MICHIGAN STATE UNIVERSITY
University Committee on Curriculum

SUBCOMMITTEE A – AGENDA

Via Teams
February 20, 2025
1:30 p.m.

PART I – NEW ACADEMIC PROGRAMS AND PROGRAM CHANGES

COLLEGE OF AGRICULTURE AND NATURAL RESOURCES

1. Request to establish a **Agricultural Technology Certificate** in **Food Technology and Safety** in the Institute of Agricultural Technology. The University Committee on Undergraduate Education (UCUE) recommended approval of this request at its January 9, 2025 meeting.

a. **Background Information**:

Certificate programs and workshops in production agriculture and horticulture were developed and launched in 1894 as campus-based programs. In 1994, the Institute of Agricultural Technology started offering programs in collaboration with community colleges. The Food Technology and Safety (FTS) program is a standalone certificate similar to the IAT Food Processing, Technology, and Safety (FPTS) program, which partners with community colleges.

The development of these programs originated from an initiative led by the industry stakeholders and the Michigan Department of Agriculture and Rural Development (MDARD), aimed at addressing the workforce needs of food processors across the state. Industry stakeholders expressed concerns about finding and attracting a qualified and highly trained workforce.

The certificate has no accrediting body, but it is modeled after the Food Science program, which is accredited by the Institute of Food Technologists (IFT). Industry representatives, educators, and community partners served as advisory committee members to develop this program.

Food processing companies have indicated they experience challenges finding an available workforce with the necessary skill set when hiring new staff. MSU subsequently has the trained faculty and staff to provide technical training for students in this area. Many food technology industries currently employ professionals with no formal academic training in their respective industries. In addition, the industry is seeing growth and needs trained and skilled workers. Many industry professionals and those seeking a job would like an opportunity to further their education. A certificate from MSU will provide an opportunity for individuals to secure additional credibility in their respective industries.

The FTS program at MSU will provide more opportunities for students who wish to pursue an associate's degree (AAS) with Lansing Community College (LCC). Once approved, we will draft an articulation agreement with LCC so that students can apply the MSU credits they earn in FTS toward their AAS degree. This will be a cost and time to degree savings for the students.

b. **Academic Programs Catalog Text**:

The Food Technology and Safety program provides students with hands-on education in the processes and technologies used to convert commodities into consumable food products. Students can personalize their curriculum in various areas of study, from food processing and technology to facilities management to chemistry. The program incorporates applied learning experiences, like a mobile food processing lab, industry clerkships, and internships.

Requirements for Food Technology and Safety

Students must complete 48 credits from the following:

1. All of the following courses (41 credits):

			CREDITS
AE	153	Engine and Equipment Technology	2
AFRE	100	Decision-making in the Agri-Food System	3
AT	45	Agricultural Communications	2
AT	71	Technical Mathematics	2
AT	195	Research and Practice in Agricultural Technology	3
AT	293	Professional Internship in Agricultural Technology	3
FSC	113	Basic Commodity Overview 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
FSC	222	Professional Development and Career Planning in Food Science	1
FSC	230	Fruit and Vegetable Processing	2
FSC	231	Cereals Processing	2
FSC	240	Applied Microbiology in Food Processing	2
FSC	242	Applied Chemistry in Food Processing and Technology	2
KIN	125	First Aid and Personal Safety	3
PKG	101	Principles of Packaging	3

2. Complete a minimum of 7 elective credits from the list below or as approved by the program coordinator in the Institute of Agricultural Technology:

AE	151	Fabrication Technology	2
AFRE	232	Commodity Marketing I	3
AFRE	240	Food Product Marketing	3
AT	55	Agricultural Finance	3
AT	101	Spanish for the Agricultural Industry	2
AT	202	Agricultural Regulation Compliance and Safety	3
CSS	120	Issues in Food and Agriculture	3
HNF	150	Introduction to Human Nutrition	3
TSM	130	Energy Efficiency and Conservation in Agricultural Systems	3

Effective Fall 2025.

2. Request to change the requirements for the **Bachelor of Science** degree in **Animal Science** in the Department of Animal Science.

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

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

The University's Tier II writing requirement for the Animal Science major is met by completing one of the following courses: Animal Science 301, 313, 314, 411, 427 or 435. Those courses are referenced in item 3. below.

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

ANS	300B	Advanced Meat Judging	2

(3) In item 3. h. make the following changes:

(a) In the **Animal Industry** concentration under 5., add the following courses:

ANS	410	Stem Cells in Reproduction and Development	3
ANS	411	Neuroendocrine Control of Stress and Physiology (W)	3
ANS	416	Animal Growth and Development	3

Delete the following course:

ANS	409	Problems, Controversies and Advancements in Reproduction (W)	4

(b) In the **Animal Biology and Preveterinary** concentration under 3., add the following courses:

ANS	410	Stem Cells in Reproduction and Development	3
ANS	411	Neuroendocrine Control of Stress and Physiology (W)	3
ANS	416	Animal Growth and Development	3

Delete the following course:

ANS	409	Problems, Controversies and Advancements in Reproduction (W)	4

(c) In the **Animal Biology and Preveterinary** concentration under 4., add the following courses:

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

(d) In the **Animal Biology and Preveterinary** concentration under 4., change “MMG” courses to “MGI”.

(e) Change the name of the **Companion and Exotic Animal Biology** concentration to **Companion and Exotic Animal Industry**.

(f) In the **Companion and Exotic Animal Industry** concentration change the total credits from ’30 to 33’ to ’27 to 30’.

(g) In the **Companion and Exotic Animal Industry** concentration, in item 1., delete the following courses:

CEM	252	Organic Chemistry II	3
CEM	255	Organic Chemistry Laboratory	2

(h) In the **Companion and Exotic Animal Industry** concentration, replace item 2. with the following:

Two of the following courses (6 credits):

CSUS	473	Social Entrepreneurship and Community Sustainability	3
ESHP	170	Business Model Design and Prototyping	3
ESHP	190	Introduction to Entrepreneurship	3
REL	185	Introduction to Religion and Nonprofits	3
REL	285	Introduction to Social Entrepreneurship and Religion	3

(i) In the **Companion and Exotic Animal Industry** concentration, in item 1., add the following courses:

ANS	410	Stem Cells in Reproduction and Development	3
ANS	411	Neuroendocrine Control of Stress and Physiology (W)	3
ANS	416	Animal Growth and Development	3

Delete the following course:

ANS	409	Problems, Controversies and Advancements in Reproduction (W)	4

(j) In the **Dairy Industry** concentration, change the total credits from ’38 to 40’ to ’37 to 40’.

(k) In the **Dairy Industry** concentration, in item 1., add the following courses:

ANS	132	Dairy Farm Management Seminar	2
AFRE	330	Farm Management II	3

Delete the following courses:

ACC	230	Survey of Accounting Concepts	3
AFRE	430	Farm Management II	3

(l) In the **Dairy Industry** concentration, in item 3., add the following course:

AT	101	Spanish for the Agricultural Industry	2

Delete the following course:

ANS	409	Problems, Controversies and Advancements in Reproduction (W)	4

(m) Add the following concentration:

Equine Industry (27 to 29 credits)

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

ANS	200D	Introduction to Horse Judging	2
ANS	225	Horse Behavior, Welfare and Ethics	2
ANS	242	Introductory Horse Management	3
ANS	340	Equine Business and Entrepreneurship	3
ANS	442	Advanced Horse Management	3
ANS	443	Equine Nutrition	3
ANS	448	Equine Science Seminar	2

ANS 242 may be used to fulfill major requirement 3.d. above.

