PART I – NEW ACADEMIC PROGRAMS AND PROGRAM CHANGES

COLLEGE OF AGRICULTURE AND NATURAL RESOURCES

1. Request to change the requirements for the Doctor of Philosophy degree in Plant Pathology in the Department of Plant, Soil and Microbial Sciences. The University Committee on Graduate Studies (UCGS) will consider this request at its February 8, 2021 meeting.

   a. Under the heading Admission add the following statement at the end of the second paragraph:

   Students with deficiencies in their backgrounds will be required to complete collateral courses in addition to the courses that are required for the master's degree. Collateral course work does not count towards the degree requirements.

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

   All doctoral students in plant pathology must meet the requirements specified below:

   1. Pass a preliminary examination.
   2. Acquire experience in either (a) teaching, by serving as a teaching assistant in a course or, (b) extension, through the development and delivery of outreach programs or materials, as approved by the guidance committee.
   3. Complete all of the following courses:

      - PLP 805 Principles of Plant Diseases 3
      - PLP 812 Epidemiology of Plant Diseases 3
      - PLP 847 Advanced Mycology 4
      - PLG 402 Biology of Fungi 4
      - PLP 850 Physiological Plant Pathology 3
      - PLP 881 Molecular and Biochemical Plant Pathology 3
      - PLP 884 Prokaryotic Diseases of Plants 3
      - PLP 885 Plant Diseases in the Field 2
      - PLP 894 Seminar in Plant Pathology 3
      - PLP 999 Doctoral Dissertation Research 24

      Students who completed 2 credits of PLP 894 at MSU as a master's student must complete 3 additional credits of PLP 894.

   4. Other courses and/or reading knowledge of a foreign language as specified by the guidance committee.
   5. Complete oral and written comprehensive examinations.
   6. Complete a written thesis and present the result publicly at a departmental seminar prior to graduation.
   7. Pass an oral examination in defense of the thesis before the guidance committee which occurs immediately after the public seminar at which the thesis results are presented.

   Effective Fall 2021.
1. Request to change the requirements in the Master of Science degree in Mechanical Engineering in the Department of Mechanical Engineering. The University Committee on Graduate Studies (UCGS) will consider this request at its February 8, 2021 meeting.

a. Under the heading Requirements for the Master of Science Degree in Mechanical Engineering 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) and meet the requirements specified below. A maximum of 9 credits may be at the 400-level. A maximum of 4 credits may be taken from ME 490 and ME 990 combined.

Requirements for Both Plan A and Plan B
The student must:
1. Complete one course from each of the following areas:
   
   **Fluid-Thermal Science and Engineering**
   - ME 810 Advanced Classical Thermodynamics 3
   - ME 812 Conductive Heat Transfer 3
   - ME 814 Convective Heat Transfer 3
   - ME 819 Combustion 3
   - ME 830 Fluid Mechanics I 3
   - ME 840 Computational Fluid Dynamics and Heat Transfer 3
   - ME 842 Advanced Turbomachinery 3
   - ME 872 Finite Element Method 3

   **Dynamic Systems and Control**
   - ECE 851 Linear Systems and Control 3
   - ME 860 Theory of Vibrations 3
   - ME 861 Advanced Dynamics 3
   - ME 891 Selected Topics in Mechanical Engineering 1 to 4
   The topic for ME 891 must be approved by the student’s guidance committee.

   **Solid Mechanics, Design, and Manufacturing and Biomechanics**
   - ME 820 Continuum Mechanics 3
   - ME 821 Linear Elasticity 3
   - ME 826 Laminated Composite Materials 3
   - ME 872 Finite Element Method 3
   - ME 891 Selected Topics in Mechanical Engineering 1 to 4
   The topic for ME 891 must be approved by the student’s guidance committee.

Additional Requirements for Plan A
1. Complete at least 21 credits in courses at the 800–900 level including at least 6, but not more than 8, credits in Mechanical Engineering 899.
2. Submit a brief thesis proposal for approval by the student’s academic advisor early in the student’s program of study.

Additional Requirements for Plan B
1. Complete 21 credits in courses at the 800-900 level.
2. Complete a final evaluation.

Effective Fall 2021.
LYMAN BRIGGS COLLEGE

1. Request to change the name of the Biological Science-Interdepartmental coordinate major leading to the Bachelor of Science Degree in Lyman Briggs College to Biological Science-Secondary Education. Effective Fall 2021.

