://grad.msu.edu/english-language-competency>).

- b. Under the heading **Requirements for the Graduate Certificate in Nurse Practitioner – Adult-Gerontological Primary Care** make the following changes:

- (1) Delete the following courses:
- | | | | |
|-----|-----|--|---|
| NUR | 913 | Health Promotion – Adult Gerontology | 3 |
| NUR | 926 | Clinical Diagnosis and Management II – Adult Gerontology | 6 |

Add the following courses:

NUR	912	Health Promotion – Family	3
NUR	916	Clinical Diagnosis and Management II – Family	6
NUR	942	Introduction to Diagnostic Reasoning for Adult- Gerontology Primary Care Nurse Practitioner	3
NUR	944	Gerontologic Concepts for the Adult Gerontology Primary Care Nurse Practitioner	2

- (2) Change the total credits from '27 to '32'.

Effective Fall 2026.

5. Change the requirements for the **Graduate Certificate in Nurse Practitioner - Family** in the College of Nursing. The University Committee on Graduate Studies (UCGS) approved this request at its April 20, 2026 meeting.

The Graduate Certificate in Nurse Practitioner - Family is a Type 2 graduate certificate and will appear on the transcript as "Graduate Certificate Program in Nurse Practitioner - Family".

- a. Under the heading **Admission** replace item 9. with the following:

If the applicant's native language is not English, the applicant must complete an English Language Proficiency Exam, in accordance with the Graduate School's English Language Competency policy. (<https://grad.msu.edu/english-language-competency>).

- b. Under the heading **Requirements for the Graduate Certificate in Nurse Practitioner – Family** make the following change:

- (1) Add the following course:

NUR	941	Introduction to Diagnostic Reasoning for the Family Nurse Practitioner	3
NUR	943	Pediatric and Perinatal Concepts for the Family Nurse Practitioner (FNP)	2

- (2) Change the total credits from '27 to '32'.

Effective Fall 2026.

6. Change the requirements for the **Graduate Certificate in Nurse Practitioner - Psychiatric Mental Health** in the College of Nursing. The University Committee on Graduate Studies (UCGS) approved this request at its April 20, 2026 meeting.

The Graduate Certificate in Nurse Practitioner - Psychiatric Mental Health is a Type 2 graduate certificate and will appear on the transcript as "Graduate Certificate Program in Nurse Practitioner - Psychiatric Mental Health".

- a. Under the heading **Admission** replace item 9. with the following:

If the applicant's native language is not English, the applicant must complete an English Language Proficiency Exam, in accordance with the Graduate School's English Language Competency policy. (<https://grad.msu.edu/english-language-competency>).

Effective Fall 2026.

COLLEGE OF OSTEOPATHIC MEDICINE

1. Change the requirements for the **Professional Program in Osteopathic Medicine** leading to the Doctor of Osteopathic Medicine degree the College of Osteopathic Medicine. The University Committee on Graduate Studies (UCGS) approved this request at its April 20, 2026 meeting.

a. Under the heading **Requirements for the Doctor of Osteopathic Medicine Degree** make the following changes:

(1) Under **PreClerkship Curriculum** make the following changes:

(a) Change the total credits from '91' to '92'.

(b) Add the following course:

OST 501 Introduction to Medical School 1

Effective Summer 2026.

2. Change the requirements for the **Master of Science** degree in **Basic Medical Science** in the College of Osteopathic Medicine. The University Committee on Graduate Studies (UCGS) approved this request at its March 16, 2026 meeting.

a. Under the heading **Admission** add the following paragraph:

Students must begin the application process within one year (three semesters) of the end date of their most recent DO course that fulfills the degree requirements. Applications initiated after this one-year window will not be eligible for review, even if the six-year academic completion limit has not been reached.

b. Under the heading **Requirements for the Master of Science Degree in Basic Medical Science** make the following changes:

(1) Change the total credits from '91' to '92'.

(2) In item 1., under *Semester 1* add the following course:

OST 501 Introduction to Medical School 1

(3) Under the heading **Additional Requirements for Plan A** add the following sentence to the note in item 1.:

Students qualifying for an incomplete grade must complete the thesis no later than the middle of the next semester, consistent with University policy.

(4) Under the heading **Additional Requirements for Plan B** replace the entry with the following:

1. Complete the following course:

OST 890 Independent Study 4

2. Completion of a final examination or evaluation.

Effective Summer 2026.

COLLEGE OF SOCIAL SCIENCE

1. Change the **Graduation Requirements for the Bachelor of Arts and the Bachelor of Science** degrees in the **College of Social Science**. The University Committee on Undergraduate Education (UCUE) approved this request at its April 9, 2026 meeting.
 - a. Under the heading **Graduation Requirements for the Bachelor of Arts and Bachelor of Science Degrees** make the following changes:
 - (1) Under the heading **Bachelor of Arts**, in item A. EXPERIENTIAL LEARNING REQUIREMENT, replace the first sentence with the following:

All students must earn experiential learning credit.
 - (2) Under the heading **Bachelor of Science**, in item A. EXPERIENTIAL LEARNING REQUIREMENT, replace the first sentence with the following:

All students must earn experiential learning credit.
 - (3) Under the heading **Bachelor of Science**, delete item C. SCIENCE, TECHNOLOGY, ENGINEERING, MATHEMATICS REQUIREMENT.

Effective Fall 2026.

2. Change the requirements for the **Bachelor of Science** degree in **Economics**.
 - a. Under the heading **Requirements for the Bachelor of Science Degree in Economics** make the following changes:
 - (1) In item 1., paragraph two, delete EC 495 from the list of courses available to fulfill the Tier II writing requirement.
 - (2) In item 3. c., delete the following course:

EC 495 Economics of Poverty and Income Distribution (W)	3
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 - (3) in item 3. e. add the following course:

EC 423 Model-Based Data Analytics	3
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Effective Fall 2026.

PART II - NEW COURSES

DEPARTMENT OF ANIMAL SCIENCE

- ANS 485 Companion Animal Health
Spring of every year. 3(2-2) P: ANS 282 and ANS 309 R: Open to Senior students in the Bachelor of Science in Animal Science or Lyman Briggs Animal Science Coordinate Major.
Strategies to maintain and improve the health of cats and dogs.
Effective Spring Semester 2026

DEPARTMENT OF CHEMICAL ENGINEERING AND MATERIALS SCIENCE

- CHE 884 Distillation Science and Technology I
Spring of every year. 3(3-0) P: (FSC 480 or approval of department) and FSC 481 RB: Undergraduate-level coursework in chemical engineering, food science, chemistry, or a related field is preferred. Familiarity with material and energy balances, basic thermodynamics, and laboratory safety practices is recommended. Professional experiences in a related industry of beverage production, fermentation, and distillation. Prior exposure to fermentation or beverage processing is beneficial but not required. R: Approval of department.
Advanced study of raw material selection for distilled spirit production, including fruits and cereal grains. Emphasis on malting chemistry, milling mechanics, water chemistry, and mashing theory with quantitative analysis, process optimization, and critical evaluation of industrial practices
SA: CHE 484
Effective Fall Semester 2026
- CHE 885 Distillation Science and Technology II: Equipment, Design, and Maturation
Summer of every year. 3(3-0) P: CHE 884 RB: Undergraduate-level coursework in chemical engineering, food science, chemistry, or a related field is preferred. Familiarity with material and energy balances, basic thermodynamics, and laboratory safety practices is recommended. Professional experiences in a related industry of beverage production, fermentation, and distillation. Prior exposure to fermentation or beverage processing is beneficial but not required. R: Approval of department.
Advanced study of distillation methods and equipment design for distilled spirits, including batch and continuous systems. Topics include separation theory, heating strategies, spirit stabilization and filtration, barrel aging chemistry, laboratory quality control, regulatory compliance, and distillery safety. Students complete a capstone-style project involving the design and technical justification of a distilled spirit process.
SA: CHE 485
Effective Fall Semester 2026

DEPARTMENT OF COMPUTATIONAL MATHEMATICS, SCIENCE, AND ENGINEERING

- CMSE 991 Special Topics in Data Science, Machine Learning, and Artificial Intelligence
On Demand. 3(3-0) P: CMSE 820 or CMSE 821 or CMSE 822 or CMSE 823 or approval of department RB: CMSE 820 or CMSE 821 or CMSE 822 or CMSE 823 R: Open to Masters or PhD students in the College of Engineering or Department of Computational Mathematics, Science, and Engineering or approval of department.
Advanced topics in data science, machine learning, and artificial intelligence.
Effective Fall Semester 2026
- CMSE 992 Special Topics in High Performance Computing
On Demand. 3(3-0) P: CMSE 820 or CMSE 821 or CMSE 822 or CMSE 823 or approval of department RB: CMSE 820 or CMSE 821 or CMSE 822 or CMSE 823 R: Open to Masters or PhD students in the College of Engineering or Department of Computational Mathematics, Science, and Engineering or approval of department.
Advanced topics in high performance computing.
Effective Fall Semester 2026

CMSE 993 Special Topics in Computational Modeling and Numerical Methods
On Demand. 3(3-0) P: CMSE 820 or CMSE 821 or CMSE 822 or CMSE 823 or approval of department RB: CMSE 820 or CMSE 821 or CMSE 822 or CMSE 823 R: Open to Masters or PhD students in the College of Engineering or Department of Computational Mathematics, Science, and Engineering or approval of department.

