## MICHIGAN STATE <br> U N I V E R S I T Y

March 7, 2024

## MEMORANDUM

TO: University Committee on Curriculum

FROM: Subcommittee A

RE: Report of Subcommittee A - Meeting of February 15, 2024

Members present: Schneider [Agriculture \& Natural Resources], Walton [Engineering], Schein [Human Medicine], Collins [Lyman Briggs], Purdy for Chadwick [Natural Science], Smith [Nursing], Waner [Osteopathic Medicine], Sonea [Veterinary Medicine], Speas [UCC].

Members absent: None.

Others present: Owen [Engineering].

University Curriculum and Catalog

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## PART I - NEW ACADEMIC PROGRAMS AND PROGRAM CHANGES

## COLLEGE OF AGRICULTURE AND NATURAL RESOURCES

1. Request to change the requirements for the Bachelor of Science degree in Forestry in the Department of Forestry.
a. Under the heading Requirements for the Bachelor of Science Degree in Forestry make the following changes:

## Approved

(1) In item 3. a. change the total credits from ' 67 ' to ' 68 '.
(2) In item 3. a. delete the following course:

FOR 340L Forest Ecology Laboratory
1
Add the following course:
FOR 340L Forest Ecology Laboratory

Effective Fall 2024.

## COLLEGE OF ENGINEERING

1. Request to change the requirements in the Bachelor of Science degree in Computational Data Science in the Department of Computer Science and Engineering.
a. Under the heading Requirements for the Bachelor of Science Degree in Computational Data Approved Science make the following change:
(1) In item 3. b. change the total credits from ' 44 ' to ' 47 ' and add the following course:

CSE 380 Information Management and the Cloud 3

Effective Fall 2024.
2. Request to change the requirements in the Bachelor of Science degree in Computer Science in the Department of Computer Science and Engineering. The University Committee on Undergraduate Education (UCUE) will consider this request at its February 8, 2024 meeting.

The concentrations in the Bachelor of Science degree in Computer Science 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 Computer Science make the following changes:

## Approved

## In item 3. b. change the total credits from ' 35 ' to ' 32 ' and delete the following

 courses:CSE 425 Introduction to Computer Security 3

MTH 314 Matrix Algebra with Computational Applications 3
Add the following course:
CSE 380 Information Management and the Cloud
(2) In item 3. b. add the following note:

Students must have a minimum grade of 2.0 in each of the following courses: CSE 300, CSE 320, CSE 325, CSE 331, CSE 335, CSE 380.

In item 3. d. add the following course:
CSE 425 Introduction to Computer Security 3

Add the following transcriptable concentrations:

## Concentrations in Computer Science

The Department offers the following concentrations to students wishing an area of specialization in their degree. The concentrations are available to, but not required of, any student enrolled in the Bachelor of Science degree program in Computer Science. NOTE: Completing the Bachelor of Science degree in Computer Science with a concentration may require more than 120 credits. Upon completion of the required courses for a concentration, certification will appear on the student's official transcript. Students may select no more than one concentration.

For any concentration, 3 credits of CSE 499 Undergraduate Research related to the subject area may be applied with approval of the Department of Computer Science and Engineering.

## Artificial Intelligence

To complete a Bachelor of Science degree in Computer Science with an artificial intelligence concentration, students must complete the requirements for the bachelor's degree, including the following:
Two of the following courses ( 6 credits):
CSE 404 Intro to Machine Learning 3
CSE 440 Introduction to Artificial Intelligence 3
CSE 482 Big Data Analysis 3
Three of the following courses not taken above ( 9 to 12 credits):
CSE 402 Biometrics and Pattern Recognition 3
CSE 404 Intro to Machine Learning 3
CSE 434 Autonomous Vehicles 3
CSE 440 Introduction to Artificial Intelligence 3
CSE 482 Big Data Analysis 3
CSE 803 Computer Vision 3
ADV 401 Neuromarketing and Consumer Decisions 3
LIN 401 Introduction to Linguistics 4
LIN 424 Introduction to Phonetics and Phonology 3
LIN 427 Laboratory Phonetics 3
LIN 431 Introduction to Morphology 3
LIN 434 Introduction to Syntax 3
LIN 437 Introduction to Semantics and Pragmatics 3
LIN 463 Introduction to Cognitive Science 3
LIN 471 Sociolinguistics 3
MI $484 \quad$ Human Robot Interaction (W) 3
MTH 468 Predictive Analysis 3
NEU 301 Introduction to Neuroscience I 3
NEU 302 Introduction to Neuroscience II 3
PHL 330 Formal Deductive Reasoning 4
PHL 331 Formal Practical Reasoning 4
PHL 432 Logic and its Metatheory 4
PSY 301 Cognitive Neuroscience 3

## Computer Systems

To complete a Bachelor of Science degree in Computer Science with a computer systems concentration, students must complete the requirements for the bachelor's degree, including the following:
All of the following courses ( 9 credits):

| CSE | 410 | Operating Systems |
| :--- | :--- | :--- |
| CSE | 422 | Computer Networks |

CSE 450 Translation of Programming Languages 3
Two of the following courses ( 6 credits):
CSE 415 Introduction to Parallel Programming 3
$\begin{array}{lll}\text { CSE } & 420 & \text { Computer Architecture }\end{array}$
CSE 425 Introduction to Computer Security 3
CSE 434 Autonomous Vehicles 3
$\begin{array}{lll}\text { CSE } & 472 & \text { Computer Graphics }\end{array}$
CSE 480 Database Systems 3

## Cybersecurity

To complete a Bachelor of Science degree in Computer Science with a cybersecurity concentration, students must complete the requirements for the bachelor's degree, including the following:

| All of the following courses (6 credits): |  |  |  |
| :--- | :--- | :--- | :--- |
| CSE | 402 | Biometrics and Pattern Recognition |  |
| CSE | 425 | Introduction to Computer Security | 3 |
| Three of the following courses (9 credits): | 3 |  |  |
| CSE | 410 | Operating Systems |  |
| CSE | 422 | Computer Networks | 3 |
| CSE | 431 | Algorithm Engineering | 3 |
| CSE | 434 | Autonomous Vehicles | 3 |
| CSE | 480 | Database Systems | 3 |
| CSE | 482 | Big Data Analysis | 3 |
| MI | 239 | Digital Footprints: Privacy and Online Behavior | 3 |
| MTH | 416 | Introduction to Algebraic Coding | 3 |

## Multimedia and Graphics

To complete a Bachelor of Science degree in Computer Science with a multimedia and graphics concentration, students must complete the requirements for the bachelor's degree, including the following:

| Two of the following courses (6 credits): |  |  |  |
| :--- | :--- | :--- | :--- |
| CSE | 471 | Media Processing and Multimedia Computing |  |
| CSE | 472 | Computer Graphics | 3 |
| CSE | 476 | Mobile Application Development | 3 |
| CSE | 477 | Web Application Architecture and Development | 3 |
| Three of the following courses not taken above (8 or 9 credits): | 3 |  |  |
| CSE | 471 | Media Processing and Multimedia Computing |  |
| CSE | 472 | Computer Graphics | 3 |
| CSE | 476 | Mobile Application Development | 3 |
| CSE | 477 | Web Application Architecture and Development | 3 |
| CSE | 803 | Computer Vision | 3 |
| CMSE | 402 | Data Visualization Principles and Techniques | 3 |
| FLM | 230 | Introduction to Film | 3 |
| FLM | 260 | Introduction to Digital Film and Emergent Media | 3 |
| MI | 231 | Game and Interactive Media Development | 3 |
| MI | 247 | Three-Dimensional Graphics and Design | 3 |
| MI | 337 | Compositing and Special Effects | 3 |
| MI | 347 | Advanced Three-Dimensional Computer Animation | 3 |
| MI | 350 | Evaluating Human-Centered Technology | 3 |
| MI | 377 | Advanced 3D Modeling | 3 |
| MI | 445 | Game Design and Development I | 3 |
| MI | 450 | Creating Human-Centered Technology | 3 |
| MI | 455 | Game Design and Development II | 3 |
| MI | 462 | Social Media and Social Computing | 3 |
| MI | 482 | Building Virtual Worlds (W) | 3 |
| MI | 497 | Game Design Studio | 3 |
| STA | 380 | Electronic Art | 3 |


| STA | 384 | Experiments in Digital Video | 3 |
| :--- | :--- | :--- | :--- |
| THR | 205 | Media Acting I | 2 |
| THR | 419 | Projection Design for Live Performance | 3 |

