PART I – NEW ACADEMIC PROGRAMS AND PROGRAM CHANGES

COLLEGE OF AGRICULTURE AND NATURAL RESOURCES

1. Request to change the requirements for the Bachelor of Science degree in Crop and Soil Sciences in the Department of Plant, Soil and Microbial Sciences.

   The concentrations in the Bachelor of Science degree in Crop and Soil 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 Crop and Soil Sciences make the following changes:

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

      The University's Tier II writing requirement for the Crop and Soil Sciences major is met by completing two courses as specified below:

      **Agronomic Sciences**: Both of the following courses: Crop and Soil Sciences 313 and 492. Those courses are referenced in items 3. a., and 3. b. below.

      **Turfgrass Management**: Both of the following courses: Crop and Soil Sciences 313 and 492. Those courses are referenced in items 3. a., and 3. b. below.

      **Advanced Study**: Both of the following courses: Crop and Soil Sciences 313 and 492. Those courses are referenced in items 3. a., and 3. b. below.

      (2) In item 3. a. change the total credits from ‘7’ to ‘9’ and add the following course:

      CSS 313 Data Interpretation and Writing in the Agronomic Sciences (W) 2

      (3) In item 3. b. Agronomic Sciences concentration make the following changes:

      (a) Change the total credits from ‘63 or 64’ to ‘67 to 70’.

      (b) In item (1) delete the following courses:

      CSS 313 Data Interpretation and Writing in the Agronomic Sciences 2
      ENT 404 Fundamentals of Entomology 3
      PLP 405 Plant Pathology 3

      Add the following courses:

      ENT 404 Fundamentals of Entomology 4
      PLP 405 Plant Pathology 4

      (c) Add the following item (5):

      (5) Two of the following courses (4 to 6 credits):

      CSS 135 Crop Scouting and Investigation 3
      CSS 151 Seed and Grain Quality 2
      CSS 201 Forage Crops 3
      CSS 212 Advanced Crop Production 2

      (4) In item 3. b. Turfgrass Management concentration make the following changes:

      (a) Change the total credits from ‘69’ to ‘67’.

      (b) In item (1) change the total credits from ‘66’ to ‘64’ delete the following courses:
Add the following course:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENT 264</td>
<td>Turfgrass Entomology</td>
<td>3</td>
</tr>
</tbody>
</table>

(5) In item 3. b. Advanced Study concentration make the following changes:

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSS 313</td>
<td>Data Interpretation and Writing in the Agromonic Sciences</td>
<td>2</td>
</tr>
<tr>
<td>ENT 404</td>
<td>Fundamentals of Entomology</td>
<td>3</td>
</tr>
<tr>
<td>PLP 405</td>
<td>Plant Pathology</td>
<td>3</td>
</tr>
</tbody>
</table>

Add the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENT 404</td>
<td>Fundamentals of Entomology</td>
<td>4</td>
</tr>
<tr>
<td>PLP 405</td>
<td>Plant Pathology</td>
<td>4</td>
</tr>
</tbody>
</table>

Effective Fall 2021.

2. Request to change the requirements for the Master of Science degree in Crop and Soil Sciences in the Department of Plant, Soil and Microbial Sciences. The University Committee on Graduate Studies (UCGS) will consider this request at its November 9, 2020 meeting.

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

Regular admission may be granted to students who have a bachelor's degree or its equivalent, a 3.00 grade-point average, and appropriate training in the biological and physical sciences and mathematics. Provisional admission may be granted to students who do not meet the requirements for regular admission. 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 Master of Science Degree in Crop and Soil Sciences 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 either Plan A or Plan B. The student's program of study is planned in consultation with the guidance committee, which includes the major professor.

**Requirements for Plan A and Plan B**

1. One of the following writing courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSS 880</td>
<td>Scientific Communication and Professional Development</td>
<td>1</td>
</tr>
<tr>
<td>ENT 812</td>
<td>Graduate Seminar</td>
<td>1</td>
</tr>
<tr>
<td>HRT 860</td>
<td>Scientific Writing: Workshop</td>
<td>1</td>
</tr>
</tbody>
</table>

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 the responsible conduct of research workshop and training.