2. One of the following handling courses (2 or 3 credits):

ANS	140	Fundamentals of Horsemanship	2
ANS	145	Horse Handling	3
ANS	141L	Draft Horse Basics	2

3. Choose a learning track (7 to 9 credits):

Equine Assisted Services (8 credits)

All of the following (5 credits)

ANS	249	Methods of Instructing Safe Horsemanship	2
ANS	341	Introduction to Equine Assisted Services	3

One of the following (3 credits):

REL	185	Introduction to Religion and Nonprofits	3
REL	285	Introduction to Social Entrepreneurship and Religion	3
WRA	453	Grant and Proposal Writing	3

Equine Business and Allied Industries (9 credits)

Both of the following (6 credits)

ACC	230	Survey of Accounting Concepts	3
AFRE	130	Farm Management I	3

One of the following (3 credits):

CSUS	473	Social Entrepreneurship and Community Sustainability	3
ESHP	170	Business Model Design and Prototyping	3
ESHP	190	Introduction to Entrepreneurship	3

Equine Health and Nutrition (7 credits)

ANS	347	Equine Health	3
ANS	445	Equine Exercise Physiology	4

Equine Trainer and Instructor (8 credits)

The following course (4 credits)

ANS	445	Equine Exercise Physiology	4

Two of the following courses (4 credits):

ANS	246	Young Horse Handling	2
ANS	249	Methods of Instructing Safe Horsemanship	2
ANS	346	Starting Horses Under Saddle I	2
ANS	446	Starting Horses Under Saddle II	2

Effective Fall 2025.

3. Request to change the requirements for the **Master of Science** degree in **Biosystems Engineering** in the Department of Biosystems and Agricultural Engineering. The University Committee on Graduate Studies (UCGS) will consider this request at its February 17, 2025 meeting.

   a. Under the heading **Admission** make the following change under **Regular Status**:

      (1) In paragraph two, delete Biosystems Engineering 825.

   b. Under the heading **Requirements for the Master of Science Degree in Biosystems Engineering** make the following change:

      (1) Under the heading **Requirements for Both Plan A and Plan B**, add the following item 4.:

         4. Complete one course in biological science at MSU at the 400-level or above. An approved list of courses will be maintained by the department. This requirement may be waived for students who have previously completed an equivalent course.

   Effective Fall 2025.

4. Request to change the requirements for the **Doctor of Philosophy** degree in **Biosystems Engineering** in the Department of Biosystems and Agricultural Engineering. The University Committee on Graduate Studies (UCGS) will consider this request at its February 17, 2025 meeting.

   a. Under the heading **Admission** make the following change under **Provisional Status**:

      (1) Replace paragraph two with the following:

      A student who is admitted to the Doctor of Philosophy degree program without a Bachelor of Science or Master of Science degree in engineering may be required to complete collateral courses, and/or courses in addition to the core required courses for the doctoral degree. If collateral courses are required, they will be specified on the admission form. Biosystems Engineering 490 and 890 may not be used to satisfy collateral course requirements.

   b. Under the heading **Requirements for the Doctor of Philosophy Degree in Biosystems Engineering** make the following changes:

      (1) Delete item 6.

      (2) Renumber items 7., 8., 9., and 10. to 6., 7., 8., and 9. respectively.

      (3) Add the following item 6.:

      Pass the doctoral comprehensive examination within two years of the date of first course enrollment that counts to the student's program of study. The examination may be retaken once in the following semester.

   Effective Fall 2025.

5. Request to establish a **Master of Science** degree in **Packaging Leadership for Professionals** in the School of Packaging. The University Committee on Graduate Studies (UCGS) recommended approval of this request at its January 27, 2025 meeting.

a. **Background Information**:

Most companies producing goods utilize packaging and either hire packaging graduates or work closely with packaging companies. Job demand continues to outstrip supply of graduates and is projected to continue into the future.

There exist only a handful of 4-year degree granting packaging programs in the U.S., graduating less than 400 total students each year (source: estimates from packaging program chairpersons, 2022), of which between 35-40% come from MSU. The packaging degree is not accredited from an external agency like an engineering degree. As of May 2024, MSU will be the only online MS degree offered in the U.S., as Cal Poly's online MS program will close despite steady enrollment of 20-25 students per year (source: Orfalea College of Business, External program review, 2022).

There are no known online MS packaging programs offered in Europe or Asia, and only one in Mexico focused exclusively on packaging design. Our flexible offering will have no rival in global higher education.

In recent years, and accelerated during the recent pandemic (2020-2022), a significant global shift has occurred spurred in part by consumer sentiment, legislative efforts, and company sustainability goal commitments. Many companies now are grappling with a need for talent that understands both packaging leadership and the business implications. Solutions that replace existing materials or offer more environmentally friendly end-of-life scenarios can be complex and require cross-discipline effort to address.

Over several years many companies have requested new training and curriculum from accredited institutions (even if specific programs are not accredited) to address employee skill gaps, specifically, blended degrees that better address the convergence of technology, sustainability and business leadership. Packaging leadership is a complex topic involving R&D, material procurement, marketing, supply chain and business considerations as companies move from traditional petro-based materials to new sources. The market is in an early phase of growing pains to develop solutions that meet customer demands for product safety and environmental goals, while simultaneously meeting company quality, profitability and product availability goals. How to do this profitably while simultaneously meeting meaningful sustainability goals is a complex problem requiring the blending of disciplines.

The current MSU offering is a narrowly focused technical degree offered both online and in-person. It is a non-thesis option focused on deep technical expertise in materials and analytic techniques geared towards career R&D employees or engineers. As a result of this narrow focus the program has had steady but limited enrollment. Cal Poly has offered an online packaging MS program focused on supply chain trade-offs (called "value chain") for several years with good success, reaching a steady 20-25 student enrollment. However, Cal Poly made a strategic decision to exit the online packaging MS offering in May 2024 to focus exclusively on in-person teaching, leaving MSU as one of the only known online MS packaging programs in the world.

Although there are some industry trade group educational offerings (non-credit) offered online, including for-profit TPS, none of these are for-credit, transcriptable degrees and are focused mainly on undergraduate-level content.

Our industry advisory board and discussions with companies and packaging programs around the world have led to the projected enrollment goal that ramps to 45+ students enrolled per year after a five-year period.

MSU is home to the first and largest Packaging program in higher education, graduating the greatest number of packaging engineers each year in the U.S. MSU is also home to the top ranked Supply Chain program and a top 20 business school. Partnering with The Eli Broad College of Business and Graduate School of Management will bring a compelling offering to the market combining elements of MSU top programs to meet articulated needs from industry.

We are best positioned to expand on our current MS online offering, leveraging our brand recognition and large alumni base, and leveraging our existing online MS program.

b. **Academic Programs Catalog Text**:

The Master of Science degree in Packaging Leadership for Professionals is a course-intensive, online program offered by the School of Packaging in partnership with The Eli Broad College of Business and Graduate School of Management and College of Communication Arts and Sciences. The master's program enables professionals with leadership aspirations to expand their knowledge related to technical aspects of packaging and also strengthen their proficiencies in interdisciplinary fields in which students engage in one of four concentrations: business, supply chain management, sustainable solutions, or packaging design.

Admission

To be eligible for admission to the degree, students must:

1. have an earned bachelor's degree with a minimum of 3.0 cumulative grade-point average from an accredited educational institution comparable to a four-year U.S. bachelor's degree.
2. have a minimum of three years of professional work experience.
3. submit three reference letters.
4. submit official transcripts from all academic institutions attended.
5. submit a resume or CV.

Requirements for the Master of Science Degree in Packaging Leadership for Professionals

The Master of Science degree program in Packaging Leadership for Professionals is available only under Plan B (without thesis) and available only online. A total of 30 credits is required for the degree under Plan B. The student's program of study must be approved by the graduate program director.