## Software Engineering

To complete a Bachelor of Science degree in Computer Science with a software engineering concentration, students must complete the requirements for the bachelor's degree, including the following:
The following course (3 credits):
CSE 435 Software Engineering 3
Four of the following courses ( 12 credits):
$\begin{array}{lll}\text { CSE } & 431 & \text { Algorithm Engineering }\end{array}$
CSE 476 Mobile Application Development 3
CSE 477 Web Application Architecture and Development 3
CSE 480 Database Systems 3
CSE 870 Advanced Software Engineering 3
MI 350 Evaluating Human-Centered Technology 3
MI 420 Interactive Prototyping 3
$\begin{array}{llll}\text { MI } & 450 & \text { Creating Human-Centered Technology (W) }\end{array}$

## Theory

To complete a Bachelor of Science degree in Computer Science with a theory concentration, students must complete the requirements for the bachelor's degree, including the following:
The following course ( 3 credits):
CSE $460 \quad$ Computability and Formal Language Theory

One of the following courses ( 3 credits):
CSE 431 Algorithm Engineering 3

CSE 830 Design and Theory of Algorithms 3
Three of the following courses (9 or 10 credits):
CSE $835 \quad$ Algorithmic Graph Theory
CSE 860 Foundations of Computing 3
MTH 299 Transitions 4
MTH 416 Introduction to Algebraic Coding 3
MTH 417 Topics in Number Theory 3
MTH 880 Combinatorics I 3
MTH Combinatorics II 382

Effective Fall 2024.
3. Request to change the requirements in the Minor in Computer Science in the Department of Computer Science and Engineering.
a. Under the heading Requirements for the Minor in Computer Science make the following changes:

## Approved

(1) In item 1., add the following course:

CSE 300 Social, Ethical, and Professional Issues in Computing
(2) In item 1., change the total credits from ' 12 ' to ' 13 '.
(3) In item 2 add the following courses:

| CSE | 380 | Information Management and the Cloud | 3 |
| :--- | :--- | :--- | :--- |
| CSE | 434 | Autonomous Vehicles | 3 |

## COLLEGE OF NATURAL SCIENCE

1. Request to change the requirements for the Bachelor of Science degree in Environmental

Biology/Zoology in the Department of Integrative Biology.
a. Under the heading Requirements for the Bachelor of Science Degree in Environmental Biology/Zoology make the following changes:
(1) In item 1., replace paragraph two with the following:

Approved
The University's Tier II writing requirement for the Environmental Biology/Zoology major is met by completing both of the following courses: Zoology 355L and 445. Those courses are referenced in item 3. below.
(2) Replace item 3. d. with the following:

One of the following groups of courses (8 or 10 credits):

| (1) | PHY | 221 | Studio Physics for Life Scientists I | 4 |
| :--- | :--- | :--- | :--- | :--- |
|  | PHY | 222 | Studio Physics for Life Scientists II | 4 |
| (2) | PHY | 231 | Introductory Physics I | 3 |
|  | PHY | 232 | Introductory Physics II | 3 |
|  | PHY | 251 | Introductory Physics Laboratory I | 1 |
|  | PHY | 252 | Introductory Physics Laboratory II | 1 |
| (3) | PHY | 183 | Physics for Scientists and Engineers I | 4 |
|  | PHY | 184 | Physics for Scientists and Engineers II | 4 |
|  | PHY | 191 | Physics Laboratory for Scientists, I | 1 |
|  | PHY | 192 | Physics Laboratory for Scientists, II | 1 |
| (4) | LB | 273 | Physics I | 4 |
|  | LB | 274 | Physics II | 4 |
| (5) | PHY | $193 H$ | Honors Physics I-Mechanics | 4 |
|  | PHY | 294 H | Honors Physics II-Electromagnetism | 4 |
|  | PHY | 191 | Physics Laboratory for Scientists, I | 1 |
|  | PHY | 192 | Physics Laboratory for Scientists, II | 1 |

(3) In item 3. g. delete the following courses:

| IBIO | 306 | Invertebrate Biology | 4 |
| :--- | :--- | :--- | :--- |
| IBIO | 483 | Environmental Physiology (W) | 4 |

Add the following courses:

| GEO | 221 | Introduction to Geographic Information | 3 |
| :--- | :--- | :--- | :--- |
| GEO | 221 L | Introduction to Geographic Information |  |
| Laboratory | 1 |  |  |

Replace the note with the following:
Both Geography 221 and 221L must be completed to satisfy this requirement. Forestry 419 may be substituted for GEO 221/221L. Forestry 340 may be substituted for Plant Biology 441.
(4) Replace item 3. h. with the following:

At least one course from each of the following three groups of courses totaling at least 13 credits:

| (1) | FW | 471 | Ichthyology | 4 |
| :--- | :--- | :--- | :--- | :--- |
|  | IBIO | 306 | Invertebrate Biology | 4 |
|  | IBIO | 328 | Comparative Anatomy and Biology of Vertebrates | 4 |
|  | IBIO | 360 | Biology of Birds | 4 |
|  | IBIO | 365 | Biology of Mammals | 4 |
|  | IBIO | 384 | Biology of Amphibians and Reptiles (W) | 4 |
| (2) | PLB | 218 | Plants of Michigan | 3 |
|  | PLB | 418 | Plant Systematics | 3 |


| (3) | FW | 416 | Marine Ecology and Management | 3 |
| :---: | :---: | :---: | :---: | :---: |
|  | FW | 420 | Stream Ecology | 3 |
|  | FW | 444 | Conservation Biology | 3 |
|  | FW | 472 | Limnology | 3 |
|  | GEO | 324 | Remote Sensing of the Environment | 4 |
|  | GLG | 421 | Environmental Geochemistry | 4 |
|  | IBIO | 353 | Marine Biology (W) | 4 |
|  | IBIO | 357 | Global Change Biology (W) | 3 |
|  | IBIO | 446 | Environmental Issues and Public Policy | 3 |
|  | IBIO | 483 | Environmental Physiology | 3 |
|  | IBIO | 485 | Tropical Biology | 3 |
|  | PLB | 424 | Algal Biology | 3 |

Effective Fall 2024.
2. Request to change the requirements for the Bachelor of Science degree in Integrative Biology in the Department of Integrative Biology.
a. Under the heading Requirements for the Bachelor of Science Degree in Integrative Biology make the following changes:

## Approved

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

The University's Tier II writing requirement for the Zoology major is met by completing both of the following courses: Zoology 355L and 445. Those courses are referenced in item 3. below.
(2) Replace item 3. d. with the following:

One of the following groups of courses (8 or 10 credits):

| (1) | PHY | 221 | Studio Physics for Life Scientists I | 4 |
| :--- | :--- | :--- | :--- | :--- |
|  | PHY | 222 | Studio Physics for Life Scientists II | 4 |
| (2) | PHY | 231 | Introductory Physics I | 3 |
|  | PHY | 232 | Introductory Physics II | 3 |
|  | PHY | 251 | Introductory Physics Laboratory I | 1 |
|  | PHY | 252 | Introductory Physics Laboratory II | 1 |
| (3) | PHY | 183 | Physics for Scientists and Engineers I | 4 |
|  | PHY | 184 | Physics for Scientists and Engineers II | 4 |
|  | PHY | 191 | Physics Laboratory for Scientists, I | 1 |
|  | PHY | 192 | Physics Laboratory for Scientists, II | 1 |
| (4) | LB | 273 | Physics I | 4 |
|  | LB | 274 | Physics II | 4 |
| (5) | PHY | $193 H$ | Honors Physics I-Mechanics | 4 |
|  | PHY | $294 H$ | Honors Physics II-Electromagnetism | 4 |
|  | PHY | 191 | Physics Laboratory for Scientists, I | 1 |
|  | PHY | 192 | Physics Laboratory for Scientists, II | 1 |

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

IBIO 483 Environmental Physiology (W)
Add the following course:
IBIO 483 Environmental Physiology 3
3. Request to change the requirements for the Bachelor of Arts degree in Zoology in the Department of Integrative Biology.
a. Under the heading Requirements for the Bachelor of Arts Degree in Zoology make the following changes:

## Approved

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

The University's Tier II writing requirement for the Zoology major is met by completing both of the following courses: Zoology 355L and 445. Those courses are referenced in item 3. below.
(2) In item 3. d., add the following course:

$$
\text { PHY } 221 \quad \text { Studio Physics for Life Scientists I } 4
$$

(3) In item 3. i. (1) Writing, delete the following course:

WRA 341 Nature, Environmental, and Travel Writing 3

In item 3. i. (2) Communications, delete the following courses:

| CSUS | 325 | Study and Practice of Communication for Sustainability (W) <br> FW | 3 |
| :--- | :--- | :---: | :---: |
|  | 435 | Integrated Communications for the Fisheries and Wildlife <br> Professional | 3 |

In item 3. i. (3) Computer Systems, delete the following courses:

| CSE | 101 | Computing Concepts and Competencies | 3 |
| :--- | :--- | :--- | :--- |
| CSE | 201 | Fundamentals of Information Technology | 3 |
| NSC | 204 | Introduction to Computational Modeling | 4 |
|  |  |  |  |
| Add the following course: | 4 |  |  |
| CMSE | 201 | Computational Modeling and Data Analysis I |  |

Effective Fall 2024.
4. Request to change the requirements for the Bachelor of Science degree in Zoology in the Department of Integrative Biology.

The concentrations in the Bachelor of Science degree in Zoology 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 Zoology make the following changes:

| Approved as |
| :--- |
| changed |

Replace item 3. d. with the following:
One of the following groups of courses (8 or 10 credits):

| (1) | PHY | 221 | Studio Physics for Life Scientists I | 4 |
| :--- | :--- | :--- | :--- | :--- |
|  | PHY | 222 | Studio Physics for Life Scientists II | 4 |
| (2) | PHY | 231 | Introductory Physics I | 3 |
|  | PHY | 232 | Introductory Physics II | 3 |
|  | PHY | 251 | Introductory Physics Laboratory I | 1 |
|  | PHY | 252 | Introductory Physics Laboratory II | 1 |
| (3) | PHY | 183 | Physics for Scientists and Engineers I | 4 |
|  | PHY | 184 | Physics for Scientists and Engineers II | 4 |
| (4) | LB | 273 | Physics I | 4 |
|  | LB | 274 | Physics II | 4 |


| (5) | PHY | 193 H | Honors Physics I-Mechanics | 4 |
| :--- | :--- | :--- | :--- | :--- |
|  | PHY | 294 H | Honors Physics II-Electromagnetism | 4 |
|  | PHY | 191 | Physics Laboratory for Scientists, I | 1 |
|  | PHY | 192 | Physics Laboratory for Scientists, II | 1 |

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

One of the following, either (a) or (b) (4 or 8 credits):
(a) One of the following courses (4 credits):

| IBIO | 306 | Invertebrate Biology <br> Comparative Anatomy and Biology <br> IBIO | 328 |
| :---: | :---: | :---: | :---: |

(b) Two of the following courses (8 credits):
FW 471 Ichthyology 4

IBIO 360 Biology of Birds 4
IBIO 365 Biology of Mammals 4
IBIO $384 \quad$ Biology of Amphibians and Reptiles (W) 4
(c) In item (4) delete the following courses:

| ANS | 405 | Endocrinology of Reproduction | 4 |
| :---: | :---: | :---: | :---: |
| FW | 419 | Applications of Geographic Information |  |
|  |  | Systems to Natural Resource |  |
|  |  | Management | 4 |
| GEO | 324 | Remote Sensing of the Environment | 4 |
| GEO | 325 | Geographic Information Systems | 3 |
| IBIO | 483 | Environmental Physiology (W) | 4 |
| PSY | 402 | Sensation and Perception (W) | 3 |
| Add the following courses: |  |  |  |
| FW | 419 | Applications of Geographic Information |  |
|  |  | Systems to Natural Resource |  |
|  |  | Management | 4 |
| IBIO | 483 | Environmental Physiology | 3 |
| NEU | 310 | Psychology and Biology of Human Sexuality | 3 |
| NEU | 416 | Development of the Nervous System Through |  |
|  |  | the Lifespan | 3 |

(3) Delete the Cell and Developmental Biology concentration.

Students currently enrolled in the major have until US28 to complete the requirements for this concentration and have it noted on the student's academic record.
(4) In item 3. g. Ecology, Evolution, and Organismal Biology concentration make the following changes:
(a) Replace item (2) with the following:

| Two of the following courses (8 credits): |  |  |  |
| :--- | :--- | :--- | :--- |
| FW | 471 | Ichthyology |  |
| IBIO | 306 | Invertebrate Biology | 4 |


| IBIO | 328 | Comparative Anatomy and Biology of Vertebrates | 4 |
| :--- | :--- | :--- | :--- |
| IBIO | 360 | Biology of Birds | 4 |
| IBIO | 365 | Biology of Mammals | 4 |
| IBIO | 384 | Biology of Amphibians and Reptiles (W) | 4 |

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

| IBIO | 316 | General Parasitology | 3 |
| :--- | :--- | :--- | :--- |
| IBIO | 483 | Environmental Physiology (W) | 4 |

Add the following course:
IBIO 483 Environmental Physiology 3
(c) In item (4) delete the following courses:

| GEO | 324 | Remote Sensing of the Environment | 4 |
| :--- | :--- | :--- | :--- |
| GEO | 325 | Geographic Information Systems | 3 |

(5) Delete the Genetics concentration.

Students currently enrolled in the major have until US28 to complete the requirements for this concentration and have it noted on the student's academic record.
(6) Delete the General Zoology concentration.

Students currently enrolled in the major have until US28 to complete the requirements for this concentration and have it noted on the student's academic record.
(7) In item 3. g. Marine Biology concentration, make the following changes:
(a) In item (1) change the total credits from ' 23 ' to ' 21 '.
(b) In item (1) delete the following courses:

| IBIO | 303 | Oceanography | 4 |
| :--- | :--- | :--- | :--- |
| IBIO | 483 | Environmental Physiology (W) | 4 |

Add the following courses:

| GLG | 303 | Oceanography | 3 |
| :--- | :--- | :--- | :--- |
| IBIO | 483 | Environmental Physiology | 3 |

(c) Replace item (2) with the following:

One course from each of the following groups of courses (7 or 8 credits):

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

(8) Replace the Zoo and Aquarium Science concentration with the following:
(1) All of the following courses ( 25 credits):
IBIO 313 Animal Behavior 3
$\begin{array}{llll}\text { IBIO } & 341 & \text { Fundamental Genetics } & 4\end{array}$
IBIO 355 Ecology 3
IBIO 355L Ecology Laboratory (W) 1
IBIO 369 Zoo Animal Biology and Conservation 3
IBIO 369 Introduction to Zoo and Aquarium Science 3
IBIO 445 Evolution (W) 3
IBIO 489 Seminar in Zoo and Aquarium Science 1
IBIO 498 Internship in Zoo and Aquarium Science 4
(2) Two of the following courses (8 credits):
FW 471 Ichthyology 4
IBIO 306 Invertebrate Biology 4

IBIO 328 Comparative Anatomy and Biology of Vertebrates 4
$\begin{array}{llll}\text { IBIO } & 360 & \text { Biology of Birds } & 4\end{array}$
IBIO 365 Biology of Mammals 4
IBIO $384 \quad$ Biology of Amphibians and Reptiles (W) 4
(3) Three additional courses of at least 3 credits selected from a list of approved courses that is available from the Department of Integrative Biology.
(4) Integrative Biology courses that are not listed above must be approved in advance by the student's academic advisor. Courses offered by other departments may be substituted if approved in advance by the student's academic advisor.