**Additional Requirements for Plan A**

1. Complete 6 to 10 credits of CSS 899 Master's Thesis Research.
2. Complete a written thesis and present the results publicly at a departmental seminar prior to graduation.
3. Pass an oral examination before the guidance committee immediately after the public seminar at which the thesis results are presented.
**Additional Requirements for Plan B**

1. Complete a project and present the results publicly at a departmental seminar prior to graduation.
2. Pass an oral examination before the guidance committee immediately after the public seminar at which the project results are presented.

Effective Fall 2021.

3. Request to change the requirements for the Doctor of Philosophy degree in Crop and Soil Sciences in the Department of Plant, Soil and Microbial Sciences. The University Committee on Graduate Studies (UCGS) will consider this request at its November 9, 2020 meeting.

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

   Regular admission may be granted to students who have a master's degree or its equivalent, a 3.00 grade-point average, and appropriate training in the biological and physical sciences and mathematics. Outstanding students without a master's degree may be accepted. Provisional admission may be granted to students who do not meet the requirements for regular admission. 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 Crop and Soil Sciences** replace the entire entry with the following:

   All doctoral students must plan their degree program in consultation with the guidance committee and their major professor and must meet the requirements specified below:

   1. Complete at least 24 credits including one of the following writing courses:
      - CSS 880 Scientific Communication and Professional Development 1
      - ENT 812 Graduate Seminar 1
      - HRT 860 Scientific Writing: Workshop 1
   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 the responsible conduct of research workshop and training.
   5. Complete a written dissertation proposal and present its results publicly at a departmental seminar prior to graduation.
   6. Presentation of at least one oral seminar on the dissertation research at a professional meeting.
   7. Complete oral and written comprehensive examinations.
   8. Pass a final oral examination in defense of the dissertation before the guidance committee immediately after the public seminar at which the dissertation results are presented.

   Effective Fall 2021.

4. Request to change the requirements for the Master of Science 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 November 9, 2020 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 Master of Science Degree in Plant Pathology** 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 either Plan A or Plan B. The student's program of study is planned in consultation with the guidance committee, which includes the major professor.

Requirements for Plan A and Plan B
1. Both of the following courses (3 credits):
   - PLP 894 Seminar in Plant Pathology
   - PLP 805 Principles in Plant Pathology

2. Two of the following courses (7 or 8 credits):
   - PLP 847 Advanced Mycology
   - PLB 402 Biology of Fungi
   - PLP 884 Prokaryotic Diseases of Plants
   - PLP 885 Plant Diseases in the Field

3. One of the following courses (3 credits):
   - PLP 812 Epidemiology of Plant Diseases
   - PLP 850 Physiological Plant Pathology
   - PLP 881 Molecular and Biochemical Plant Pathology

4. 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.

5. Other courses and/or reading knowledge of a foreign language as specified by the guidance committee.

Additional Requirements for Plan A
2. Complete a written thesis and present the result publicly at a departmental seminar prior to graduation.
3. Pass a final 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.

Additional Requirements for Plan B
1. Complete a project and present the result publicly at a departmental seminar prior to graduation.
2. Pass a final oral examination before the guidance committee which occurs immediately after the public seminar at which the project results are presented.

Effective Fall 2021.

5. 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 November 9, 2020 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
PLP  812  Epidemiology of Plant Diseases                3
PLP  847  Advanced Mycology                                   4
or
PLB  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.

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 University Committee on Undergraduate Education (UCUE) will consider this request.

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. a. change the total credits from ‘43’ to ‘41’ and delete the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENE 280</td>
<td>Principles of Environmental Engineering and Science</td>
<td>3</td>
</tr>
<tr>
<td>MKT 317</td>
<td>Quantitative Business Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>STT 351</td>
<td>Probability and Statistics for Engineering</td>
<td>3</td>
</tr>
</tbody>
</table>

Add the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AESC 110</td>
<td>AES as a Profession</td>
<td>1</td>
</tr>
<tr>
<td>ENE 371</td>
<td>Sustainable Civil and Environmental Engineering Systems</td>
<td>3</td>
</tr>
<tr>
<td>MKT 317</td>
<td>Market Analytics</td>
<td>3</td>
</tr>
</tbody>
</table>

(2) Reletter item 3. c. to item 3. d.

