MICHIGAN STATE UNIVERSITY
University Committee on Curriculum

SUBCOMMITTEE A – AGENDA

Via Teams
October 10, 2024
1:30 p.m.

PART I – NEW ACADEMIC PROGRAMS AND PROGRAM CHANGES

COLLEGE OF AGRICULTURE AND NATURAL RESOURCES

1. Request to establish a **Minor** in **Landscape Horticulture** in the Department of Horticulture. The University Committee on Undergraduate Education (UCUE) will consider this request at its September 19, 2024 meeting.

   a. **Background Information**:

   The Minor in Landscape Horticulture will provide students in other majors the opportunity to take courses specifically tailored to enhancing their skills in landscape design, construction and maintenance. This will provide a pathway for students who are not interested in the plant production courses required in the horticulture minor.

   b. **Academic Programs Catalog Text**:

   The minor is designed to provide students with an understanding of the materials and processes used to design, construct and maintain landscapes.

   The minor is available as an elective to students who are enrolled in bachelor's degree programs at Michigan State University with the exception of majors in Horticulture. The minor is administered by The Department of Horticulture.

   With the approval of the department and college that administer the student's degree program, the courses that are used to satisfy the requirements for the minor may also be used to satisfy the requirements for the bachelor's degree.

   Requirements for the Minor in Landscape Horticulture

   Students must complete a minimum of 17 credits from the following:

			CREDITS
HRT	211	Landscape Plants I	3
HRT	212	Landscape Plants II	3
HRT	213	Landscape Maintenance	2
HRT	218	Irrigation Systems for Horticulture	2
HRT	311	Landscape Design and Management Specifications	4
HRT	411	Landscape Contract Management	3

   Effective Spring 2025.

2. Request to change the requirements for the **Master of Science** degree in **Horticulture** in the Department of Horticulture. The University Committee on Graduate Studies (UCGS) will consider this request at its October 21, 2024 meeting.

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

   To be considered for admission students must:

   1. have completed a Bachelor of Arts or Bachelor of Science degree in agriculture or biological sciences. Applicants not trained in these fields will be considered provided they have a robust academic and/or experiential background. Previous courses in college-level physics, chemistry, mathematics, statistics, and plant science are strongly recommended.
   2. have maintained a minimum grade-point average of 3.0 on a 4.0 scale during their last two academic years.
   3. submit scores if they are not native English speakers, for the Test Of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS). For TOEFL, a minimum average score of 80 is required, with minimal subscore of 19 for reading, listening, and speaking, and 22 for writing. For IELTS, a score of 6.5 or higher is required.

The willingness of a specific faculty member to serve as Faculty Advisor is not required for application but is required at the time of admission. Provisional admission may be made for language deficiency only.

b. Under the heading **Requirements for the Master of Science Degree in Horticulture** replace the entire entry with the following:

The student may elect either Plan A (with thesis) or Plan B (without thesis). A total of 30 credits is required for the degree under Plan A or Plan B. At least 16 of these credits must be in courses at the 800 or 900 level, including research. Courses should include at least 1 credit hour of Horticulture Seminar (HRT 894) or another seminar course approved by the student's advisory committee, as well as at least 3 credit hours of 800-level courses in Horticulture, not including HRT 894.

Additional Requirements for Plan A

1. At least 6 but not more than 10 credits of Master's Thesis Research (Horticulture 899) are required.
2. Students must complete prescribed courses and conduct original research, under the supervision of the Faculty Advisor and the Advisory Committee, on a selected problem related to Horticulture. A review of the literature in the selected area of study and written research proposal should precede the experimental work. The data collected must be analyzed, interpreted, presented, submitted to, and accepted by The Graduate School according to their recommendations/format.

Additional Requirements for Plan B

1. At least 3 but not more than 6 credits of Independent Study (Horticulture 890) and/or Master's Research (Horticulture 898) is required.
2. Students must complete prescribed courses and conduct an independent project, under the supervision of the Faculty Advisor and the Advisory Committee, incorporating teaching, extension, outreach, and/or research related to Horticulture. The student will write a project report or create a portfolio, in lieu of an experimental research-based thesis.

