The effective date for new programs subject to Statewide Academic Program review is implemented in accordance with the Statewide Academic Program Review calendar.
TO: Faculty Senate

This report is prepared and distributed for the following purposes:

1. To report new academic programs, changes in academic programs, discontinuations of academic programs, new courses, permanent changes in courses, and deletions of courses.
2. To notify the initiating colleges, schools, and departments of approval by the University Committee on Curriculum of their requests for new academic programs, changes in academic programs, discontinuations of academic programs, new courses, permanent changes in courses, and deletions of courses. Any items not approved by the Faculty Senate will be reported to the appropriate college and department or school.
3. To provide information to members of the faculty in each department about academic programs and courses in all colleges, departments, and schools of the University.

Reports of the University Committee on Curriculum to the Faculty Senate are organized as follows:

PART I - NEW ACADEMIC PROGRAMS AND PROGRAM CHANGES:

Organized by colleges in alphabetical order. For a given college, academic units are organized in alphabetical order. For a given academic unit, degrees, majors, and specializations are organized in alphabetical order.

PART II - NEW COURSES:

Organized by academic units in alphabetical order; All-University courses appear last. For a given academic unit, courses are organized according to the names associated with course subject codes, in alphabetical order. Courses with the same subject code are in numerical order.

PART III - COURSE CHANGES:

Organized by academic units in alphabetical order; All-University courses appear last. For a given academic unit, courses are organized according to the names associated with course subject codes, in alphabetical order. Courses with the same subject code are in numerical order.

Not all of the above categories, and not all of the colleges and academic units, will necessarily appear in any given Senate Report.

1One or more of the abbreviations that follow may be included in a course entry:

P: = Prerequisite monitored in SIS
C: = Corequisite
R: = Restriction
RB: = Recommended background
SA: = Semester Alias
PART I - NEW ACADEMIC PROGRAMS AND PROGRAM CHANGES

COLLEGE OF ARTS AND LETTERS

1. Change the requirements in the Master of Arts degree in Linguistics in the Department of Linguistics and Germanic, Slavic, Asian and African Languages. The University Committee on Graduate Studies (UCGS) approved this request at its October 5, 2015 meeting.
   
a. Under the heading Requirements for the Master of Arts Degree in Linguistics add the following course in item 2.:  
   
   LIN 437  Semantics and Pragmatics  3

b. Under the heading Additional Requirements for Plan A, in item 2., change the credits from ‘14’ to ‘11’.

c. Under the heading Additional Requirements for Plan B, in item 1., change the credits from ‘18’ to ‘15’.

   Effective Spring 2016.

2. Change the requirements in the Doctor of Philosophy degree in Linguistics in the Department of Linguistics and Germanic, Slavic, Asian and African Languages. The University Committee on Graduate Studies (UCGS) approved this request at its October 5, 2015 meeting.

a. Under the heading Requirements for the Doctor of Philosophy Degree in Linguistics make the following changes:
   
   (1) In item 1. delete the following course:
   
   LIN 441  Historical Linguistics  3

   (2) In item 1. add the following note:
   
   An 800-level morphology-intensive course may be substituted for LIN 431 if approved by the student’s guidance committee.

   (3) Delete item 3.

   (4) Renumber item 4. to item 3.

   Effective Spring 2016.
3. Establish a Minor in Classical and Ancient Mediterranean Studies in the Department of Romance and Classical Studies. The University Committee on Undergraduate Education (UCUE) recommended approval of this request at its April 30, 2015 meeting.

a. Background Information:

In our increasingly interconnected and multicultural world, it is more important than ever to recognize the instrumental role that our classical, and classically educated, predecessors have played in the shaping of western society and by historical development, the world. From our political and religious institutions to our legal codes and processes to our traditions of writing and entertainment, nearly every aspect of our lives finds its point of origin in the history of the classical world. A minor in Classical and Ancient Mediterranean Studies will enable students in a wide variety of majors not only to gain a greater appreciation for the classical underpinnings of their fields of study but also to engage in a deeper contemplation of the themes that are an essential part of the university’s liberal learning goals.

The Minor in Classical and Ancient Mediterranean Studies allows students to explore the variety of fields of study (history, art, archaeology, classical languages, philosophy, religious studies) that together enable the fullest understanding of the classical past and provide structure for engaging in a more in-depth study of any of these fields of study. Students best served by this minor are those focused upon earning a liberal arts degree, who would benefit from a secondary focus that emphasizes an appreciation of the historical foundations of their intended professions.

The Classical Studies major was placed in moratorium in 2010 and is the subject of a discontinuation request to be effective Spring 2016. Support for the study of Greek and Roman history, languages, and material culture remains strong among MSU faculty and students. A sustainable program in classics is needed to provide students with the opportunity to explore the various academic fields involved in the study of the classical and ancient Mediterranean world, and to encourage them to recognize the ways in which classical civilization has had a lasting impact on contemporary cultures. The minor offers students a transcriptable credential for efforts they are already making or want to make. It will also ensure that students who require Greek or Latin will be able to receive appropriate training in those languages for further research or graduate study in history, philosophy, political theory, art history, ancient archaeology, literature, and history of science.

All other institutions in the CIC offer a minor in classical languages, classical art and archaeology, and classical civilization. The offerings of these programs are much more diverse due to the larger number of faculty specializing in classical studies and the existence of robust degree-granting programs. Since MSU is the only Big Ten or CIC institution without an undergraduate degree program in classical languages or classical studies, MSU students currently are at a disadvantage compared to students at peer institutions because they have no transcriptable program in classics to reflect the work in the area complementary to their degree programs. This program will enhance their applications for graduate and professional schools and help provide the broad academic experience that supports the liberal learning goals.

b. Academic Programs Catalog Text:

The Minor in Classical and Ancient Mediterranean Studies, administered by the Department of Romance and Classical Studies, provides a general foundation for the range of subspecialties that together inform us about the classical past and its impact on contemporary society. Students gain an appreciation for diverse ways in which the classical and ancient Mediterranean world continues to influence our lives today and are given the opportunity to focus on a specific aspect of the classical past.

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

Students who plan to complete the requirements of the minor should consult the undergraduate adviser in the Department of Romance and Classical Studies.
Requirements for the Minor in Classical and Ancient Mediterranean Studies

Complete a minimum of 18 credits from the following. At least one course must be at the 300- or 400-level.

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

<table>
<thead>
<tr>
<th>CREDIT</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>CLA 190 Introduction to Classics</td>
</tr>
<tr>
<td>3</td>
<td>CLA 140 Greek and Roman Mythology</td>
</tr>
<tr>
<td>4</td>
<td>HST 205A The Ancient Mediterranean from 3000 BCE</td>
</tr>
<tr>
<td></td>
<td>to 400 CE</td>
</tr>
<tr>
<td>4</td>
<td>IAH 221A Great Ages: The Ancient World (I)</td>
</tr>
</tbody>
</table>

IAH 221A requires approval of the minor advisor to ensure Classics and Ancient Mediterranean-related content. Other related courses may count toward the minor with approval of the advisor.

2. Complete at least one course in each of three of the following core subject areas:

   **Latin**
   - LTN 101 Elementary Latin I 4
   - LTN 102 Elementary Latin II 4
   - LTN 206 Nepos and Latin Prose 3
   - LTN 208 Catullus and Lucretius 3
   - LTN 305 Third-year Latin: Major Authors I 3
   - LTN 405 Fourth-year Latin: Major Authors II 3

   **Greek**
   - GRK 101 Elementary Classical Greek I 4
   - GRK 102 Elementary Classical Greek II 4
   - GRK 105 Intensive Elementary Greek 6
   - GRK 205 Second-Year Classical Greek: Major Authors 4
   - GRK 305 Third-Year Classical Greek: Major Texts 4

   The 100-level Latin or Greek courses used to fulfill a college or major language requirement cannot also be counted towards the minor. The courses can, however, be counted toward the minor if the language requirement is otherwise satisfied.

   **History/Art History**
   - HA 209 Ancient Art 3
   - HST 330 Ancient Greek History to 200 CE 3
   - HST 331 Ancient Roman History 200 BCE to 500 CE 3
   - HST 481 Seminar in Ancient History (W) 3
   - HST 419 Studies in Ancient History 3

   **Classical Texts in Translation**
   - CLA 160 Myth Legend and J.R.R. Tolkien 3
   - CLA 201 The Greek and Roman World in Film 3
   - CLA 309 Greek Civilization 3
   - CLA 310 Roman Civilization 3
   - CLA 333 Roman Law (W) 3
   - CLA 360 Ancient Novel in English Translation (W) 3
   - ENG 265 Classical Myths and Literature 3
   - ENG 324 Readings in Epic 3
   - IAH 231B Themes and Issues: Moral Issues and the Arts and Humanities (D) 4

IAH 231B requires approval of the minor advisor to ensure Classics and Ancient Mediterranean-related content. Other related courses may count toward the minor with approval of the advisor.