(3) Add the following item 3. c.:

One of the following courses (3 or 4 credits):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>STT 351</td>
<td>Probability and Statistics for Engineering</td>
<td>3</td>
</tr>
<tr>
<td>STT 380</td>
<td>Probability and Statistics for Data Science</td>
<td>4</td>
</tr>
</tbody>
</table>

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

(a) Change the total credits from ‘15 to 19’ to ‘15 to 38’.

(b) In the Technical Sales concentration delete the following course:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCM 474</td>
<td>Negotiations</td>
<td>2</td>
</tr>
</tbody>
</table>
Add the following course:

MGT 474 Negotiations 2

(c) Delete the Media and Information concentration.

(d) Add the following concentration:

**Business Analytics (38 credits)**

1. All of the following courses (15 credits):
   - EC 301 Intermediate Microeconomics 3
   - FI 320 Introduction to Finance 3
   - GBL 385 Business Law and Ethical Leadership 3
   - MKT 327 Introduction to Marketing 3
   - SCM 303 Introduction to Supply Chain Management 3
2. Completion of the Minor in Data Science.

Effective Fall 2021.

**LYMAN BRIGGS COLLEGE**

1. Request to recognize the Data Science major leading to the Bachelor of Science degree in the College of Natural Science as a **Coordinate Major in Lyman Briggs College**. The University Committee on Undergraduate Education (UCUE) recommended approval of this request at its September 3, 2020 meeting.

Effective Fall 2021.

**COLLEGE OF NATURAL SCIENCE**

1. Request to change the requirements for the Doctor of Philosophy degree in Chemistry in the Department of Chemistry. The University Committee on Graduate Studies (UCGS) will consider this request at its November 9, 2020 meeting.

   a. Under the heading **Admission** delete the following:

   Admission to the doctoral program is dependent on having a 3.00 or better grade–point average and upon satisfactory performance on the qualification examinations given in the areas of analytical, inorganic, organic, and physical chemistry. The qualification examinations will be waived for students who score at the 75th percentile or higher on the Graduate Record Examination Subject Test in Chemistry.

   Effective Fall 2021.

2. Request to change the requirements for the Bachelor of Science degree in **Environmental Biology/Plant Biology** in the Department of Plant Biology.

   a. Under the heading **Requirements for the Bachelor of Science Degree in Environmental Biology/Plant Biology** make the following changes:

   (1) In item 1., paragraph two, change ‘Zoology 355L’ to ‘Integrative Biology 355L’.

   (2) In item 3. a., renumber items (2) and (3) to items (3) and (4) respectively and add the following item (2):

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEM 151</td>
<td>4</td>
</tr>
<tr>
<td>CEM 152</td>
<td>3</td>
</tr>
<tr>
<td>CEM 161</td>
<td>1</td>
</tr>
</tbody>
</table>
PART I - NEW ACADEMIC PROGRAMS AND PROGRAM CHANGES – continued

November 12, 2020

(3) In item 3. c., change the total credits from '8' to '8 or 10' and add the following:

(4) PHY 221 Studio Physics for Life Scientists I          4
PHY 222 Studio Physics for Life Scientists II         4
(5) PHY 241 Physics for Cellular and Molecular Biologists I         4
PHY 242 Physics for Cellular and Molecular Biologists II         4
(6) PHY 173 Studio Physics for Scientists and Engineers I         5
PHY 174 Studio Physics for Scientists and Engineers II        5
(4) Reletter item 3. e. to item 3. f. and add the following new item 3. e.:

  e. One of the following courses (3 credits):
      STT 231 Statistics for Scientists                              3
      STT 224 Introduction to Probability and Statistics
      for Ecologists                                 3
(5) Reletter item 3. f. to item 3. g., change the total credits from '30' to '23' and delete the following courses:

      PLB 498 Undergraduate Research      3
      PLB 499 Senior Seminar (W)          1
      STT 231 Statistics for Scientists  3
      ZOL 355 Ecology                     3
      ZOL 355L Ecology Laboratory (W)     1

      Add the following courses:
      IBIO 355 Ecology                     3
      IBIO 355L Ecology Laboratory (W)     1
(6) Reletter item 3. g. to item 3. i. and delete the following course:

      ZOL 341 Fundamental Genetics       4

      Add the following course:
      IBIO 341 Fundamental Genetics       4
(7) Add the following new item 3. h:

  h. Both of the following (4 credits):
      (1) One of the following (3 credits):
          PLB 495 Internship in Plant Biology       3
          PLB 498 Undergraduate Research            3
      (2) PLB 499 Senior Seminar (W)              1
(8) Reletter item 3. h. to item 3. k.
(9) Reletter item 3. i. to item 3. k.
(10) Reletter item 3. j. to item 3. l.