2. Request to change the name of the Physical Science-Interdepartmental coordinate major leading to the Bachelor of Science Degree in Lyman Briggs College to Physical Science-Secondary Education. Effective Fall 2021.
PART II - NEW COURSES AND CHANGES

COLLEGE OF AGRICULTURE AND NATURAL RESOURCES

HNF 400  Art and Science of Food Preparation
Spring of every year. 2(3-2) P: HNF 300 R: Open to seniors in the Dietetics major.
   Art and science of food preparation in relation to cost, health, dietary modification, and
   historical, regional, ethnic, and religious customs. Product evaluation using sensory
   techniques. Offered half of semester.
DELETE COURSE
Effective Spring 2020

HNF 826  Obesity and Chronic Disease
Spring of every year. 1(2-0) P: HNF 820 RB: Undergraduate physiology, biochemistry, cell
   biology, epidemiology
   Adipose biology and the role of obesity in chronic disease including diabetes, heart
   disease and cancer.
DELETE COURSE
Effective Fall 2020

CSS 420  Cover Crops in Agroecosystems
Fall of every year. 3(2-2) Interdepartmental with Horticulture. P: (CSS 101 or HRT 251 or HRT
   341) and CSS 210 and Completion of Tier I Writing Requirement
NEW
   Management, environmental, economic, and social considerations of cover crops across
   agroecosystems
Effective Spring 2021

CSS 441  Plant Breeding and Biotechnology
Spring of even years. Spring of every year. 3(3-0) Interdepartmental with Forestry and
Horticulture. P: (CSS 350 or concurrently) or (IBIO 341 or concurrently)
   Plant improvement by genetic manipulation. History of plant breeding. Traditional and
   biotechnological means of improving plant cultivars by genetic manipulation. Importance
   of plant breeding to our food system, economy, and environment.
Effective Spring 2018 Effective Spring 2021

CSS 829  Computational and Applied Plant Breeding
Spring of odd years. 3(3-0) Interdepartmental with Horticulture. P: HRT 819 and STT 814
NEW
   Theoretical and applied methods of genetics and statistics in plant breeding; selection
   theory and methods; heritability; genotype-environment interaction; methods to enhance
   genetic progress and efficiency through statistical genetics, genomics, and marker
   assisted selection
Effective Spring 2021

CSS 840  Soil Physics
Fall of odd years. 3(2-3) R: Open to graduate students in the College of Agriculture and Natural
Resources or in the College of Engineering or in the College of Natural Science.
   Physical properties of soil including texture, structure, consistency, aeration, moisture
   content, and temperature. Quantitative measurement of plant growth. Agronomic and
   engineering practices.
DELETE COURSE
Effective Spring 2021

CSS 845  Environmental soil physics
Spring of even years. 3(3-0) R: Open to graduate students in the College of Agriculture and
Natural Resources and open to graduate students in the College of Engineering and open to
graduate students in the College of Natural Science.
NEW
   Fundamentals of soil physics, soil physical properties, and flows of heat, water, solutes
   and gases in soils. Integration of soil physics to soil hydrology, ecology, biology and
   biogeochemistry.
Effective Spring 2021
PLP 847  Advanced Mycology  
Fall of even years. Spring of even years. 4(2-4) Interdepartmental with Plant Biology.
Interdepartmental with Microbiology and Molecular Genetics and Plant Biology. RB: PLB 402
Systematics, identification, physiology, genetics, and molecular biology of plant pathogenic fungi.
SA: BOT 847  
Effective Fall 2013 Effective Fall 2020

PLP 884  Prokaryotic Diseases of Plants  
Fall of even years. Spring of odd years. 3(3-0) Interdepartmental with Plant Biology. RB: PLP 405
RB: (PLP 405) and PLP 405
SA: BOT 884  
Effective Fall 2013 Effective Fall 2020

COLLEGE OF ENGINEERING

CSE 814  Formal Methods in Software Development  
Fall of odd years. 3(3-0) RB: MTH 472 R: Open only to majors in the Department of Computer Science and Engineering or approval of department.
REINSTATEMENT  
Formal specification languages, integrating verification with development. Design and the implementation of term project.
SA: CPS 814  
Effective Fall 2021

ECE 480  Senior Design  
Fall of every year. Spring of every year. 4(3-3) P: (ECE 303 and ECE 313 and ECE 320 and ECE 331 and ECE 366 and (ECE 390 or concurrently)) or ((CSE 410 and (ECE 390 or concurrently)) and completion of Tier I writing requirement) P: (ECE 303 and ECE 313 and ECE 320 and ECE 331 and ECE 366 and (ECE 390 or concurrently)) or ((CSE 325 and (ECE 390 or concurrently)) and completion of Tier I writing requirement) R: Open to seniors in the Department of Electrical and Computer Engineering or in the College of Engineering.
Electrical engineering and computer engineering senior design experience involving contemporary design tools and practices, engineering standards, cross-functional teaming, oral and written technical communication, and lifelong learning.
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 2013 Effective Spring 2022

COLLEGE OF HUMAN MEDICINE

HM 825  Transition to Graduate Academic Writing  
Fall of every year. Spring of every year. Summer of every year. 1(1-0) RB: completion of Tier 2 writing assignment or undergraduate degree. R: Approval of college. R: Open to students in the Public Health Major and open to juniors or seniors or graduate students or approval of college.
Identify and analyze scholarly articles and published research studies to develop effective writing skills within the genre of academic writing and scholarship.
Request the use of the Pass-No Grade (P-N) system.
Effective Summer 2020 Effective Spring 2021
HM 862  Global Pandemics and Public Health Systems, Law, and Community Impacts
Fall of every year. Spring of every year. 3(3-0) R: HM 101 R: Open to students in the Public Health Major and open to juniors or seniors and open to graduate students. Approval of college. R: Open to students in the Public Health Major and open to juniors or seniors or graduate students or approval of college.
Public health systems and response to pandemics including public health law and ethics, disease transmission, testing and treatment, and social and community context.
Effective Summer 2020 Effective Spring 2021