**Archaeology/Anthropology**
- ANP 203 Introduction to Archaeology 3
- ANP 264 Great Discoveries in Archaeology 3
- ANP 365 Rise of Civilizations 3
- ANP 451 European Archaeology 3
- ANP 455 Archaeology of Ancient Egypt 3
- HA 401 Greek Art and Archaeology 4
- HA 402 Roman Art and Archaeology 4

**Philosophy/Religious Studies/Political Thought**
- MC 270 Classical Republicanism 4
- PHL 210 Ancient Greek Philosophy 3
ELI BROAD COLLEGE OF BUSINESS

1. Establish a Master of Science degree in International Business in the Eli Broad College of Business. The University Committee on Graduate Studies (UCGS) recommended approval of this request at its September 14, 2015 meeting.

a. Background Information:

The Eli Broad College of Business has a unique opportunity to introduce a new online Master of Science degree in International Business which features international business within an integrated business platform. The proposed Master of Science in International Business (MSIB) will extend the reach of the Broad College of Business and build on the reputation of its M.B.A. and M.S. programs and International Business Center. The MSIB is comprised of 30 credits of graduate-level courses in business strategy, management and the international aspects of business, including the choice of an international project or study abroad experience. The target market for the program is recent graduates with non-business undergraduate degrees for whom international business knowledge will provide a strong combination of employable skills. The program would leverage the Broad College’s strategic relationship with BISK Education and existing online courses.

The Broad College of Business is recognized globally as a leader in international business research and education. The International Business Center is a leading National Resource Center in international business, developer of globalEDGE.msu.edu (#1 ranked by Google in “international business resources”), and worldwide headquarters of the prestigious Academy of International Business. The Broad College’s fulltime M.B.A. program is ranked 14th in the U.S. by U.S. News and Business Week, 27th by Financial Times, which also ranked the Weekend M.B.A. at #34 among U.S. Programs. In international business, the Broad College is ranked #16 in graduate and #14 in undergraduate education (U.S. News & World Report 2014), and is top-ranked in the world in international business research in the premier business journals (International Business Review 2010). Michigan State University is one of 62 members of the prestigious Association of American Universities. The Broad College of Business is accredited by AACSB and a member of the Global Business School Network. The visibility and rankings of these programs provides an opportunity to move into the graduate professional market from a position of strength.

In connecting with the strong alumni and corporate relationship base of Broad College of Business, the degree may include expansive internship and career opportunities. A market analysis conducted by BISK Education forecasts growth in the market for international business, citing that the top five most common job titles for graduates with a master’s degree in international business are also forecast to grow from 7% to 26% through 2020 (Source: Bureau of Labor Statistics Occupational Outlook Handbook). The online program format is expected to minimize the need for faculty resources to support development and ongoing management, and benefit other online degree programs by leveraging existing instructors and courses.

b. Academic Programs Catalog Text:

The Master of Science degree in International Business is designed for recent graduates with non-business undergraduate degrees for whom international business knowledge will provide a strong combination of skills for future leadership roles in global organizations. The program provides a cross-functional international perspective across the major business disciplines: management, marketing, supply chain, finance, and accounting. It offers an educational experience that combines theory and experiential learning and is available only online.

In addition to meeting the requirements of the university and the Eli Broad College of Business and Graduate School of Management, students must meet the requirements specified below.
Admission

To be considered for admission to the program, applicants must:

1. Have a bachelor's degree from a recognized educational institution.
2. Have a cumulative undergraduate academic record equivalent to a 3.0 or higher.
3. Complete the following prerequisite courses or equivalent prior to admission for students who have a non-business undergraduate degree:
   - ACC 230 Survey of Accounting Concepts 3
   - BUS 250 Business Communications: Oral and Written Skills 3

Admission to the program is selective. Meeting the minimum standards listed above does not guarantee admission to the program.

Requirements for the Master of Science Degree in International Business

The Master of Science degree in International Business is available only under Plan B (non-thesis) and is available only online. A total of 30 credits are required for the degree.

<table>
<thead>
<tr>
<th>CREDITS</th>
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<tbody>
<tr>
<td>Students must complete 30 credits from the following courses:</td>
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<tr>
<td>1. <strong>International Core.</strong> All of the following courses (21 credits):</td>
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<tr>
<td>- ACC 801 International Accounting 3</td>
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<td>- FI 802 International Finance 3</td>
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<tr>
<td>- MGT 854 Global Strategy 3</td>
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<tr>
<td>- MKT 815 Cross-Cultural Understanding 3</td>
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<tr>
<td>- MKT 842 International Marketing 3</td>
</tr>
<tr>
<td>- MKT 852 Global Value Chains 3</td>
</tr>
<tr>
<td>- MKT 860 Understanding and Assessing the Global Business Environment 3</td>
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<tr>
<td>2. Complete one of the following, a project or study abroad experience (3 credits):</td>
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<tr>
<td>- MKT 882 International Business Field Study 3</td>
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<td>- MKT 894 The Global Marketplace 3</td>
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<td>3. Two of the following courses (6 credits):</td>
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<tr>
<td>- MGT 858 Strategic Management 3</td>
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<td>- MGT 873 Strategic Decision Making 3</td>
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<tr>
<td>- SCM 870 Introduction to Supply Chain Management 3</td>
</tr>
<tr>
<td>- SCM 873 Supply Chain Management: Sourcing, Operations and Distribution 3</td>
</tr>
<tr>
<td>4. Completion of a final oral examination or evaluation.</td>
</tr>
</tbody>
</table>

Academic Standards

Students who are enrolled in the Master of Science degree in International Business are expected to maintain: (1) a minimum grade-point average of 3.0 each semester, (2) a minimum cumulative grade-point average of 3.0, and (3) complete all courses listed on the candidacy form.

A student who does not maintain a 3.0 grade-point average will be placed on probation. Such a student will be given the next semester of enrollment to achieve a cumulative 3.0 grade-point average; otherwise, dismissal from the program will result.

Effective Fall 2016
COMMUNICATION ARTS AND SCIENCES

1. Change the name of the Doctor of Philosophy degree in Media and Information Studies in the College of Communication Arts and Sciences to Information and Media. The University Committee on Graduate Studies (UCGS) approved this request at its November 9, 2015 meeting.

Students admitted to the major prior to Fall 2016 will graduate with a Doctor of Philosophy Degree in Media and Information Studies.

Students admitted to the major Fall 2016 and forward will graduate with a Doctor of Philosophy Degree in Information and Media.

Effective Fall 2016.

2. Change the requirements for the Doctor of Philosophy degree in Information and Media in the College of Communication Arts and Sciences to the following. The University Committee on Graduate Studies (UCGS) approved this request at its November 9, 2015 meeting.

a. Under the heading Requirements for the Doctor of Philosophy Degree in Information and Media make the following changes:

(1) In item 1, change 'TC 960' to 'MI 960'.

(2) In item 2, change 'TC 975' to 'MI 975' and 'TC 985' to 'MI 985'.

Effective Fall 2016.

COLLEGE OF ENGINEERING

1. Establish a Minor in Energy in the College of Engineering. The University Committee on Undergraduate Education (UCUE) recommended approval of this request at its September 24, 2015 meeting.

a. Background Information:

Providing energy to the world that is clean and affordable is one of the premier challenges of the 21st century. Energy is critical across all facets of human development and the impact of non-renewable and inefficient energy generation on the world around us is becoming clear. Michigan State University has a long history of developing unique solutions to our global energy dilemma spanning solutions for energy generation, energy utilization, and energy policy. It is estimated from Destination Surveys that roughly 20% of the graduating engineering students end up with an energy company or a company closely tied to the energy industry. To complement the strong research portfolio MSU has already established in the Energy Sciences, and in response to strong constituency demand, an energy minor is proposed that focuses on key topics of fundamental laws that guide energy generation, utilization, conservation, engineering applications and the impact of energy within a societal and geological context. This minor provides students with a foundation and perspective in energy sciences that is applicable to many disciplines and builds off of the strength of each major. The minor, will 1) better recruit top students to MSU, 2) prepare students for greater success in careers in energy, 3) showcase the efforts of MSU as a preeminent institution for the study of energy sciences, 4) further address continuous program improvement and outcomes topics as required in ABET engineering criteria.

b. Academic Programs Catalog Text:

The Minor in Energy, administered by the College of Engineering, provides students with a foundation in energy science that focuses on topics of fundamental physical principles guiding energy generation, utilization, conservation, engineering applications and the impact of energy within a societal and geological context. Students gain a perspective in energy science that is applicable to many disciplines and highly interdisciplinary. It offers opportunities for students to prepare to work in industry, research, or government, as well as preparation for graduate studies in energy science.
The minor is available as an elective to students who are enrolled in bachelor's degree programs in the College of Engineering. With the approval of the department and college that administer the student's degree program, the courses that are used to satisfy the minor may also be used to satisfy the requirements for the bachelor's degree. At least 9 credits counted towards the requirements for this minor must be unique. Unique credits must not be used to fulfill another university, college, or major requirement in the student's program.

