

SUBCOMMITTEE A – AGENDA

Via Teams
November 7, 2024
1:30 p.m.

PART I – NEW ACADEMIC PROGRAMS AND PROGRAM CHANGES

COLLEGE OF ENGINEERING

1. Request to change the requirements for the **Bachelor of Science** degree in **Applied Engineering Sciences** in the College of Engineering.

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

- (1) In item 3. d. make the following changes:

- (a) In the **Business Law** concentration change the total credits from '16 or 17' to '15 or 16' and delete the following course from item 1.:

PHY	192	Physics Laboratory for Scientists, II	1
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- (b) In the **Computer Science** concentration in item 2., delete the following courses:

CSE	404	Introduction to Machine Learning	3
CSE	440	Introduction to Artificial Intelligence	3
CSE	471	Media Processing and Multimedia Computing	3
CSE	472	Computer Graphics	3
CSE	482	Big Data Analysis	3

Add the following course:

CSE	380	Information Management and the Cloud	3
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Effective Fall 2025.

2. Request to change the requirements for the **Minor in Energy** in the College of Engineering.

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

- (1) In item 5., delete the following course:

EEP	255	Ecological Economics	3
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Add the following course:

AFRE	265	Ecological Economics	3
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- (2) In item 6., delete the following courses:

EEM	320	Environmental Economics	3
GLG	301	Geology of the Great Lakes Region	3

Add the following courses:

AFRE	360	Environmental Economics	3
GLG	203	Geology of the Great Lakes Region	3

Effective Fall 2025.

COLLEGE OF NATURAL SCIENCE

1. Request to change the requirements for the **Bachelor of Science** degree in **Biochemistry and Molecular Biology** in the Department of Biochemistry and Molecular Biology.

- a. Under the heading **Requirements for the Bachelor of Science Degree in Biochemistry and Molecular Biology** make the following changes:

- (1) In item 3. a. (8) (b) delete the following courses:

PHY	241	Physics for Cellular and Molecular Biologists I	4
PHY	242	Physics for Cellular and Molecular Biologists II	4

Add the following courses:

PHY	193H	Honors Physics I – Mechanics	4
PHY	294H	Honors Physics II – Electromagnetism	4

Effective Fall 2025.

2. Request to change the requirements for the **Bachelor of Science** degree in **Biochemistry and Molecular Biology/Biotechnology** in the Department of Biochemistry and Molecular Biology.

- a. Under the heading **Requirements for the Bachelor of Science Degree in Biochemistry and Molecular Biology/Biotechnology** make the following changes:

- (1) In item 3. a. (8) (d) delete the following courses:

PHY	241	Physics for Cellular and Molecular Biologists I	4
PHY	242	Physics for Cellular and Molecular Biologists II	4

Add the following courses:

PHY	193H	Honors Physics I – Mechanics	4
PHY	294H	Honors Physics II – Electromagnetism	4

- (2) In item 3. a. (9) delete the following course:

MMG	408	Advanced Microbiology Laboratory (W)	3
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Add the following course:

MGI	408	Advanced Microbiology Laboratory (W)	3
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Effective Fall 2025.

3. Request to change the requirements for the **Bachelor of Science** degree in **Biomedical Laboratory Science** in the Biomedical Laboratory Diagnostics Program.

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

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

MMG	365	Medical Microbiology	3
MMG	365L	Medical Microbiology Laboratory	1

Add the following courses:

MGI	365	Medical Microbiology	3
MGI	365L	Medical Microbiology Laboratory	1

(2) In item 3. a. (6) delete the following courses:

MMG	201	Fundamentals of Microbiology	3
MMG	301	Introductory Microbiology	3

Add the following courses:

MGI	201	Fundamentals of Microbiology	3
MGI	301	Introductory Microbiology	3

c. In item 3. c. make the following changes:

(1) In the **Medical Microbiology** concentration under (1) delete the following courses:

MMG	461	Molecular Pathogenesis	3
MMG	465	Advanced Medical Microbiology	3
MMG	465L	Advanced Medical Microbiology Laboratory	2

