

**MICHIGAN STATE UNIVERSITY**

**Report of**

**THE UNIVERSITY COMMITTEE ON CURRICULUM**

**September 22, 2009**

MICHIGAN STATE UNIVERSITY  
University Committee on Curriculum

September 22, 2009

TO: Academic Council

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 Academic Council 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 Academic Council 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:<sup>1</sup>

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:<sup>1</sup>

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 Council Report.

<sup>1</sup>One 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

MICHIGAN STATE UNIVERSITY

September 22, 2009

TO: Academic Council  
FROM: University Committee on Curriculum  
SUBJECT: New Academic Programs and Program Changes:  
New Courses and Course Changes

**PART I - NEW ACADEMIC PROGRAMS AND PROGRAM CHANGES**

**COLLEGE OF AGRICULTURE AND NATURAL RESOURCES**

1. Change the name of the **Master of Science** degree program in **Agricultural Economics** in the Department of Agricultural, Food and Resource Economics from **Agricultural Economics to Agricultural, Food and Resource Economics**. The University Graduate Council (UGC) approved this request at its April 20, 2009 meeting.

Students admitted to the major prior to Fall 2009 will graduate with a Master of Science degree in Agricultural Economics.

Students admitted to the major Fall 2009 and forward will graduate with a Master of Science degree in Agricultural, Food and Resource Economics.

Effective Fall 2009.

2. Change the name of the **Doctor of Philosophy** degree program in **Agricultural Economics** in the Department of Agricultural, Food and Resource Economics from **Agricultural Economics to Agricultural, Food and Resource Economics**. The University Graduate Council (UGC) approved this request at its April 20, 2009 meeting.

Students admitted to the major prior to Fall 2009 will graduate with a Doctor of Philosophy degree in Agricultural Economics.

Students admitted to the major Fall 2009 and forward will graduate with a Doctor of Philosophy degree in Agricultural, Food and Resource Economics.

Effective Fall 2009.

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3. Change the requirements for the **Agricultural Technology Certificate** in **The Institute of Agricultural Technology**.

- a. Under the heading **Organic Farming** add the following:

**Requirements for the Agricultural Technology Certificate in Organic Farming**

			CREDITS	
1.	All of the following courses (26 credits):			
	AT	045	Agricultural Communications	2
	AT	071	Technical Mathematics	2
	HRT	242	Passive Solar Greenhouses for Protected Cultivation	1
	HRT	243	Organic Transplant Production	1
	HRT	251	Organic Farming Principles and Practices	3
	HRT	252	Organic Certification and Farm Plans	1
	HRT	253	Compost Production and Use	1
	HRT	256	Organic Produce Direct Marketing	1
	HRT	257	Organic Produce Wholesale Marketing	1
	HRT	258	Study a Farm	3
	HRT	259A	Student Organic Farm Practicum I	3
	HRT	259B	Student Organic Farm Practicum II	4
	HRT	259C	Student Organic Farm Practicum III	3

2.	One of the following courses (2 or 3 credits):			
	HRT	109	Introduction to Applied Plant Science	2
	PLB	105	Plant Biology	3
3.	Complete a minimum of 10 credits from the following:			
	ANS	110	Introductory Animal Agriculture	4
	AT	291	Selected Topics in Agricultural Technology	2
	AT	293	Professional Internship in Agricultural Technology	3
	CSS	101	Introduction to Crop Science	3
	CSS	110	Computer Applications in Agronomy	2
	CSS	201	Forage Crops	3
	CSS	210	Fundamentals of Soil Science	3
	CSS	212	Advanced Crop Production	2
	CSS	360	Soil Biology	3
	HRT	221	Greenhouse Structures and Management	3
	HRT	244	Culinary and Medicinal Herbs	1
	HRT	245	Specialty Cut Flowers	1
	HRT	290	Independent Study in Horticulture	1 or 2
	HRT	332	Tree Fruit Production and Management	2
	HRT	335	Berry Crop Production and Management	1
	HRT	341	Vegetable Production and Management	3
	PLP	105	Fundamentals of Applied Plant Pathology	2

Effective Fall 2009.

4. Request to change the name of the **Bachelor of Science** degree program in **Park, Recreation and Tourism Resources** in the Department of Community, Agriculture, Recreation and Resource Studies from **Park, Recreation and Tourism Resources** to **Natural Resource Recreation and Tourism**.

Students admitted to the major prior to Fall 2009 will graduate with a Bachelor of Science degree in Park, Recreation and Tourism Resources.

Students admitted to the major Fall 2009 and forward will graduate with a Bachelor of Science degree in Natural Resource Recreation and Tourism.

Effective Fall 2009.

5. Request to change the requirements for the **Bachelor of Science** degree in **Natural Resource Recreation and Tourism** in the Department of Community, Agriculture, Recreation and Resource Studies as published on pages 131 to 133 of the 2007-2009 *Academic Programs*.

*The concentrations in the Bachelor of Science degree in Natural Resource Recreation and Tourism will be 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 Natural Resource Recreation and Tourism** make the following changes:

- (1) Replace item 3. a. with the following:

All of the following courses:				28 to 31
ACR	202	Problem Solving in Community, Agriculture and Environmental Systems	3	
ACR	205	Agriculture and Natural Resources Communication Theory and Practice	3	
ACR	415	Program Planning and Evaluation	3	
ACR	492	Senior Seminar	1	
PRR	370	Administration and Operation of Park and Recreation Systems (W)	3	
GEO	221	Introduction to Geographic Information	3	
PRR	211	Introduction to Natural Resource Recreation	3	
PRR	214	Introduction to Travel and Tourism	3	
PRR	493	Professional Internship in Natural Resource Recreation and Tourism	3 to 6	

PRR 495 Comprehensive Planning and Strategy Development  
 in Natural Resource Recreation  
 and Tourism 3

Students must maintain a cumulative 2.00 grade-point average in all  
 ACR and PRR courses referenced in item 3. a.