COLLEGE OF NATURAL SCIENCE

BMB 200  Introduction to Biochemistry
Fall of every year.  Summer of every year. 4(4-0) P: CEM 143 or CEM 251 or CEM 351 RB: CEM 252 or CEM 352
Introductions to the major classes of biomolecules and the metabolism of these molecules.
SA: BCH 200
Effective Summer 2014 Effective Summer 2020

BMB 470  Advanced Molecular Biology Laboratory
Fall of every year. 3(0-6) 4(2-4) P: CEM 262 and BMB 461 RB: BMB 462 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.
Methods of molecular biology and the underlying principles on which these methods are based.
SA: BCH 472, BMB 472
Effective Summer 2020 Effective Fall 2021

BMB 471  Advanced Biochemistry Laboratory
Spring of every year. 3(0-6) 4(2-4) P: BMB 461 and CEM 262 and CMSE 201 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 Fall 2019 Effective Spring 2022

GEN 840  Genetics Writing Skills
Fall of every year. Spring of every year. Summer of every year. 1(1-0) A student may earn a maximum of 6 credits in all enrollments for this course. R: Open to graduate students in the Genetics major. Approval of department. R: Open to graduate students in the Genetics Program or in the Genetics Major. Approval of department.
Development of a genetics research proposal: content, composition, and peer review through a graduate writing group.
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 2014 Effective Fall 2021
GEN 999  Doctoral Dissertation Research  
Fall of every year. Spring of every year. Summer of every year. 1 to 24 credits. A student may earn a maximum of 36 credits in all enrollments for this course. R: Open to doctoral students in the Genetics major. R: Open to doctoral students in the Genetics Program or in the Genetics Major.  
Doctoral dissertation research.  
Request the use of the Pass-No Grade (P-N) system.  
Effective Summer 2014 Effective Spring 2022

NSC 100  Drew Freshman Seminar  
Drew Seminar I  
Fall of every year. 2(2-0) P: (MTH 1825 or concurrently) or (MTH 116 or concurrently) or (MTH 132 or concurrently) or (MTH 102A or concurrently) or (MTH 116 or concurrently) or (MTH 132 or concurrently) or (MTH 102B or concurrently) or (MTH 103 or concurrently) R: Approval of college.  
Academic and non-academic skills and strategies for successful college transition.  
SA: NSC 201  
Effective Fall 2014 Effective Fall 2021

NSC 200  Drew Sophomore Seminar  
Drew Seminar II  
Fall of every year. Spring of every year. 2(2-0) P: NSC 100 or approval of college R: Approval of college.  
Career exploration and preparation through service-learning experience.  
SA: NSC 202  
Effective Fall 2014 Effective Spring 2021

NEU 402  Behavioral and Cognitive Neuroscience  
Fall of every year. Spring of every year. 3(3-0) P: NEU 301 and NEU 302 R: Open to undergraduate students in the Neuroscience Major or in the Lyman Briggs Neuroscience Coordinate Major.  
NEW In-depth examination of neuronal mechanisms that regulate behavior, learning, cognition, and human disease  
Effective Fall 2021

NEU 403  Communication in Neuroscience (W)  
Fall of every year. Spring of every year. 3(3-0) P: (NEU 301 and NEU 302) and completion of Tier I writing requirement R: Open to undergraduate students in the Neuroscience Major or in the Lyman Briggs Neuroscience Coordinate Major.  
NEW In-depth exploration of contemporary areas of neuroscience, emphasizing scientific literacy and effective written and oral communication.  
Effective Fall 2021

NEU 840  Social, Cognitive, and Affective Neuroscience  
Fall of every year. 3(3-0) Not open to students with credit in NEU 839 or NEU 841.  
REINSTATEMENT Introduction to nervous system structure and function aimed at students and professionals with limited biological science background.  
Effective Fall 2021

PLB 424  Algal Biology  
Fall of even years. Summer of odd years. 3(2-2) Interdepartmental with Integrative Biology. P: (BS 162 or LB 144 or BS 182H) and ((BS 172 or BS 192H) and completion of Tier I writing requirement) P: (BS 162 or LB 144 or BS 182H) and ((BS 172 or BS 192H or LB 144) and completion of Tier I writing requirement) RB: IBIO 355 and IBIO 355L  
Algal taxonomy, systematics, physiology, ecology, and environmental assessment. Lab focus on identification of freshwater algal genera collected from regional habitats.  
SA: BOT 424  
Effective Summer 2018 Effective Spring 2021
OST 592  Self-Directed Integration of Medical Knowledge
Fall of every year, Spring of every year, Summer of every year. 6(2-0) A student may earn a maximum of 12 credits in all enrollments for this course. R: Open to graduate-professional students in the College of Osteopathic Medicine. R: Open to graduate-professional students in the College of Osteopathic Medicine. Approval of college.
Self-directed review and integration of basic science and systems medical knowledge content and clinical correlations using coaching and workshops.
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 2019  Effective Spring 2021