## PART II - NEW COURSES AND CHANGES

## COLLEGE OF AGRICULTURE AND NATURAL RESOURCES

CSS 865 Environmental Organic Chemistry
Spring of even years. Fall of odd years.3(3-0) RB: Students with an environmental science background and course training in general or organic chemistry Fate and transformation of organic contaminants in the environment Effective Fall Semester 2025

Scientific Communication and Professional Development Spring of every year. Fall of every year. $1(0-2) \underline{2(2-0)}$ RB: Recommended for graduate students in CSS

Interactive professional experiences including grant preproposal preparation and presentation, scientific presentations, mock position interviews, and resume preparation. Career management and pathways, scientific communication, and leadership skills designed to prepare students to become successful professionals in STEM.
Request the use of the Pass-No-Grade (P-N) system.
Effective Fall Semester 2025
FOR 340L Forest Ecology Laboratory
Fall of every year. $1(0-3) \underline{2(0-6)}$ P: ((CSS 210) and completion of Tier I writing requirement) and (FOR 340 or concurrently) and (PLB 105 or BS 162 or LB 144) RB: IBIO 355

Field studies and data analysis of ecological processes central to the sustainable management of forest ecosystems. Field exercises cover primary production, community structure, soil resources, biodiversity, succession, nutrient cycling, critiques of primary literature. Weekend field trips required. Field studies and data analysis of ecological processes central to the sustainable management of forest ecosystems. Field exercises cover primary production, community structure, soil resources, biodiversity, succession, nutrient cycling, critiques of primary literature. Pre-semester field camp required.
SA: FOR 404L
Effective Fall Semester 20232024

## COLLEGE OF ENGINEERING

CE 840


NEW

CSE 380


NEW

Introduction to Transportation Engineering
Fall of every year. Spring of every year.3(3-0)A student may earn a maximum of 3 credits in all enrollments for this course. R: Open to graduate students in the Gollege of Engineering or in the Department of Civil and Environmental Engineering or in the Civil Engineering Major. A student may earn a maximum of 3 credits Not open to students with credit in CE 341.

Introduction to transportation engineering, including: transportation planning, traffic engineering, geometric design, traffic flow and highway capacity, queuing theory, traffic control, and highway safety
Effective Fall Semester 2024
Information Management and the Cloud
Fall of every year. Spring of every year.3(3-0) P: CSE 232 R: Open to students in the College of Engineering or in the Lyman Briggs Computer Science Coordinate Major or in the Lyman Briggs Computer Science Major.

Introduction to information management and cloud computing .
Effective Fall Semester 2024

CSE 415 Introduction to Parallel Computing
Spring of every year.3(3-0)P: (CSE 320 or ECE 331) and (MTH 314 or ECE 280) and CSE 331 P: (MTH 314 or MTH 317H or ECE 280) and CSE 331 R: Open to juniors or seniors in the College of Engineering or in the Lyman Briggs Computer Science Coordinate Major or in the Lyman Briggs Computer Science Major or in the Data Science Major. Not open to students with credit in CMSE 401.

Principles and techniques of parallel computing including architectures, programming models, and algorithm design.
Effective Fall Semester 2024

CSE 425

## Approved

CSE 476

## Approved

## Approved

CSE 477 Web Application Architecture and Development
Spring of every year.3(3-0)P: CSE 320 or CSE 331 or CSE 335 P: CSE 380 R: Open to juniors or seniors in the College of Engineering or in the Computer Science Minor or in the Lyman Briggs Computer Science Coordinate Major or in the Lyman Briggs Computer Science Major.

Fundamentals of World Wide Web (WWW) programming, including protocols, clientserver interaction, markup languages, client- and server-side programming, databases, and remote procedure calls. Development of a WWW server and WWW sites with browser-based interfaces to remote databases. Students will incorporate scaling, throughput, and latency considerations in the development of widely-distributed systems. Fundamentals of World Wide Web (WWW) programming, including protocols, client-server interaction, markup languages, client- and server-side programming, databases, and remote procedure calls. Development of a WWW server and WWW sites with browser-based interfaces to remote databases.
Effective Fall Semester 2025
CSE 480 Database Systems
Spring of every year.3(3-0)P: CSE 331 or CSE 335 P: CSE 380 R: Open to juniors or seniors in the College of Engineering or in the Computer Science Minor or in the Lyman Briggs Computer Science Coordinate Major or in the Lyman Briggs Computer Science Major or in the Data Science Major.

Principles and technologies for database systems, algorithms, languages, and applications.
SA: CPS 480
Effective Fall Semester 2025
CSE $482 \quad$ Big Data Analysis
Spring of every year.3(3-0)P: (CSE 331) and (STT 351 or STT 380 or STT 430 or STT 441) and MTH 314 and (MTH 234 or MTH 254H or LB 220) P: (CSE 331 and CSE 380) and (STT 351 or STT 380 or STT 430 or STT 441) and (MTH 314 or MTH 317H) and (MTH 234 or MTH 254H or LB 220) R: Open to juniors or seniors in the College of Engineering or in the Lyman Briggs Computer Science Coordinate Major or in the Lyman Briggs Computer Science Major or in the Data Science Major.

Principles and techniques for large-scale data analysis and applications.
Effective Fall Semester 2025

PART II - NEW COURSES AND CHANGES - continued - 13
February 15, 2024

CSE 493 Selected Topics in Computing
$\frac{\text { Approved }}{\text { NEW }}$

CSE 494

| Approved as <br> changed |
| :--- |

NEW

CSE 498

## Approved

Fall of every year. Spring of every year. 1 to 4 credits. A student may earn a maximum of 9 credit in all enrollments for this course. R: Approval of department; application required.

Topics selected to supplement and enrich existing courses and lead to the development of new courses.
Effective Fall Semester 2024
Independent Study in Data Science
Fall of every year. Spring of every year. Summer of every year. 1 to 3 credits. Interdepartmental with Computational Mathematics, Science, \& Engineering, Computational Mathematies, Science, \& Engineoring, Computational Mathematics, Science, \& Engineoring, Computational Mathematics, Science, \& Engineering A student may earn a maximum of 3 credit in all enrollments for this course. R: Open to students in the Computational Data Science Major or in the Computer Engineering Major or in the Computer Science Major or in the Data Science Major. Approval of department; application required.

Collaborative Design (W)
Fall of every year. Spring of every year.4(2-4)P: (CSE 402 or CSE 415 or CSE 422 or CSE 431 or GSE 440 or CSE 450 or CSE 471 or CSE 476 or CSE 477 or GSE 482 ) and (CSE 402 or CSE 420 or CSE 425 or CSE 435 or CSE 440 or CSE 460 or CSE 472 or CSE 477 or CSE 480 or CSE 482 ) and ((CSE 300 and CSE 325 and CSE 335) and completion of Tier I writing requirement) $P$ : (CSE 402 or CSE 415 or CSE 422 or CSE 431 or CSE 440 or CSE 450 or CSE 471 or CSE $47 \overline{6}$ or CSE 477 or CSE 482) and (CSE 402 or CSE 420 or CSE 425 or CSE 435 or CSE 440 or CSE 460 or CSE 472 or CSE 477 or CSE 480 or CSE 482) and ((CSE 300 and CSE 325 and CSE 335 and CSE 380) and completion of Tier I writing requirement) R: Open to students in the Computer Science Major or in the Lyman Briggs Computer Science Coordinate Major.

Development of a comprehensive software and/or hardware solution to a problem in a team setting with emphasis on working with a client. Participation in a design cycle including specification, design, implementation, testing, maintenance, and documentation. Issues of professionalism, ethics, and communication. Students may be asked to sign a non-disclosure agreement ("NDA") or an assignment of intellectual property rights ("IP Assignment") to work with some project sponsors.
SA: CSE 449, CSE 478, CSE 479
Effective Fall Semester 2025

## COLLEGE OF NATURAL SCIENCE

ISE 800
Approved
Problems in Science or Mathematics for Teachers
Fall of every year. Spring of every year. Summer of every year. 1 to 5 credits. A student may earn a maximum of 15 credit in all enrollments for this course. RB: Secondary certification in biological sciences, physical sciences or chemistry; secondary certification in Mathematics or Mathematics Education. R: Approval of college.
REINSTATEMENT Supervised study of problems or issues in biological science, or physical sciences, or mathematical sciences.
SA: NSC 800, SME 800
Effective Fall Semester 2024

## MICHIGAN STATE <br> U N I V E R S I T Y

March 7, 2024

## MEMORANDUM

TO: University Committee on Curriculum

FROM: Subcommittee B

RE: $\quad$ Report of Subcommittee B - Meeting February 22, 2024

Members present: Schneider [Agriculture and Natural Resources], Pucillo [Law], Munez for Boucher [Social Science], Stein-Roggenbuck [James Madison College], Morin [Non-College Faculty], Speas [UCC].

Members absent: Llyod [COGS].

Others present:
Alysa Lucas [VPUE], Nathan James [VPUE].