Effective Fall 2021.
3. Request to change the requirements for the Bachelor of Science degree in Plant Biology in the Department of Plant Biology.

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

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

          The University’s Tier II writing requirement for the Plant Biology major is met by completing Plant Biology 498 and 499 and Integrative Biology 355L and 445. Those courses are referenced in item 3. below.

      (2) In item 3. d., change the total credits from ‘8’ to ‘8 or 10’ and add the following:

          (4) PHY 221 Studio Physics for Life Scientists I          4
          (5) PHY 222 Studio Physics for Life Scientists II          4
          (6) PHY 241 Physics for Cellular and Molecular Biologists I        4
          (7) PHY 242 Physics for Cellular and Molecular Biologists II        4
          (8) PHY 173 Studio Physics for Scientists and Engineers I      5
          (9) PHY 174 Studio Physics for Scientists and Engineers II      5

      (3) In item 3. g., delete the following courses:

          PLB 498 Undergraduate Research      3
          PLB 499 Senior Seminar (W)               1
          ZOL 355 Ecology                3
          ZOL 355L Ecology Laboratory (W)            1
          ZOL 341 Fundamental Genetics       4
          ZOL 445 Evolution (W)                    3

          Add the following courses:

          IBIO 355 Ecology            3
          IBIO 355L Ecology Laboratory (W)          1
          IBIO 341 Fundamental Genetics       4
          IBIO 445 Evolution (W)                    3

      (4) Delete items 3. i. and 3. j.

      (5) Reletter item 3. k. to 3. j.

      (6) Add the following item 3. i.:

          i. One of the following, either (a) or (b) (4 credits):

          (a) PLB 498 Undergraduate Research      3
              PLB 499 Senior Seminar (W)               1
          (b) PLB 495 Internship in Plant Biology    3
              PLB 499 Senior Seminar                       1

   Effective Fall 2021.
PART II - NEW COURSES AND CHANGES

COLLEGE OF AGRICULTURE AND NATURAL RESOURCES

FSC 816  Codex Alimentarius - The Food Code
Fall of every year. Spring of every year. 3(3-0) RB: (FSC 810) or food science, law, food safety, international development or related disciplines. Not open to students with credit in LAW 810F. How Codex Alimentarius formulates and harmonizes food standards for hygiene, contaminants, food additives, veterinary drugs, and pesticide residues, including its role in the World Trade Organization (WTO) Sanitary and Phytosanitary (SPS) and Technical Barriers to Trade (TBT) Agreements. Effective Fall 2013 Effective Spring 2021

CSS 844  Frontiers in Computational and Plant Sciences
Spring of every year. 3(3-0) Interdepartmental with Biochemistry and Molecular Biology and Computational Mathematics, Science, & Engineering and Horticulture and Plant Biology. RB: Basic programming, mathematical modeling, and statistics NEW Interdisciplinary research interfacing computational and plant sciences. Molecular system biology, phenomics, and mechanisms connecting genotype and phenotype Effective Spring 2020

COLLEGE OF ENGINEERING

AESC 110  AES as a Profession
Fall of every year. 1(1-0) R: Open to undergraduate students in the College of Engineering. NEW 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 2021

COLLEGE OF OSTEOPATHIC MEDICINE

FCM 623  Osteopathic Family Medicine Telehealth Elective
Fall of every year. Spring of every year. Summer of every year. 3 to 6 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open to students in the College of Osteopathic Medicine. NEW This rotation includes family medicine telehealth visits with live patients either with a visual and auditory tool or a telephone is the basis of the course. The course will be supplemented with additional reading per the faculty as related to the individual cases. 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 2020