MICHIGAN STATE UNIVERSITY
University Committee on Curriculum

SUBCOMMITTEE A – AGENDA

Via Zoom
November 10, 2022
1:30 p.m.

PART I – NEW ACADEMIC PROGRAMS AND PROGRAM CHANGES

COLLEGE OF ENGINEERING

1. Request to change the requirements for the Master of Science degree in Electrical and Computer Engineering in the Department of Electrical and Computer Engineering. The University Committee on Graduate Studies (UCGS) will consider this request at its November 21, 2022 meeting.

a. Under the heading Requirements for the Master of Science Degree in Electrical and Computer Engineering make the following change:

(1) In item 1. delete the following courses:
   - ECE 813 Advanced VLSI Design     3
   - ECE 820 Advanced Computer Architecture    3

Add the following courses:
   - ECE 830 Embedded Cyber-Physical Systems    3
   - ECE 842 Performance Modeling of Communication Networks  3

(2) Replace item 2. with the following:

Completion of supporting course work outside the department and college at the 400-level and above chosen in consultation with the student's academic advisor. Plan A students must have at least 20 credits at the 800-level or above and Plan B students must have 18 credits at the 800-level or above.

(3) Add the following:

Additional Requirements for Plan A
1. Completion of at least 4 credits of ECE 899 Master's Thesis Research, and no more than 8 credits.

Additional Requirements for Plan B
1. Completion of a final examination or evaluation.

Effective Fall 2023.

COLLEGE OF NATURAL SCIENCE

1. Request to change the requirements for the Bachelor of Science degree in Environmental Biology/Microbiology in the Department of Microbiology and Molecular Genetics.

a. Under the heading Requirements for the Bachelor of Science Degree in Environmental Biology/Microbiology in item 3. make the following changes:

(1) In item a., change the total credits from '59 to 68' to '58 to 68'.

(2) In item a. (2) delete the following course:
   - ENE 280 Principles of Environmental Engineering and Science  3

(3) In item a. (5) change the credits of LB 172 from '4' to '3'.
(4) Add the following item to a. (6):

(c) LB 271 Organic Chemistry 3
    CEM 252 Organic Chemistry II 3
    CEM 255 Organic Chemistry Laboratory 2

(5) In item a. (7), add the following course:

MTH 124 Survey of Calculus I 3

(6) In item a. (8), add the following courses:

MTH 126 Survey of Calculus II 3
MTH 153H Honors Calculus II 4
LB 119 Calculus II 4

(7) In item a. (8), change the credits of MTH 133 from '3' to '4'.

(8) Add the following to item a. (9):

(f) PHY 221 Studio Physics for Life Scientists, I 4
    PHY 222 Studio Physics for Life Scientists, II 4

(9) In item b. (2), MMG 494 should be listed as 'MMG 494L'.

(10) In item c., delete item (6) and renumber the remaining accordingly.

(11) In item c. (8), delete the following course:

PLB 400 Introduction to Bioinformatics 3

Add the following course:

CMSE 410 Bioinformatics and Computational Biology 3

Effective Summer 2023.

2. Request to change the requirements in the Bachelor of Science degree in Genomics and Molecular Genetics in the Department of Microbiology and Molecular Genetics.

a. Under the heading Requirements for the Bachelor of Science Degree in Microbiology and Molecular Genetics make the following changes:

(1) In item 3. a. (5) add the following:

(c) LB 271 Organic Chemistry 3
    CEM 252 Organic Chemistry II 3
    CEM 255 Organic Chemistry Laboratory 2

(2) In item 3. a. (7) add the following:

(f) PHY 221 Studio Physics for Life Scientists I 4
    PHY 222 Studio Physics for Life Scientists II 4

(3) In item 3. b. (2) change 'MMG 494' to 'MMG 494L'.

Effective Summer 2023.
3. Request to change the requirements in the Bachelor of Science degree in Microbiology in the Department of Microbiology and Molecular Genetics.

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

   (1) In item 3. a. (5) add the following:

   (c) LB 271 Organic Chemistry 3
   CEM 252 Organic Chemistry II 3
   CEM 255 Organic Chemistry Laboratory 3

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

   (f) PHY 221 Studio Physics for Life Scientists I 4
   PHY 222 Studio Physics for Life Scientists II 4

   (3) In item 3. b. (2) change ‘MMG 494’ to ‘MMG 494L’.