Advanced topics in computational modeling and numerical methods.
Effective Fall Semester 2026

CMSE 994 Special Topics in Emerging Technologies
On Demand. 3(3-0) P: CMSE 820 or CMSE 821 or CMSE 822 or CMSE 823 or approval of department RB: CMSE 820 or CMSE 821 or CMSE 822 or CMSE 823 R: Open to Masters or PhD students in the College of Engineering or Department of Computational Mathematics, Science, and Engineering or approval of department.

Advanced topics in emerging technologies.
Effective Fall Semester 2026

COLLEGE OF ENGINEERING

TNG 462 Automation in Semiconductor Fabrication
Spring of every year. 3(1-2) P: TNG 322 and TNG 345 and MSE 460 R: Open to Undergraduate students in the Bachelor of Science in Technology Engineering Not open to students with credit in ECE 477.

Applications of automation, control systems, and robotics in semiconductor fabrication processes.
Effective Fall Semester 2026

TNG 465 Electronic Failure Analysis
Fall of every year. 4(2-2) Interdepartmental with Electrical and Computer Engineering P: (TNG 322 and MSE 460) AND ECE 302 R: Open to Undergraduate students in the Bachelor of Science in Computer Engineering or Bachelor of Science in Electrical Engineering or Bachelor of Science in Technology Engineering

Analytical and physical evaluation of microelectronics and printed circuit board assemblies.
Effective Fall Semester 2026

DEPARTMENT OF ENGLISH

ENG 484 Critical Questions in Literary Studies
Fall of every year. Spring of every year. 3(3-0) P: ENG 360 or ENG 362 or ENG 364 or ENG 368 RB: 400-level seminar in literature R: Open to Senior students in the Department of English

Intensive study of current issues in literary history, texts, and genres. Writing that integrates archival, primary, or secondary sources and contributing to discussion in the field. Capstone course for the major.

SA: ENG 484A, ENG 484B, ENG 484D
Effective Spring Semester 2027

DEPARTMENT OF ENTOMOLOGY

ENT 805 Effective Science Presentations
Fall of every year. 1(1-0) R: Open to Graduate students in the Department of Entomology or approval of department.

Designing and delivering effective science presentations and public speaking performances.
Offered first ten weeks of semester.
Effective Fall Semester 2027

DEPARTMENT OF HISTORY

- HST 352 Renaissance: 15th-Century Europe
Fall of odd years. 3(3-0) RB: HST 206
The social, cultural and intellectual history of Europe at the end of the Middle Ages. Focus on the Italian Renaissance, the invention of print, and the origins of the European overseas expansion.
SA: HST 334A
Effective Fall Semester 2026
- HST 353 Reformation: 16th-Century Europe
Spring of even years. 3(3-0) RB: HST 206
Social, cultural and intellectual history of Europe at the beginning of the modern age. Focus on the Protestant and Catholic Reformations, religious warfare, the early expansion of European empires and the articulation of modern states.
SA: HST 334A, HST 334B
Effective Spring Semester 2027
- HST 354 Revolt: 17th-Century Europe
Fall of even years. 3(3-0) RB: HST 206
Social, cultural and intellectual history of Europe in the seventeenth century. Focus on war and politics thought, religious tensions, imperial expansion, and cultural changes, including the early phases of the Scientific Revolution and the articulation of absolutism and republicanism.
SA: HST 334B
Effective Fall Semester 2027
- HST 393 American Religious Freedom
Spring of odd years. 3(3-0) Interdepartmental with Religious Studies
History of religious freedom in the United States from the founding to the present. Religious freedom in cultural, legal, and foreign relations contexts.
Effective Spring Semester 2027

DEPARTMENT OF HORTICULTURE

- HRT 363 Managing Weeds in Horticulture
Spring of even years. 3(3-0) P: HRT 203 or CROP 101 or TURF 242
Mechanical, cultural, chemical, and precision weed control in horticultural systems. Challenges related to economics, environmental impact, and resistance.
Effective Spring Semester 2027
- HRT 482 Root Biology
Fall of odd years. 3(3-0) P: PLB 105 or PLB 201 R: Open to Junior or Senior or Graduate students in the Department of Horticulture
Principles of root biology including evolution, ecology, physiology, development, architecture, and environmental interactions.
Effective Fall Semester 2027

COLLEGE OF LAW

- LAW 538C Philosophy of Law and Rights
On Demand. 0 to 6 credits. R: Open to students in the College of Law
Examination of the major theories of law, of judicial decision-making, the structure(s) of rights and critiques of universal rights schemes, and the bases for fidelity to the law.
Effective Fall Semester 2026
- LAW 551G First Amendment Law
On Demand. 0 to 6 credits. R: Open to students in the College of Law
Freedom of speech, press, and association, examining constitutional doctrine, theory, and contemporary conflicts shaping democratic governance, political participation, and expressive rights.
Effective Fall Semester 2026

DEPARTMENT OF LINGUISTICS, LANGUAGES AND CULTURES

- ISA 111 Elementary Hindi I
Fall of every year. 3(3-0) RB: Not appropriate for native or near-native speakers of the target language. Students with a background in the target (Hindi) language should contact the instructor for a placement test.
Beginning-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Hindi, an Indian and/or South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026
- ISA 112 Elementary Hindi II
Spring of every year. 3(3-0) RB: (ISA 111) or Completion of ISA 111 course in Hindi or equivalent target language (Hindi) background
Beginning-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Hindi, an Indian and/or South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026
- ISA 121 Elementary Urdu I
Fall of every year. 3(3-0) RB: Not appropriate for native or near-native speakers of the target (Urdu) language. Students with a background in the target language (Urdu) should contact the instructor for a placement test.
Beginning-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Urdu, an Indian and South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026
- ISA 122 Elementary Urdu II
Spring of every year. 3(3-0) RB: (ISA 121) or Not appropriate for native or near-native speakers of the target language. Students with a background in the target language (Urdu) should contact the instructor for a placement test.
Beginning-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Urdu, an Indian and/or South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026
- ISA 131 Elementary Bengali I
Fall of every year. 3(3-0) RB: Not appropriate for native or near-native speakers of the target language (Bengali). Students with a background in the target language (Bengali) should contact the instructor for a placement test.
Beginning-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Bengali, an Indian and South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026
- ISA 132 Elementary Bengali II
Spring of every year. 3(3-0) RB: (ISA 131) or Not appropriate for native or near-native speakers of the target language (Bengali). Students with a background in the target language (Bengali) should contact the instructor for a placement test.
Beginning-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Bengali, an Indian and/or South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026

- ISA 141 Elementary Tamil I
Fall of every year. 3(3-0) RB: Not appropriate for native or near-native speakers of the target language (Tamil). Students with a background in the target language (Tamil) should contact the instructor for a placement test.
Beginning-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Tamil, an Indian and South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026
- ISA 142 Elementary Tamil II
Spring of every year. 3(3-0) RB: (ISA 141) or Not appropriate for native or near-native speakers of the target language (Tamil). Students with a background in the target language (Tamil) should contact the instructor for a placement test.
Beginning-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Tamil, an Indian and/or South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026
- ISA 211 Intermediate Hindi I
Fall of every year. 3(3-0) RB: (ISA 112) or Not appropriate for native or near-native speakers of the target language (Hindi). Students with a background in the target language (Hindi) should contact the instructor for a placement test.
Intermediate-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Hindi, an Indian and/or South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026
- ISA 212 Intermediate Hindi II
Spring of every year. 3(3-0) RB: (ISA 211) or Students with a background in the target language (Hindi) should contact the instructor for a placement test.
Further intermediate-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Hindi, an Indian and/or South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026
- ISA 221 Intermediate Urdu I
Fall of every year. 3(3-0) RB: (ISA 122) or Not appropriate for native or near-native speakers of the target language (Urdu). Students with a background in the target language (Urdu) should contact the instructor for a placement test.
Intermediate-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Urdu, an Indian and/or South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026
- ISA 222 Intermediate Urdu II
Spring of every year. 3(3-0) RB: (ISA 221) or Not appropriate for native or near-native speakers of the target language (Urdu). Students with a background in the target language (Urdu) should contact the instructor for a placement test.
Further intermediate-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Urdu, an Indian and/or South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026