Students who plan to complete the requirements of the minor should consult the undergraduate adviser in the College of Engineering. Students accepted into the minor must be admitted to the College of Engineering and have completed items 1. and 2. of the requirements stated below. Enrollment for some courses may not be available and may be limited. Application forms are available at www.egr.msu.edu/academics/multi-disciplinary.

Requirements for the Minor in Energy

Complete a minimum of 21 credits from the following.

1. One of the following course (3 credits):
   - BE 230 Engineering Analysis of Biological Systems 3
   - CHE 201 Material and Energy Balances 3
   - MSE 250 Materials Science and Engineering 3

2. One of the following courses (3 or 4 credits):
   - BE 351 Thermodynamics for Biological Engineering 3
   - CHE 321 Thermodynamics for Chemical Engineering 4
   - ME 201 Thermodynamics 3
   - MSE 310 Phase Equilibria in Materials 3

3. One of the following courses (3 credits):
   - BE 456 Electric Power and Control 3
   - ECE 202 Circuits and Systems II 3
   - ECE 345 Electronic Instrumentation and Systems 3

4. One of the following courses (3 credits):
   - ME 417 Design of Alternative Energy Systems 3
   - MSE 410 Materials Foundations for Energy Applications 3

5. One of the following courses (3 credits):
   - AESC 310 Sustainable Systems Analysis 3
   - CSUS 200 Introduction to Sustainability 3
   - EEP 255 Ecological Economics 3

6. Two of the following courses (6 to 8 credits):
   - AFRE 829 Economics of Environmental Resources 3
   - BE 469 Sustainable Bioenergy Systems 3
   - CHE 468 Biomass Conversion Engineering 3
   - CSS 467 BioEnergy Feedstock Production 3
   - CSUS 200 Introduction Sustainability 3
   - CSUS 491 Special Topics in Community Sustainability 1 to 3
   - ECE 305 Electromagnetic Fields and Waves I 4
   - ECE 320 Energy Conversion and Power Electronics 3
   - ECE 423 Power System Analysis 3
   - ECE 425 Solid State Power Conversion 3
   - ECE 476 Electro-Optics 4
   - ECE 821 Advanced Power Electronics and Applications 3
   - EEP 320 Environmental Economics 3
   - ENE 481 Environmental Chemistry: Equilibrium Concepts 3
   - ENE 489 Air Pollution: Science and Engineering 3
   - FOR 414 Renewable Wood Products 3
   - GLG 201 The Dynamic Earth 4
   - GLG 301 Geology of Continents and Oceans 3
   - GLG 471 Applied Geophysics 4
   - ISP 221 Earth Environment and Energy 3
   - MC 450 International Environmental Law and Policy 3
   - ME 417 Design of Alternative Energy Systems 3
   - ME 422 Introduction to Combustion 3
   - ME 442 Turbomachinery 3
   - ME 444 Automotive Engines 3
   - MSE 410 Materials Foundations for Energy Applications 3
MSE 460 Electronic Structure and Bonding in Materials and Devices

A course used to fulfill requirement 4. above may not be used to fulfill requirement 6. Not all courses will be available to all majors and students must meet all course prerequisites and restrictions.

Effective Fall 2016.

2. Establish a Master of Science degree in Biomedical Engineering in the College of Engineering. The University Committee on Graduate Studies (UCGS) recommended approval of this request at its September 21, 2015 meeting.

a. Background Information:

Biomedical engineering (BME) is the application of engineering principles and design concepts to advance healthcare practices, including medical diagnosis, treatment, and monitoring. This highly multidisciplinary field cuts across traditional disciplinary boundaries of engineering, biology, and medicine.

In an effort during fall 2013 and spring 2014, a BME Curriculum Committee consisting of representatives from all College of Engineering departments developed a curriculum plan for the new Department of Biomedical Engineering, established January 1, 2015 which will initially offer graduate degree programs. The Curriculum Committee evaluated leading BME/Bioengineering departments to identify focus areas, course offerings, and degree requirements. Emphasis was placed on benchmarking BME programs that did not offer a Bachelor of Science degree. The Curriculum Committee also assessed MSU research strengths, departments, research and training programs, and infrastructure relevant to BME. Campus stakeholders were contacted to discuss possible interactions and ways to achieve synergy. Based on the information collected, three guiding principles for the new BME graduate programs emerged.

It was concluded that if the program were too focused, it would unduly limit participation, however, if the program were too broad in its scope, it would lose its disciplinary identity. Some Bioengineering programs focus on bioscience topics having little medical relevance. Because the National Institute of Health (NIH) is expected to be a major funding target for MSU's BME-affiliated faculty members, it was deemed appropriate to align the curriculum with topics relevant to the NIH. One guiding principle was that the BME curriculum should maintain flexibility for students to work on a broad range of projects and receive credit for a broad range of courses, provided the projects and courses were relevant to medicine.

It was acknowledged that several major future assets for the BME program are still emerging, including the Institute for Engineering, Science, and Health (IESH), the new Bioengineering Building, and a new IESH faculty cohort. The research foci that will eventually be represented by these emerging assets are presently unknown. In order to ensure future flexibility to align the BME department’s focus areas and course requirements with these emerging assets, a second guiding principle was to maintain a high degree of flexibility in the program’s initial curriculum requirements. This flexibility is reflected in the deliberate decision not to recommend departmental research focus areas and not to specify many required courses at this time.

However, the Curriculum Committee identified a cross-cutting topic, translational research, as being of primary importance to all BME students. Translational research is defined as engineering research that makes findings from basic science useful for practical applications that improve human health. The NIH has emphasized the importance of translational research by requiring all NIH-funded research to target a significant condition or disease and have the potential to improve medical practice. Thus, a third guiding principle was that the curriculum should incorporate mandatory training on translational research.

Based on the information collected and three guiding principles, it recommended master’s and doctoral degree requirements that (1) allow BME students to participate in a broad range of courses and research topics, (2) include few required courses to provide flexibility for departmental focus areas and course requirements may be established once the IESH and BME faculty pool are more fully developed, and (3) recommend development of a novel Translational Innovations
laboratory course that would be required by all BME doctoral students. It is expected that these degree programs and their requirements will be reviewed in three years after the BME department and its faculty and administration are in place.

b. **Academic Programs Catalog Text:**

The Master of Science Degree in Biomedical Engineering prepares graduates to review technical literature related to a biomedical engineering research problem and communicate those results through oral presentations and written publications.

**Master of Science**

In addition to meeting the requirements of the university, and of the College of Engineering, students must meet the requirements specified below.

**Admission**

For admission to the master’s degree in biomedical engineering on regular status, the student must:

1. have a bachelor’s degree in biomedical engineering or related field; and
2. have a grade-point average that would indicate success in graduate study.

Applicants who are admitted without a bachelor’s degree in biomedical engineering may be required to complete collateral course work to make up deficiencies. Collateral course work will not count towards the fulfillment of degree requirements.

International applicants are required to submit their scores on the Graduate Record Examination (GRE).

**Requirements for the Master of Science Degree in Biomedical Engineering**

The master’s degree program in biomedical engineering is available under either Plan A (with thesis) or Plan B (without thesis). A total of 30 credits is required for the degree. The student’s program of study is selected in consultation with a faculty advisor and the graduate program director. No more than 6 credits of 400-level courses may be counted towards the degree requirements.

Student’s must complete the following core course:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BME 803</td>
<td>Research Methods</td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional Requirements for Plan A**

1. Completion of the following course:
   - BME 892 Biomedical Engineering Seminar
   - Credits: 1

2. Complete of at least 4, but not more than 8, credits of BME 899 Master’s Thesis Research.

3. Pass a final oral examination in defense of the thesis.

**Additional Requirements for Plan B**

1. Pass a final examination or evaluation.

Effective Fall 2016
3. Establish a **Doctor of Philosophy** degree in **Biomedical Engineering** in the College of Engineering. The University Committee on Graduate Studies (UCGS) recommended approval of this request at its September 21, 2015 meeting.

   a. **Background Information:**

   Biomedical engineering (BME) is the application of engineering principles and design concepts to advance healthcare practices, including medical diagnosis, treatment, and monitoring. This highly multidisciplinary field cuts across traditional disciplinary boundaries of engineering, biology, and medicine.

   In an effort during fall 2013 and spring 2014, a BME Curriculum Committee consisting of representatives from all College of Engineering departments developed a curriculum plan for the new Department of Biomedical Engineering, established January 1, 2015 which will initially offer graduate degree programs. The Curriculum Committee evaluated leading BME/Bioengineering departments to identify focus areas, course offerings, and degree requirements. Emphasis was placed on benchmarking BME programs that did not offer a Bachelor of Science degree. The Curriculum Committee also assessed MSU research strengths, departments, research and training programs, and infrastructure relevant to BME. Campus stakeholders were contacted to discuss possible interactions and ways to achieve synergy. Based on the information collected, three guiding principles for the new BME graduate programs emerged.