   (4) In item 3. c. add the following course:

   GLG 435 Geomicrobiology 4

   Effective Summer 2023.

4. Request to change the requirements for the Master of Science degree in Physics in the Department of Physics and Astronomy. The University Committee on Graduate Studies (UCGS) will consider this request at its November 21, 2022 meeting.

   The concentration in the Master of Science degree in Physics is noted on the student’s academic record when the requirements for the degree have been completed.

   a. Under the heading Admission delete item 2.:

   A satisfactory grade point average, normally at least 3.00, in the courses referenced in item 1. above.

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

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

   1. A minimum of 16 credits of approved course work at the 800-900 level.
   2. At least 14 credits of 400-level Physics and Astronomy courses approved by the Director of Graduate Studies. These courses may not have been used previously towards another degree. Courses outside of the department may be used with approval by the Director of Graduate Studies.

   Concentration in Beam Physics. Students pursuing a concentration in beam physics must satisfy the regular requirements for the master’s degree. Credits for the concentration may be earned through courses including PHY 861, PHY 961, PHY 962, PHY 963, and PHY 964.

   Additional Requirements for Plan A
   1. Complete 5 to 10 credits of course work from PHY 800 Research Methods and PHY 899 Master’s Thesis Research combined. At least 4 credits must be in PHY 899.
   2. Successfully complete the oral examination in defense of the thesis.
**Additional Requirements for Plan B**

1. Complete at least 5 credits of research course work normally met by completing PHY 800 Research Methods.
2. Completion of a final evaluation.

Effective Fall 2023.

5. Request to change the requirements for the Doctor of Philosophy degree in Physics in the Department of Physics and Astronomy. The University Committee on Graduate Studies (UCGS) will consider this request at its November 21, 2022 meeting.

The concentration in the Doctor of Philosophy degree in Physics is noted on the student’s academic record when the requirements for the degree have been completed.

a. Under the heading **Admission** delete item 2.: A grade point average of at least 3.00 in the courses referenced in item 1. above.

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

Students must:

1. pass the comprehensive examination requirement, which is fulfilled by passing a series of subject examinations and an oral subject examination.
2. must select three of the following courses, in coordination with an initial mentoring committee consisting of the graduate program director, an initial faculty advisor, and another faculty member with expertise in the research area of interest. These courses will serve as the subject examination courses that count toward the comprehensive examination requirements. The subject examination grade is determined by the higher of the course grade and the final examination grade. A student may demonstrate their ability in the material by scoring a 3.0 on the final examination in lieu of taking the course.
   - PHY 820 Classical Mechanics 3
   - PHY 831 Statistical Mechanics 3
   - PHY 841 Classical Electrodynamics I 3
   - PHY 851 Quantum Mechanics I 3
3. pass the oral subject examination which consists of a research presentation that is evaluated by the students’ guidance committee. A 3.5 or 4.0 grade constitutes a passing grade.
4. complete the following course with a grade of 3.0 if they have not taken an equivalent course previously or demonstrated that they acquired the necessary skills:
   - PHY 810 Methods of Theoretical Physics 3
5. complete any of the following courses if the student's initial mentoring committee or guidance committee determines the background is required for the research. Students may or may not have completed these to serve as the subject examination course(s) above.
   - PHY 820 Classical Mechanics 3
   - PHY 831 Statistical Mechanics 3
   - PHY 841 Classical Electrodynamics I 3
   - PHY 851 Quantum Mechanics I 3
   - PHY 842 Classical Electrodynamics II 3
   - PHY 852 Quantum Mechanics II 3
The guidance committee may require one or both of the following courses. These courses are not required for meeting the comprehensive examination requirement.
   - PHY 842 Classical Electrodynamics II 3
   - PHY 852 Quantum Mechanics II 3
6. complete a minimum of 24 credits of PHY 999 Doctoral Dissertation Research.
7. submit a dissertation proposal to the guidance committee and pass an oral examination in defense of the proposal.
8. must successfully defend the doctoral dissertation.
Concentration in Beam Physics. Students are exempt from enrolling in the core courses mentioned in item 2. above, and acquire the corresponding knowledge through equivalent studies and courses at local universities. All other requirements must be met. Written examinations can be administered by mutually agreeable local proctors upon prior arrangements with the Director of Graduate Studies. The final student thesis defense must be at MSU.