- ISA 231 Intermediate Bengali I
Fall of every year. 3(3-0) RB: (ISA 132) or Not appropriate for native or near-native speakers of the target language (Bengali). Students with a background in the target language (Bengali) should contact the instructor for a placement test.
Intermediate-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Bengali, an Indian and/or South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026
- ISA 232 Intermediate Bengali II
Spring of every year. 3(3-0) RB: (ISA 231) or Not appropriate for native or near-native speakers of the target language (Bengali). Students with a background in the target language (Bengali) should contact the instructor for a placement test.
Further intermediate-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Bengali, an Indian and/or South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026
- ISA 241 Intermediate Tamil I
Fall of every year. 3(3-0) RB: (ISA 142) or Not appropriate for native or near-native speakers of the target language (Tamil). Students with a background in the target language (Tamil) should contact the instructor for a placement test.
Intermediate-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Tamil, an Indian and/or South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026
- ISA 242 Intermediate Tamil II
Spring of every year. 3(3-0) RB: (ISA 241) or Not appropriate for native or near-native speakers of the target language (Tamil). Students with a background in the target language (Tamil) should contact the instructor for a placement test.
Further intermediate-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Tamil, an Indian and/or South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026
- ISA 311 Intermediate High Hindi I
Fall of every year. 3(3-0) RB: (ISA 212) or Students with a background in the target language (Hindi) should contact the instructor for a placement test.
Intermediate high-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Hindi, an Indian and/or South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026
- ISA 312 Intermediate High Hindi II
Spring of every year. 3(3-0) RB: (ISA 311) or Students with a background in the target language (Hindi) should contact the instructor for a placement test.
Further intermediate high-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Hindi, an Indian and/or South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026
- ISA 321 Intermediate High Urdu I
Fall of every year. 3(3-0) RB: (ISA 222) or Not appropriate for native or near-native speakers of the target language (Urdu). Students with a background in the target language (Urdu) should contact the instructor for a placement test.
Intermediate high-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Urdu, an Indian and/or South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026

- ISA 322 Intermediate High Urdu II
Spring of every year. 3(3-0) RB: (ISA 321) or Not appropriate for native or near-native speakers of the target language (Urdu). Students with a background in the target language (Urdu) should contact the instructor for a placement test.
Further intermediate high-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Urdu, an Indian and/or South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026
- ISA 331 Intermediate High Bengali I
Fall of every year. 3(3-0) RB: (ISA 232) or Not appropriate for native or near-native speakers of the target language (Bengali). Students with a background in the target language (Bengali) should contact the instructor for a placement test.
Intermediate high-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Bengali, an Indian and/or South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026
- ISA 332 Intermediate High Bengali II
Spring of every year. 3(3-0) RB: (ISA 331) or Not appropriate for native or near-native speakers of the target language (Bengali). Students with a background in the target language (Bengali) should contact the instructor for a placement test.
Further intermediate high-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Bengali, an Indian and/or South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026
- ISA 341 Intermediate High Tamil I
Fall of every year. 3(3-0) RB: (ISA 242) or Not appropriate for native or near-native speakers of the target language (Tamil). Students with a background in the target language (Tamil) should contact the instructor for a placement test.
Intermediate high-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Tamil, an Indian and/or South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026
- ISA 342 Intermediate High Tamil II
Spring of every year. 3(3-0) RB: (ISA 341) or Not appropriate for native or near-native speakers of the target language (Tamil). Students with a background in the target language (Tamil) should contact the instructor for a placement test.
Further intermediate high-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Tamil, an Indian and/or South Asian language. Emphasis on building communication skills.
SA: ISA 302
Effective Fall Semester 2026
- ISA 411 Advanced Hindi I
Fall of every year. 3(3-0) RB: (ISA 312) or Students with a background in the target language (Hindi) should contact the instructor for a placement test.
Advanced-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Hindi, an Indian and/or South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026

- ISA 412 Advanced Hindi II
Spring of every year. 3(3-0) RB: (ISA 411) or Students with a background in the target language (Hindi) should contact the instructor for a placement test.
Further advanced-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Hindi, an Indian and/or South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026
- ISA 421 Advanced Urdu I
Fall of every year. 3(3-0) RB: (ISA 322) or Not appropriate for native or near-native speakers of the target language (Urdu). Students with a background in the target language (Urdu) should contact the instructor for a placement test.
Advanced-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Urdu, an Indian and/or South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026
- ISA 422 Advanced Urdu II
Spring of every year. 3(3-0) RB: (ISA 421) or Not appropriate for native or near-native speakers of the target language (Urdu). Students with a background in the target language (Urdu) should contact the instructor for a placement test.
Further advanced-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Urdu, an Indian and/or South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026
- ISA 431 Advanced Bengali I
Fall of every year. 3(3-0) RB: (ISA 332) or Not appropriate for native or near-native speakers of the target language (Bengali). Students with a background in the target language (Bengali) should contact the instructor for a placement test.
Advanced-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Bengali, an Indian and/or South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026
- ISA 432 Advanced Bengali II
Spring of every year. 3(3-0) RB: (ISA 431) or Not appropriate for native or near-native speakers of the target language (Bengali). Students with a background in the target language (Bengali) should contact the instructor for a placement test.
Further advanced-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Bengali, an Indian and/or South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026
- ISA 441 Advanced Tamil I
Fall of every year. 3(3-0) RB: (ISA 342) or Not appropriate for native or near-native speakers of the target language (Tamil). Students with a background in the target language (Tamil) should contact the instructor for a placement test.
Advanced-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Tamil, an Indian and/or South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026
- ISA 442 Advanced Tamil II
Spring of every year. 3(3-0) RB: (ISA 441) or Not appropriate for native or near-native speakers of the target language (Tamil). Students with a background in the target language (Tamil) should contact the instructor for a placement test.
Further advanced-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of Tamil, an Indian and/or South Asian language. Emphasis on building communication skills.
Effective Fall Semester 2026

DEPARTMENT OF MANAGEMENT

- ESHP 255 Entrepreneurship for the Social Good
Spring of every year. 3(3-0) R: Open to Sophomore or Junior or Senior students in the Minor Undergraduate in Entrepreneurship and Innovation
Create innovative responses to social problems through Social Entrepreneurship. Learn to create social and economic value locally and throughout the world by creating jobs and measuring impact on the triple bottom line of people, profit and the planet.
Effective Spring Semester 2027
- ESHP 424 iOS Design Lab I
Fall of every year. 3(3-0) R: Open to Sophomore or Junior or Senior students in the Minor Undergraduate in Entrepreneurship and Innovation or Bachelor of Science in Computer Science or Bachelor of Arts in Experience Architecture or Master of Business Administration in Business Administration or Master of Business Administration in Science, Technology, Engineering, and Mathematics
Learn basics of human centered design strategies for development of innovative solutions for complex problems. Learn Swift, Apple's native computer/application coding language, using Apple Playgrounds and other coding tools. Learn application development processes from idea inception to publication through case studies and experiential learning.
Effective Fall Semester 2026
- ESHP 425 iOS Design Lab II
Spring of every year. 3(3-0) P: ESHP 424 R: Open to Sophomore or Junior or Senior students in the Minor in Entrepreneurship and Innovation or Bachelor of Science in Computer Science or Bachelor of Arts in Experience Architecture or Master of Business Administration in Business Administration or Master of Business Administration in Science, Technology, Engineering, and Mathematics
Experiential studio experience. Students develop working and testable prototypes within the Apple technology ecosystem to create value in the real world.
Effective Spring Semester 2027

COLLEGE OF NURSING

- NUR 941 Introduction to Diagnostic Reasoning for the Family Nurse Practitioner
Summer of every year. 3(2-1) P: NUR 909 and NUR 912 C: NUR 908 concurrently
Introduction of the family nurse practitioner role including diagnostic reasoning and differential diagnosis for common health conditions and problems across the lifespan.
Effective Summer Semester 2028
- NUR 942 Introduction to Diagnostic Reasoning for the Adult-Gerontology Primary Care Nurse Practitioner
Summer of every year. 3(2-1) P: NUR 909 and NUR 912 C: NUR 908 concurrently
Introduction of the adult gerontology nurse practitioner role including diagnostic reasoning and differential diagnosis for common health conditions and problems across adolescence, adult, and older adult
Effective Summer Semester 2028
- NUR 943 Pediatric and Perinatal Concepts for the Family Nurse Practitioner (FNP)
Summer of every year. 2(2-0) P: NUR 915 C: NUR 916 concurrently
Integration of preventative and management strategies to deliver comprehensive care for pediatric, prenatal, and postnatal populations
Effective Spring Semester 2029
- NUR 944 Gerontologic concepts for the Adult Gerontology Primary Care Nurse Practitioner
Spring of every year. 2(2-0) P: NUR 925 C: NUR 916 concurrently
Integration of preventative and management strategies to deliver comprehensive care to older adults
Effective Spring Semester 2029