The Department recommends that, at minimum, all Horticulture master's and doctoral students undertake graduate academic course work or equivalent experiential learning related to (1) Production, storage and/or marketing of horticultural crops and (2) Plant growth, development and physiology. In addition, it is recommended that students are trained in approaches and methods in computational/quantitative biology, statistics, scientific communication, and research/analytical techniques. This training can take place while in the Program or from previous education. Other courses relevant to the student's research interests may be chosen in consultation with the guidance committee.

All programs of study are subject to departmental review. A final oral and/or written examination on courses, research and/or independent work pursued during the program will be conducted at the end of the student's final semester of enrollment.

Effective Spring 2025.

3. Request to change the requirements for the **Doctor of Philosophy** degree in **Horticulture** in the Department of Horticulture. The University Committee on Graduate Studies (UCGS) will consider this request at its October 21, 2024 meeting.

a. Add the following section on **Admission**:

To be considered for admission students must:

1. have completed a Bachelor of Arts or Bachelor of Science degree in agriculture or biological sciences. Applicants not trained in these fields will be considered provided they have a robust academic and/or experiential background. Previous courses in college-level physics, chemistry, mathematics, statistics, and plant science are strongly recommended.
2. have maintained a minimum grade-point average of 3.0 on a 4.0 scale during their last two academic years.

3. submit scores if they are not native English speakers, for the Test Of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS). For TOEFL, a minimum average score of 80 is required, with minimal subscore of 19 for reading, listening, and speaking, and 22 for writing. For IELTS, a score of 6.5 or higher is required.

The willingness of a specific faculty member to serve as Faculty Advisor is not required for application but is required at the time of admission. Provisional admission may be made for language deficiency only.

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

The Doctor of Philosophy degree in Horticulture requires at least 30 credit hours. At least 16 of these credits must be in courses at the 800 or 900 level, including research. Courses should include at least 3 credit hours of Horticulture Seminar (HRT 894) or another seminar course approved by the student's advisory committee, as well as at least 3 credit hours of 800-level courses in Horticulture, not including HRT 894, with a total of 9 credit hours of 800-level courses in Horticulture recommended, not including HRT 894.

1. A minimum of 24 and a maximum of 36 credits hours in Doctoral Dissertation Research (Horticulture 999) is required. All students using University services must be registered each semester for a minimum of 1 credit hour of HRT 999.
2. One year of attendance on campus after the first enrollment for doctoral degree credit is required. A year of residence/attendance consists of two semesters, involving completion of at least 3 credits of graduate work each term.
3. Graduate students in the Ph.D. program must complete prescribed courses and conduct original research, under the supervision of the Faculty Advisor and the Advisory Committee, on a selected problem related to Horticulture. A review of the literature in the selected area of study and written research proposal should precede the experimental work. The data collected must be analyzed, interpreted, presented, submitted to, and accepted by The Graduate School according to their recommendations/format.

The Department recommends that, at minimum, all Horticulture master's and doctoral students undertake graduate academic course work or equivalent experiential learning related to (1) Production, storage and/or marketing of horticultural crops and (2) Plant growth, development and physiology. In addition, it is recommended that students are trained in approaches and methods in computational/quantitative biology, statistics, scientific communication, and research/analytical techniques. This training can take place while in the Program or from previous education. Other courses relevant to the student's research interests may be chosen in consultation with the guidance committee. An oral qualifying examination may be conducted by the guidance committee shortly after the student begins advanced graduate study to determine his or her qualifications and to provide a basis for developing the program of study. A final oral and/or written examination on courses, research and/or independent work pursued during the program will be conducted at the end of the student's final semester of enrollment.

Effective Spring 2025.

COLLEGE OF ENGINEERING

1. Request to establish a **Graduate Certificate** in **Data-enabled Water Sustainability and Equity** in the Department of Civil and Environmental Engineering. The University Committee on Graduate Education (UCGS) recommended approval of this request at its September 16, 2024 meeting.

a. **Background Information**:

The proposed Data-enabled Water Sustainability and Equity (DWSE) graduate certificate program is part of a newly-funded National Science Foundation National Research Traineeship (NRT) award, WaterCube, and aims to develop a collaborative graduate-training paradigm for advancing data revolution-enabled water sustainability through an equity lens. The name “WaterCube” reflects the conviction that it takes the convergence of three broad areas, data science, water science, and social science, to solve complex, real-world water problems. WaterCube builds upon synergistic collaboration among faculty from thirteen departments across seven colleges. A core goal of

WaterCube is to train graduate students who are a) competent in the knowledge, understanding, and practice of issues at the intersection of data science, water science, and social science; b) well-versed in cross-disciplinary research collaboration; and c) well prepared for diverse career options. A key component of achieving this goal is creation of the DWSE graduate certificate program that will consist of three fundamental courses from each of the three broad areas of the WaterCube (data science, water science, and social science) and one practicum course integrating all.