University Curriculum and Catalog

Hannah Admin. Building 426 Auditorium Road

Suite 430
East Lansing, MI 48824

517-355-8420
Fax: 517-355-9601

The Subcommittee considered the agenda dated February 22, 2024. Actions taken by the Subcommittee are noted on the attached copy of the Subcommittee B Agenda dated February 22, 2024.

S:\share\SUBB0222

## SUBCOMMITTEE B - AGENDA

Via Zoom
February 22, 2024
1:30 p.m.

## PART I - NEW ACADEMIC PROGRAMS AND PROGRAM CHANGES

## COLLEGE OF AGRICULTURE AND NATURAL RESOURCES

1. Request to change the requirements for Disciplinary Teaching Minor in Agriculture, Food and Natural Resource Education in the Department of Community Sustainability. The Teacher Education Council (TEC) will consider this request at its February 12, 2024 meeting.
a. Under the heading AGRICULTURE, FOOD AND NATURAL RESOURCE EDUCATION make the following changes:

In item 1. change the total credits from ' 14 ' to ' 16 ' and delete the following courses:

| TE | 409 | Crafting Teaching Practices in the Secondary <br> Teaching Minor |  |
| :---: | :---: | :---: | :---: |
| TE | 503 | Internship in Teaching Diverse Learners in <br> Additional Endorsement Areas | 1 |

Add the following courses:

| CSS | 210 | Fundamentals in Soil Science |
| :--- | :--- | :--- |
| CSUS | 493 | Professional Internship in Community Sustainability |

Effective Fall 2024.

## COLLEGE OF SOCIAL SCIENCE

1. Request to change the requirements for the Disciplinary Teaching Minor available for secondary certification in Psychology in the Department of Psychology. The Teacher Education Council (TEC) will consider this request at its February 12, 2024 meeting.
a. Under the heading Psychology make the following changes:
(1) Delete the following course:

> TE $409 \quad$ Crafting Teaching Practices in the Secondary Teaching Minor

Add the following course:
TE 438 Teaching High School Psychology
(2) Change the total credits from ' 24 ' to ' 26 '.

## PART II - NEW COURSES AND CHANGES

## VICE PROVOST FOR UNDERGRADUATE EDUCATION

| UGS 105 | First-Year Seminar Reflection <br> Fall of every year. 1 credit. A student may earn a maximum of 2 credits in all enrollments for this <br> course. P: UGS 102 or UGS 103 R: Open to freshmen. A student may earn a maximum of 8 credits |
| :--- | :--- |
| UGW | UGS 102, 103, and 105 |
| Application of global and experiential learning to personal and professional growth. |  |
| Connection between prior learning experiences off-campus with campus engagement. |  |
| Offered first half of semester. |  |
|  | 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. |  |

## JAMES MADISON COLLEGE

MC 294 Qualitative Research Methods
Fall of every year.4(3-0) P: MC 111 and MC 201 and MC 202 or approval of college R: Open to undergraduate students in the James Madison College.
NEW Introduces students to qualitative methods of social science inquiry. Effective Fall Semester 2024

MC 320 Politics, Society and Economy in the Third World Problems and Paradoxes in Global Development. Fall of every year.4(3-0) P: (MC 221 or MC 231 or MC 281) and Completion of Tier I Writing Requirement R: Open to students in the James Madison College or in the International Relations Major or in the Social Relations and Policy major or approval of college.

Politics of social and economic change. Policies and strategies of development and of state and nation building in Third World countries. Impact of international political, security, and economic structures on the process of state and nation building in the Third
World. Analyze the historical, political, economic and social dimensions of global
development as both a paradigm and project. Contextualize nation-and-state building efforts in the postcolonial world.
Effective Fall Semester 2024
MC $483 \quad$ Simulating International Relations (D)
Spring of odd years.4(3-0) RB: ((MC 220 or concurrently) and MC 221) and completion of Tier I writing requirement
NEW
Theories of conflict and cooperation in international politics, diplomatic tools to navigate those issues, simulations to apply theory to real-world scenarios such as climate change, humanitarian intervention or border disputes.
Effective Fall Semester 2025

## MICHIGAN STATE <br> U N I V E R S I T Y

March 7, 2024

## MEMORANDUM

TO: University Committee on Curriculum

FROM: Subcommittee C

RE: $\quad$ Report of Subcommittee C - Meeting of February 8, 2024

Members present: Delgado [Residential College in Arts and Humanities], Dobbins [Arts and Letters], Jagger [Business], Wensloff [Communication Arts and Sciences], Greenwalt [Education], Napoleon for Biedenbender [Music], Speas [UCC].

Members absent: Breuning [ASMSU], Kirtley [COGS].

Others present:
Jennifer Marcy [Religious Studies], Amy DeRogatis [Religious Studies], Morgan Shipley [Religious Studies].

Hannah Admin. Building 426 Auditorium Road

Suite 430
East Lansing, MI 48824
517-355-8420
Fax: 517-355-9601
The Subcommittee considered the Agenda dated February 8, 2024. Actions taken by the Subcommittee are noted on the attached copy of the Subcommittee C Agenda dated February 8, 2024.
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## SUBCOMMITTEE C - AGENDA

Via Zoom
February 8, 2024
1:30 p.m.

## PART I - NEW ACADEMIC PROGRAMS AND PROGRAM CHANGES

## COLLEGE OF ARTS AND LETTERS

1. Request to change the requirements for the Disciplinary Teaching Minor in English that is available for secondary certification in the Department of English. The Teacher Education Council (TEC) will consider this request at its February 12, 2024 meeting.
a. Under the heading ENGLISH replace the entire entry with the following:
2. All of the following courses (12 credits):
ENG 210 Introduction to Literary Studies 3

ENG 280 Introduction to Literary Theories 3
ENG 302 Introduction to English Language Studies 3
ENG 308 Readings in Literature for Young Adults 3
2. One of the following courses (3 credits):

ENG $360 \quad$ 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
3. One of the following courses ( 3 or 4 credits):

ENG 408 Critical Literacies and Communities 4
ENG 413 Critical Questions in Language and Composition (W) 3
4. All of the following courses ( 7 credits):

TE $310 \quad$ Clinical Experience in English Education I 3
TE 411 Seminar in English Education I 3
TE 503 Internship in Teaching Diverse Learners in
Additional Endorsement Areas 1
25 or 26

Effective Fall 2024.

## ELI BROAD COLLEGE OF BUSINESS

1. Request to change the requirements for the Master of Business Administration degree in STEM in The Eli Broad College of Business and Graduate School of Management. The University Committee on Graduate Studies (UCGS) will consider this request at its February 19, 2024 meeting.
a. Under the heading Requirements for the STEM Master of Business Administration Degree make the following changes:

In item 2., add the following courses:

| FI | 859 | Mergers and Acquisitions | 1.5 |
| :--- | :--- | :--- | :--- |
| FI | 863 | Corporate Restructuring and Governance | 1.5 |
| FI | 875 | Behavioral Finance I | 1.5 |
| MKT | 811 | Brand Insights | 1.5 |
| MKT | 829 | Digital Marketing | 1.5 |

## COLLEGE OF COMMUNICATION ARTS AND SCIENCES

1. Request to establish a Graduate Certificate in Health and Risk Communication in the College of Communication Arts and Sciences. The University Committee on Graduate Studies (UCGS) approved this request at its January 22, 2024 meeting.

## a. Background Information:

The existent Master of Arts Degree in Health Communication has traditionally been a strong-suit of MSU - with a Health and Risk Communication Center of over 50 faculty, multiple NIH- and foundation grants, and connections to university-, state-, federal-, and global health authorities. Moreover, at both the undergraduate as well as the doctoral level, health communication is one of the most widely studied communication context in the college (next to media).

Critically, however, there is a strong demand for sub-areas of expertise within health communication that would benefit working professionals wanting to upgrade their knowledge and skills in a shorter period and in a way more commensurate with the working professionals' needs and expectations. Currently, the master's program recruits primarily from on-campus students and while some of them work, they are not working professionals. The certificate would open an entire new target audience - working professionals from the broad fields of health communication, public health, and health education, who want to upgrade their career, but would not enroll directly in an on-site master's program. This provides a world-class professional development opportunity for individuals to enhance their expertise in health communication. The work world of mid-career health communication professionals is changing rapidly, and they need a way to update their skills, particularly with regard to the cutting-edge developments in health communication on social media, new forms of health interventions/promotion in an ever-changing media environment, and new challenges as evidenced by Covid.