Add the following courses

MGI	461	Molecular Pathogenesis	3
MGI	465	Advanced Medical Microbiology	3
MGI	465L	Advanced Medical Microbiology Laboratory	2

(2) In the **Medical Microbiology** concentration under (2) delete the following courses:

HM	801	Introduction to Public Health	3
MMG	413	Virology	3
MMG	421	Prokaryotic Cell Physiology	3
MMG	431	Microbial Genetics	3

Add the following courses:

PH	801	Introduction to Public Health	3
MGI	413	Virology	3
MGI	421	Prokaryotic Cell Physiology	3
MGI	431	Microbial Genetics	3

(3) In the **Hematology and Hemostatis** concentration under (3) delete the following course:

MMG	409	Eukaryotic Cell Biology	3
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Add the following course:

MGI	409	Eukaryotic Cell Biology	3
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(4) In the **Medical Laboratory Science** concentration delete the following courses:

MMG	465	Advanced Medical Microbiology	3
MMG	465L	Advanced Medical Microbiology Laboratory	2

Add the following courses

MGI	465	Advanced Medical Microbiology	3
MGI	465L	Advanced Medical Microbiology Laboratory	2

(5) Delete the **Advanced Biomedical Technologies** concentration.

4. Request to change the requirements for the **Bachelor of Science** degree in **Medical Laboratory Science** in the Biomedical Laboratory Diagnostics Program.

a. Under the heading **Admission** make the following changes:

(1) In paragraph two, replace item 3. with the following:

3. Have completed BMB 401, MGI 365, MGI 365L, BLD 324, and BLD 434.

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

(1) In item 4. a. (1) delete the following courses:

MMG	365	Medical Microbiology	3
MMG	365L	Medical Microbiology Laboratory	1
MMG	465	Advanced Medical Microbiology	3
MMG	465L	Advanced Medical Microbiology Laboratory	2

Add the following courses:

MGI	365	Medical Microbiology	3
MGI	365L	Medical Microbiology Laboratory	1
MGI	465	Advanced Medical Microbiology	3
MGI	465L	Advanced Medical Microbiology Laboratory	2

(2) In item 4. a. (6) delete the following courses:

MMG	201	Fundamentals of Microbiology	3
MMG	301	Introductory Microbiology	3

Add the following courses:

MGI	201	Fundamentals of Microbiology	3
MGI	301	Introductory Microbiology	3

c. Under the heading **Academic Standards** replace the first sentence with the following:

To progress to the clinical phase of the curriculum, students must earn a grade-point average of 2.50 or higher in MGI 465, MGI 465L, BLD 402, BLD 424, BLD 424L, BLD 430, BLD 435, and BLD 435L.

Effective Fall 2025.

5. Request to change the requirements for the **Bachelor of Science** degree in **Physiology** in the Department of Physiology.

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

(1) Replace item 6. a. with the following:

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

Effective Spring 2025.

COLLEGE OF OSTEOPATHIC MEDICINE

1. Request to establish a **Undergraduate Certificate** (Type 2) in **Global Health** in the College of Osteopathic Medicine. The University Committee on Undergraduate Education (UCUE) will consider this request at its October 24, 2024 meeting.

- a. **Background Information:**

The idea for this certificate originated from the Global Health Studies Program (College of Osteopathic Medicine) and the Global and International Studies major (College of Social Science). The master's and graduate certificate programs in Global Health launched in 2019 and there has been an increasing demand for global health courses by both professional and undergraduate students. In 2023, the Global Health Studies Program launched the undergraduate course OST 402 (recently changed to OST 450) Introduction to Global Health which immediately filled and became the only required course in the new Global Health concentration within the Global and International Studies major (College of Social Science). There is interest in packaging two new courses with the existent OST 450 as a transcriptable certificate for undergraduate students who have an interest in global health, similar to the undergraduate certificate in public health.