   It was concluded that if the program were too focused, it would unduly limit participation, however, if the program were too broad in its scope, it would lose its disciplinary identity. Some Bioengineering programs focus on bioscience topics having little medical relevance. Because the National Institute of Health (NIH) is expected to be a major funding target for MSU’s BME-affiliated faculty members, it was deemed appropriate to align the curriculum with topics relevant to the NIH. One guiding principle was that the BME curriculum should maintain flexibility for students to work on a broad range of projects and receive credit for a broad range of courses, provided the projects and courses were relevant to medicine.

   It was acknowledged that several major future assets for the BME program are still emerging, including the Institute for Engineering, Science, and Health (IESH), the new Bioengineering Building, and a new IESH faculty cohort. The research foci that will eventually be represented by these emerging assets are presently unknown. In order to ensure future flexibility to align the BME department’s focus areas and course requirements with these emerging assets, a second guiding principle was to maintain a high degree of flexibility in the program’s initial curriculum requirements. This flexibility is reflected in the deliberate decision not to recommend departmental research focus areas and not to specify many required courses at this time.

   However, the Curriculum Committee identified a cross-cutting topic, translational research, as being of primary importance to all BME students. Translational research is defined as engineering research that makes findings from basic science useful for practical applications that improve human health. The NIH has emphasized the importance of translational research by requiring all NIH-funded research to target a significant condition or disease and have the potential to improve medical practice. Thus, a third guiding principle was that the curriculum should incorporate mandatory training on translational research.

   Based on the information collected and three guiding principles, it recommended master’s and doctoral degree requirements that (1) allow BME students to participate in a broad range of courses and research topics, (2) include few required courses to provide flexibility for departmental focus areas and course requirements may be established once the IESH and BME faculty pool are more fully developed, and (3) recommend development of a novel Translational Innovations laboratory course that would be required by all BME doctoral students. It is expected that these degree programs and their requirements will be reviewed in three years after the BME department and its faculty and administration are in place.

   b. **Academic Programs Catalog Text:**

   The Doctor of Philosophy degree in Biomedical Engineering prepares graduates to review technical literature related to a biomedical engineering research problem and communicate those results through oral presentations and written publications.
Doctor of Philosophy

In addition to meeting the requirements of the university, and of the College of Engineering, students must meet the requirements specified below.

Admission

For admission to the doctoral degree in biomedical engineering on regular status, the student must:

3. have a bachelor’s degree in biomedical engineering or related field; and
4. have a grade-point average that would indicate success in graduate study.

Applicants who are admitted without a bachelor’s degree in biomedical engineering may be required to complete collateral course work to make up deficiencies. Collateral course work will not count towards the fulfillment of degree requirements.

International applicants are required to submit their scores on the Graduate Record Examination (GRE).

Requirements for the Doctor of Philosophy Degree in Biomedical Engineering

The doctoral degree program in biomedical engineering program of study is selected in consultation with a faculty advisor and the graduate program director. A minimum of 22 credits of course work beyond the bachelor’s degree is required in addition to doctoral dissertation research. No more than 6 credits of 400-level courses may be counted towards the degree requirements.

Student’s must complete the following:

1. All of the following core courses:
   - BME 803 Research Methods 3
   - BME 841 Translational Innovations Laboratory 3
   - BME 892 Biomedical Engineering Seminar 1

Effective Fall 2016

4. Change the requirements in the Bachelor of Science degree in Mechanical Engineering in the Department of Mechanical Engineering.

The concentrations in the Bachelor of Science degree in Mechanical Engineering 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 Mechanical Engineering make the following changes:

   (1) In item 1., replace paragraph two with the following:
   The University’s Tier II writing requirement for the Mechanical Engineering major is met by completing Mechanical Engineering 332, 412, and 481. Those courses are referenced in item 3. b. (1) below.

   (2) In item 3. a. add the following course and change the total credits from ‘13’ to ‘17’:
   CSE 231 Introduction to Programming I 4

   (3) In item 3. b. add the following course and change the total credits from ‘39’ to ‘40’:
   ME 300 Professional Issues in Mechanical Engineering 1
(4) In item 3. c. add the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME 433</td>
<td>Introduction to Computational Fluid Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>ME 497</td>
<td>Biomechanical Design in Product Development</td>
<td>3</td>
</tr>
</tbody>
</table>

(5) Add the following three concentrations:

**Concentration in Automotive Powertrain**

A concentration in Automotive Powertrain is available to, but not required of, any student enrolled in the Bachelor of Science degree in Mechanical Engineering. Completing the Bachelor of Science degree in Mechanical Engineering with a concentration in automotive powertrain may require more than 128 credits. The concentration will be noted on the student's transcript.

Automotive Powertrain

To earn a Bachelor of Science degree in Mechanical Engineering with an automotive powertrain concentration, students must complete requirements 1., 2., 3.a., 3.b., and 3.d. above and the following:

All of the following courses (9 credits):

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME 422</td>
<td>Introduction to Combustion</td>
<td>3</td>
</tr>
<tr>
<td>ME 444</td>
<td>Automotive Engines</td>
<td>3</td>
</tr>
<tr>
<td>ME 445</td>
<td>Automotive Powertrain Design</td>
<td>3</td>
</tr>
</tbody>
</table>

One of the following courses (3 credits):

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME 433</td>
<td>Introduction to Computational Fluid Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>ME 442</td>
<td>Turbomachinery</td>
<td>3</td>
</tr>
</tbody>
</table>

**Concentration in Computational Design**

A concentration in Computational Design is available to, but not required of, any student enrolled in the Bachelor of Science degree in Mechanical Engineering. Completing the Bachelor of Science degree in Mechanical Engineering with a concentration in computational design may require more than 128 credits. The concentration will be noted on the student's transcript.

Computational Design

To earn a Bachelor of Science degree in Mechanical Engineering with a computational design concentration, students must complete requirements 1., 2., 3.a., 3.b., and 3.d. above and the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME 416</td>
<td>Computer Assisted Design of Thermal Systems</td>
<td>3</td>
</tr>
<tr>
<td>ME 433</td>
<td>Introduction to Computational Fluid Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>ME 465</td>
<td>Computer Aided Optimal Design</td>
<td>3</td>
</tr>
<tr>
<td>ME 475</td>
<td>Computer Aided Design of Structures</td>
<td>3</td>
</tr>
</tbody>
</table>

**Concentration in Energy**

A concentration in Energy is available to, but not required of, any student enrolled in the Bachelor of Science degree in Mechanical Engineering. Completing the Bachelor of Science degree in Mechanical Engineering with a concentration in energy may require more than 128 credits. The concentration will be noted on the student's transcript.

Energy

To earn a Bachelor of Science degree in Mechanical Engineering with an energy concentration, students must complete requirements 1., 2., 3.a., 3.b., and 3.d. above and the following:

All of the following courses (9 credits):

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME 416</td>
<td>Computer Assisted Design of Thermal Systems</td>
<td>3</td>
</tr>
<tr>
<td>ME 417</td>
<td>Design of Alternative Energy Systems</td>
<td>3</td>
</tr>
<tr>
<td>ME 422</td>
<td>Introduction to Combustion</td>
<td>3</td>
</tr>
</tbody>
</table>

One of the following courses (3 credits):

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME 440</td>
<td>Aerospace Engineering Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>ME 442</td>
<td>Turbomachinery</td>
<td>3</td>
</tr>
</tbody>
</table>
(6) Change the name of the Biomechanical Engineering concentration to ‘Biomedical Engineering’.

(7) Change the requirements for the Biomedical Engineering concentration to the following:

Both of the following courses (7 credits):
- BS 161 Cell and Molecular Biology 3
- PSL 250 Introductory Physiology 4

Nine credits from the following courses:
- BE 445 Biosensors for Medical Diagnostics 3
- ECE 445 Biomedical Instrumentation 3
- ME 494 Biofluid Mechanics and Heat Transfer 3
- ME 495 Tissue Mechanics 3
- ME 497 Biomechanical Design in Product Development 3
- MSE 425 Biomaterials and Biocompatibility 3

Effective Fall 2016.