1. Complete all of the following core courses (20 credits):

			CREDITS
PKG	470	Packaging Sustainability	3
PKG	801	Packaging Materials	4
PKG	803	Packaging Distribution and Dynamics	2
PKG	804	Packaging Processes	2
PKG	810	Packaging Professional Seminar	3
PKG	875	Stability and Recyclability of Packaging Materials	3
PKG	891	Selected Topics *Section*: Global Sustainability Trends and Regulations Capstone	3

The capstone must be completed during the last 10 credits of the program.

2. Complete a minimum of 10 credits from one of the following concentrations:

Business

ACC	870	Principles of Financial and Managerial Accounting	3
CAS	835	Branding and Image Communication	3
MGT	873	Strategic Decision Making	2
SCM	801	Introduction to Global Business and Supply Chain	2

Supply Chain Management

PKG	465	Packaging Value Chain	3
SCM	801	Introduction to Global Business and Supply Chain	2
SCM	803	Introduction to Supply Chain Analytics	3
SCM	805	Basic Elements of Strategic Sourcing	2
SCM	806	Basic Elements of Logistics and Warehousing	2
SCM	807	Basic Elements of Operations Management	2

Sustainable Solutions

AFRE	891	Topics in Agricultural, Food, and Resource Economics	1 to 3
CSUS	465	Environmental and Natural Resource Law	3
CSUS	890	Independent Study in Community Sustainability	1 to 6
CSUS	891	Selected Topics in Community Sustainability	1 to 9
PKG	465	Packaging Value Chain	3
PKG	480	Packaging Laws and Regulations	3
PKG	880	Life Cycle Assessment: Background, Principles, Calculations, and Applications	3

Packaging Design

FSC	810	International Food Laws and Regulations	3
FSC	811	U.S. Food Laws and Regulations	3
PKG	411	Packaging Development Technology	3
PKG	430	Packaging for Fast-Moving Consumer Goods	3
PKG	421	Virtual Design and Prototyping	3
PKG	444	Radio Frequency Identification (RFID) for Packaging	3
PKG	450	Automotive and Industrial Packaging	3
PKG	452	Medical Packaging	4
PKG	456	Packaging and Shelf Life of Perishable Food	3
PKG	480	Packaging Laws and Regulations	3
PKG	805	Advanced Packaging Dynamics	3
PKG	814	Packaging for Food Safety	3
PKG	815	Permeability and Shelf Life	3
PKG	825	Polymeric Packaging Materials	4
PKG	840	Anti-Counterfeit Strategy and Product Protection	3
PKG	891	Selected Topics	1 to 3
VM	834	Current Issues in Food Safety	1 to 3

3. Complete the responsible conduct of research training.
4. Completion of a final examination or evaluation.

Effective Fall 2025.

6. Request to change the requirements for the **Master of Science** degree in **Packaging** in the School of Packaging. The University Committee on Graduate Studies (UCGS) will consider this request at its February 17, 2025 meeting.

   a. Under the heading **Requirements for the Master of Science Degree in Packaging** make the following changes:

      (1) Under the heading **Additional Requirements for Plan A** make the following changes:

         (a) Replace item 1. with the following:

            Packaging 810 and 825.

         (b) In item 3., delete Packaging 888.

      (2) Under the heading **Additional Requirements for Plan B** make the following changes:

         (a) Replace item 1. with the following:

            Packaging 805, 810, 815, and 825.

         (b) In item 2., delete Packaging 888.

Effective Fall 2025.

7. Request to change the requirements for the **Doctor of Philosophy** degree in **Packaging** in the School of Packaging. The University Committee on Graduate Studies (UCGS) will consider this request at its February 17, 2025 meeting.

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

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

PKG	860	Research Methods	3

      Add the following course:

PKG	810	Packaging Professional Seminar	3

   Effective Fall 2025.

COLLEGE OF ENGINEERING

1. Request to change the requirements in the **Bachelor of Science** degree in **Chemical Engineering** in the Department of Chemical Engineering and Materials Science. The University Committee on Undergraduate Education (UCUE) will consider this request on February 6, 2025.

   The concentrations in the Bachelor of Science degree in Chemical 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 Chemical Engineering** make the following changes:

      (1) In item 3. a., change the total credits from '58' to '54' and delete the following course:

CEM	151	General and Descriptive Chemistry	4

      Add the following note:

      Note: Students must have a minimum grade-point of 2.0 in CHE 201.

   b. Under the heading **Concentrations in Chemical Engineering** make the following changes:

      (1) Under the **Biochemical Engineering** concentration, change all 'MMG' courses to 'MGI'.

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

         (a) Change all 'MMG' courses to 'MGI'.

         (b) Under 'One of the following courses (3 credits):, add the following course:

BME	860	NanoEngineering in Biomedicine	3

         (c) Under 'One of the following courses not taken above (3 or 4 credits):, delete the following course:

BMB	471	Advanced Biochemistry Laboratory	4

         Add the following courses:

ANTR	350	Human Gross Anatomy for Pre-Health Professionals	4
BME	860	NanoEngineering in Biomedicine	3

(3) Under the **Environmental** concentration replace the entire entry with the following:

Environmental
To earn a Bachelor of Science degree in Chemical Engineering with an environmental concentration, the student must complete requirements 1., 2., and 3. a., 3.b., and 3.d. above and the following:
Both of the following courses (6 credits):

CHE	481	Biochemical Engineering	3
ENE	380	Principles of Environmental Engineering and Science	3

Three of the following courses (9 credits):

CSS	865	Environmental Organic Chemistry	3
ENE	381	Environmental Chemistry	3
ENE	483	Water and Wastewater Engineering	3
ENE	489	Air Pollution: Science and Engineering	3
GBL	480	Environmental Law and Sustainability for Business: From Local to Global	3
GLG	421	Environmental Geochemistry	4
IBIO	446	Environmental Issues and Public Policy	3

(4) Under the **Food Science** concentration make the following changes:

(a) Change ‘MMG 301’ to ‘MGI 301’.

(b) Under ‘One of the following courses (3 credits):, add the following courses:

CEM	482	Science and Technology of Wine Production	3
CHE	483	Brewing and Distilled Beverage Technology	3
FSC	481	Fermented Beverages	3

Effective Fall 2025.

COLLEGE OF NATURAL SCIENCE

1. Request to establish a **Minor** in **Environmental Science** in the Department of Earth and Environmental Sciences. The University Committee on Undergraduate Education (UCUE) recommended approval of this request at its January 23, 2025 meeting.

a. **Background Information**:

Environmental Science is a growing field, with increasing domains and disciplines of application across sciences, engineering, and natural resource fields. Despite its importance, MSU does not have an Environmental Science degree. Existing programs approach the environment from either humanities or engineering perspectives: Major in Environmental Studies and Sustainability (offered by Community Sustainability, CSUS), Major in Environmental Engineering (offered by Civil and Environmental Engineering), and a Minor in Environmental Studies and Sustainability (offered by the RISE program). Environmental Science is distinguished from these other Environmental programs in its focus on observation, description, modeling, and prediction of behavior of natural systems, which provides preparation for career paths that expect quantitative and systems reasoning about environmental problems.

A Minor in Environmental Sciences will provide enhanced educational background for students in all environment-related programs at MSU, and others interested in adding an Environmental Sciences focus. This program aligns with MSU’s mission and fills a longstanding gap in its transcriptable offerings. Peer institutions such as Arizona State University, Wayne State University, University of Arizona, University of Massachusetts-Amherst, and University of Minnesota-Duluth offer Minor programs in Environmental Science.