MSU has a long history of engagement globally, especially in the areas of health. Health related majors are some of the most popular at MSU (e.g. human biology, psychology, kinesiology, etc.). There has been a significant growing interest nationally and internationally in global health, even prior to the COVID-19 pandemic (Drain, et al. 2017). The current programs in global health offered by the College of Osteopathic Medicine include faculty from across the university (representing over 7 colleges) and from partnering international universities, highlighting the excellent, globally-engaged faculty. Given the popularity of the new graduate and professional global health programs, the strength of MSU in health given our four health related colleges, offering an undergraduate certificate in global health at MSU provides a market advantage responding to student interest.

The College of Osteopathic Medicine, home of the Institute for Global Health, offers over 15 international education abroad courses to undergraduate, graduate, and professional students. The Global Health Studies Program in the College of Osteopathic Medicine is home to the new M.S. and Graduate Certificate in Global Health, and the Certificate in Global Health for D.O. students.

- b. **Academic Programs Catalog Text:**

The Undergraduate Certificate in Global Health provides the introduction to global health. It explores the history, values, and functions of global health and how travel, trade, and other aspects of globalization contribute to health, disease, and health disparities. Students will examine the connections between human health and environmental health, including considerations of water, sanitation, air quality, urbanization, and ecosystem health. Students learn how to apply an interdisciplinary or interprofessional lens to the evaluation of policies and interventions that seek to solve major population health concerns and achieve health equity.

Students interested in completing the Undergraduate Certificate in Global Health should consult an academic advisor in the College of Osteopathic Medicine.

The undergraduate certificate is available as an elective to students who are enrolled in bachelor's degree programs at Michigan State University. With approval of the department and college that administers the student's degree program, the courses that are used to satisfy the undergraduate certificate may also be used to satisfy the requirements for the bachelor's degree.

Requirements for the Undergraduate Certificate in Global Health

	CREDITS
Students must complete 9 credits from the following:	
OST 450 Introduction to Global Health	3
OST 451 Global Health Research Methods	3
OST 452 Introduction to One Health	3

2. Request to change the requirements for the **Professional Program in Osteopathic Medicine** leading to the Doctor of Osteopathic Medicine degree the College of Osteopathic Medicine. The University Committee on Graduate Studies (UCGS) will consider this request at its November 18, 2024 meeting.

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

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

- (a) Change the total credits from '95' to '91'.
- (b) Under the clinical experience requirement, add the following courses:

FCM	671	Pathway to Family Medicine I	1
OST	586	Community-Based Service Learning	1

(2) Under **Clerkship Curriculum** make the following changes:

(a) Under the rotation courses delete the following:

OST	689	Global Health Haiti – Clinical Immersion	1 to 20
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(b) Change the credits of RAD 610 from '1 to 20' to '3'.

(c) Under the rotation courses, add the following courses:

ORT	644	Sports Medicine Clerkship	1 to 20
ORT	656	Orthopedic Clerkship	1 to 20

Delete the following courses:

OSS	644	Sports Medicine Clerkship	1 to 20
OSS	656	Orthopedic Clerkship	1 to 20

(d) Under the rotation courses are credited toward the non-clinical requirement, make the following changes:

(i) Add the following course:

OST	605	Preparing for Practice	1.5
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(ii) Change the credits of OST 620 from '2 or 3' to '1.5'.

(iii) Change the credits of OST 624 from '3' to '1.5 to 3'.

Effective Spring 2025.

PART II - NEW COURSES AND CHANGES

COLLEGE OF AGRICULTURE AND NATURAL RESOURCES

- ENT 478 Integrated Pest Management (W)
Spring of odd years. 3(3-0) Interdepartmental with Crop and Soil Sciences, Forestry,
Horticulture P: (ENT 404 or ENT 470 or PLP 405) and completion of Tier I writing requirement
- REINSTATEMENT Theory, philosophy and application of pest management focusing on agricultural and
natural systems.
Effective Spring Semester 2025
- PLP 881 Molecular and Biochemical Plant Pathology
~~Spring of even years.~~ Fall of even years. ~~3(2-2)~~ 3(3-0) RB: BMB 462 and IBIO 341 and PLB 415
Biochemical and molecular bases of host-pathogen interactions. Mechanisms of
pathogenicity and the nature of disease resistance.
SA: BOT 881
Effective Fall Semester 2024