COLLEGE OF HUMAN MEDICINE

1. Establish a Graduate Certificate in Medical Partners in Public Health in the College of Human Medicine. The University Committee on Graduate Studies (UCGS) recommended approval of this request at its November 9, 2015 meeting.

a. Background Information:

The Medical Partners in Public Health graduate certificate is aimed at College of Human Medicine medical students who are interested in complementing their clinical medicine training with a rigorous population and community-focused approach to improving public health, but who do not yet have a public health degree. This certificate is designed to help fulfill the Center for Disease Control (CDC’s) vision of training physicians with a population health perspective:

“Physicians who practice integrated public health and medicine will see the patient as residing in a larger context of broad determinants of health. They will consider the influences of home, work and environment to the patient’s health. Because such physicians view health issues with a systems perspective, and thus see solutions from a similar vantage point, they will not be limited to the illness care system, but will identify and work with community resources on behalf of patients. These physicians will also have better insight into the healthcare industry. They will know how to think about the myriad health plans, insurers, hospital systems and healthcare purchasers and how they might affect clinicians’ opportunities to emphasize prevention and promote health in their practices. In fact, such physicians believe health is a human right, and actively use their analytic skills to assess the health of their community (regardless of whether they are all their patients). These physicians work with the public health system to practice prevention, health promotion, and health protection for individuals and populations.” CDC Experience Applied Epidemiology Fellowship - From Maeshiro R et al. Integration of Public Health into Medical Education – An Introduction to the Supplement, Am J Prev Med 2011;41(4S3):S145–S148


The Council on Linkages Between Academia and Public Health Practice – 20 professional organizations convened by the CDC – published the Core Competencies for Public Health Professionals in 2014 - (attachment 2). All are appropriate for medical school graduates at the most basic level (Tier 1) and many would be desirable at higher levels (Tiers 2 and 3). The MSU College of Human Medicine program in public health has mapped all of its learning objectives (the core of which constitute this certificate) onto these core public health competencies.
The College of Human Medicine has a longstanding commitment to patient-centered care and the biopsychosocial model. It has also been a leader in using evidence-based medicine to make that care effective.

Medicine and public health have overlapping goals with distinct, but complementary perspectives.

While the College of Human Medicine has long sought to incorporate prevention and advocacy, there has not always been the opportunity to provide the public health context and evidence base to do this most effectively. This certificate is designed to provide graduates the knowledge of public health theory and structure to effectively expand the focus of this biopsychosocially-informed practice from the boundaries of single person care to that of communities and populations.

The College of Human Medicine program in public health has designed and operated diverse flexible course structures incorporating online, face-to-face, synchronous, asynchronous, and flipped educational methods to provide effective options for learners in diverse circumstances. This flexibility is key to creating an educational program that can effectively run concurrently with the standard human medicine curriculum. It affords the opportunity for public health and individual clinical medicine to interact and augment medical education from both perspectives without imposing time and place requirements that might interfere with the standard medical school curriculum.

Basing this certificate in the Flint Campus will allow students to learn in the broader public health milieu that accompanies top level public health research aimed to provide evidence-based interventions for the real-world public health problems in the Greater Flint Community. By restricting it to this campus, it also affords students the opportunity to work together to become familiar with the particular institutions of one community, while learning the general structure of public health in the U.S. and also globally. Additionally, students will be able to work together to effectively work change on larger projects than would not be possible if they worked separately. This will help to design group capstone projects that synthesize the major competencies that they will learn in this certificate.

Students who wish to extend their learning about public health will be able to use these credits towards a Master of Public Health degree at MSU.

b. Academic Programs Catalog Text:

The Graduate Certificate in Medical Partners in Public Health is designed for College of Human Medicine medical students who are interested in complementing their clinical medicine training with a rigorous population and community-focused approach to improving public health. The certificate helps fulfill the Center for Disease Control’s vision of training physicians who do not yet have a public health degree.

Admission

Students must be in good academic standing to participate in the program. Students must apply for and be selected for the program by completing the application process which consists of essays and interviews. Students are not eligible for the certificate if they already possess master’s in public health degree or certificate.

Requirements for the Graduate Certificate in Medical Partners in Public Health

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HM 622 Practical Applications of Public Health Principles-Planning a Community Project</td>
<td>6</td>
</tr>
<tr>
<td>HM 623 Practical Applications of Public Health Principles-Implementing a Community Project</td>
<td>6</td>
</tr>
<tr>
<td>HM 822 Introduction to Core Disciplines of Public Health for Medical Students</td>
<td>3</td>
</tr>
<tr>
<td>HM 823 Medical Partners in Public Health: Special Seminars</td>
<td>3</td>
</tr>
</tbody>
</table>

Students will also participate in community service and in quarterly journal club/seminars around public health topics.

Effective Summer 2016
2. Change the requirements for the **Master of Science** degree in **Biostatistics** in the Department of Epidemiology and Biostatistics. The University Committee on Graduate Studies (UCGS) approved this request at its November 9, 2015 meeting.

   a. Under the heading **Requirements for the Master of Science** degree in **Biostatistics** make the following changes:

      (1) In the entry paragraph, replace the first sentence with the following:

      The program is available under either Plan A (with thesis) or Plan B (without thesis).

      (2) Change item 5. read ‘Elective courses selected from the following (Plan A, 16 credits) or (Plan B, 20 credits):’

      (3) Change item 5. a. to read ‘At least 13 credits (Plan A) or 17 credits (Plan B) from the following biostatistics, statistics, and econometrics courses’.

      (4) Replace item 6. with the following:

      **Additional Requirements for Plan A**

      1. The following course (4 credits):

      EPI 899 Master’s Thesis Research 4

      **Additional Requirements for Plan B**

      1. Completion of a final oral examination or evaluation.

      Effective Summer 2016.

3. Change the requirements for the **Master of Science** degree in **Epidemiology** in the Department of Epidemiology and Biostatistics. The University Committee on Graduate Studies (UCGS) approved this request at its November 9, 2015 meeting.

   a. Under the heading **Requirements for the Master of Science** degree in **Epidemiology** make the following changes:

      (1) In item 1. change delete the following course:

      EPI 813 Investigation of Disease Outbreaks 3

      Add the following course:

      EPI 836 Practicum in Epidemiological Methods 3

      Effective Summer 2016.

   **COLLEGE OF OSTEOPATHIC MEDICINE**

1. Change the requirements for the **Master of Science** degree in **Pharmacology and Toxicology** in the Department of Pharmacology and Toxicology. The University Committee on Graduate Studies (UCGS) approved this request at its November 9, 2015 meeting.

   a. Under the heading **Requirements for the Master of Science Degree in Pharmacology and Toxicology** make the following changes:

      (1) In the **Pharmacology** concentration move PHM 813 from item 2. to item 1.

      Effective Summer 2016.
PART II - NEW COURSES

DEPARTMENT OF BIOMEDICAL ENGINEERING

BME 803  Research Methods
Fall of every year. 3(3-0)
Skills required for graduate research. Critically reviewing the literature, defining a fundamental research problem, effective oral and written technical presentations, ethics and statistics.
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 2016

BME 841 Translational Innovations Laboratory
Spring of every year. 3(1-4) R: Open to doctoral students in the Department of Biomedical Engineering or approval of department.
Mentored research conducted in multidisciplinary team. Translational research.
Development of biomedical technologies. Teamwork skills.
Effective Fall 2016

BME 892 Biomedical Engineering Seminar
Fall of every year. Spring of every year. 1(1-0)
Presentations of detailed studies of one or more specialized aspects of biomedical engineering
Request the use of the Pass-No Grade (P-N) system.
Effective Fall 2016

BME 899 Master's Thesis Research
Fall of every year. Spring of every year. 1 to 8 credits. A student may earn a maximum of 24 credits in all enrollments for this course.
Master's thesis research.
Effective Fall 2016

BME 999 Doctoral Dissertation Research
Fall of every year. Spring of every year. 1 to 36 credits. A student may earn a maximum of 36 credits in all enrollments for this course.
Doctoral dissertation research.
Request the use of the Pass-No Grade (P-N) system.
Effective Fall 2016

DEPARTMENT OF ECONOMICS

EC 438 Urban Economics (W)
Fall of every year. 3(3-0) P: (EC 202 or EC 252H) and (EC 301 or EC 251H) and Completion of Tier I Writing Requirement
Economic analysis of cities and urban regions. City growth or contraction, land-use patterns, transportation systems, housing and housing policies, functioning of local governments, policy responses to crime, pollution and poverty.
Effective Fall 2015

DEPARTMENT OF FINANCE

FI 802 International Finance
Fall of every year. Spring of every year. Summer of every year. 1 to 3 credits. R: Open to master’s students in the Eli Broad College of Business and The Eli Broad Graduate School of Management and not open to MBA students.
Introduction to international finance. Time value of money, exchange rates, international parity conditions, currency risk management, risk and return, capital budgeting, and cost of capital.
Effective Fall 2015
DEPARTMENT OF HORTICULTURE

HRT 475  International Studies in Horticulture  
Spring of odd years. Summer of every year. 1 to 6 credits. A student may earn a maximum of 6 credits in all enrollments for this course. RB: HRT 203 and HRT 204 R: Approval of department; application required. 
REINSTATEMENT  Study and travel experience emphasizing contemporary problems, issues, and trends in horticulture. 
Effective Spring 2016

DEPARTMENT OF HUMAN DEVELOPMENT AND FAMILY STUDIES

HDFS 303  Assessment and Observations in Early Care and Education  
On Demand. 3(3-0) P: HDFS 206 R: Open to undergraduate students in the Early Care and Education Major. 
  Selection and use of culturally sensitive assessments across developmental domains to inform interventions. 
  Effective Fall 2016