The minor is ideally suited for the Department of Earth and Environmental Sciences to offer. Our courses and faculty span much of the range of more traditional disciplines encompassed by the Environmental Sciences (e.g. Ecology, Hydrology, Geoscience, Geochemistry). The minor complements forthcoming updates to our EES major(s), but will not be open to EES majors due to content overlap.

Students will be prepared with the knowledge, skills, and experience to succeed and make an impact in their academic and professional careers. Specifically, this minor seeks to provide knowledge and experience in: a) a broad solid foundation in the Environmental Sciences, b) environmental biology, c) environmental chemistry, and d) environmental systems science. Many of these classes include laboratory experiences, and some fieldwork—critical experiential learning opportunities. The Minor in Environmental Science is particularly aligned with the University learning goals related to Analytical Thinking.

Upon completing the Minor, students will be able to apply biology, chemistry, and systems reasoning to environmental phenomena and problems. Students will observe natural phenomena, record data, and model processes. Students will be able to evaluate hypotheses, interpret literature, and effectively communicate scientific measurements.

b. **Academic Programs Catalog Text**:

The Minor in Environmental Science, administered by the Department of Earth and Environmental Sciences, provides foundational training for students interested in environmental sciences. After a broad introductory course, it offers a menu of courses that focus on the biology/ecology, chemistry, and systems components of environmental science.

The Minor is available as an elective to students outside of the Department of Earth and Environmental Sciences enrolled in bachelor's degree programs at Michigan State University. With the approval of the department and college that administer the student's degree program, the courses that are used to satisfy the Minor may also be used to satisfy the requirements for the bachelor's degree. However, at least 6 credits counted towards the requirements for this Minor must be unique. Unique credits must not be used to fulfill another university, college, or major requirement in the student's program.

Students who plan to complete the requirements for the Minor should consult the undergraduate advisor in the Department of Earth and Environmental Sciences.

Requirements for the Minor in Environmental Science

Students must complete a minimum of 15 credits, with at least 10 credits in GLG:

				CREDITS
1.	One of the following courses (4 credits):			
	GLG	200	Introduction to Environmental Science and Global Change	4
	GLG	201	Introduction to Earth and Planetary Sciences	4
2.	One of the following environmental biology and ecology courses (3 or 4 credits):			
	FOR	340	Forest Ecology	3
	FW	410	Upland Ecology and Management	3
	FW	416	Marine Ecology and Management	3
	FW	417	Wetland Ecology and Management	3
	FW	420	Stream Ecology	3
	GLG	304	Physical and Biological History of the Earth	4
	GLG	435	Geomicrobiology (W)	4
	GLG	446	Ecosystems Modeling, Water and Food Security	3
	IBIO	355	Ecology	3
3.	One of the following environmental chemistry courses (4 credits):			
	GLG	321	Mineralogy and Geochemistry	4
	GLG	421	Environmental Geochemistry	4
4.	One of the following environmental systems courses (3 or 4 credits):			
	GEO	306	Environmental Geomorphology	3
	GLG	303	Oceanography	4
	GLG	330	Biogeochemistry	3
	GLG	380	Natural Resources, the Energy Transition and the Environment	3
	GLG	411	Hydrogeology	3
	GLG	412	Glacial Geology and the Record of Climate Change	4
	GLG	431	Sedimentology and Stratigraphy	4

Effective Fall 2025.

.2. Request to establish a **Minor** in **Geophysics** in the Department of Earth and Environmental Sciences. The University Committee on Undergraduate Education (UCUE) recommended approval of this request at its January 9, 2025 meeting.

a. **Background Information**:

Geophysics training is highly valuable to industry employers as well as graduate schools in Earth and Environmental Science areas. For decades the Department of Earth and Environmental Sciences has offered a Concentration in Geophysics as an option in our two major programs: Geological Sciences and Environmental Geosciences. This Concentration was designed to allow students to develop and demonstrate depth of training in quantitative reasoning applied to Earth and environmental systems. It has appealed particularly to students who transfer to Geological Sciences or Environmental Geosciences majors from Engineering or Physics, and have already met the requirements for additional math and physics beyond our standard curriculum. However, that audience has been small, and we have struggled to maintain consistent enrollment in our two core geophysics courses, GLG 470 and 471. We have found that in practice, Engineering or Physics students are reluctant to change their major or double-major because of the extra time in school that would be required.

The proposed Minor would replace the Concentration in Geophysics but be open to a broader audience. It will include foundational course work in Earth and planetary science as well as calculus and physics and upper-level geophysics courses. It was designed so that students who continue to major in Engineering or Physics and also choose this Minor would have enough earth science background to be competitive for admission into a Geophysics graduate program. The Minor also still provides a clear path toward their degree for Earth and Environmental Science majors who are interested in Geophysics.

b. **Academic Programs Catalog Text**:

The Minor in Geophysics, administered by the Department of Earth and Environmental Sciences, provides interdisciplinary training for students interested in applying physical properties of the Earth and Earth materials to planetary and environmental problems.

The minor is available as an elective to students enrolled in bachelor's degree programs at Michigan State University. With the approval of the department and college that administer the student's degree program, the courses that are used to satisfy the minor may also be used to satisfy the requirements for the bachelor's degree. However, at least 6 credits counted towards the requirements for this minor must be unique. Unique credits must not be used to fulfill another university, college, or major requirement in the student's program.

Students who plan to complete the requirements for the minor should consult the undergraduate advisor in the Department of Earth and Environmental Sciences.

Requirements for the Minor in Geophysics

				CREDITS
Students must complete a minimum of 27 credits from the following:				
1.	All of the following courses (12 credits):			
	MTH	234	Multivariate Calculus	4
	PHY	183	Physics for Scientists and Engineers I	4
	PHY	184	Physics for Scientists and Engineers II	4
2.	One of the following courses (3 or 4 credits)			
	CMSE	202	Computational Modeling and Data Analysis II	4
	MTH	235	Differential Equations	3
	MTH	314	Matrix Algebra with Computational Applications	3
3.	One of the following courses (3 or 4 credits)			
	GLG	201	Introduction to Earth and Planetary Sciences	4
	GLG	203	Geology of the Great Lakes Region	3
4.	Three of the following courses (9 to 12 credits)			
	GLG	411	Hydrogeology	3
	GLG	445	Planetary Science	3
	GLG	470	Solid Earth Geophysics and Geodynamics	3
	GLG	471	Applied Geophysics	4

Effective Fall 2025.

COLLEGE OF NURSING

1. Request to change the requirements for the **Bachelor of Science in Nursing** degree in **Nursing** in the College of Nursing.

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

      (1) In item 2. a. delete the following course:

PHM	350	Introductory Human Pharmacology	3

      (2) Replace item 2. b. with the following:

NUR	101	Nursing Study Skills Seminar	1
NUR	204	Introduction to Professional Nursing	3
NUR	206	Health Assessment	2
NUR	208	Clinical Nursing Skills	2
NUR	210	Foundations of Nursing Practice	5
NUR	306	Pathophysiology, Pharmacology, and Genomics I	4
NUR	308	Pathophysiology, Pharmacology, and Genomics II	3
NUR	310	Nursing Care of Adults I	5
NUR	312	Nursing Care of Adults II	5
NUR	314	Scholarship of Nursing Practice	3
NUR	404	Kaplan NCLEX Review Seminar	1
NUR	416	Informatics, Analytics, and Innovation	2
NUR	418	Transformational Leadership	3
NUR	420	Transitions to Nursing	3
NUR	426	Capstone and Preceptorship	4
NUR	430	Population and Global Health	4
NUR	440	Nursing Care of Children and their Families	4
NUR	444	Nursing Care of the Childbearing Family and Beyond	4

   Effective Fall 2025.