Changes to, or a waiver for certain program elements of the above requirements are, within the requirements set by the University and the College of Natural Science, subject to the approval by the Graduate Program Director.

Effective Fall 2023.
PART II - NEW COURSES AND CHANGES

COLLEGE OF HUMAN MEDICINE

EPI 819 Spatial Epidemiology and Medical Geography
Spring of every year. 3(3-0) Interdepartmental with Geography. P: EPI 810 or GEO 865 R: Open to graduate students in the Department of Epidemiology and Biostatistics or in the Department of Geography or approval of department.
REINSTATED Concepts, techniques, and utilization of spatio-epidemiologic analyses for human health.
SA: HM 819
Effective Spring Semester 2023

HM 639 Northern Wilderness, Emergency and Sports Medicine
Fall of every year. Spring of every year. Summer of every year. 6 credits. R: Open to students in the College of Human Medicine. Approval of college.
Development of knowledge, skills and attitudes to address the needs of patients outside of the hospital with wilderness or sports related injuries.
Request the use of the Pass-No Grade (P-N) system.
Request the use of ET-Extension to postpone grading.
The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment.
Effective Summer Semester 2021 Effective Fall Semester 2022

MED 617 Sleep Medicine
Fall of every year. Spring of every year. Summer of every year. 3 to 6 credits. A student may earn a maximum of 12 credits in all enrollments for this course. P: HM 556 RB: FM 641 and MED 641 and OGR 641 and PHD 641 and PSC 641 and SUR 641 and SUR 642 R: Open to graduate-professional students in the College of Human Medicine.
NEW Clinical elective in Sleep Medicine includes ambulatory patient care and interpretation of sleep studies.
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 2022

COLLEGE OF NATURAL SCIENCE

CEM 252 Organic Chemistry II
Fall of every year. Spring of every year. Summer of every year. 3(4-0) P: CEM 251 P: CEM 251 or LB 271 Not open to students with credit in CEM 352.
Continuation of CEM 251 with emphasis on polyfunctional compounds, particularly those of biological interest.
Effective Fall Semester 2013 Effective Fall Semester 2021
**COLLEGE OF OSTEOPATHIC MEDICINE**

**NOP 620**
Ophthalmology Clerkship
Fall of every year. Spring of every year. Summer of every year. 1 to 24 credits. A student may earn a maximum of 24 credits in all enrollments for this course. A student may earn a maximum of 30 credits in all enrollments for this course. RB: Successful completion of College of Osteopathic Medicine, Doctor of Osteopathic Medicine pre-clerkship curriculum. R: Open to graduate-professional students in the College of Osteopathic Medicine.

Study in general or specialty neurology and ophthalmology.
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 4 semesters after the end of the semester of enrollment.
**Effective Summer Semester 2010 Effective Fall Semester 2022**

**NOP 657**
Neurology Specialty Clerkship
Fall of every year. Spring of every year. Summer of every year. 1 to 24 credits. A student may earn a maximum of 51 credits in all enrollments for this course. A student may earn a maximum of 30 credits in all enrollments for this course. R: Open to graduate-professional students in the College of Osteopathic Medicine.

Clinical exposure in specialties of Neurology. Proficiency in motor skills and aptitudes; comprehension of concepts and principles; patient evaluation; diagnosis; management; therapy.
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 4 semesters after the end of the semester of enrollment.
**Effective Summer Semester 2014 Effective Fall Semester 2022**

**IM 621**
Clinical Tropical Medicine Clerkship
Spring of every year. 1 to 20 credits. A student may earn a maximum of 20 credits in all enrollments for this course. A student may earn a maximum of 30 credits in all enrollments for this course. RB: IM 618 R: Open to graduate-professional students in the College of Osteopathic Medicine.