COLLEGE OF ENGINEERING

- AESC 110 AES as a Profession
Fall of every year. ~~4(1-0)~~ 1(0-2) R: Open to undergraduate students in the College of Engineering.
Introduction to the profession of applied engineering sciences. Case studies of
engineering and business problems with emphasis in the AESC concentrations.
Exploration of career opportunities and ethical framework for the profession are explored.
Effective Fall Semester 2025
- MSE 862 Dislocation Theory
~~Fall of every year.~~ Spring of odd years. 3(3-0) R: Open to graduate students in the College of
Engineering.
Advanced theory of dislocations and other crystal defects in metals, ceramics,
aggregates and ordered compounds. Elasticity theory of straight dislocations, dislocation
strain energy, mobility, obstacle interactions, reactions, and core effects.
SA: MSM 862
Effective Spring Semester 2025
- CE 801 Nonlinear Structural Mechanics
Spring of odd years. 3(3-0) RB: Basic knowledge on the design of steel (CE405) and concrete
structures (CE406), matrix methods of structural analysis (CE400), background in differential
equations.
- REINSTATEMENT Theory and methods related to the nonlinear behavior and analysis of structures with
focus on line-type elements in two dimensions. Inelastic behavior of structural materials.
Stability of structures. Nonlinear behavior and analysis of members and structural
systems. Methods for iterative solution strategies and use of special computer software.
Effective Spring Semester 2025
- CSE 914 Formal Methods in Software Development
Fall of every year. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this
course. P: CSE 814 RB: Undergraduate courses in software engineering and in logic. R: Open to
graduate students in the Department of Computer Science and Engineering.
- REINSTATEMENT Current research in selected areas of software engineering such as: approaches for the
incorporation of formal methods in software development; current projects using formal
methods in software engineering; object-oriented analysis and development techniques;
and approaches for the incorporation of user-interface analysis and design in software
development.
Effective Spring Semester 2025

COLLEGE OF NATURAL SCIENCE

- STT 465 Bayesian Statistical Methods
Fall of every year. 3(3-0) Interdepartmental with Epidemiology. ~~P: STT 442~~ P: STT 442 or STT 380
Probability, belief, and exchangeability. Objective, subjective, and empirical Bayes approaches. Applications to one-parameter models, linear regression models, and multivariate normal models. Hierarchical modeling. Computational methods.
Effective Fall Semester 2024
- STT 470 Modern Regression Modeling
Spring of every year. 3(3-0) P: (STT 442 or STT 380 or approval of department) and (STT 180 or CMSE 201 or CSE 231)
- NEW Building, understanding, and using predictive models. Fundamentals of simple and multiple linear regression models and their application in both a Bayesian and Frequentist paradigm. Assessing validity of model assumptions. Other regression models including logistic regression, Poisson models, Quasi-Poisson models, and other generalized linear models.
Effective Spring Semester 2025

COLLEGE OF OSTEOPATHIC MEDICINE

- FCM 671 Pathway to Family Medicine I
Spring of every year. 1(1-0) A student may earn a maximum of 1 credit in all enrollments for this course. R: Open to graduate-professional students in the College of Osteopathic Medicine.
Approval of department.
- NEW Longitudinal primary care clinical experience.
Request the use of the Pass-No Grade (P-N) system.
Effective Spring Semester 2026
- FCM 672 Pathway to Family Medicine II
Fall of every year. 1(1-0) A student may earn a maximum of 1 credit in all enrollments for this course. P: FCM 671 R: Open to graduate-professional students in the College of Osteopathic Medicine. Approval of department.
- NEW Longitudinal primary care clinical experience.
Request the use of the Pass-No Grade (P-N) system.
Effective Fall Semester 2026
- FCM 673 Pathway to Family Medicine III
Spring of every year. 1(1-0) P: FCM 671 and FCM 672 R: Open to graduate-professional students in the College of Osteopathic Medicine. Approval of department.
- NEW Longitudinal primary care clinical experience.
Request the use of the Pass-No Grade (P-N) system.
Effective Spring Semester 2027
- FCM 674 Family Medicine Scholarly Activity
Fall of every year. Spring of every year. Summer of every year. 1(1-0) A student may earn a maximum of 1 credit in all enrollments for this course. P: FCM 671 and FCM 672 and FCM 673 R: Open to graduate-professional students in the College of Osteopathic Medicine. Approval of department.
- NEW Longitudinal primary care clinical experience.
Request the use of the Pass-No Grade (P-N) system.
Effective Fall Semester 2027