COLLEGE OF OSTEOPATHIC MEDICINE

- OST 501 Introduction to Medical School
Summer of every year. 1(1-0) R: Open to Osteopathic Medicine students in the College of Osteopathic Medicine
Prepares students to enter medical school with confidence by building essential academic and professional foundations.
Effective Summer Semester 2026
- OST 549 Special Topics in Clinical Skills
On Demand. 1 to 6 credits. A student may earn a maximum of 30 credits in all enrollments for this course. R: Open to Osteopathic Medicine students in the College of Osteopathic Medicine or approval of college.
Special topics in clinical skills.
Request the use of the Pass-No Grade (P-N) system.
Effective Fall Semester 2026

DEPARTMENT OF PLANT, SOIL AND MICROBIAL SCIENCES

- CSS 801 Evolution of Resistance to Pesticides
Spring of even years. 2(2-0) RB: Undergraduate degree in related field
Pesticide resistance evolution in bacteria, fungi, insects, and plants. Mechanisms of pesticide resistance: genetic and molecular processes.
Effective Spring Semester 2028

PART III – COURSE CHANGES

DEPARTMENT OF ACCOUNTING AND INFORMATION SYSTEMS

- ACC 201 Principles of Financial Accounting
Fall of every year. Spring of every year. Summer of every year. 3(3-0)-~~P: CSE 102 R: Open to undergraduate students in the Business – Admitted major and open to sophomores or juniors or seniors in the Hospitality Business Major.~~ R: Open to Sophomore or Junior or Senior students in the Bachelor of Science in Accounting or No Degree - Undergrad-H in Business-Admitted or Bachelor of Science in Finance or Bachelor of Science in Human Resource Management or Bachelor of Science in Management or Bachelor of Science in Marketing or Bachelor of Science in Supply Chain Management or approval of department.
Purpose and content of corporate financial statements with emphasis on interpretation and understanding the effects of various transactions on these statements. Basic principles, conventions and concepts related to financial statements. Measurement of assets, liabilities, revenues and expenses. International accounting concepts.
Effective Fall Semester 2026
- ACC 202 Principles of Management Accounting
Fall of every year. Spring of every year. Summer of every year. 3(3-0)-~~P: CSE 102 R: Open to undergraduate students in the Business – Admitted major.~~ R: Open to Sophomore or Junior or Senior students in the Bachelor of Science in Accounting or No Degree - Undergrad-H in Business-Admitted or Bachelor of Science in Finance or Bachelor of Science in Management or Bachelor of Science in Marketing or Bachelor of Science in Supply Chain Management or Bachelor of Science in Human Resource Management
Management uses of accounting information. Costing products and services, planning and budgeting, performance measurement, control of organizational activities, and decision making.
Effective Fall Semester 2026
- ITM 208 Information Systems and Algorithmic Thinking for Business
Fall of every year. Spring of every year. Summer of every year. 4(4-0)-~~R: Open to undergraduate students in the Accounting major or in the Business – Admitted major or in the Finance Major or in the Human Resource Management Major or in the Information Technology Minor or in the Management Major or in the Marketing Major or in the Supply Chain Management Major and not open to undergraduate students in the Hospitality Business Major.~~ R: Open to Undergraduate students in the Bachelor of Science in Accounting or No Degree - Undergrad-H in Business-Admitted or Bachelor of Science in Finance or Bachelor of Science in Human Resource Management or Minor Undergraduate in Information Technology or Bachelor of Science in Management or Bachelor of Science in Marketing or Bachelor of Science in Supply Chain Management and Not open to students in the Bachelor of Arts in Hospitality Business
Fundamentals of information systems concepts and applications relevant to business. Use common business software and programming language(s) to develop their algorithmic thinking abilities, gain hands-on experience with business software packages and learn information system topics necessary for technology literacy the digital workplace. The course will include programming and problem solving using a high-level language (such as Python) and the intersection with common business applications.
SA: ITM 209
Effective Spring Semester 2027
- ITM 209 Business Analytics and Information Systems
Fall of every year. Spring of every year. Summer of every year. 3(3-0) P: CSE 102 R: Open to undergraduate students in the Business - Admitted major and open to undergraduate students in the Information Technology Minor.
Use of data and analytics to identify and create business value.
DELETE COURSE
Effective Summer Semester 2027

ITM 210 Business Analytics
Fall of every year. Spring of every year. Summer of every year. 2(2-0) ~~P: ITM 208~~ ~~R: Open to undergraduate students in the Accounting major or in the Business – Admitted major or in the Finance Major or in the Human Resource Management Major or in the Information Technology Minor or in the Management Major or in the Marketing Major or in the Supply Chain Management Major and not open to undergraduate students in the Hospitality Business Major.~~ R: Open to Undergraduate students in the Bachelor of Science in Accounting or No Degree - Undergrad-H in Business-Admitted or Bachelor of Science in Finance or Bachelor of Science in Human Resource Management or Minor Undergraduate in Information Technology or Bachelor of Science in Management or Bachelor of Science in Marketing or Bachelor of Science in Supply Chain Management and Not open to students in the Bachelor of Arts in Hospitality Business
Use of data and analytics to identify and create business value.
SA: ITM 209
Effective Spring Semester 2027

DEPARTMENT OF ANIMAL SCIENCE

ANS 442 Advanced Horse Management
Spring of every year. 3(2-2) ~~P: ANS 242 and ANS 313~~ P: ANS 242 RB: ANS 313 ~~R: Not open to freshmen or sophomores.~~ R: Not open to Freshman or Sophomore students
Scientific application of biological and biotechnological principles in the disciplines of horse production and management.
SA: ANS 498
Effective Fall Semester 2026

THE ELI BROAD COLLEGE OF BUSINESS

BUS 250 Business Communication: Oral and Written Skills
Fall of every year. Spring of every year. Summer of every year. 3(3-0) ~~P: Completion of Tier I Writing Requirement~~ ~~R: Open to undergraduate students in the Accounting major or in the Business – Admitted major or in the Finance major or in the Human Resource Management major or in the Management major or in the Marketing major or in the Supply Chain Management major.~~ R: Open to Undergraduate students in the Bachelor of Science in Accounting or No Degree - Undergrad-H in Business-Admitted or Bachelor of Science in Finance or Bachelor of Science in Human Resource Management or Bachelor of Science in Management or Bachelor of Science in Marketing or Bachelor of Science in Supply Chain Management
Communication skills including use of digital media, delivery mechanics, persuasive speaking, and preparation of executive briefs, memos, email messages.
SA: MGT 250, MKT 250
Effective Spring Semester 2027

DEPARTMENT OF CHEMICAL ENGINEERING AND MATERIALS SCIENCE

CHE 483 Brewing and Distilled Beverage Technology
Spring of every year. 3(2-3) Interdepartmental with Food Science ~~P: CHE 311 or (ME 410 or concurrently) or BE 350 or (BE 429 or concurrently) or (FSC 325 or concurrently)~~ P: CHE 311 or (ME 410 or concurrently) or BE 350 or (FSC 325 or concurrently) or MSE 310 RB: Major in Chemical Engineering, Biosystems Engineering or Food Science. Must be at least 21 years of age. R: Approval of department.
Raw materials for fermentation and basics of alcohol fermentation, beer and cider production; basics of distillation; brandy and eau de vie production; whiskey production; vodka, gin and flavored spirits production; flavor chemistry
Effective Fall Semester 2026

CHE 484 Distillation Science and Technology I
Spring of every year. 3(3-0) P: FSC 481
Raw material selection including fruits and types of cereal grains for distilled spirit production, malting of cereal grains, milling science, water chemistry and mashing theory.
DELETE COURSE
Effective Summer Semester 2026

- CHE 485 Distillation Science and Technology II
Summer of every year. 3(3-0) P: FSC 481 and CHE 484
Distillation methods, equipment design and technology, stabilizing, filtration and bottling of distilled spirits, barrel aging, laboratory control, regulatory aspects, and safety.
DELETE COURSE
Effective Summer Semester 2026

DEPARTMENT OF COUNSELING, EDUCATIONAL PSYCHOLOGY, AND SPECIAL EDUCATION

- CEP 816 Technology, Teaching and Learning Across the Curriculum
Fall of every year. 3(3-0)
Uses of technologies in teaching subject matter. Disciplinary perspectives on teaching and learning with technology.
DELETE COURSE
Effective Fall Semester 2026