While there are other graduate training efforts in water sustainability (e.g., University of Washington Future Rivers Program, Colorado State University Applied Global Stability: Water Resources, Michigan Technological University Water Resources Modeling, and University of South Florida Water Sustainability) the DWSE graduate certificate program will be unique with its equal emphasis on all three dimensions of data science, water science, and social science, an approach that is indispensable in solving complex water challenges. The new WaterCube NRT provides a strong foundation, support, and visibility for the DWSE program. In addition to the WaterCube NRT, MSU recently launched the MSU Water Alliance, which seeks to bring together experts across the University to push the boundaries of discovery and find solutions to water-related challenges through research, education, and engagement with communities and industries. The Water Alliance and WaterCube NRT will partner to support the DWSE graduate certificate program. These efforts demonstrate that MSU has unique and expansive expertise in addressing water-related challenges.

There has also been a long-standing interest in creating a graduate water program at MSU. In 2014, Dr. Joan Rose (Homer Nowlin Chair in Water) organized several faculty committees comprised of interested faculty to explore creation of a graduate program in water. The committees assessed current courses being taught related to water and evaluated the interests of MSU students and faculty in creating a graduate water program. In 2015, the Office for Survey Research conducted surveys to assess MSU undergraduate students, graduate students, and faculty interest in the creation of a Water Science Degree Program. Overall, students (n=441) and faculty (n=112) who participated in the surveys expressed interest in creating a graduate water program at MSU. Graduate students (n=173) indicated that a certificate program was preferred over other types of graduate programs.

b. **Academic Programs Catalog Text**:

The Graduate Certificate in Data-enabled Water Sustainability and Equity (DWSE) will equip students with fundamental knowledge of the three dimensions of the WaterCube and with skills to integrate these areas for understanding and addressing real-world water issues. The graduate certificate requires students to complete a series of four courses, totaling 10 credits. Students will have options for fulfilling course requirements providing flexibility to incorporate the requirements into their programs of study without extending their time to degree.

Admission

For admission to the Graduate Certificate in Data-enabled Water Sustainability and Equity, students must complete an application form which includes:

1. a plan for completing the certificate requirements. Students will indicate which courses they will take to meet the program requirements, provide a brief justification for their choices, and provide a timeline for completion.
2. a statement of interest. Students will briefly describe their interest in Data-enabled Water Sustainability and Equity and their reason(s) for pursuing the graduate certificate.

Requirements for the Graduate Certificate in Data-enabled Water Sustainability and Equity

Students must complete a minimum of 10 credits from the following:

				CREDITS
1.	The following course (1 credit):			
	FW	867	Water: A Global Perspective	1
2.	One of the following data science courses (3 credits):			
	CMSE	801	Introduction to Computational Modeling and Data Analysis	3
	CSE	404	Introduction to Machine Learning	3
	CSE	881	Data Mining	3
	GEO	429	Programming with Spatial Data	3
	GEO	866	Spatial Data Analysis	4

3. One of the following social science courses (3 credits):

AIIS	801	Indigenous Theories and Methodologies	3
CSUS	858	Gender, Justice and Environmental Change: Issues and Concepts	3
CSUS	848	Community Based Natural Resource Management in International Development	3
SOC	865	Environmental Sociology	3

4. One of the following experiential learning courses (3 credits):

ESP	804	Environmental Applications and Analysis	3
FW	868	Water Policy and Management	3

CMSE 801, GEO 429, and GEO 866 are recommended for students new to programming and modeling. Additional courses at the 400-level or above may be used to fulfill requirement 2. Or requirement 3. if approved by the program director. Students must have a minimum 3.0 grade-point average in courses applied to the certificate in order for it to be awarded.

Effective Spring 2025.