HDFS 865  Capstone in Youth Development  
Fall of every year. Spring of every year. 1 to 5 credits. R: Approval of department. 
  Independent research for faculty and peer feedback on research projects. 
  Effective Spring 2016

COLLEGE OF HUMAN MEDICINE

HM 622  Practical Application of Public Health Principles–Planning a Community Project  
Fall of every year. Spring of every year. Summer of every year. 6(6-0) P: HM 823 R: Approval of college. 
  Research and planning for a group community project. Practical application of public health principles including epidemiology, biostatistics, health and public policy, public health administration structure and function, health behavior, health education, environmental health and community assessment. 
  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 2015

HM 623  Practical Application of Public Health Principles–Implementing a Community Project  
Fall of every year. Spring of every year. Summer of every year. 6(6-0) P: HM 622 R: Approval of college. 
  Implementation, analysis, and documentation of group community project planned in HM 622. 
  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 2015

HM 822  Introduction to Core Disciplines of Public Health for Medical Students  
Fall of every year. Spring of every year. 3(3-0) RB: Medical students with interest in public health R: Open to students in the College of Human Medicine or approval of college. 
  Introduction to philosophy and concepts of discipline of public health and its relationship to clinical medicine. History and development of the profession; ethical, legal and political considerations. 
  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 2015
HM 823  Medical Partners in Public Health: Special Seminars  
Fall of every year. Spring of every year. Summer of every year. 3(3-0) P: HM 822 RB: Medical students with interest in public health R: Open to students in the College of Human Medicine or approval of college.  
Analysis, discussion, and application of key public health competencies in the community setting.  
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 2015

HM 824  SAS Programming for Population Health Analytics  
Spring of even years. 3(3-0) P: HM 817 RB: Background in public health, healthcare or other health related fields. R: Open to students in the Public Health Major or approval of college.  
SAS programming skills for the access and management of administrative healthcare data; delivers data management training in health strategies for leaders in the growing field of unstructured information processing.  
Effective Summer 2015

MSU COLLEGE OF LAW

LAW 530S  Constitutional Law and the Regulatory State  
Spring of every year. 0 to 6 credits. R: Open to Law students or master of laws students or law lifelong students or law non-degree students. Not open to students with credit in LAW 500C or LAW 530G.  
Constitutional, statutory, and administrative foundations of American government  
Effective Spring 2016

LAW 545M  International Law and Armed Conflict  
Spring of every year. 0 to 6 credits. R: Open to Law students or master of laws students or law lifelong students or law non-degree students. Not open to students with credit in LAW 548M.  
Exploration of origins, purpose, content, development and impact of the laws of war in armed conflict.  
Effective Spring 2016

LAW 551E  Judicial Politics  
Spring of every year. 0 to 6 credits. R: Open to Law students or master of laws students or law lifelong students or law non-degree students.  
Practice of selecting and retaining judges in the American states and judicial decision making process.  
Effective Spring 2016

LAW 631J  Indian Law Clinic I  
Fall of every year. Spring of every year. Summer of every year. 0 to 6 credits. P: (LAW 530J) and (LAW 530D or LAW 530E or LAW 530Q or LAW 530N) R: Open to Law students or master of laws students or law lifelong students or law non-degree students. Not open to students with credit in LAW 630F.  
Legal matters for tribes; develop policy papers for tribal governments and organizations.  
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 Spring 2016

LAW 631K  Indian Law Clinic II  
Fall of every year. Spring of every year. Summer of every year. 0 to 6 credits. P: LAW 631J R: Open to Law students or master of laws students or law lifelong students or law non-degree students. Not open to students with credit in LAW 630G.  
Continuation of Law 631J.  
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 Spring 2016
PART II – NEW COURSES

LAW 631M  Food Law Clinic I
Fall of every year. Spring of every year. Summer of every year. 0 to 6 credits. P: (LAW 530J) and (LAW 530D or LAW 530E or LAW 530Q or LAW 530N) R: Open to Law students or master of laws students or law lifelong students or law non-degree students. Not open to students with credit in LAW 566P.
Legal services to nonprofits and low-income individuals working in food and agriculture. 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 Spring 2016

LAW 631N  Food Law Clinic II
Fall of every year. Spring of every year. Summer of every year. 0 to 6 credits. P: LAW 631M R: Open to Law students or master of laws students or law lifelong students or law non-degree students. Continuation of LAW 631M. 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 Spring 2016

DEPARTMENT OF MANAGEMENT

MGT 854  Global Strategy
Fall of every year. 1 to 3 credits. P: MGT 850 or MGT 858 or approval of department R: Open to master’s students in the Eli Broad College of Business and The Eli Broad Graduate School of Management and not open to MBA students in the Eli Broad College of Business and The Eli Broad Graduate School of Management.
Overview of the basic building blocks of the strategic management process in a global setting; provide a framework for understanding how multinational companies manage and leverage competitive advantage across international markets.
Effective Spring 2016

MGT 858  Strategic Management
Fall of every year. Spring of every year. Summer of every year. 1 to 3 credits. R: Open to master’s students in the Eli Broad College of Business and The Eli Broad Graduate School of Management and not open to MBA students in the Eli Broad College of Business and The Eli Broad Graduate School of Management.
Concepts related to creating and sustaining a competitive advantage in a competitive market. Management of multi-business firms, including business strategies and models, value creation, industry structure and dynamics, mergers and acquisitions, firm scope, and strategic alliances.
Effective Fall 2015

DEPARTMENT OF MARKETING

MKT 815  Cross Cultural Understanding
Fall of every year. Spring of every year. Summer of every year. 1 to 3 credits. RB: First degree in business related subject or graduate with several years’ work experience at managerial level R: Not open to MBA students in the Eli Broad College of Business and The Eli Broad Graduate School of Management. Approval of department.
Understanding a large variety of overseas market needs, social norms and the way business is done. Knowledge of global cultural differences, business and personal behavior, and strategies for successful global business relations. Understanding how to adapt to different cultures and business norms throughout the world.
Effective Fall 2015

MKT 882  International Business Field Study
Fall of every year. Spring of every year. Summer of every year. 1 to 3 credits. R: Open to graduate students in the Eli Broad College of Business and The Eli Broad Graduate School of Management. Practical application of international business concepts.
Effective Fall 2015
MKT 894  The Global Marketplace  
Fall of every year. Spring of every year. Summer of every year. 1 to 3 credits. P: MKT 860 R: Open to graduate students in the Eli Broad College of Business and The Eli Broad Graduate School of Management.
Commercial, economic, cultural, and political aspects of global environments. Exposure to leading executives and government representatives of major trading partners. Develop a comparative framework for competitive strategy in a multi-country context. Field Trip required.
Effective Fall 2015

DEPARTMENT OF MECHANICAL ENGINEERING

ME 300  Professional Issues in Mechanical Engineering  
Fall of every year. Spring of every year. 1(1-0) P: Completion of Tier I Writing Requirement R: Open to undergraduate students in the Mechanical Engineering Major.
Effective Spring 2016

ME 433  Introduction to Computational Fluid Dynamics  
Spring of every year. 3(3-0) P: ME 410 or concurrently R: Open to juniors or seniors in the Department of Mechanical Engineering.
Theory and application of finite difference and finite volume methods to selected fluid mechanics and heat transfer problems developed based on Euler and Navier-Stokes equations. Application of commercial software to computational fluid dynamics problems.
Effective Fall 2016

DEPARTMENT OF ROMANCE AND CLASSICAL STUDIES

GRK 105  Intensive Elementary Greek  
Spring of every year. 6(6-0) R: Approval of department.
Intensive introduction to classical Greek focusing on the fundamentals of vocabulary, grammar, orthography, pronunciation, and syntax. Translation of elementary readings.
Effective Fall 2015

GRK 205  Second-Year Classical Greek: Major Authors  
Fall of every year. Spring of every year. 4(4-0) A student may earn a maximum of 12 credits in all enrollments for this course. P: (GRK 101 and GRK 102 or approval of department) or GRK 105
Intermediate level review and development of reading and writing skills through the study of major authors of ancient Greece
Effective Fall 2015

GRK 305  Third-Year Classical Greek: Major Texts  
Fall of every year. Spring of every year. 4(4-0) A student may earn a maximum of 12 credits in all enrollments for this course. P: GRK 205 or approval of department
Selected Greek poetry, prose, and theater, with additional readings in translation.
Effective Fall 2015

LTN 305  Third-Year Latin: Major Authors I  
Fall of even years. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. P: (LTN 206 or LTN 208 or LTN 211 or LTN 221) or approval of department and completion of Tier I writing requirement
The study of major works of ancient Rome in the original Latin. Specific works and authors will vary.
Effective Fall 2015
LTN 405 Fourth-Year Latin: Major Authors II
Fall of odd years. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. P: (LTN 305 or approval of department) and completion of Tier I writing requirement
The study of selected major works of Ancient Rome in the original Latin. Specific works and authors will vary.
Effective Fall 2015

DEPARTMENT OF WRITING, RHETORIC AND AMERICAN CULTURES

WRA 401 Writing and Leadership in the Professions
Summer of every year. 3(3-0) P: Completion of Tier I Writing Requirement
Designed to support the learning of the basics of work-place communication. Focus on core rhetorical skills used across diverse businesses and organizations.
Effective Summer 2016
PART III – COURSE CHANGES

DEPARTMENT OF AGRICULTURAL, FOOD, AND RESOURCE ECONOMICS

ABM 203  Data Analysis for the Agri-Food System
Fall of every year. Spring of every year. 3(3-0) Interdepartmental with Environmental Economics and Policy and Food Industry Management. P: (ABM 100 and (EC 201 or concurrently)) and ((STT 200 or concurrently) or (STT 201 or concurrently) or (STT 315 or concurrently)) R: Open to undergraduate students in the Agribusiness Management Minor or in the Agribusiness Management Major or in the Environmental Economics Minor or in the Environmental Economics and Management major or in the Food Industry Management Minor or in the Food Industry Management Major.