## b. Academic Programs Catalog Text:

The Graduate Certificate in Health and Risk Communication is designed for working professionals seeking to master the art of effective communication in vital health and risk contexts. The program equips students with the skills to create and disseminate health information, communicate strategically about risk, and confidently engage diverse audiences in digital, community, and workplace settings to foster healthy behaviors and reduce unhealthy or risky behavior patterns.

## Admission

To be considered for admission to the Graduate Certificate in Health and Risk Communication, applicants must:

1. have completed a bachelor's degree;
2. provide a personal statement which includes the motivations, expectations, and prior experience relevant to the certificate program;
3. provide a resume or curriculum vitae;
4. submit test scores of English language proficiency if English is not their first language.

## Requirements for the Graduate Certificate in Health and Risk Communication

## CREDITS

Students must complete 9 credits from the following courses:

1. Both of the following courses ( 6 credits):
CAS 825 Mass Communication and Public Health 3

CAS 826 Health Communication for Diverse Populations 3
2. One of the following courses ( 3 credits):

COM 828 Cross-Cultural Communication 3
COM 860 Persuasion 3
CAS 892 Special Topics 3
Students selecting CAS 892 Special Topics must enroll in the Risk Communication section or the Communication and Technology section.

Effective Summer 2024.
2. Request to change the requirements for the Bachelor of Arts degree in Communication in the Department of Communication.
a. Under the heading Requirements for the Bachelor of Arts Degree in Communication make the following changes:
(1) In item 3. a. (4) (b) under the Communication Science, Analytics and Research Methods concentration, replace item 1. with the following:

Both of the following courses ( 6 credits):
COM 301 Special Topics I Communication Sciences, Analytics and Research Methods

3
COM 494 Practicum in Communication Research and Instruction 3 The topic taken in COM 301 must be different than the topic taken in COM 301 in item 2. if COM 301 is used to fulfill the requirement in item 2.
(2) In item 3. a. (4) (b) under the Communication Science, Analytics and Research Methods concentration, replace the note in item 2. with the following:

Students who use COM 301 to fulfill this requirement must take a different topic than the topic taken in requirement 1. COM 301 may be taken two times to fulfill this requirement with different topics.
(3) In item 3. a. (4) (b) under the Health Communication concentration, in item 2. delete the following course:

HM 101 Introduction to Public Health
3
Add the following course:
PH 101 Introduction to Public Health
3
(4) In item 3. a. (4) (b) under the Intercultural Communication concentration, in item 2. delete the following course:

CSUS 250 Global Issues in Agriculture and Natural Resources 3
(5) In item 3. a. (4) (b) under the Mediated Communication concentration, in item 2. delete the following course:

WRA 425 Advanced Multimedia Writing
3

Effective Summer 2024.
3. Request to change the requirements for Master of Arts Degree in Media and Information. The University Committee on Graduate Studies (UCGS) will consider this request at its February 19, 2024 meeting.
a. Under the heading Master of Arts Degree in Media and Information replace items 1. and 2. with the following:

1. The following core course ( 1 credit):

MI 810 Media and Information Seminar 1
2. At least one of the following theories courses (3 credits):
$\begin{array}{llll}\text { MI } 820 & \text { Theories of Media and Information } & 3\end{array}$
MI 831 Theories of Games and Interaction Design 3
3. At least one of the following methods courses (3 credits):

MI 803 Introduction to Quantitative Research Methods 3
MI 841 Advanced Methods of Understanding Users 3
4. At least three of the following specialization classes (9 credits):

| MI | 839 | Game and Project Design Studio I | 3 |
| :--- | :--- | :--- | :--- |
| MI | 844 | Interaction Design | 3 |
| MI | 845 | Interactive Usability and Accessibility: |  |
|  |  | Design and Evaluation | 3 |


| MI | 846 | Game and Project Design Studio II | 3 |
| :---: | :---: | :---: | :---: |
| MI | 847 | Special Topics in Games | 3 |
| MI | 850 | Media and Information Policy | 3 |
| MI | 851 | Analytical Research Methods for User Generated Content | 3 |
| MI | 861 | Media and Information Technologies in Organizations | 3 |
| MI | 862 | Media and Information Project Management | 3 |
| MI | 875 | Information and Communication Technology and Development | 3 |
| MI | 891 | Special Topics in Media and Information (any section) | 3 |
|  | al ele for th cour an 6 redits d may and | course work at the 400-level or above to meet the 30 egree. Students may take up to three different sections work must be approved by the student's academic advis ive credits may be taken from outside the college. Not moun media and information independent study or internship counted toward the requirements for the Master of Arts rmation. |  |

## Effective Fall 2024.

## COLLEGE OF EDUCATION

1. Request to 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) will consider this request at its February 19, 2024 meeting.
a. Under the heading Requirements for the Doctor of Education Degree in Educational Leadership make the following changes:
(1) In item 1., delete the following courses:

| EAD | 921 | Educational Leadership and Transformation | 3 |
| :--- | :--- | :--- | :--- |
| EAD | 922 | Analyzing Education Systems | 3 |

Add the following courses:

| EAD | 921 A | Educational Leadership and Transformation I | 2 |
| :--- | :--- | :--- | :--- |
| EAD | 921 B | Educational Leadership and Transformation II | 1 |
| EAD | 922 A | Analyzing Education Systems I | 2 |
| EAD | $922 B$ | Analyzing Education Systems II | 1 |

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

EAD 924 Data and Decisions 3
Add the following courses:

| EAD | 924 A | Data and Decisions I | 3 |
| :--- | :--- | :--- | :--- |
| EAD | 924 B | Data and Decisions II | 1 |

(3) In item 3., change the credits of 'EAD 980' from ' 3 ' to ' 2 '.

Effective Fall 2024.

## PART II - NEW COURSES AND CHANGES

## COLLEGE OF ARTS AND LETTERS

| GD 191 | Special Topics in Graphic Design <br> Fall of every year. Spring of every year. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. |
| :---: | :---: |
| NEW | Researching and designing special topics in Graphic Design. Topics vary. Effective Fall Semester 2024 |
| GNL 832 | Project Management Principles for Nonprofits On Demand.2(2-0) |
| NEW | Management of projects in the nonprofit sector. Management of project lifecycle, time, quality, and costs. Project management tools and processes for efficient planning and implementation. <br> Effective Fall Semester 2024 |
| GNL 855 | Monitoring, Evaluation, and Learning for Nonprofits On Demand.2(2-0) |
| NEW | Concepts, theories, and tools for Monitoring, Evaluation, and Learning. Strategies and techniques for designing and implementing monitoring and evaluation plans. Fundamentals of project learning tools and ethical guidelines for data collection and reporting. <br> Effective Fall Semester 2024 |
| ITL 101 | Elementary Italian I <br> Fall of every year. Spring of every year. Fall of every year. Spring of every year. Summer of every year. 4(4-1) 4(3-2) RB: No previous experience in Italian or approval of department. R: Not open to seniors. |

Practice in using and understanding Italian to develop listening, speaking, reading, and writing skills. Pronunciation, grammar, vocabulary, and cultural topics.
Effective Fall Semester 2024
ITL 102 Elementary Italian II
Fall-of every year. Spring of every year. Fall of every year. Spring of every year. Summer of every year.4(4-1) 4(3-2) P: ITL 101

Further practice in using and understanding Italian to develop listening, speaking, reading, and writing skills. Pronunciation, grammar, vocabulary, and cultural topics.
Effective Fall Semester 2024

ITL 201 Second-Year Italian I
Fall of every year. Fall of every year. Spring of every year. Summer of every year.4(4-0) 4(3-2) P: ITL 102

Intermediate-level review and development of aural comprehension, speaking, reading, and writing skills. Topics in Italian culture.
Effective Fall Semester 2024

ITL 202 Second-Year Italian II
Spring of every year. Fall of every year. Spring of every year. Summer of every year.4(4-0) 4(3-
2) P: ITL 201

Further review and development of aural comprehension, speaking, reading, and writing skills. Topics in Italian culture.
Effective Fall Semester 2024
ITL 330
Italian Culture and Civilization
Fall of every year. Fall of every year. Spring of every year. Summer of every year.3(3-0)A student may earn a maximum of 6 credits in all enrollments for this course. P: ITL 202