COLLEGE OF HUMAN MEDICINE

1. Request to delete the curriculum and degree requirements for the **Graduate Certificate** degree in **Applied Parasitology for Public Health** in the College of Human Medicine. The University Committee on Graduate Studies (UCGS) provided consultative commentary to the Provost after considering this request. The Provost made the determination to discontinue the program after considering the consultative commentary from the University Committee on Graduate Studies.

   No new students are to be admitted to the program effective Fall 2016. No students are to be readmitted to the program effective Fall 2016. Effective Fall 2024, coding for the program will be discontinued and the program will no longer be available in the College of Human Medicine. Students who have not met the requirements for the Graduate Certificate in Applied Parasitology for Public Health through the College of Human Medicine prior to Fall 2024 will have to change their certificate.

   Note: This program has been in moratorium since Fall 2016.

2. Request to delete the curriculum and degree requirements for the **Graduate Certificate** degree in **Clinical Research Trials Management** in the College of Human Medicine. The University Committee on Graduate Studies (UCGS) provided consultative commentary to the Provost after considering this request. The Provost made the determination to discontinue the program after considering the consultative commentary from the University Committee on Graduate Studies.

   No new students are to be admitted to the program effective Fall 2016. No students are to be readmitted to the program effective Fall 2016. Effective Fall 2024, coding for the program will be discontinued and the program will no longer be available in the College of Human Medicine. Students who have not met the requirements for the Graduate Certificate in Clinical Research Trials Management through the College of Human Medicine prior to Fall 2024 will have to change their certificate.

   Note: This program has been in moratorium since Fall 2016.

3. Request to delete the curriculum and degree requirements for the **Graduate Certificate** degree in **Counterfeit Pharmaceuticals** in the College of Human Medicine. The University Committee on Graduate Studies (UCGS) provided consultative commentary to the Provost after considering this request. The Provost made the determination to discontinue the program after considering the consultative commentary from the University Committee on Graduate Studies.

   No new students are to be admitted to the program effective Fall 2016. No students are to be readmitted to the program effective Fall 2016. Effective Fall 2024, coding for the program will be discontinued and the program will no longer be available in the College of Human Medicine. Students who have not met the requirements for the Graduate Certificate in Counterfeit Pharmaceuticals through the College of Human Medicine prior to Fall 2024 will have to change their certificate.

   Note: This program has been in moratorium since Fall 2016.

4. Request to delete the curriculum and degree requirements for the **Graduate Certificate** degree in **International Public Health** in the College of Human Medicine. The University Committee on Graduate Studies (UCGS) provided consultative commentary to the Provost after considering this request. The Provost made the determination to discontinue the program after considering the consultative commentary from the University Committee on Graduate Studies.

   No new students are to be admitted to the program effective Fall 2016. No students are to be readmitted to the program effective Fall 2016. Effective Fall 2024, coding for the program will be discontinued and the program will no longer be available in the College of Human Medicine. Students who have not met the requirements for the Graduate Certificate in International Public Health through the College of Human Medicine prior to Fall 2024 will have to change their certificate.

   Note: This program has been in moratorium since Fall 2016.

5. Request to delete the curriculum and degree requirements for the **Graduate Certificate** degree in **Public Health Administration** in the College of Human Medicine. The University Committee on Graduate Studies (UCGS) provided consultative commentary to the Provost after considering this request. The Provost made the determination to discontinue the program after considering the consultative commentary from the University Committee on Graduate Studies.

   No new students are to be admitted to the program effective Fall 2016. No students are to be readmitted to the program effective Fall 2016. Effective Fall 2024, coding for the program will be discontinued and the program will no longer be available in the College of Human Medicine. Students who have not met the requirements for the Graduate Certificate in Public Health Administration through the College of Human Medicine prior to Fall 2024 will have to change their certificate.

   Note: This program has been in moratorium since Fall 2016.

6. Request to delete the curriculum and degree requirements for the **Graduate Certificate** degree in **Public Health Informatics** in the College of Human Medicine. The University Committee on Graduate Studies (UCGS) provided consultative commentary to the Provost after considering this request. The Provost made the determination to discontinue the program after considering the consultative commentary from the University Committee on Graduate Studies.