Supervised clinical experiences in a large African teaching hospital and its outpatient clinics; students must spend at least six weeks on site. Small group discussions led by MSU faculty.
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.
SA: CMS 621
**Effective Fall Semester 2013 Effective Fall Semester 2022**

**IM 666**
Emergency Medicine Toxicology
Fall of every year. Spring of every year. Summer of every year. 3 to 18 credits. A student may earn a maximum of 18 credits in all enrollments for this course. A student may earn a maximum of 30 credits in all enrollments for this course. R: Open to graduate-professional students in the College of Osteopathic Medicine.

Evaluation and management of patients who suffer from an exposure to any form of toxins, the typical clinical presentation, evaluation and management including antidotes.
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 4 semesters after the end of the semester of enrollment.
**Effective Summer Semester 2014 Effective Fall Semester 2022**
IM 667  Emergency Medicine Hyperbaric Medicine and Wound Management  
Fall of every year. Spring of every year. Summer of every year. 3 to 18 credits. A student may earn a maximum of 18 credits in all enrollments for this course. A student may earn a maximum of 30 credits in all enrollments for this course. R: Open to graduate-professional students in the College of Osteopathic Medicine.  
Management of wounds from all causes, including the use of a hyperbaric chamber as a treatment strategy.  
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 4 semesters after the end of the semester of enrollment.  
**Effective Summer Semester 2014 Effective Fall Semester 2022**

IM 668  Emergency Medicine EMS and Disaster Management  
Fall of every year. Spring of every year. Summer of every year. 3 to 18 credits. A student may earn a maximum of 18 credits in all enrollments for this course. A student may earn a maximum of 30 credits in all enrollments for this course. R: Open to graduate-professional students in the College of Osteopathic Medicine.  
Emergency Medical Services and Disaster Management designed to expose the student to multiple facets of emergency care in the community and outside the emergency department, including community disaster preparedness.  
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 4 semesters after the end of the semester of enrollment.  
**Effective Summer Semester 2014 Effective Fall Semester 2022**

IM 669  Emergency Medicine Ultrasound  
Fall of every year. Spring of every year. Summer of every year. 3 to 18 credits. A student may earn a maximum of 18 credits in all enrollments for this course. A student may earn a maximum of 30 credits in all enrollments for this course. R: Open to graduate-professional students in the College of Osteopathic Medicine.  
Bedside ultrasound, integrating curriculum related to the physics and orientation of ultrasound images to obtaining images at the bedside to begin a portfolio.  
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 4 semesters after the end of the semester of enrollment.  
**Effective Summer Semester 2014 Effective Fall Semester 2022**

OST 604  Essential Clinical Skills for the Senior Medical Student  
Fall of every year. Spring of every year. Summer of every year. 1 to 2 credits. Interdepartmental with Osteopathic Manipulative Medicine. A student may earn a maximum of 3 credits in all enrollments for this course. R: Open to seniors in the College of Osteopathic Medicine.  
Longitudinal experience addressing essential skills for senior osteopathic medical students.  
Request the use of the Pass-No Grade (P-N) system.  
Request the use of ET-Extension to postpone grading.  
The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment.  
**Effective Summer Semester 2019 Effective Fall Semester 2022**
OST 615  Biomedical Research Clerkship
Fall of every year. Spring of every year. Summer of every year. 3 to 18 credits. A student may
earn a maximum of 18 credits in all enrollments for this course. A student may earn a maximum of
30 credits in all enrollments for this course. R: Open to graduate-professional students in the
College of Osteopathic Medicine. Approval of college.
Mentored exposure to either basic or clinical research and development of skills to
perform clinical or basic science research. Research topic is arranged with the research
director or clinician researcher.
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 Summer Semester 2013 Effective Fall Semester 2022

PED 601  Pediatrics Specialty Clerkship
Fall of every year. Spring of every year. Summer of every year. 3 to 24 credits. A student may
earn a maximum of 24 credits in all enrollments for this course. A student may earn a maximum of
30 credits in all enrollments for this course. R: Open to graduate-professional students in the
College of Osteopathic Medicine.
Clinical exposure in specialties of Pediatrics. Proficiency in motor skills and aptitudes;
comprehension of concepts and principles; patient evaluation; diagnosis; management;
therapy.
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 Summer Semester 2018 Effective Fall Semester 2022