2. Request to establish pass through for students pursuing the **Doctor of Nursing Practice** degree in **Nursing Practice**. The University Committee on Graduate Studies (UCGS) will consider this request at its February 17, 2025 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. In the entry-level text add the following paragraph:

      Adult-Gerontology Clinical Nurse Specialist (CNS) and Nurse Practitioner (Adult Gerontological Primary Care, Nurse Practitioner-Family, Nurse Practitioner-Psychiatric Mental Health) students enrolled in the BSN – DNP program may be granted the MSN after they have completed all the master-level requirements for their concentration and then continue with their DNP course trajectory to complete the DNP. The DNP requirements remain the same. Students who elect to pass through from the MSN to the DNP complete all the DNP requirements.

   Effective Summer 2025.

PART II - NEW COURSES AND CHANGES

COLLEGE OF AGRICULTURE AND NATURAL RESOURCES

ANS 101 Professional Development in Animal Science I
Fall of every year. Spring of every year. 1(0-2) ~~R: Open to students in the Animal Science major.~~ R: Open to students in the Lyman Briggs College or in the Department of Animal Science.
Careers in animal science. Job application, portfolio development, interviewing, and resume development.
Request the use of the Pass-No Grade (P-N) system.
Effective Fall Semester 2025

ANS 140 Fundamentals of Horsemanship
Fall of every year. Spring of every year. 2(0-4) A student may earn a maximum of 4 credits in all enrollments for this course. ~~R: Approval of department.~~ R: Open to students in the Department of Animal Science or in the Lyman Briggs Animal Science Coordinate Major. Approval of department.
~~Safe horse handling skills. Riding skills. Riding aids and working with the horse at the beginner, intermediate or advanced level.~~ Riding skills. Riding aids and developing riders' skills at the beginner, intermediate or advanced levels.
Effective Fall Semester 2025

ANS 140A Fundamentals of Young-Horse Training
Fall of every year. 2(0-4) RB: ANS 140 R: Open to students in the College of Agriculture and Natural Resources or in the Institute of Agricultural Technology or in the Department of Animal Science or in the Applied Horse Science Major or in the Horse Management Major.
Demonstration and practice of safely working with and training weanlings, yearlings and two-year-old horses. Halter training and longeing techniques of clippers and bathing. Discussion of application of learning theory. Assist with young horse husbandry procedures.
DELETE COURSE
Effective Summer Semester 2025

ANS 141L Draft Horse Basics
Fall of every year. 2(0-4)
~~Safe handling, hitching and driving of draft horses. Care and maintenance of harness and horse drawn equipment.~~ Safe handling, hitching and driving of draft horses.
SA: ANS 141
Effective Fall Semester 2025

ANS 145 Horse Handling
Spring of every year. 3(0-6) R: Open to undergraduate students in the Department of Animal Science or in the Lyman Briggs Animal Science Coordinate Major. Approval of department.
NEW Basics of horse handling, riding, and showing.
SA: ANS 063A
Effective Spring Semester 2025

ANS 146 Fundamentals of Horse Training
Fall of every year. Spring of every year. 3(0-6) A student may earn a maximum of 6 credits in all enrollments for this course. P: ANS 140 or approval of department R: Open to undergraduate students in the Institute of Agricultural Technology. Approval of department.
Training and preparing an untrained horse for handling, riding and showing. Sale preparation.
SA: ANS 063a
DELETE COURSE
Effective Summer Semester 2025

ANS 200D ~~Introductory Judging of Horses~~ Introduction to Horse Judging
Spring of every year. ~~1 to 2 credits.~~ 2(0-4) ~~A student may earn a maximum of 3 credits in all enrollments for this course.~~ A student may earn a maximum of 4 credits in all enrollments for this course.
~~Evaluation of functional conformation and performance of horses. Preparation for intercollegiate competition.~~ The components of objectively evaluating horses for both competition and purchase will be explored. Conformation as it affects function will be examined.
~~SA: ANS 200B~~
Effective Fall Semester 2025

ANS 225 ~~Horse Behavior and Welfare~~ Horse Behavior, Welfare & Ethics
Summer of every year. 2(2-0) ~~R: Open to undergraduate students or agricultural technology students.~~ R: Approval of department.
~~Natural behavior, senses, training psychology, and common behavioral problems of horses. Equine welfare issues.~~ Horse's natural behavior, safe horse handling, common behavioral problems, and equine welfare issues.
Effective Fall Semester 2025

ANS 242 Introductory Horse Management
Fall of every year. 3(2-2) ~~Not open to students with credit in ANS 442.~~
~~Principles of horse management. Reproduction, nutrition, herd health, genetics, economics, marketing.~~ Principles of horse management: Reproduction, nutrition, herd health, genetics, and economics.
Effective Fall Semester 2025

ANS 246 Young Horse Handling
Fall of every year. 2(0-4) P: ANS 145
NEW Develop skill sets to safely work with weanling and yearling horses.
SA: ANS 140A
Effective Fall Semester 2025

ANS 247 Horse Health
Spring of every year. 2(2-0) R: Open to agricultural technology students.
Health risks for horses, emergency care, preventive health care.
DELETE COURSE
Effective Fall Semester 2024

ANS 249 Methods of Instructing Safe Horsemanship
Spring of every year. 2(1-2) P: ANS 140 and ANS 242
NEW Aspects of a successful riding instruction program. Mentoring students in hands-on riding.
Effective Fall Semester 2025

ANS 300D Advanced Horse Judging
Fall of every year. ~~2 credits.~~ 2(0-4) P: ANS 200D ~~R: Not open to freshmen. A student may earn a maximum of 8 credits from the following courses: ANS 200A, ANS 200C, ANS 200D, ANS 200E, ANS 200F, ANS 300A, ANS 300C, ANS 300D, ANS 300E, and ANS 300F.~~ R: Not open to freshmen. A student may earn a maximum of 8 credits ANS 200A, ANS 200B, ANS 200C, ANS 200D, ANS 200E, ANS 200F, ANS 300A, ANS 300B, ANS 300C, ANS 300D, ANS 300E, and ANS 300F.
~~Evaluation of functional characteristics of horses. Represent MSU in intercollegiate competition. Field trips required.~~ Evaluation of functional characteristics of horses. Represent MSU in intercollegiate competition. Field trips required.
Effective Fall Semester 2025

ANS 340 Equine Business & Entrepreneurship
Spring of every year. 3(3-0) P: ANS 242 and AFRE 330
NEW Development and unique aspects of entrepreneurial equine enterprises.
Effective Fall Semester 2025

ANS 341 Introduction to Equine Assisted Services
Spring of every year. 3(2-2) P: ANS 242
NEW Principles of equine assisted services. Social, emotional, cognitive, physical, and self-esteem benefits to humans in therapeutic and non-therapeutic settings. Field trip required.
Effective Fall Semester 2025

ANS 346 Starting Horses Under Saddle I
Spring of every year. 2(0-4) P: ANS 246
NEW Specific training techniques to start horses under saddle.
SA: ANS 146
Effective Fall Semester 2025

ANS 347 Equine Health
Spring of every year. 3(2-2) P: ANS 242 and ANS 309
NEW Recognition and evaluation of equine health issues.
Effective Fall Semester 2025

ANS 410 Stem Cells in Reproduction and Development
~~Fall of odd years.~~ Fall of every year. 3(3-0) ~~P: (BS 161 and BS 171L) and (ANS 307 or approval of department)~~ P: (BS 161 and BS 171) and (ANS 314 or IBIO 341 or approval of department) ~~RB: (BMB 200 or BMB 401) and ANS 425~~ RB: (BMB 200 or BMB 401) and (ANS 307 or ANS 425) Not open to students with credit in ANS 810.
Properties and classification of stem cells; methodology to isolate, culture, and differentiate stem cells; mechanisms underlying stemness and differentiation of stem cells; application of stem cells in agricultural studies, veterinary medicine, and biomedical research.
Effective Fall Semester 2025