COLLEGE OF ENGINEERING

- TNG 310 ~~Advanced Graphic Communications~~ Computer Aided Manufacturing and Simulation
Fall of every year. Spring of every year. 3(1-4) P: TNG 210 and ME 280 ~~R: Open to students in the Technology Engineering Major. R: Open to students in the Bachelor of Science in Technology Engineering~~ Not open to students with credit in ME 385.
Continuation of graphic communications including electrical schematics, geometric design and tolerancing, electrical and mechanical system design, and the integration of computer aided design, computer aided manufacturing, and computer numerical control. Applications of computer aided design (CAD), computer aided manufacturing (CAM), and computer numerical control (CNC). Integration of manufacturing robotics.
Effective Fall Semester 2026
- TNG 320 Sensors and Signal Processing
Fall of every year. Spring of every year. 3(2-2) ~~P: TNG 220 and STT 180 P: TNG 220 R: Open to students in the Technology Engineering Major. R: Open to students in the Bachelor of Science in Technology Engineering~~ Not open to students with credit in ECE 366.
Conceptualizing of real-world phenomena in terms of electrical output and the implementation of devices for transduction and measurement.
Effective Fall Semester 2026
- TNG 330 Quality and Continuous Improvement
Fall of every year. Spring of every year. 3(3-0) ~~P: STT 201 and TNG 310 P: STT 201 R: Open to students in the Technology Engineering Major. R: Open to students in the Bachelor of Science in Technology Engineering~~
Methods of quality control and improvement that are used in the manufacturing and service industries.
Effective Fall Semester 2026
- TNG 345 Mechanical Machine Dynamics
Spring of every year. 3(2-2) ~~P: TNG 340 P: (MTH 132 and PHY 231) or PHY 183 R: Open to students in the Technology Engineering Major. R: Open to students in the Bachelor of Science in Technology Engineering~~ Not open to students with credit in ME 361.
Analysis and application of the kinematics and kinetics of mechanical machines and systems.
Effective Fall Semester 2026
- TNG 430 Engineering Project Management
Fall of every year. Spring of every year. 3(3-0) ~~P: TNG 330 or concurrently P: MTH 132 R: Open to students in the Technology Engineering Major. R: Open to students in the Bachelor of Science in Technology Engineering~~
Managing an engineering project, including scope, schedule, budget, and communications. How design considerations such as public health and safety, engineering standards, customer diversity, and ethical responsibilities affect the project outcome. Engineering economics.
Effective Fall Semester 2026

- TNG 440 Robotics, Automation, and Controls
Fall of every year. 3(2-2)-P: ~~TNG 320 and (TNG 322 or concurrently) and TNG 345~~ P: TNG 310 and TNG 320 and TNG 345-R: ~~Open to students in the Technology Engineering Major.~~ R: Open to students in the Bachelor of Science in Technology Engineering
Hardware, software, sensors, and human resources required to implement effective control systems. Interfacing and controlling a variety of electromechanical devices such as motors and pneumatic actuators. Industrial safety practices and procedures.
Effective Fall Semester 2026
- TNG 480 Technology Engineering Capstone (W)
Fall of every year. Spring of every year. 3(1-4) P: (TNG 430) and completion of Tier I writing requirement-R: ~~Open to students in the Technology Engineering Major.~~ R: Open to students in the Bachelor of Science in Technology Engineering. Approval of department; application required.
Planning and execution of a team project involving the development of an engineered product or system, utilizing knowledge and skills acquired in prior engineering coursework. Project considerations include engineering standards, system constraints, design for customer needs, ethical issues, budget, timing, and safety.
Effective Fall Semester 2026

DEPARTMENT OF ENGLISH

- ENG 227 Introduction to Playwriting
~~Spring of every year.~~ On Demand. 3(3-1) P: ENG 210 or ENG 211H or ENG 226
Basic elements of playwriting through writing and critical analysis of original scenes, one-act plays and analysis of dramatic technique in selected works by professional playwrights.
Effective Spring Semester 2027
- ENG 317 Readings in African and Caribbean Literatures
~~Fall of every year.~~ On Demand. 3(3-0)-P: ~~{{(ENG 126 or ENG 140 or ENG 142 or ENG 153 or ENG 204 or ENG 205 or ENG 206 or ENG 218) and (ENG 126 or ENG 140 or ENG 142 or ENG 153 or ENG 204 or ENG 205 or ENG 206 or ENG 218)}} or (ENG 210 or ENG 211H)~~ P: {{(ENG 140 or ENG 142 or ENG 153 or ENG 204 or ENG 205 or ENG 206 or ENG 218) and (ENG 140 or ENG 142 or ENG 153 or ENG 204 or ENG 205 or ENG 206 or ENG 218)}} or (ENG 210 or ENG 211H) RB: Six credits of literature-R: ~~Open to undergraduate students in the College of Arts and Letters or in the Department of English.~~ R: Open to Undergraduate students in the College of Arts and Letters or Department of English
Extensive readings of texts by African and Caribbean writers across genres, historical periods, and regions.
~~SA: ENG 363, ENG 463~~
Effective Spring Semester 2027
- ENG 318 Readings in Shakespeare
Fall of every year. 3(3-0) A student may earn a maximum of 6 credits in all enrollments for this course. P: ~~{{(ENG 126 or ENG 129 or ENG 140 or ENG 142 or ENG 153 or ENG 204 or ENG 205 or ENG 206 or ENG 218) and Completion of Tier I Writing Requirement} or (ENG 210 or ENG 211H)}~~ P: {{(ENG 129 or ENG 140 or ENG 142 or ENG 153 or ENG 204 or ENG 205 or ENG 206 or ENG 218) and Completion of Tier I Writing Requirement} or (ENG 210 or ENG 211H)} RB: 6 Credits of literature-R: ~~Not open to freshmen.~~ R: Not open to Freshman students
Extensive readings in Shakespeare's works across genres, considered in relation to historical, cultural, and performance contexts.
~~SA: ENG 424~~
Effective Spring Semester 2027

- ENG 441 ~~Seminar in Early American Literature~~ Seminar in Medieval and Early Modern Literature
~~Fall of every year. On Demand. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. P: ENG 360 or ENG 362 or ENG 364 or ENG 368 P: (ENG 360 or ENG 362 or ENG 364 or ENG 368) RB: English 368 or background in Premodern literature -R: Open to juniors or seniors in the Department of English. R: Open to Junior or Senior students in the Department of English~~
Advanced analysis of major themes and developments in American writing before 1820 to illustrate the diversity of voices and texts generated in and about America from first contact to the end of the early republic. Topics vary. Advanced analysis of major themes and developments in literatures in English before the modern period. Texts will be in English, whether Middle or Modern English, or in English translation. Critical questions about premodern period, including US colonies and early republic.
SA: ENG 455
Effective Spring Semester 2027
- ENG 443 ~~Seminar in 19th Century American Literature~~ Seminar in 18th and 19th Century Literature
~~Fall of every year. On Demand. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. P: ENG 360 or ENG 362 or ENG 364 or ENG 368 P: ENG 360 or ENG 362 or ENG 364 or ENG 368 R: Open to juniors or seniors in the Department of English. R: Open to Junior or Senior students in the Department of English~~
Advanced analysis in the major themes and developments in literary culture in the United States from the establishment of the Republic to the turn of the last century. Topics vary. Advanced analysis of major themes and developments in literary cultures during the 18th and 19th centuries (1700-1900). Topics vary and will be drawn from across regional and national traditions, genres, and cultural and political issues appropriate to specified historical periods.
SA: ENG 442 SA: ENG 442, ENG 457, ENG 458
Effective Spring Semester 2027
- ENG 445 ~~Seminar in 20th and 21st Century American Literature~~ Seminar in 20th and 21st Century Literature
~~Spring of every year. On Demand. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. P: ENG 360 or ENG 362 or ENG 364 or ENG 368 P: ENG 360 or ENG 362 or ENG 364 or ENG 368 RB: ENG 362 R: Open to juniors or seniors in the Department of English. R: Open to Junior or Senior students in the Department of English~~
Advanced analysis in literary culture in the United States from the modern and contemporary eras. Topics vary. Advanced analysis of literature written in English from the modern and contemporary eras.
SA: ENG 444 SA: ENG 444, ENG 452
Effective Spring Semester 2027
- ENG 452 ~~Seminar in 20th and 21st Century British Literature~~
Spring of every year. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. P: ENG 360 or ENG 362 or ENG 364 or ENG 368 R: Open to juniors or seniors in the Department of English.
Advanced analysis in literary culture of Britain, Ireland, and other countries influenced by England, exclusive of the United States, from the modern and contemporary eras. Topics vary.
SA: ENG 439, ENG 487
DELETE COURSE
Effective Summer Semester 2026
- ENG 455 ~~Seminar in Early Modern Literature~~
Fall of every year. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. P: ENG 360 or ENG 362 or ENG 364 or ENG 368 RB: (ENG 318) and understanding of early modern literary language and conventions. R: Open to juniors or seniors in the English major.
Advanced analysis in key authors, texts, and cultural contexts of the 16th - 17th centuries, grounded in recent critical questions and early modern social issues; Topics vary.
SA: ENG 426b, ENG 456
DELETE COURSE
Effective Summer Semester 2026
- ENG 457 ~~Seminar in 18th-Century British Literature~~

Spring of every year. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. P: ENG 360 or ENG 362 or ENG 364 or ENG 368 R: Open to juniors or seniors in the Department of English.