Diverse aspects of political, social, economic, intellectual, artistic, and literary life of Italy. Class discussion in Italian of readings, films, television programs, and musical selections. Effective Fall Semester 2024

ITL 350 Introduction to Italian Literature Overview of Italian Literature
Spring of every year. Fall of every year. Spring of every year.3(3-0)P: (ITL 320) and completion of Tier I writing requirement P: (ITL 202) and completion of Tier I writing requirement Italian literature from its origins to the present. Reading and discussion in Italian of representative works from all genres.
Effective Fall Semester 2024
THR 211 Introduction to Lighting Design
Fall of every year. Spring of every year. Summer of every year. Fall of every year. Spring of every year.3(2-2)P: THR 111 and THR 111L P: THR 111

Design and technical aspects regarding the design process and electrical production of stage lighting.
Effective Fall Semester 2024
THR 212 Introduction to Costume Design
Fall of odd years. Spring of even years. Fall of every year. Spring of every year.3(2-2)P: THR 111
and THR 111L P: THR 111
Design and technical aspects regarding the process and production of stage costumes and costume history.
Effective Fall Semester 2024
THR 214 Introduction to Scene Design
Fall of every year. Spring of every year. Summer of every year. Fall of every year. Spring of every year.3(2-2)P: THR 111 and THR 111L P: THR 111

Design and technical aspects regarding the design process and production of stage scenery.
Effective Fall Semester 2024
THR 216 Introduction to Sound Design
Fall of odd years. Spring of even years. Fall of every year. Spring of every year.3(2-2)P: THR 111 and THR 111L P: THR 111

Design and technical aspects regarding the process and production of sound performance media, composition and sound reinforcement for the stage.
Effective Fall Semester 2024
THR 219 Introduction to Projection Design for the Stage
Fall of even years. Spring of odd years. Fall of every year. Spring of every year.3(2-2)P: THR 111
and THR 111 P : THR 111
Design and technical aspects regarding the design process and production of projection performance media.
Effective Fall Semester 2024
THR 314 Stagecraft Stagecraft: Scenic Construction Techniques
Fall of every year. Spring of every year.3(2-2) A student may earn a maximum of 6 credits in all enrollments for this course. P: THR 111 and THR 111 L RB: (THR 211 and THR 211L) or (THR 214 and THR 214L) RB: THR 111 or concurrently

Theory and techniques of stagecraft for theatrical production. Introduction to the use of tools, materials, and techniques in theatrical scenic construction.
Effective Fall Semester 2024

THR 361 Topics in Lighting Technology Lighting Technology for Theatre
Fall of even years. Spring of even years. Spring of even years. 1 to 6 credits. 3(2-2)A student may
earn a maximum of 9 credit in all enrollments for this course. A student may earn a maximum of 6 credits in all enrollments for this course.P: THR 211 RB: THR 211 or concurrently

Topics supplementing regular design and technology course offerings on a group study basis. Study of contemporary lighting equipment, electrical practices, and advanced light board operation.
Effective Fall Semester 2024

| THR 362 | Topics in Costume Technology Costume Construction <br> Fall of odd years. Spring of odd years. Fall of even years. 1 to 6 credits. 3(2-4)A student may earn a maximum of 9 credit in all enrollments for this course. A student may earn a maximum of 6 credits in all enrollments for this course. P: THR 212 P: THR 111 RB: THR 212 or concurrently <br> Topics supplementing regular design and technology course offerings on a group study basis. Sewing and Patterning methods used in theatrical costuming including flat patterning, draping, tailoring, pattern alteration, advanced stitching techniques. Effective Fall Semester 2024 |
| :---: | :---: |
| THR 363 | Costume Crafts <br> Fall of odd years.3(2-4)A student may earn a maximum of 6 credits in all enrollments for this course. P: THR 111 RB: THR 212 or concurrently |
| NEW | Craft techniques used in theatrical costuming and props. Projects and topics variable by term. <br> Effective Fall Semester 2024 |
| THR 364 | Topics in Scenery Technology Scene Painting for Theatre <br> Fall of odd years. Spring of odd years. Spring of odd years. 1 to 6 credits. 3(2-2)A student may earn a maximum of 9 credit in all enrollments for this course. A student may earn a maximum of 6 credits in all enrollments for this course. P. THR 214 RB: THR 111 or concurrently |
|  | Topics supplementing regular design and technology course offerings on a group study basis-Hands on study of traditional and contemporary techniques for painting 2D and 3D theatrical set pieces. <br> Effective Fall Semester 2024 |
| THR 365 | Props Design \& Crafts for Theatre <br> Fall of even years.3(2-2) A student may earn a maximum of 6 credits in all enrollments for this course. RB: THR 111 or concurrently |
| NEW | Artistic and technical principles of prop design and crafts. Play analysis, research and creative interpretation of props design. <br> Effective Fall Semester 2024 |
| THR 369 | Topics in Digital Technology Media and Audio Engineering for Theatre |
|  | Fall of even years. Spring of even years. Fall of odd years. 1 to 6 credits. 3(2-2)A student may earn a maximum of 9 credit in all enrollments for this course. A student may earn a maximum of 6 credits in all enrollments for this course.P. THR 216 or THR 219 RB: THR 111 or concurrently |
|  | Topics supplementing regular design and technology course offerings on a group study basis.-System design and installation for media and audio technology use in theatre. Effective Fall Semester 2024 |
| THR 815 | Drafting for Theatre |
|  | Spring of odd years.3(2-2) A student may earn a maximum of 6 credits in all enrollments for this course. R: Open to graduate students in the Department of Theatre or in the Master of Fine Arts in Theatre or approval of department. |
| NEW | Introduction to the principles of hand and CAD drafting for theatre including terminology, USITT best practices and fundamentals, scale and dimension drawings, sections, ground plans, auxiliary views and reproduction processes. <br> Effective Fall Semester 2024 |
| THR 861 | Lighting Technology for Theatre |
|  | Spring of even years.3(2-2) A student may earn a maximum of 6 credits in all enrollments for this course. R: Open to graduate students in the Master of Fine Arts in Theatre or approval of department. |
| NEW | Study of contemporary lighting equipment, electrical practices, and advanced light board operation. <br> Effective Fall Semester 2024 |


| THR 862 | Costume Construction |
| :---: | :---: |
|  | Fall of even years.3(0-6) A student may earn a maximum of 6 credits in all enrollments for this course. R: Open to graduate students in the Department of Theatre or in the Master of Fine Arts in Theatre or approval of department. |
| NEW | Sewing and Patterning methods used in theatrical costuming including flat patterning, draping, tailoring, pattern alteration, advanced stitching techniques. Effective Fall Semester 2024 |
| THR 863 | Costume Crafts |
|  | Fall of odd years.3(0-6) A student may earn a maximum of 6 credits in all enrollments for this course. R: Open to graduate students in the Department of Theatre or in the Master of Fine Arts in Theatre or approval of department. |
| NEW | Sewing and Patterning methods used in theatrical costuming including flat patterning, draping, tailoring, pattern alteration, advanced stitching techniques. Effective Fall Semester 2024 |
| THR 864 | Scene Painting for Theatre |
|  | Spring of odd years.3(2-2) A student may earn a maximum of 6 credits in all enrollments for this course. R: Open to graduate students in the Department of Theatre or in the Master of Fine Arts in Theatre or approval of department. |
| NEW | Hands on study of traditional and contemporary techniques for painting 2D and 3D theatrical set pieces. <br> Effective Fall Semester 2024 |
| THR 865 | Props Design \& Crafts for Theatre |
|  | Fall of even years.3(2-2) A student may earn a maximum of 6 credits in all enrollments for this course. R: Open to graduate students in the Department of Theatre or in the Master of Fine Arts in Theatre or approval of department. |
| NEW | Artistic and technical principles of prop design and crafts. Play analysis, research and creative interpretation of props design. <br> Effective Fall Semester 2024 |
| THR 869 | Media and Audio Engineering for Theatre |
|  | Fall of odd years.3(2-2) A student may earn a maximum of 6 credits in all enrollments for this course. R: Open to graduate students in the Department of Theatre or in the Master of Fine Arts in Theatre or approval of department. |
| NEW | System design and installation for media and audio technology use in theatre. Effective Fall Semester 2024 |

## ELI BROAD COLLEGE OF BUSINESS

Introduction to International Business
Fall of every year. Spring of every year. Summer of every year. 1 to 3 credits. Interdepartmental with Accounting, Finance, General Business and Business Law, Hospitality Business, Management, Supply Chain ManagementR: Open to students in the Eli Broad College of Business and The Eli Broad Graduate School of Management or in the School of Hospitality Business. R: Open to students in the Eli Broad College of Business and The Eli Broad Graduate School of Management or in the School of Hospitality Business or approval of college.