ANS 427 ~~Environmental Toxicology and Society~~ Environmental Toxicology and Society (W)
~~Spring of odd years.~~ Spring of every year. 3(3-0) Interdepartmental with Sociology P: Completion of Tier I Writing Requirement RB: ISB 200 or ISB 202 or ISB 204 or BMB 200 or BS 161 or BS 181H or LB 145 or BS 162 or BS 182H or LB 144
Impact of environmental chemicals on health and modern society. Cellular and organ functions and their interface with the environment. Limitations of scientific investigation and environmental regulations.
Effective Spring Semester 2025

ANS 442 Advanced Horse Management
Spring of every year. 3(2-2) ~~P: ANS 242~~ P: ANS 242 and ANS 313 RB: ANS 313 R: Not open to freshmen or sophomores.
~~Management of stables and breeding farms. Pedigree and conformational selection, reproduction. Promotion, marketing, economics. Nutrition and feeding, facilities, and herd health.~~ Provide senior level undergraduate students with the scientific application of biological and biotechnological principles in the disciplines of horse production and management.
SA: ANS 498
Effective Fall Semester 2025

ANS 443 Equine Nutrition
Fall of every year. 3(2-2) P: ANS 242 and ANS 313
NEW Equine nutrition requirements and feeding management.
Effective Fall Semester 2025

ANS 445 Equine Exercise Physiology
Fall of every year. 4(3-2) P: ANS 315 or concurrently ~~RB: ANS 313 and ANS 315~~ RB: ANS 313 R: Open to juniors or seniors.
~~Research in equine exercise science. Physical, physiologic, metabolic and mental adaptation to athletic training. Nutrition and bioenergetics of muscle metabolism.~~ Review and evaluation of current research in equine exercise science.
Effective Fall Semester 2025

ANS 446 Starting Horses Under Saddle II
Fall of every year. 2(0-4) P: ANS 346
NEW Students will demonstrate techniques to start untrained horses under saddle.
SA: ANS 146
Effective Fall Semester 2025

ANS 448 Equine Science Seminar
Spring of every year. 2(2-0) P: (ANS 442 or concurrently) or (ANS 445 or concurrently)
NEW Explore advanced topics in equine science, focusing on recent research, industry trends, and critical issues..
Effective Fall Semester 2025

FOR 340 Forest Ecology
Fall of every year. 3(3-0) ~~P: ((CSS 210 or GEO 206) and completion of Tier I writing requirement) and (PLB 105 or BS 162 or LB 144 or FOR 175)~~ P: ((CSS 210 or GEO 206 or GLG 200 or GLG 201) and completion of Tier I writing requirement) and (PLB 105 or BS 162 or LB 144 or FOR 175) RB: IBIO 355
Ecological interactions crucial to the sustainable management of forest ecosystems. Plant resources, species interactions, succession, biodiversity, productivity, nutrient and carbon cycling, ecosystem structure and function, exotic species, global environmental change.
SA: FOR 404
Effective Fall Semester 2025

FOR 414 Renewable Wood Products
~~Fall of every year.~~ Spring of every year. 3(2-2) P: (CEM 141) and completion of Tier I writing requirement R: Not open to freshmen or sophomores.
Renewable wood products with focus on wood and wood based products. Tree growth and production of woody tissues, wood structure and identification, wood processing and utilization as timber, fiber and pulp product, composites and biofuel for energy. Physical and mechanical properties of wood and relations with practical applications.
Effective Spring Semester 2026

FOR 419 Applications of Geographic Information Systems to Natural Resources Management
Spring of every year. 4(2-4) Interdepartmental with Fisheries and Wildlife, Geography ~~P: FOR 128 or FW 293~~ P: FOR 128 or FW 293 or AFRE 203 RB: GEO 221
Application of geographic information systems, remote sensing, and global positioning systems to integrated planning and management for fish, wildlife, and related resources.
Effective Spring Semester 2026

~~PLB 863~~
HRT 863 Environmental Plant Physiology
Spring of odd years. 3(3-0) ~~Interdepartmental with Horticulture~~ Interdepartmental with Plant Biology RB: PLB 301 or PLB 414 or PLB 415
Interaction of plant and environment. Photobiology, thermophysiology, and plant-water relations.
SA: BOT 863
Effective Fall Semester 2025

PKG 810 Packaging Professional Seminar
Fall of every year. Spring of every year. 3(3-0) R: Open to graduate students in the School of Packaging. Not open to students with credit in PKG 860.
~~Professional skills and workplace strategies for success in a packaging career~~ Professional development, ethical conduct, leadership competency building, social responsibility and inclusive workplace strategies for academic and career success.
Effective Fall Semester 2025

COLLEGE OF NATURAL SCIENCE

IBIO 357 Global Change Biology (W)
~~Spring of every year.~~ Fall of every year. 3(3-0) P: (IBIO 355) and completion of Tier I writing requirement RB: Intended for science or engineering majors R: Not open to freshmen.
Causes and consequences of modes of contemporary global change that are caused by biological systems or impact biological systems. Theories, evidence, and predictions in global warming, ocean acidification, desertification, eutrophication, food security, and mass extinction.
SA: ZOL 357
Effective Fall Semester 2025

IBIO 368 Zoo Animal Biology and Conservation
~~Summer of every year.~~ Fall of every year. 3(3-0) ~~Interdepartmental with Animal Science, Fisheries and Wildlife, Landscape Architecture~~ P: BS 162 or LB 144 or BS 182H or approval of department RB: Previous work in biology
Captive animal biology including illustrated examples of care, behavioral welfare and conservation work.
Request the use of ET-Extension to postpone grading.
The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment.
Effective Fall Semester 2025

PLB 443 Restoration Ecology
Fall of odd years. 3(2-2) Interdepartmental with Biosystems Engineering, Fisheries and Wildlife, Integrative Biology ~~P: FOR 404 or PLB 441 or IBIO 355~~ P: FOR 340 or PLB 441 or IBIO 355 RB: CSS 210 or BE 230
Principles of ecological restoration of disturbed or damaged ecosystems. Design, implementation, and presentation of restoration plans. Field trips required.
Effective Fall Semester 2022

STT 421 Statistics I
Fall of every year. Spring of every year. Summer of every year. 3(3-0) ~~P: MTH 103 or MTH 116 or MTH 103B or MTH 124 or (MTH 132 or concurrently) or (MTH 133 or concurrently) or (MTH 234 or concurrently) or (MTH 299 or concurrently)~~ P: MTH 103 or MTH 116 or MTH 103B or MTH 124 or LB 117 or (LB 118 or concurrently) or (MTH 132 or concurrently) or (MTH 133 or concurrently) or (MTH 234 or concurrently) or (MTH 299 or concurrently) Not open to students with credit in STT 200 or STT 201.
Basic probability, random variables, and common distributions. Estimation and tests for one-, two-, and paired sample problems. Introduction to simple linear regression and correlation, one-way ANOVA.
Effective Fall Semester 2024

STT 464 Statistics for Biologists
Fall of every year. 3(3-0) Interdepartmental with Animal Science, Crop and Soil Sciences ~~P: MTH 103 or MTH 116 or MTH 124 or MTH 132~~ P: MTH 103 or MTH 116 or MTH 124 or MTH 132 or LB 117 or LB 118 or LB 119 ~~RB: STT 421~~
Biological random variables. Estimation of population parameters. Testing hypotheses. Linear correlation and regression. Analyses of counted and measured data to compare several biological groups including contingency tables and analysis of variance.
Effective Fall Semester 2024