Advanced analysis in British writing from 1660-1837, considering issues such as decline of the epic, emergence of satire, rise of the novel, romanticism, and revolutionary discourse. Topics vary.

SA: ENG 485

DELETE COURSE

Effective Summer Semester 2026

ENG 458 Seminar in 19th-Century British Literature

Fall of every year. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. P: ENG 360 or ENG 362 or ENG 364 or ENG 368 R: Open to juniors or seniors in the Department of English.

Advanced analysis in British texts, culture and society from 1789-1914, considering issues such as the development of empire, scientific culture, revolution, nationalism, the woman question, aestheticism. Topics vary.

SA: ENG 459, ENG 486

DELETE COURSE

Effective Summer Semester 2026

ENG 484B Critical Questions in Region, School, Movement

Spring of every year. 3(3-0) P: ENG 360 or ENG 362 or ENG 364 or ENG 368 R: Open to seniors in the Department of English.

Intensive study of literary networks connected through geography and/or aesthetics. Writing that integrates archival, primary, or secondary sources and contributing to discussion in the field.

DELETE COURSE

Effective Summer Semester 2026

ENG 484D Critical Questions in a National Literature

Spring of every year. 3(3-0) P: ENG 360 or ENG 362 or ENG 364 or ENG 368 R: Open to seniors in the Department of English.

Intensive study of current issues situated within the literature of a particular nation. Writing that integrates archival, primary, or secondary sources and contributing to discussion in the field.

DELETE COURSE

Effective Summer Semester 2026

FLM 334 Introduction to Screenwriting (W)

Fall of every year. Spring of every year. 3(3-1) ~~Interdepartmental with English~~ A student may earn a maximum of 6 credits in all enrollments for this course. P: (FLM 230 or concurrently) and completion of Tier I writing requirement

Basic elements of screenwriting. Dramatic action, exposition, plotting, characterization and dialogue, finalizing and marketing the script.

SA: ENG 374, ENG 334

Effective Spring Semester 2027

DEPARTMENT OF FINANCE

FI 457 Security Analysis

Fall of every year. Spring of every year. 3(3-0) A student may earn a maximum of 6 credits in all enrollments for this course. P: FI 342 R: Approval of department.

Fundamental analysis of individual stocks. Discounted cash flow valuation, relative valuation, special situations. Management of a real-money stock portfolio, the Michigan State University Student Investment Fund.

Effective Fall Semester 2026

- FI 836 Estate and Income Tax Planning
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 Major and open to students in the Financial Planning and Wealth Management Graduate Certificate. R: Open to students in the Master of Science in Financial Planning and Wealth Management or Graduate Certificate Program in Financial Planning and Wealth Management. Not open to students with credit in FI 480. Not open to students with credit in FI 460.~~
Issues in estate planning and income tax planning for the financial planner and wealth management advisor.
Effective Spring Semester 2027
- FI 846 Financial Modeling and Simulation II
Fall of every year. Spring of every year. 1 to 3 credits. P: FI 845 or approval of department RB: FI 851 R: Open to master's students in the Finance major and open to MBA students or approval of department.
Application of financial theory using computer modeling. Portfolio optimization, risk measurement, and option pricing.
DELETE COURSE
Effective Summer Semester 2026
- FI 847 Corporate Strategies and Risk Management
Fall of every year. 1 to 3 credits. P: MBA 822 or approval of department RB: FI 845 and FI 851 R: Open to master's students in the Finance Major and open to MBA students or approval of department.
Identifying corporate strategies to help manage business, financing, and competitive risks. Case studies.
DELETE COURSE
Effective Summer Semester 2026
- FI 851 Introduction to Investments II
Spring of every year. 1 to 3 credits. P: FI 850 or approval of department R: Open to master's students in the Finance major and open to MBA students or approval of department.
Investment management, portfolio performance evaluation, active portfolio management, essentials of bonds and derivatives, and essentials of international diversification.
DELETE COURSE
Effective Summer Semester 2026
- FI 854 Fixed Income Instruments
Fall of every year. 1 to 3 credits. P: FI 853 or approval of department R: Open to master's students in the Finance major and open to MBA students.
Advanced fixed income security models. Valuation of instruments traded using derivative securities pricing.
DELETE COURSE
Effective Summer Semester 2026
- FI 855 Financial Derivatives II
Spring of every year. 1 to 3 credits. P: FI 851 and FI 852 or approval of department R: Open to master's students in the Finance major and open to MBA students.
Derivatives pricing and applications to corporate securities, structured products, and credit default swaps.
DELETE COURSE
Effective Summer Semester 2026
- FI 861 International Financial Markets and Risk Management
Fall of every year. 1 to 3 credits. P: MBA 822 or approval of department R: Open to master's students in the Finance Major and open to MBA students.
Financial investments and risk management in a multinational setting.
DELETE COURSE
Effective Summer Semester 2026

- FI 863 Corporate Restructuring and Governance
Fall of every year. 1 to 3 credits. P: FI 869 or approval of department R: Open to master's students in the Finance Major and open to MBA students.
Mergers, corporate restructuring, divestitures and bankruptcy from the finance perspective.
DELETE COURSE
Effective Summer Semester 2026
- FI 870 Venture Capital and Private Equity
Spring of every year. 1 to 3 credits. 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.
DELETE COURSE
Effective Summer Semester 2026
- FI 873 Financial Data Analytics II
Fall of every year. 1 to 3 credits. P: FI 872 R: Open to MBA students or approval of department.
Advanced application of data analysis to finance. Automating data acquisition, to apply textual analysis to large documents and transcripts. Analyzing weather data, geographic data, corporate patent data, and posts on social media. Examining how the information in these databases is related to financial outcomes.
DELETE COURSE
Effective Summer Semester 2026
- FI 876 Behavioral Finance II
Spring of every year. 1 to 3 credits. P: FI 875 or approval of department R: Open to graduate students in the Business - Admitted major.
Advanced examination of the effect of cognitive and psychological biases on financial decision-making. Analysis of the related consequences for market prices, investor performance, and corporate management.
DELETE COURSE
Effective Summer Semester 2026

DEPARTMENT OF FISHERIES AND WILDLIFE

- FW 293 Undergraduate Seminar in Fisheries and Wildlife
Fall of every year. Spring of every year. 1(0-2) ~~P: FW 101 or concurrently P: (FW 101 or concurrently) and FW 102 R: Open to undergraduate students in the Lyman Briggs College or in the Department of Fisheries and Wildlife. R: Open to Undergraduate students in the Lyman Briggs College or Department of Fisheries and Wildlife~~
Professional development and discussion of current case studies to prepare students for a career in Fisheries and Wildlife.
Effective Fall Semester 2026
- FW 417 Wetland Ecology and Management
Fall of every year. 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 R: Open to Junior or Senior students or approval of department.
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 2026

DEPARTMENT OF GEOGRAPHY, ENVIRONMENT, AND SPATIAL SCIENCES

- GEO 827 Theory and Practice of Terrestrial Remote Sensing
Fall of every year. 3(3-0) RB: GEO 324 or GEO 424
Theory, algorithms, and computational approaches to generate and assess derived satellite products for long-term Earth system monitoring, with an emphasis on estimating biophysical and geophysical land surface variables.
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 2026

DEPARTMENT OF HISTORY

- HST 334A Renaissance and Reformation Europe
Fall of even years. 3(3-0)
Western Europe from 1450 to 1575. Intellectual developments of the Renaissance. Religious trends of the Reformation and Counter-Reformation. Political and imperial history.
SA: HST 334
DELETE COURSE
Effective Summer Semester 2026
- HST 334B Seventeenth-Century Europe
Spring of odd years. 3(3-0)
European history from 1575 to 1715. Rise of modern states. Thirty Years' War. Absolutism and revolt. Growth of Empire. Scientific revolution.
SA: HST 334
DELETE COURSE
Effective Summer Semester 2026
- HST 475 History of the Book: From Manuscripts to Comics
~~Fall of even years.~~ Spring of every year. 3(3-0) Interdepartmental with English P: (HST 201 or ENG 210 or approval of department) and Completion of Tier I Writing Requirement-~~R: Not open to freshmen.~~ R: Open to Junior or Senior students
History of the book from medieval manuscripts to modern forms. Publishing, illustration, censorship, manuscript and print culture.
Effective Fall Semester 2026

CENTER FOR INTEGRATIVE STUDIES IN GENERAL SCIENCE

- ISE 420 Integrated Science Research
~~Fall of every year.~~ ~~Spring of every year.~~ Spring of every year. 3(2-2) Interdepartmental with Teacher Education-~~R: Open to seniors in the General Science Secondary Teaching Major and open to seniors in the Integrated Science Elementary Teaching Major.~~ R: Open to students in the College of Natural Science or Bachelor of Science in Integrated Science-Secondary Education
Research design and data analysis of individual research projects relevant to the K-12 science curriculum, integrating topics in life, earth, and physical science.
SA: SME 420
Effective Fall Semester 2026