Introduction to the context of international business delivered on-site in foreign settings.
Fundamental concepts and principles of globalization such as multinational corporations,
foreign markets and economies, internal and external market transactions, international
law, cultural influences, and multinational business strategies.
Request the use of ET-Extension to postpone grading.
The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment.
SA: MKT 393
Effective Spring Semester 2024

## COLLEGE OF COMMUNICATION ARTS AND SCIENCES

MI $810 \quad$ Media and Information Seminar
Fall of every year. Spring of every year. Summer of every year.1(1-0) R: Open to master's students in the College of Communication Arts and Sciences or in the Department of Media and Information or in the Media and Information Major.

Overview of scholarship, industry expectations, and job opportunities in the areas of media and information
Effective Fall Semester 2024
MI $841 \quad$ Understanding Users Advanced Methods of Understanding Users
Fall of every year.3(3-0) RB: Direct experience with the creative process in interactive media. R: Open to students in the College of Communication Arts and Sciences or in the Media and Information Major or in the Serious Game Design and Research Certificate or in the Educational Technology Major or in the Educational Technology Graduate Certificate or approval of department.

Methods of user-centered research to support game, media and interaction design.
Iterative cycles of user and product conceptualization.
SA: TC 841
Effective Fall Semester 2024
MI $847 \quad$ Special Topics in Games
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. R: Open to graduate students in the Department of Media and Information.

MI 851 Understanding and Managing Social Media Analytical Methods for User Generated Content Spring of every year.3(3-0) R: Open to graduate students in the College of Communication Arts and Sciences or approval of department.

Overview of social media applications and services, social media history, social media affordances, effects on individuals, organizations, and society, and best practices for the management and study of social media-History and methodology of emerging research methods, such as big data analysis. Insights into how to apply these findings in multiple domains, such as games or usability of apps.
SA: TC 851
Effective Fall Semester 2024
MI 862 Managing Digital Enterprises Media and Information Project Management
Spring of every year.3(3-0) RB: MI 861 R: Open to graduate students in the College of Communication Arts and Sciences or approval of department.

History and current status of e-commerce, e-commerce strategies and approaches, and new directions in e-commerce. Challenges of developing and marketing an online commerce site-Management of projects in digital enterprises. Current tools, project management best practices and experience in managing a project.
SA: TC 862
Effective Fall Semester 2024
MI 877 Global Media and Communications
Fall of even years.3(3-0) R: Open to graduate students in the College of Communication Arts and
Sciences or approval of department.
Comparative and international perspectives on approaches to traditional and new media
and their transformations by increased global connectivity. Addresses broadcasting, cable
TV, satellite, fixed networks, mobile communications, and the Internet. Political economy
of media, economic, institutional and content issues. Interactions and media flows among
countries. International governance bodies.
SA: TC 877
DELETE COURSE
Effective Fall Semester 2024

## COLLEGE OF EDUCATION

| EAD 921 | Educational Leadership and Transformation <br> Fall of every year.3(3-0) R: Open to graduate students in the Educational Leadership Major. <br> Creating organizational value through leadership. Leading through conflict. Personal and collective leadership development. Connecting schools with civic life. Convening community groups for democratic deliberation. <br> Request the use of ET-Extension to postpone grading. <br> The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment. <br> DELETE COURSE <br> Effective Summer Semester 2024 |
| :---: | :---: |
| EAD 921A | Educational Leadership and Transformation I Fall of every year.2(2-0) |
| NEW | Creating organizational value through leadership. Leading through conflict. Personal and collective leadership development. Connecting schools with civic life. Convening community groups for democratic deliberation. <br> Effective Fall Semester 2024 |
| EAD 921B | Educational Leadership and Transformation II Spring of every year.1(1-0) P: EAD 921A |
| NEW | Creating organizational value through leadership. Leading through conflict. Personal and collective leadership development. Connecting schools with civic life. Convening community groups for democratic deliberation. <br> Effective Spring Semester 2025 |
| EAD 922 | Analyzing Education Systems <br> Fall of every year.3(3-0) |
|  | Analyzing systems of educational organizations, including schools, local education agencies, and state education agencies. Theory and research on educational organizations to actual cases in order to identify interdependent strengths and weaknesses that support and/or undermine instructional improvement. <br> Request the use of ET-Extension to postpone grading. <br> The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment. <br> DELETE COURSE <br> Effective Summer Semester 2024 |
| EAD 922A | Analyzing Educational Systems I Fall of every year.1(1-0) |
| NEW | Analyzing systems of educational organizations, including schools, local education agencies, and state education agencies. Theory and research on educational organizations to actual cases in order to identify interdependent strengths and weaknesses that support and/or undermine instructional improvement. Effective Fall Semester 2024 |


| EAD 922B | Analyzing Education Systems II <br> Spring of every year.2(2-0) P: EAD 922A |
| :---: | :---: |
| NEW | Analyzing systems of educational organizations, including schools, local education agencies, and state education agencies. Theory and research on educational organizations to actual cases in order to identify interdependent strengths and weaknesses that support and/or undermine instructional improvement. <br> Effective Spring Semester 2025 |
| EAD 924 | Data and Decisions <br> Fall of every year.3(3-0) R: Open to graduate students in the Educational Leadership Major. <br> Data collection and analysis for school improvement. Decision making criteria. <br> Assessment of resource use and instructional learning outcomes. Data management. <br> Legal and ethical use of data. Communication strategies. <br> Request the use of ET-Extension to postpone grading. <br> The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment. <br> DELETE COURSE <br> Effective Summer Semester 2024 |
| EAD 924A | Data and Decisions I <br> Fall of every year.3(3-0) R: Open to graduate students in the Educational Leadership Major. |
| NEW | Data collection and analysis for school improvement. Decision making criteria. Assessment of resource use and instructional learning outcomes. Data management. Legal and ethical use of data. Communication strategies. Basic quantitative statistics. Effective Fall Semester 2024 |
| EAD 924B | Data and Decisions II <br> Spring of every year.1(1-0) P: EAD 924A |
| NEW | Data collection and analysis for school improvement. Decision making criteria. Assessment of resource use and instructional learning outcomes. Data management. Legal and ethical use of data. Communication strategies. Effective Spring Semester 2025 |
| EAD 980 | Engaged Educational Leadership <br> Summer of every year. 1 to 3 credits. 2(2-0) A student may earn a maximum of 6 credits in all enrollments for this course. A student may earn a maximum of 6 credits in all enrollments for this course. R: Approval of department. <br> Developing skills for engaged leadership. Convening forums to discuss and disseminate ideas for improvement of educational organizations and educational policy. Developing leadership skills that encourage and support agency of stakeholders. <br> Request the use of the Pass-No Grade (P-N) system. <br> Effective Summer Semester 2024 |


| TE 860 | Practice and Inquiry in Science Education <br> REINSTATEMENT |
| :--- | :--- |
|  | Spring of every year.3(3-0) |
| Teaching science subjects. Emphasis on learner diversity, learning community, |  |
| conceptual understanding, subject matter content, and learners' prior knowledge. |  |
|  | Effective Fall Semester 2024 |

TE 964 Critical Whiteness Studies in Education
Fall of even years.3(3-0) RB: TE 963 and/or TE 903 R: Open to doctoral students.
NEW Engage with various theoretical and empirical approaches to unveiling and disrupting whiteness and white supremacy in individuals, schools and other institutions, and society across various contexts. Explore different ways of understanding the structures and impacts of white supremacy as a global project and its co-formations with other systems of oppression. Reflect on the material and epistemic impacts of whiteness in individual and collective lives, schooling experiences, scholarly disciplines and subjects, and research approaches. Consider the possibilities of disrupting and divesting from Effective Fall Semester 2024