Introduction to data analysis tools used in the management of food systems.

Effective Fall 2015

ABM 210  Professional Seminar in Agribusiness Management
Spring of every year. 1(1-0) R: Open to students in the Agribusiness Management Undergraduate Specialization and open to students in the Animal Science Major or in the Horticulture Major or in the Agribusiness Management Major. R: Open to students in the Agribusiness Management Minor and open to students in the Animal Science Major or in the Horticulture Major or in the Agribusiness Management Major.

Industry trends in agribusiness management. Verbal, written, and visual communication techniques applied to professional situations, including professional development and career planning.

Effective Fall 2014 Effective Fall 2015

ABM 410  Advanced Professional Seminar in Agribusiness Management
Fall of every year. 1(1-0) P: ABM 210 R: Open to juniors or seniors in the Agribusiness Management Undergraduate Specialization and open to juniors or seniors in the Animal Science Major or in the Horticulture Major or in the Agribusiness Management Major. R: Open to juniors or seniors in the Agribusiness Management Minor and open to juniors or seniors in the Animal Science Major or in the Horticulture Major or in the Agribusiness Management Major.

Advanced professional problems and reestablishment of career planning in the agri-food system. Industry trends, career alternatives, and job search strategies. Enhanced verbal, written, and visual communication techniques.

Effective Fall 2014 Effective Fall 2015

ABM 422  Vertical Coordination in the Agri-Food System
Fall of every year. 3(3-0) Interdepartmental with Food Industry Management. P: ABM 100 and ABM 203 and EC 201 P: ABM 100 and EC 201 RB: ABM 303 or EC 301 RB: (ABM 303) or (ABM 203 and EC 301) R: Open to juniors or seniors.


SA: FSM 443

Effective Fall 2015

ABM 425  Commodity Marketing II
Fall of every year. 3(3-0) P: (ABM 203 or ANS 314 or approval of department) and ABM 225 P: (ANS 314 or STT 200 or STT 201 or STT 315 or approval of department) and ABM 225 RB: ABM 303 or EC 301 RB: (ABM 303) or (ABM 203 and EC 301)

Advanced application of supply, space demand, and prices in commodity markets. Futures and options and their role in forward pricing. Risk management. Agricultural and food markets.

SA: FSM 441

Effective Fall 2015
ABM 427  Global Agri-Food Industries and Markets
Fall of every year. 3(3-0) Interdepartmental with Food Industry Management. P: (FIM 220 or ABM 225) and (EC 201 and EC 202) and ABM 203 P: (FIM 220 or ABM 225) and (EC 201 and EC 202) 
RB: ABM 303 or EC 204. RB: (ABM 303) or (ABM 203 and EC 201)
Strategic understanding of the international agri-food system. Analysis of global production, marketing, and consumption. Knowledge of changing conditions in international industries and markets. Global trends and opportunities.
Effective Fall 2015

ABM 430  Farm Management II
Fall of every year. 3(4-0) P: (ABM 130 and EC 201) and (ABM 203 or approval of department) P: ABM 130 and EC 201 RB: ABM 303 or EC 201 RB: (ABM 303) or (ABM 203 and EC 201) R: Open to juniors or seniors.
Advanced management, planning, and control of farm production, marketing, financial activities, economic principles, budgeting and financial statements.
SA: FSM 330
Effective Fall 2015

ABM 435  Financial Management in the Agri-Food System
Spring of every year. 3(3-0) P: (ACC 201 or ACC 230 or ABM 130) and (ABM 303 or approval of department) P: ABM 130 or ACC 201 or ACC 230 RB: (ABM 303) or (ABM 203 and EC 301) R: Open to juniors or seniors.
SA: FSM 412
Effective Fall 2015

ABM 437  Agribusiness Strategic Management (W)
Spring of every year. 3(4-0) P: (FIM 220) and ((ABM 435 or FI 320) and completion of Tier I writing requirement) and ABM 303 P: (FIM 220) and ((ABM 435 or FI 320) and completion of Tier I writing requirement) RB: (ABM 303) or (ABM 203 and EC 301) R: Open to seniors.
Analysis of strategic management issues for agribusiness. Formulation of business strategy and solutions to strategic problems. Integration of operations, marketing, finance, and human resource management.
SA: FSM 429
Effective Fall 2015

EEP 405  Corporate Environmental Management (W)
Spring of every year. 3(3-0) Interdepartmental with Agribusiness Management and Food Industry Management. P: (EEP 255 and EC 201) and ((MGT 315 or MGT 325) and completion of Tier I writing requirement) RB: (ABM 203 and ACC 201 and EC 301) or (ABM 303) or (ABM 203 and EC 301) RB: (ABM 303) or (ABM 203 and EC 301) R: Open to juniors or seniors.
Integration of environmental protection and pollution prevention with business management. Economic and strategic analysis of environmental protection.
SA: PRM 405
Effective Fall 2015

FIM 210  Professional Seminar in Food Industry Management
Spring of every year. 1(1-0) R: Open to students in the Food Industry Management Major or in the Food Industry Management Specialization. R: Open to students in the Food Industry Management Major or in the Food Industry Management Minor.
Industry trends in food industry management. Verbal, written, and visual communication techniques applied to professional situations, including professional development and career planning.
Effective Fall 2014 Effective Fall 2015
PART III – COURSE CHANGES

FIM 335  Food Marketing Management
Spring of every year. 3(3-0) P: (FIM 220 or MKT 300 or MKT 327) and (SCM 303 and EC 201) and ABM 203
   Management decision-making in food industry organizations (processors, wholesalers, retailers). Marketing and sales in response to customer and consumer needs. Distribution and merchandising systems in domestic and international contexts.
   Effective Fall 2015

FIM 410  Advanced Professional Seminar in Food Industry Management
Fall of every year. 1(1-0) P: FIM 210 R: Open to juniors or seniors in the Food Industry Management Major or in the Food Industry Management Specialization. R: Open to juniors or seniors in the Food Industry Management Minor or in the Food Industry Management Major.
   Advanced professional problems and reestablishment of career planning in the agri-food system. Industry trends, career alternatives, and job search strategies. Enhanced verbal, written, and visual communication techniques.
   Effective Fall 2014 Effective Fall 2015

FIM 415  Human Resource Management: Changes and Challenges
Spring of every year. 3(3-0) P: ABM 100 or EC 201 or EC 202 R: Open to juniors or seniors. Not open to students with credit in ABM 337.
   Human resource management strategies used in food industries. Changing demographics and labor force issues. Diversity, labor markets, regulations, employer policies, job analysis and staffing, compensation and benefits, motivation, performance appraisal, food labor unions, and cases.
   Effective Fall 2014 Effective Fall 2015

FIM 460  Retail Information Systems
Fall of every year. Spring of every year. 3(3-0) P: (SCM 303 and MKT 327 and FIM 220 and ABM 203) and ((ABM 303 or concurrently) or (EC 301 or concurrently)) P: FIM 220 and MKT 327 and SCM 303 R: FIM 335 or concurrently RB: (ABM 303 or (ABM 203 and EC 301)) and (FIM 335 or concurrently) R: Open to juniors or seniors.
   Information needed to make effective retail decisions. Use of technology in collecting, analyzing, and interpreting retail systems data and in writing and presenting reports.
   SA: HED 460, RET 460
   Effective Fall 2015

COLLEGE OF ARTS AND LETTERS

HED 890B  Supervised Independent Study in Apparel and Textiles
Fall of every year. Spring of every year. Summer of every year. 1 to 6 credits. A student may earn a maximum of 9 credits in all enrollments for this course. R: Open to graduate students. Approval of department.
   Independent study in topics related to apparel design, historic costume and textiles, museum collections, or human behavior, and ecological relations.
   DELETE COURSE
   Effective Fall 2015