DEPARTMENT OF LARGE ANIMAL CLINICAL SCIENCES

- LCS 635 ~~Swine Production Medicine Clerkship Swine Health and Preventive Medicine~~
~~Fall of every year. Spring of every year. 3 credits. RB: Completion of year 2 of the graduate professional program in the College of Veterinary Medicine. RB: Satisfactory completion of the preclinical phase of the graduate-professional (DVM) program in the College of Veterinary Medicine. R: Open to graduate professional students in the College of Veterinary Medicine. R: Open to Veterinary Medicine students in the College of Veterinary Medicine~~
~~Swine production medicine and herd problem-solving topics. Participation in the swine medicine clinical course at Iowa State University. Field trips required. Swine health management and preventive medicine across diverse production systems.~~
~~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 2026~~

DEPARTMENT OF LINGUISTICS, LANGUAGES AND CULTURES

- ISA 101 First-year Indian and South Asian Language I
Fall of every year. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. RB: Not appropriate for native or near-native speakers of the target language. Students with a background in the target language should contact the instructor for a placement test.
Beginning-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of an Indian and/or South Asian language. Emphasis on building communication skills.
DELETE COURSE
Effective Summer Semester 2026
- ISA 102 First-year Indian and South Asian Language II
Spring of every year. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. RB: Completion of ISA 101 course in language or equivalent language background
Beginning-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of an Indian and/or South Asian language. Emphasis on building communication skills.
DELETE COURSE
Effective Summer Semester 2026
- ISA 201 Second-year Indian and South Asian Language I
Fall of every year. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course.
Intermediate-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of an Indian and/or South Asian language. Emphasis on building communication skills.
DELETE COURSE
Effective Summer Semester 2026
- ISA 202 Second-year Indian and South Asian Language II
Spring of every year. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. RB: Completion of ISA 201 or equivalent background
Intermediate-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of an Indian and/or South Asian language. Emphasis on building communication skills.
DELETE COURSE
Effective Summer Semester 2026
- ISA 301 Third-year Indian and South Asian Language I
Fall of every year. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. RB: Completion of ISA 202 or equivalent background
High-Intermediate-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of an Indian and/or South Asian language. Emphasis on building communication skills.
DELETE COURSE
Effective Summer Semester 2026

- ISA 302 Third-year Indian and South Asian Language II
Spring of every year. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. RB: Completion of ISA 301 or equivalent background
High intermediate-level speaking, listening comprehension, reading, writing, and grammar of an Indian and/or South Asian language. Aspects of culture. Emphasis on accurate communication.
DELETE COURSE
Effective Summer Semester 2026
- ISA 401 Fourth-year Indian and South Asian Language I
Fall of every year. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. RB: Completion of ISA 302 or equivalent background
Advanced-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of an Indian and/or South Asian language. Emphasis on building communication skills.
DELETE COURSE
Effective Summer Semester 2026
- ISA 402 Fourth-year Indian and South Asian Language II
Spring of every year. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. RB: Completion of ISA 401 or equivalent background
Advanced-level speaking, listening comprehension, reading, writing, grammar, gestures, and cultures of an Indian and/or South Asian language. Emphasis on building communication skills.
DELETE COURSE
Effective Summer Semester 2026

COLLEGE OF NURSING

- NUR 912 ~~Health Promotion – Family~~ Health Promotion and Population Health for the Primary Care NP
Spring of every year. Summer of every year. 3(3-0)-P: ~~NUR 902 and NUR 907~~ P: (NUR 902 and NUR 907 and NUR 914) R: ~~Open to graduate students in the College of Nursing or in the Master of Science in Nursing or in the Nursing Practice Major.~~ R: Open to Graduate students in the College of Nursing or Master of Science in Nursing in Nursing MSN NP or Master of Science in Nursing in Nursing MSN CNS or Doctor of Nursing Practice in Nursing Practice Anesthesia DNP NA or Doctor of Nursing Practice in Nursing Practice Clinical Nursing DNP CNS or Doctor of Nursing Practice in Nursing Practice Clinical Nursing DNP NP-C: EPI 840 concurrently
~~Integration of concepts, theories and principles of population health, health promotion and disease prevention at the advanced practice level across the lifespan.~~ Integration of concepts, theories and principles of population health, health promotion and disease prevention.
Effective Fall Semester 2026
- NUR 913 Health Promotion – Adult-Gerontology
Spring of every year. Summer of every year. 3(3-0) P: NUR 902 and NUR 907 R: Open to graduate students in the College of Nursing or in the Master of Science in Nursing or in the Nursing Practice Major. ~~C: EPI 840 concurrently~~ C: EPI 840 concurrently
Integration of concepts, theories and principles of population health, health promotion and disease prevention at the advanced practice level for adults and older adults.
DELETE COURSE
Effective Spring Semester 2028
- NUR 915 Clinical Diagnosis and Management I - Family
Fall of every year. 6(3-9) P: NUR 912 and NUR 907 and NUR 908 and NUR 909 ~~R: Open to graduate students in the College of Nursing or in the Master of Science in Nursing or in the Nursing Practice Major.~~ R: Open to Graduate students in the College of Nursing or Master of Science in Nursing in Nursing MSN NP or Master of Science in Nursing in Nursing MSN CNS or Doctor of Nursing Practice in Nursing Practice Anesthesia DNP NA or Doctor of Nursing Practice in Nursing Practice Clinical Nursing DNP CNS or Doctor of Nursing Practice in Nursing Practice Clinical Nursing DNP NP
Integration of health assessment and diagnostic testing to formulate differential diagnoses for common health conditions/problems across the lifespan.
Effective Spring Semester 2028

- NUR 916 ~~Clinical Diagnosis and Management II— Family
Diagnosis and Management for the Primary Care Nurse Practitioner~~
Spring of every year. 6(3-9) P: NUR 915-R: ~~Open to graduate students in the College of Nursing or in the Master of Science in Nursing or in the Nursing Practice Major. R: Open to Graduate students in the College of Nursing or Master of Science in Nursing in Nursing MSN NP or Master of Science in Nursing in Nursing MSN CNS or Doctor of Nursing Practice in Nursing Practice Anesthesia DNP NA or Doctor of Nursing Practice in Nursing Practice Clinical Nursing DNP CNS or Doctor of Nursing Practice in Nursing Practice Clinical Nursing DNP NP~~
~~Integration of assessment and intervention strategies for health promotion and common problems in the clinical setting across the lifespan. Integration of preventative and management strategies for populations in the primary care setting across adolescence, adult, and older adulthood.~~
Effective Spring Semester 2028
- NUR 917 ~~Clinical Diagnosis and Management III— Family
Diagnosis and Management for the Family Nurse Practitioner II~~
Summer of every year. 6(3-9) P: NUR 916-R: ~~Open to graduate students in the College of Nursing or in the Master of Science in Nursing or in the Nursing Practice Major. R: Open to Graduate students in the College of Nursing or Master of Science in Nursing in Nursing MSN NP or Master of Science in Nursing in Nursing MSN CNS or Doctor of Nursing Practice in Nursing Practice Anesthesia DNP NA or Doctor of Nursing Practice in Nursing Practice Clinical Nursing DNP CNS or Doctor of Nursing Practice in Nursing Practice Clinical Nursing DNP NP~~
~~Principles and management strategies used to construct personalized care plans for individuals including diverse and at risk populations across the lifespan. Integration of preventative and management strategies within the interprofessional team to deliver comprehensive care for populations across the age continuum.~~
Effective Spring Semester 2028
- NUR 918 ~~Clinical Diagnosis and Management IV— Family
Diagnosis and Management for the Family Nurse Practitioner III~~
Fall of every year. 6(2-12) P: NUR 917-R: ~~Open to graduate students in the College of Nursing or in the Master of Science in Nursing or in the Nursing Practice Major. R: Open to Graduate students in the College of Nursing or Master of Science in Nursing in Nursing MSN NP or Master of Science in Nursing in Nursing MSN CNS or Doctor of Nursing Practice in Nursing Practice Anesthesia DNP NA or Doctor of Nursing Practice in Nursing Practice Clinical Nursing DNP CNS or Doctor of Nursing Practice in Nursing Practice Clinical Nursing DNP NP~~
~~Integrates evidence-based strategies to deliver collaborative primary care practice across the wellness/illness continuum with patients across the lifespan. Integration of preventative and management strategies within the interprofessional team for populations across the age continuum.~~
Effective Spring Semester 2028
- NUR 919 ~~Clinical Diagnosis and Management V— Clinical Immersion— Family
DNP Role Development in Clinical and Community Settings for the Nurse Practitioner~~
Spring of every year. 6(2-12) P: NUR 918-R: ~~Open to graduate students in the College of Nursing or in the Master of Science in Nursing or in the Nursing Practice Major. R: Open to Graduate students in the College of Nursing or Master of Science in Nursing in Nursing MSN NP or Master of Science in Nursing in Nursing MSN CNS or Doctor of Nursing Practice in Nursing Practice Anesthesia DNP NA or Doctor of Nursing Practice in Nursing Practice Clinical Nursing DNP CNS or Doctor of Nursing Practice in Nursing Practice Clinical Nursing DNP NP~~
~~Evidence-based management of chronic stable and complex problems within collaborative practice in complex health systems across the lifespan. Prepares nurse practitioners to lead in clinical and community settings through evidence-based practice, collaborative strategies, with a focus on health equity.~~
Effective Spring Semester 2028