   No new students are to be admitted to the program effective Fall 2016. No students are to be readmitted to the program effective Fall 2016. Effective Fall 2024, coding for the program will be discontinued and the program will no longer be available in the College of Human Medicine. Students who have not met the requirements for the Graduate Certificate in Public Health Informatics through the College of Human Medicine prior to Fall 2024 will have to change their certificate.

   Note: This program has been in moratorium since Fall 2016.

PART II - NEW COURSES AND CHANGES

COLLEGE OF ENGINEERING

BMB 471 Advanced Biochemistry Laboratory
Spring of every year. 4(2-4) ~~P: BMB 370 and BMB 461 and CMSE 201~~ P: BMB 370 and BMB 461 R: Open to students in the Biochemistry and Molecular Biology/Biotechnology Major or in the Biochemistry and Molecular Biology major or in the Lyman Briggs Biochemistry and Molecular Biology Coordinate Major or in the Lyman Briggs-Biochemistry/Biotechnology Coordinate Major or approval of department.

Biochemical methods and principles used in the study of enzymes (proteins), carbohydrates, lipids, and cell organelles.
SA: BCH 471
Effective Spring Semester 2025

BMB 825 Cell Structure and Function
~~Spring of every year.~~ Spring of every year. 3(3-0) ~~Interdepartmental with Microbiology and Molecular Genetics, Microbiology and Molecular Genetics, Microbiology and Molecular Genetics, Microbiology and Molecular Genetics, Physiology, Physiology, Physiology, Physiology~~ Interdepartmental with Microbiology, Genetics, and Immunology, Microbiology, Genetics, and Immunology, Microbiology, Genetics, and Immunology, Microbiology, Genetics, and Immunology, Physiology, Physiology, Physiology, Physiology, Physiology RB: BMB 401 or BMB 461.

Molecular basis of structure and function. Cell properties: reproduction, dynamic organization, integration, programmed and integrative information transfer. Original investigations in all five kingdoms.
SA: BCH 825
Effective Fall Semester 2025

COLLEGE OF NATURAL SCIENCE

BLD 815 Cell Biology in Health and Disease I
~~Spring of even years.~~ Fall of odd years. 2(2-0 RB: Undergraduate course in Biochemistry and Physiology. Experience in a clinical laboratory.

Principles and theories of cell biology and biochemistry are presented with a focus on applications to clinical pathology.
Request the use of ET-Extension to postpone grading.
The work for the course must be completed and the final grade reported within 3 semesters after the end of the semester of enrollment.
Effective Fall Semester 2025

BLD 816 Cell Biology in Health and Disease II
~~Summer of even years.~~ Spring of even years. 2(2-0) P: BLD 815 RB: Undergraduate course in biochemistry and physiology. Experience in a clinical laboratory.

Continuation of BLD 815.
Request the use of ET-Extension to postpone grading.
The work for the course must be completed and the final grade reported within 3 semesters after the end of the semester of enrollment.
Effective Spring Semester 2025

COLLEGE OF NURSING

NUR 868 Topics in Nursing Education
~~Fall of every year.~~ Spring of every year. 3(3-0) RB: Open only to master's students in the Clinical Nurse Specialist-Nurse Education concentration. R: Open to graduate students in the Master of Science in Nursing.

~~Integration of concepts of teaching, learning, evaluation, and assessment applicable to nursing education within a variety of settings.~~ Integration of concepts of teaching, learning, evaluation, and assessment applicable to nursing education within a variety of settings.

Effective Spring Semester 2024

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 including history, physical and psychological assessment of signs and symptoms, pathophysiologic changes, and psychosocial variations of the patient. Specific assessment related to Nurse Anesthetist, Clinical Nurse Specialist and Nurse Practitioner practice will be a focus in the practical experience of students.~~ Comprehensive assessment across the lifespan including history, physical and psychological assessment of signs and symptoms, pathophysiologic changes, and psychosocial variations of the patient.

Effective Fall Semester 2024

COLLEGE OF VETERINARY MEDICINE

PHM 854 Leadership and Team-Building for Biomedical Research
Spring of every year. 2(2-0) RB: Experience supervising others and/or participation in workplace teams is strongly suggested. R: Open to graduate students. Not open to students with credit in PHM 454.

Evaluation of current leadership methods. Models of leadership. Practice of specific skills and development of a plan to increase their influence and extend learning beyond the class.

Effective Summer Semester 2022