NUR 101 Nursing Study Skills Seminar
Fall of every year. Spring of every year. Summer of every year. 1(1-0) R: Open to students in the College of Nursing or in the Nursing Major. Approval of college.
NEW Provides students with the foundational tools to excel in both theoretical and practical aspects of the nursing curriculum.
Request the use of the Pass-No Grade (P-N) system.
Effective Spring Semester 2025

NUR 204 Introduction to Professional Nursing
Fall of every year. Spring of every year. Summer of every year. 3(3-0) P: PSL 250 and (HDFS 225 or concurrently) and PSY 238 R: Open to students in the College of Nursing or in the Nursing Major. Approval of college.
NEW Examine the fundamental principles and values that underpin the nursing profession while fostering a sense of community and professional identity.
Effective Summer Semester 2025

NUR 206 Health Assessment
Fall of every year. Spring of every year. Summer of every year. 2(1-1) R: Open to students in the College of Nursing or in the Nursing Major. Approval of college. C: NUR 204 concurrently and NUR 210 concurrently
NEW Introduction to the components of a comprehensive health assessment including distinguishing abnormal from normal assessment findings.
Effective Summer Semester 2025

NUR 208 Clinical Nursing Skills
Fall of every year. Spring of every year. Summer of every year. 2(1-1) P: PSL 250 and (HDFS 225 or concurrently) and PSY 238 R: Open to students in the College of Nursing or in the Nursing Major. Approval of college. C: NUR 204 concurrently and NUR 206 concurrently
NEW Provide foundational knowledge to develop competence in essential clinical skills and application to evidence-based nursing practice.
Effective Summer Semester 2025

NUR 210 Foundations of Nursing Practice
Fall of every year. Spring of every year. Summer of every year. 5(3-2) P: PSL 250 and (HDFS 225 or concurrently) and PSY 238 R: Open to students in the College of Nursing or in the Nursing Major. Approval of college.
NEW Focus on foundational nursing concepts and application of the nursing process to evidence-based care to diverse populations.
Effective Spring Semester 2025

NUR 306 Pathophysiology, Pharmacology & Genomics I
Fall of every year. Spring of every year. Summer of every year. 4(4-0) P: ANTR 350 or (PSL 310 or concurrently) or (PSL 250 or concurrently) or (PSL 431 or concurrently) or (PSL 432 or concurrently) or (CEM 141 or concurrently) or CEM 161 R: Open to students in the College of Nursing or in the Nursing Major. Approval of college. C: NUR 210 concurrently
NEW Explore the relationship between the physiologic changes, clinical manifestations of altered health, genomics, and the pharmacotherapy utilized in the treatment of complex disease processes.
Effective Summer Semester 2025

NUR 308 Pathophysiology, Pharmacology & Genomics II
Fall of every year. Spring of every year. Summer of every year. 3(3-0) P: NUR 306 R: Open to students in the College of Nursing or in the Nursing Major. Approval of college.
NEW Explores the relationship between physiologic changes, clinical manifestations of altered health, genomics, and the pharmacotherapy used in the treatment of complex disease processes.
Effective Summer Semester 2025

NUR 310 Nursing Care of Adults 1
Fall of every year. Spring of every year. Summer of every year. 5(3-2) R: Open to students in the College of Nursing or in the Nursing Major. Approval of college. C: NUR 206 concurrently and NUR 208 concurrently and NUR 210 concurrently and NUR 306 concurrently

NEW Focuses on using the nursing process including critical thinking, clinical reasoning, and clinical decision-making to manage care for acute and chronically ill patients.
Effective Summer Semester 2025

NUR 312 Nursing Care of Adults II
Fall of every year. Spring of every year. Summer of every year. 5(3-2) P: NUR 310 R: Open to students in the College of Nursing or in the Nursing Major. Approval of college.

NEW Application of the nursing process including critical thinking, clinical reasoning, and clinical decision-making to manage care for acute and chronically ill patients.
Effective Summer Semester 2025

NUR 314 Scholarship of Nursing Practice
Fall of every year. Spring of every year. Summer of every year. 3(3-0) R: Open to students in the College of Nursing or in the Nursing Major. Approval of college. C: NUR 204 concurrently and NUR 210 concurrently

NEW Introduction to evidence-based practice and research methodology to inform ethical nursing practice.
Effective Summer Semester 2025

NUR 371 Behavioral Health Nursing
~~Fall of every year. Spring of every year.~~ Fall of every year. Spring of every year. Summer of every year. 4(2-6) ~~P: NUR 323 and NUR 333~~ P: PSL 250 and PSY 238 and HDFS 225 and MMG 201 and NUR 206 and NUR 208 R: Open to students in the College of Nursing or in the Nursing Major. Approval of college.

~~Extension of foundational social science concepts into nursing therapeutics aimed at behavioral health and the care of persons with mental illnesses.~~ Extension of foundational social science concepts into nursing therapeutics aimed at behavioral health and the care of persons with mental illnesses.
Effective Summer Semester 2025

NUR 404 Kaplan NCLEX Review Seminar
Fall of every year. Spring of every year. Summer of every year. 1(1-0) R: Open to students in the College of Nursing or in the Nursing Major. Approval of college. C: NUR 418 concurrently and NUR 420 concurrently and NUR 426 concurrently

NEW Reinforce core nursing concepts to strengthen critical thinking and clinical judgment to promote NCLEX examination success.
Request the use of the Pass-No Grade (P-N) system.
Effective Summer Semester 2025

NUR 416 Informatics, Analytics, and Innovation
Fall of every year. Spring of every year. Summer of every year. 2(2-0) R: Open to students in the College of Nursing or in the Nursing Major. Approval of college.

NEW Knowledge and skills necessary to effectively utilize information technology to drive innovation in healthcare.
Effective Spring Semester 2025

NUR 418 Transformational Leadership
Fall of every year. Spring of every year. Summer of every year. 3(3-0) P: PSL 250 and HDFS 225 and (PSY 238 or concurrently) and MMG 201 R: Open to students in the College of Nursing or in the Nursing Major. Approval of college. C: NUR 416 concurrently

NEW Integration of evidence-based practice competencies in professional nursing as it relates to leadership, management, and nursing care delivery systems.
Effective Summer Semester 2025

NUR 420 Transitions to Nursing
Fall of every year. Spring of every year. Summer of every year. 3(3-0) R: Open to students in the College of Nursing or in the Nursing Major. Approval of college. C: NUR 404 concurrently and NUR 426 concurrently

NEW Develop personal and professional strategies to successfully transition into professional practice and advocate for the advancement of health professions for the global community.
Effective Summer Semester 2025

NUR 426 Capstone and Preceptorship
Fall of every year. Spring of every year. Summer of every year. 4(1-3) P: NUR 206 and NUR 208 R: Open to students in the College of Nursing or in the Nursing Major. Approval of college.

NEW Application of evidence-based practice competencies in professional nursing as it relates to quality improvement and nursing care delivery systems.
Effective Summer Semester 2025

NUR 430 Population and Global Health
Fall of every year. Spring of every year. Summer of every year. 4(3-1) P: NUR 206 and NUR 208 and NUR 420 R: Open to students in the College of Nursing or in the Nursing Major. Approval of college.