- NUR 925 ~~Clinical Diagnosis and Management I— Adult Gerontology
Diagnosis and Management for the Adult Gerontology Primary Care Nurse Practitioner I
Fall of every year. 6(3-9) P: NUR 908 and NUR 909 and NUR 913 R: Open to graduate students in the College of Nursing or in the Master of Science in Nursing or in the Nursing Practice Major. R: Open to Graduate students in the College of Nursing or Master of Science in Nursing in Nursing MSN NP or Master of Science in Nursing in Nursing MSN CNS or Doctor of Nursing Practice in Nursing Practice Anesthesia DNP NA or Doctor of Nursing Practice in Nursing Practice Clinical Nursing DNP CNS or Doctor of Nursing Practice in Nursing Practice Clinical Nursing DNP NP
Integration of health assessment and diagnostic testing to formulate differential diagnoses for common health conditions/problems in adults and older adults-Integration of health assessment and diagnostic testing to formulate differential diagnoses and management plans for common health conditions and problems across adolescence, adult, and older adulthood.
Effective Spring Semester 2028~~
- NUR 926 Clinical Diagnosis and Management II – Adult-Gerontology
Spring of every year. 6(3-9) P: NUR 925 R: Open to graduate students in the College of Nursing or in the Master of Science in Nursing or in the Nursing Practice Major.
Integration of assessment and intervention strategies for health promotion and common problems in the clinical setting for adults and older adults.
~~DELETE COURSE~~
Effective Spring Semester 2029
- NUR 927 ~~Clinical Diagnosis and Management III— Adult Gerontology
Diagnosis and Management for the Adult Gerontology Primary Care Nurse Practitioner II
Summer of every year. 6(3-9) P: NUR 926 R: Open to graduate students in the College of Nursing or in the Master of Science in Nursing or in the Nursing Practice Major. R: Open to Graduate students in the College of Nursing or Master of Science in Nursing in Nursing MSN NP or Master of Science in Nursing in Nursing MSN CNS or Doctor of Nursing Practice in Nursing Practice Anesthesia DNP NA or Doctor of Nursing Practice in Nursing Practice Clinical Nursing DNP CNS or Doctor of Nursing Practice in Nursing Practice Clinical Nursing DNP NP
Principles and management strategies used to construct personalized care plans for individuals including diverse and at risk populations with adults and older adults-Integration of preventative and management strategies within the interprofessional team to deliver comprehensive care for populations across adolescence, adult, and older adulthood.
Effective Spring Semester 2028~~
- NUR 928 ~~Clinical Diagnosis and Management IV— Adult Gerontology
Diagnosis and Management for the Adult Gerontology Primary Care Nurse Practitioner III
Fall of every year. 6(2-12) P: NUR 927 R: Open to graduate students in the College of Nursing or in the Master of Science in Nursing or in the Nursing Practice Major. R: Open to Graduate students in the College of Nursing or Master of Science in Nursing in Nursing MSN NP or Master of Science in Nursing in Nursing MSN CNS or Doctor of Nursing Practice in Nursing Practice Anesthesia DNP NA or Doctor of Nursing Practice in Nursing Practice Clinical Nursing DNP CNS or Doctor of Nursing Practice in Nursing Practice Clinical Nursing DNP NP
Integrates evidence-based strategies to deliver collaborative primary care practice across the wellness/illness continuum for adults and older adults-Integration of preventative and management strategies within the interprofessional team for populations across adolescence, adult, and older adulthood.
Effective Spring Semester 2028~~
- NUR 929 Clinical Diagnosis and Management V - Clinical Immersion – Adult-Gerontology
Spring of every year. 6(2-12) P: NUR 928 R: Open to graduate students in the College of Nursing or in the Master of Science in Nursing or in the Nursing Practice Major.
Evidence-based management of chronic stable and complex problems within collaborative practice in complex health systems with adults and older adults
~~DELETE COURSE~~
Effective Fall Semester 2029

NUR 995 Doctor of Nursing Practice Project I
Spring of every year. Summer of every year. 4(2-2)-P: ~~(NUR-902 and NUR-903 and NUR-905) and (NUR-916 or NUR-926 or NUR-934 or NUR-976)~~ P: (NUR 902 and NUR 903 and NUR 905) and (NUR 916 or NUR 926 or NUR 934 or NUR 976 or NUR 954) R: ~~Open to doctoral students in the College of Nursing.~~ R: Open to PhD students in the College of Nursing
Introduction of the scholarly practice project for the advanced practice nurse.
~~Request the use of the Pass-No Grade (P-N) system.~~
Effective Spring Semester 2026

COLLEGE OF OSTEOPATHIC MEDICINE

OST 521 Musculoskeletal System
Fall of every year. 4(8-2)-P: ~~OST 520~~ R: ~~Open to graduate professional students in the College of Osteopathic Medicine.~~ R: Open to Osteopathic Medicine students in the College of Osteopathic Medicine
Structure, function, and conditions of the musculoskeletal system as applied to osteopathic medicine.
~~Request the use of the Pass-No Grade (P-N) system.~~
Effective Fall Semester 2026

OST 522 ~~Hematology, Oncology and Infectious Diseases~~ Hematologic System
~~Fall of every year. Summer of every year. 3(3-0) P: OST 520~~ R: ~~Open to graduate professional students in the College of Osteopathic Medicine.~~ R: Open to Osteopathic Medicine students in the College of Osteopathic Medicine
~~Systems biology approach to principles of hematology, oncology, and response to infection.~~ Systems biology approach to principles of hematology.
~~Request the use of the Pass-No Grade (P-N) system.~~
Effective Fall Semester 2026

OST 532 Integumentary System
~~Summer of every year. Fall of every year. 2(2-0)~~ R: ~~Open to graduate professional students in the College of Osteopathic Medicine.~~ R: Open to Osteopathic Medicine students in the College of Osteopathic Medicine
Systems biology approach to the integumentary system, to include the skin and its epidermal derivatives. Normal structure and function and pathologies. Integration of basic science and clinical information.
~~Request the use of the Pass-No Grade (P-N) system.~~
Effective Fall Semester 2026

OST 890 Independent Study
Fall of every year. Spring of every year. Summer of every year. ~~3(3-0)~~ 1 to 4 credits. A student may earn a maximum of 4 credits in all enrollments for this course. ~~RB: Enrolled in the Master of Arts in Health Professions Education~~ R: Approval of college; application required.
Supervised individual study in an area of osteopathic medicine.
~~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 Summer Semester 2026

DEPARTMENT OF PHYSIOLOGY

PSL 475L Capstone Laboratory in Physiology
Fall of every year. Spring of every year. Summer of every year. ~~2(1-3) 2(0-4)~~ P: ~~(PSL 431 and PSL 432) and completion of Tier I writing requirement~~ P: ~~(PSL 431 and PSL 432) and completion of Tier I writing requirement~~ RB: anatomy and statistics R: ~~Open to seniors in the Physiology Major or in the Lyman Briggs Physiology Coordinate Major.~~ R: Open to Senior students in the Bachelor of Science in Physiology or Lyman Briggs Physiology Coordinate Major
Laboratory exercises in human and animal physiology, including cardiovascular, respiratory, neural, muscle, sensory, and hormonal function, as well as systems physiology studies in exercise and systemic reflexes.
Effective Fall Semester 2026

DEPARTMENT OF PLANT, SOIL AND MICROBIAL SCIENCES

SOIL 210 Fundamentals of Soil Science
Fall of every year. Spring of every year. ~~3(2-3) 3(3-0)~~ RB: CEM 141 R: ~~Open to undergraduate students or agricultural technology students.~~ R: Open to Undergraduate students and Open to students in the Institute of Agricultural Technology
Agricultural and natural resource ecosystems: soil, vegetation, and ground water components. Energy, water, and nutrient cycles. Soil classification and mapping. Land management and use issues.
SA: CSS 210
Effective Fall Semester 2026

DEPARTMENT OF SOCIOLOGY

SOC 360 Migration and Social Change
Fall of every year. 3(3-0) P: Completion of Tier I Writing Requirement RB: (SOC 100 or concurrently) and SOC 260 or concurrently
Survey of contemporary theory and research on migration and social change.
DELETE COURSE
Effective Fall Semester 2026