HED 891B  Topics in Apparel and Textiles
Fall of every year. Spring of every year. Summer of every year. 3(3-0) A student may earn a maximum of 6 credits in all enrollments for this course. R: Open to seniors in the Apparel and Textile Design major.
   Selected topics related to apparel design, historic costume and textiles, museum collections, or human behavior, and ecological relations.
   DELETE COURSE
   Effective Fall 2015
HED 898  Master's Project
Fall of every year. Spring of every year. Summer of every year. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Open to graduate students in the College of Arts and Letters.
   Master's degree Plan B project. Participation in a project in apparel and textiles, interior design and human environment, or merchandising management.
   Request the use of the Pass-No Grade (P-N) system.
DELETE COURSE
Effective Fall 2015

HED 899  Master's Thesis Research
Fall of every year. Spring of every year. Summer of every year. 1 to 7 credits. A student may earn a maximum of 20 credits in all enrollments for this course. R: Open to graduate students in the College of Arts and Letters.
   Master's thesis research.
   Request the use of the Pass-No Grade (P-N) system.
DELETE COURSE
Effective Fall 2015

HED 999  Doctoral Dissertation Research
Fall of every year. Spring of every year. Summer of every year. 1 to 36 credits. A student may earn a maximum of 36 credits in all enrollments for this course.
   Doctoral dissertation research.
   Request the use of the Pass-No Grade (P-N) system.
DELETE COURSE
Effective Fall 2015

DEPARTMENT OF COUNSELING, EDUCATIONAL PSYCHOLOGY, AND SPECIAL EDUCATION

CEP 855  Verbal Behavior in Education
Fall of every year. Spring of every year. 3(3-0) P: CEP 844 and CEP 845 and CEP 854 R: Open to graduate students in the Department of Counseling, Educational Psychology, and Special Education.
   Applications of verbal behavior to language and literacy instruction for students with disabilities.
   Effective Spring 2014 Effective Fall 2016

CEP 901A  Proseminar in Educational Psychology
Spring of every year. 3(3-0) P: CEP 900 R: Open only to doctoral students in the Department of Counseling, Educational Psychology and Special Education.
   Historical, theoretical, empirical, methodological, and philosophical issues. Research literature on learning and development in educational settings.
   SA: CEP 901
DELETE COURSE
Effective Fall 2015

CEP 901B  Proseminar in Educational Technology
Spring of every year. 3(3-0) P: (CEP 900) R: Open to doctoral students.
   Historical, theoretical, empirical, methodological, and philosophical issues. Research literature on technology in education.
DELETE COURSE
Effective Fall 2015
DEPARTMENT OF GEOGRAPHY

GEO 326  Cartographic Design and Production
Fall of every year. 4(2-4) P: GEO 221 P: GEO 221 and GEO 221L
Elements of map design including planning, layout, typography, color theory and selection, and user issues. Techniques of map production, for both printed and electronic display. Map design, layout, and usability. Typography and color theory. Techniques of map production, print and digital display.
SA: GEO 423
Effective Fall 2015 Effective Spring 2016

GEO 401  Geography of Plants of North America
Global Plant Geography
Fall of odd years. 3(3-0) P: GEO 201 or FOR 101 or FOR 204 or PLB 218 or ZOL 355 or approval of department.
P: Not open to freshmen or sophomores. R: Not open to freshmen. Geography of Plants in North America, including the ecological processes and human impacts responsible for this geography. Opportunity for field study. Patterns of global plant distributions. Plant-atmosphere interactions, ecological processes, biogeographic patterns and predictive models of plant distributions.
Effective Fall 2014 Effective Spring 2016

GEO 426  Thematic Cartography
Spring of every year. 4(3-2) P: GEO 221 P: GEO 221 and GEO 221L and GEO 326 or approval of department
Principles, techniques, and decision making in thematic mapping. Use of computer mapping and geographic information systems (GIS) software to produce individual thematic maps and map series. Electronic delivery of thematic maps. Principles, theories, decision making, and techniques in thematic map production. Graphic and Geographic Information Systems applications. Print and digital display.
SA: GEO 326
Effective Fall 2014 Effective Spring 2016

GEO 816  The World System of Cities
Fall of every year. Spring of every year. 3(3-0) Interdepartmental with Global Urban Studies Program.
R: Open to graduate students. Modern global economic restructuring and its social, economic, and political impacts on the world system of cities. Modern global economic restructuring. Social, economic, and political impacts on world system of cities.
Effective Summer 2011 Effective Fall 2016

DEPARTMENT OF HORTICULTURE

HRT 102  Plants for Food, Fun, and Profit
Fall of every year. Summer of every year. 2(2-0)
Introduction to the science and art of horticulture including plant breeding, ornamental plant and food production (organic and traditional), postharvest handling, horticultural industries and landscaping. Educate consumers about horticultural plants, products, and their relationship to environment.
Effective Fall 2014 Effective Summer 2016

DEPARTMENT OF HUMAN DEVELOPMENT AND FAMILY STUDIES

HDFS 874  Foundations and Principles of Family Community Services
Spring of odd years. On Demand. 3(3-0) P: Undergraduate degree in family studies or related major.
R: Open to master's students in the Department of Human Development and Family Studies. Approval of department. R: Open to graduate students in the Department of Human Development and Family Studies.
Theory, research and practice with families in community contexts.
Effective Spring 2013 Effective Spring 2016
MSU COLLEGE OF LAW

LAW 512B  International Business Transactions
Spring of every year. 2 to 4 credits. 0 to 6 credits. P: LAW 548N R: Open to students in the MSU College of Law. R: Open to Law students or master of laws students or law lifelong students or law non-degree students in the MSU College of Law.
This course explores the legal aspects of international finance, and trade using Canadian-United States trade as an example.
SA: DCL 363
Effective Spring 2006 Effective Summer 2016

DEPARTMENT OF MECHANICAL ENGINEERING

ME 280  Graphic Communications
Fall of every year. Spring of every year. 2(2-0) P: (EGR 100 and (EGR 102 or concurrently)) and ((MTH 116 or concurrently) or (LB 118 or concurrently) or (MTH 132 or concurrently) or (MTH 152H or concurrently) or (MTH 114 or concurrently)) P: (EGR 100) and ((LB 118 or concurrently) or (MTH 132 or concurrently) or (MTH 152H or concurrently)) and ((EGR 102 or concurrently) or (CSE 231 or concurrently))
SA: ME 180
Effective Fall 2015 Effective Fall 2016

ME 391  Mechanical Engineering Analysis
Fall of every year. Spring of every year. 3(3-0) P: (MTH 235 or MTH 255H or MTH 340 or MTH 347H) P: (MTH 235 or MTH 340 or MTH 347H) and CSE 231 R: Open to juniors or seniors in the Biosystems Engineering Major or in the Mechanical Engineering Major.
Analytical and numerical methods for the modeling and analysis of mechanical engineering systems. Applications to vibrating elements, heat transfer, linear springs, and coupled spring-mass systems.
Effective Fall 2014 Effective Fall 2016

SCHOOL OF PLANNING, DESIGN AND CONSTRUCTION

UP 889  Master's Research
Fall of every year. Spring of every year. Summer of every year. 1 to 3 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: UP 897 or concurrently RB: UP 897 or concurrently R: Open to master’s students in the Master in Urban and Regional Planning. Approval of school.
Supervised individual research for Plan B master's.
Effective Summer 2010 Effective Fall 2015

UP 899  Master's Thesis Research
Fall of every year. Spring of every year. Summer of every year. 1 to 6 credits. A student may earn a maximum of 24 credits in all enrollments for this course. R: UP 897 or concurrently RB: UP 897 R: Open to master's students in the Master in Urban and Regional Planning. Approval of school.
Master's thesis research.
Effective Summer 2010 Effective Fall 2015

DEPARTMENT OF PSYCHOLOGY

PSY 333  The Neurobiology of Food Intake and Overeating
Spring of every year. 3(3-0) Interdepartmental with Neuroscience. P: PSY 101 RB: PSY 209
Physiological and neurological mechanisms that drive food intake and overeating.
Vulnerabilities to obesity.
Effective Fall 2015
DEPARTMENT OF RELIGIOUS STUDIES

REL 260  Philosophy of Religion
Fall of every year. 3(3-0) Interdepartmental with Philosophy. RB: REL 101  RB: REL 101 or PHL 101
Key concepts, themes, and questions in the philosophy of religion.
Effective Spring 2015 Effective Spring 2016

DEPARTMENT OF WRITING, RHETORIC AND AMERICAN CULTURES

WRA 890  Independent Study in Rhetoric and Writing
Fall of every year. Spring of every year. Summer of every year. 1 to 6 credits. A student may earn a maximum of 9 credits in all enrollments for this course. R: Open to graduate students in the Department of Writing, Rhetoric and American Cultures or approval of department.
Special projects, directed reading, and research arranged by an individual graduate student and a faculty member in areas supplementing regular course offerings.
Effective Summer 2014 Effective Summer 2016