NEW Examine health care processes and systems to achieve better health outcomes for global populations and communities.
Effective Summer Semester 2025

NUR 440 Nursing Care of Children and Their Families
Fall of every year. Spring of every year. Summer of every year. 4(2-2) R: Open to students in the College of Nursing or in the Nursing Major. Approval of college. C: NUR 206 concurrently and NUR 208 concurrently

NEW Theoretical concepts and clinical application of nursing care for children, adolescents, and their families using a holistic perspective in varied settings.
Effective Summer Semester 2025

NUR 444 Nursing Care of the Childbearing Family and Beyond
Fall of every year. Spring of every year. Summer of every year. 4(2-2) R: Open to students in the College of Nursing or in the Nursing Major. Approval of college. C: NUR 206 concurrently and NUR 208 concurrently

NEW Theoretical concepts and clinical application of nursing care for the normal and at risk childbearing families and women's health.
Effective Summer Semester 2025

NUR 902 Scientific Foundations for the Advanced Practice Nurse
Fall of every year. 3(3-0) R: Open to graduate students in the College of Nursing or in the Master of Science in Nursing or in the Nursing Practice Major.

~~Analysis and translation of knowledge gained from the natural and social sciences to inform practice and provide a foundation for the Advanced Practice Nurse role.~~ Analysis and translation of evidence and knowledge gained from the nursing, natural, and social sciences to provide a foundation for the Advanced Practice Nurse role.
Effective Spring Semester 2025

NUR 903 Healthcare Informatics
Spring of every year. 3(3-0) R: Open to graduate students in the College of Nursing or in the Master of Science in Nursing or in the Nursing Practice Major.

~~Health information systems and technologies in relationship to the delivery of efficient, high quality healthcare.~~ Examine the utilization of communication technologies and informatics processes to guide the integration and to influence practice, policy, and healthcare delivery.
Effective Spring Semester 2025

NUR 904 Health Policy and Advocacy
Fall of every year. Summer of every year. 3(3-0) R: Open to graduate students in the College of Nursing or in the Master of Science in Nursing or in the Nursing Practice Major.
Interactions between economics, ethical principles, social policies, legislative and regulatory processes that influence access, delivery and organization of healthcare.
Effective Spring Semester 2025

NUR 905 Patient Safety, Quality Improvement and Quality Management in Healthcare
Fall of every year. Spring of every year. 3(3-0) P: NUR 902 R: Open to graduate students in the College of Nursing or in the Master of Science in Nursing or in the Nursing Practice Major.
~~Application and evaluation of quality improvement initiatives through the use of theories, models and outcome measurements.~~ Application and evaluation of healthcare culture, theories, models and outcome measures on their impact to quality and safety initiatives.
Effective Fall Semester 2021

NUR 906 Leadership in Complex Health Systems
Fall of every year. Spring of every year. Summer of every year. 3(3-0) R: Open to graduate students in the College of Nursing or in the Master of Science in Nursing or in the Nursing Practice Major.
Knowledge, skills and attributes required to assume leadership as an Advanced Practice Registered Nurse in complex health systems.
Effective Spring Semester 2025

NUR 907 Advanced Pathophysiology for the Advanced Practice Registered Nurse
Fall of every year. 3(3-0) R: Open to graduate students in the College of Nursing or in the Master of Science in Nursing or in the Nursing Practice Major.
Advanced physiological and pathophysiological mechanisms of the body system to provide the Advanced Practice Registered Nurse a foundation for patient assessment, clinical decision making, and management.
Effective Spring Semester 2025

NUR 908 Advanced Physical Assessment for the Advanced Practice Registered Nurse
Spring of every year. 3(2-3) P: 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.
~~Comprehensive assessment across the lifespan including history, physical and psychological assessment of signs and symptoms, pathophysiologic changes, and psychosocial variations of the patient.~~ Demonstration of comprehensive person-centered health assessments across the lifespan including pathophysiologic changes and psychosocial variations in patients seen by the advance practice nurse.
Effective Spring Semester 2025

NUR 909 Advanced Pharmacology for the Advanced Practice Registered Nurse
Spring of every year. Summer of every year. 3(3-0) P: NUR 907 and NUR 908 R: Open to graduate students in the College of Nursing or in the Master of Science in Nursing or in the Nursing Practice Major.
~~Application of pharmacotherapeutics for disease conditions including knowledge of pharmacokinetics, pharmacodynamics, pharmacogenetics, pharmacy and toxicology used to guide selection of interventions.~~ Apply pharmacotherapeutics across the lifespan including pharmacokinetics, pharmacodynamics, and pharmacogenetics used to guide selection of the interventions.
Effective Spring Semester 2025

NUR 936 Clinical Nurse Specialist Specialty Role Immersion I
Fall of every year. 3(0-9) P: NUR 935 R: Open to doctoral students in the College of Nursing or in the Nursing Practice Major.
~~Clinical application of the essential knowledge, skills, and values associated with the student-selected specialized practice role of the Clinical Nurse Specialist.~~ This course prepares the continued development of the clinical nurse specialist by advancing clinical and healthcare knowledge to excel in specialized practice roles, enhancing patient outcomes through expert care, leadership, and evidence-based practice
Request the use of the Pass-No Grade (P-N) system.
Effective Spring Semester 2025

NUR 937 Clinical Nurse Specialist Specialty Role Immersion II
Spring of every year. 3(0-9) P: NUR 936 R: Open to doctoral students in the College of Nursing or in the Nursing Practice Major.
~~Continuation of NUR 936. Capstone.~~ This course prepares the continued development of the clinical nurse specialist by advancing clinical and healthcare knowledge to excel in specialized practice roles, enhancing patient outcomes through expert care, leadership, and evidence-based practice.
Request the use of the Pass-No Grade (P-N) system.
Effective Spring Semester 2025

NUR 946 Principles of Regional Anesthesia and Point-of-Care Ultrasound
Fall of every year. 4(4-0) P: NUR 971 R: Open to doctoral students in the College of Nursing or in the Nursing Practice Major.
Comprehensive instruction in the use of ultrasonography for therapeutic, procedural and diagnostic anesthetic care.
Effective Spring Semester 2025

NUR 972 Advanced Principles of Anesthesia I
Fall of every year. 3(3-0) P: NUR 967 R: Open to doctoral students in the College of Nursing or in the Nursing Practice Major.
Anesthetic delivery to patients with increasing co-morbidities and complex anesthesia needs. Advanced airway management, regional anesthesia and chronic pain management.
Effective Spring Semester 2025

NUR 973 Advanced Principles of Anesthesia II
Spring of every year. 3(3-0) P: NUR 972 R: Open to doctoral students in the College of Nursing or in the Nursing Practice Major.
Advanced concepts related to nurse anesthesia practice including management of pediatric, obstetric, neurologic, trauma, vascular and cardiothoracic procedures
Effective Spring Semester 2025

NUR 995 Doctor of Nursing Practice Project I
~~Summer of every year.~~ Spring of every year. Summer of every year. ~~4(2-4)~~ 4(2-2) ~~P: (NUR 902 and NUR 903 and NUR 905 and EPI 810) 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) ~~R: Open to doctoral students in the College of Nursing or in the Nursing Practice Major.~~ R: Open to doctoral 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 2022

NUR 996 Doctor of Nursing Practice Project II
Fall of every year. 3(0-6) P: NUR 904 and NUR 906 and NUR 995 R: Open to doctoral students in the College of Nursing or in the Nursing Practice Major.
~~Implementation of the scholarly practice project for the advanced practice nurse.~~ Implementation phase of a DNP project aimed at improving healthcare outcomes.
Request the use of the Pass-No Grade (P-N) system.
Effective Spring Semester 2025

NUR 997 Doctor of Nursing Practice Project III

Spring of every year. 3(0-6) P: NUR 996 R: Open to graduate students in the College of Nursing or in the Master of Science in Nursing or in the Nursing Practice Major.

~~Evaluation and dissemination of the scholarly practice project for the advanced practice nurse.~~ Evaluation and dissemination of a DNP project aimed at improving healthcare outcomes.

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

Effective Spring Semester 2025