- OST 523 Neurological System
Spring of every year. ~~4(8-4)~~ 6(6-0) R: Open to graduate-professional students in the College of Osteopathic Medicine.
Neurological system with integration of basic science and clinical neurology and ophthalmology. Clinical approach to neuromusculoskeletal conditions from osteopathic perspective.
Request the use of the Pass-No Grade (P-N) system.
Effective Spring Semester 2025
- OST 605 Preparing for Practice
Fall of every year. Spring of every year. Summer of every year. 1.5(1.5-0) A student may earn a maximum of 2 credits in all enrollments for this course. R: Open to graduate-professional students in the College of Osteopathic Medicine or approval of college.
- NEW The MSUCOM Preparing for Practice elective is designed to provide medical students with a comprehensive understanding of the various types of healthcare insurance systems in the United States, including Health Maintenance Organizations (HMOs), Preferred Provider Organizations (PPOs), fee-for-service plans, commercial insurance, employer-sponsored insurance, Medicare, Medicaid, Medicare Advantage Plans, and Medicaid HMOs. Through this course, students will gain the knowledge required to navigate the complexities of these systems in their future medical practices.
Request the use of the Pass-No Grade (P-N) system.
Request the use of ET-Extension to postpone grading.
The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment.
Effective Fall Semester 2024
- OST 620 Patient Safety and Quality Improvement
Fall of every year. Spring of every year. Summer of every year. ~~2 to 3 credits.~~ 1.5 to 3 credits. ~~A student may earn a maximum of 4 credits in all enrollments for this course.~~ A student may earn a maximum of 3 credits in all enrollments for this course. R: Open to students in the College of Osteopathic Medicine.
Foundations of patient safety and quality improvement incorporating Institute for Healthcare Improvement's (IHI) certification.
Request the use of the Pass-No Grade (P-N) system.
Request the use of ET-Extension to postpone grading.
The work for the course must be completed and the final grade reported within 2 semesters after the end of the semester of enrollment.
Effective Fall Semester 2024
- OST 624 Essentials of Diabetes
Fall of every year. Spring of every year. Summer of every year. ~~3(3-0)~~ 1.5 to 3 credits. A student may earn a maximum of 3 credits in all enrollments for this course. R: Open to graduate students in the College of Osteopathic Medicine. Approval of college.
Knowledge of the pathophysiology, clinical research and treatment in the care of patients with all types of diabetes.
Request the use of the Pass-No Grade (P-N) system.
Request the use of ET-Extension to postpone grading.
The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment.
Effective Fall Semester 2024

COLLEGE OF VETERINARY MEDICINE

- PHM 422 Fundamentals of Neuropharmacology
Spring of every year. ~~2(2-0)~~ 3(3-0) ~~Interdepartmental with Neuroscience P: NEU 301 or PSL 250 or PSL 310 or PSL 431 P: NEU 301 or PSL 250 or PSL 310 or PSL 431 or approval of department R: Open to juniors or seniors or approval of department.~~ R: Open to juniors or seniors in the Pharmacology and Toxicology Minor or in the Pharmacology and Toxicology Major or approval of department.
Mechanisms and uses of action of drugs on neurons and neuron-controlled activities
Effective Fall Semester 2024

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