(2) Replace item 3. b. with the following:

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

FW 419 Applications of Geographic Information Systems to  
 Natural Resources Management 4  
 GEO 325 Geographic Information Systems 3

(3) Replace item 3. c. with the following:

One of the following courses:

PSY 295 Data Analysis in Psychological Research 3  
 STT 200 Statistical Methods 3  
 STT 201 Statistical Methods 4  
 STT 224 Introduction to Probability and Statistics for  
 Ecologists 3

(4) Replace item 3. d. with the following:

One of the following concentrations (30 or 35 credits):

**Natural Resource Recreation Management (30 credits):**

1. One of the following courses (3 credits):
  - ESA 200 Introduction to Environmental Studies and  
 Agriscience 3
  - FOR 202 Introduction to Forestry 3
  - FW 101 Fundamentals of Fisheries and Wildlife  
 Ecology and Management 3
2. All of the following courses (21 credits):
  - BS 110 Organisms and Population 4
  - CSS 210 Fundamentals of Soil Science 3
  - ESA 324 Water Resource Management 3
  - FOR 412 Wildland Fire 2
  - PRR 448 Foundations of Natural Resource Based  
 Recreation Management 3
  - PRR 449 Natural Resource Based Recreation  
 Management Applications 3
  - ZOL 355 Ecology 3
3. One of the following courses (3 credits):
  - ESA 440 Environmental and Natural Resource  
 Policy in Michigan 3
  - FOR 466 Natural Resource Policy 3
4. One of the following courses (3 credits):
  - ESA 401 Communication Campaigns for Agricultural  
 and Environmental Issues 3
  - PRR 410 International Studies in Tourism, Parks and  
 Recreation 3
  - PRR 451 Interpretation and Visitor Information  
 Systems 3

**Commercial Recreation and Tourism (35 credits)**

1. One of the following courses (3 credits):
  - GEO 259 Geography of Recreation and Tourism 3
  - GEO 459 Tourism in Regional Development 3
  - PRR 272 Recreational Boating Systems and the  
 Boating Industry 3
  - PRR 410 International Studies in Tourism, Parks  
 and Recreation 3

2.	All of the following courses (32 credits):			
	ACC	230	Survey of Accounting Concepts	3
	FI	320	Introduction to Finance	3
	GBL	323	Introduction to Business Law	3
	HB	100	Introduction to Hospitality Business	2
	HB	237	Management of Lodging Systems	3
	HB	267	Management of Food and Beverage Systems	3
	MGT	325	Management Skill and Process	3
	MKT	327	Introduction to Marketing	3
	PRR	360	Marketing Communications in Recreation and Tourism	3
	PRR	473	Commercial Recreation and Tourism Businesses and Organizations	3
	PRR	474	The Tourism System	3

Effective Fall 2009.

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6. Establish a **Graduate Specialization in Ecological Food and Farming Systems** in the Department of Crop and Soil Sciences. The University Graduate Council (UGC) approved this request at its April 20, 2009 meeting.

a. **Background Information:**

The development of a multidisciplinary Graduate Specialization in Ecological Food and Farming Systems arose from interest by MSU faculty, staff and students in the biological and social sciences interested in sustainable agriculture and food systems. A Quality Fund grant for Sustainable Agriculture and Food Systems, awarded in 2007, builds upon the concepts set forth in the 2003 Sustainable Agriculture and Food Systems Initiative of Dean Armstrong in the College of Agriculture and Natural Resources and former Michigan Agricultural Experiment Station Director Ian Gray to identify opportunities that will propel MSU to the forefront among land grant universities. The grant provides support for establishing the graduate specialization and an undergraduate Specialization in Sustainable Agriculture and Food Systems. The grant provides for an academic specialist, and partially contributes to the hiring of four faculty members with research and teaching appointments in correlated topics.

Background in multidisciplinary scholarship is emerging in universities throughout the U.S. and internationally. This proposed specialization allows graduate students to maintain a disciplinary identity while enhancing their learning through multi-disciplinary studies in ecological food and farming systems. Growing consumer interest and demand for ecologically, ethically, and locally produced foods (e.g. the "Select Michigan" program) indicates that knowledge of ecological food and farming systems will be valuable in private and public sector jobs. MSU is a premier research institution in agricultural ecology including the National Science Foundation Long-Term Ecological Research site at Kellogg Biological Station and it is a leader in community food system research and outreach in association via the Department of Community, Agriculture, Recreation and Resource Studies and the C.S. Mott Group for Sustainable Food Systems. MSU has distinct opportunities for students at the Student Organic Farm which includes extension staff and utilizes the Community Supported Agriculture model. A Graduate Specialization in Ecological Food and Farming Systems will allow students to take advantage of these complementary university resources and document multidisciplinary experiences. Strong international links, especially in Europe and Africa, offer several opportunities for research and education exchange.

b. **Academic Programs Catalog Text:**

The Graduate Specialization in Ecological Food and Farming Systems is designed to foster an understanding of biogeochemical, socioeconomic, and policy concepts using experiential learning within the individual's program of study as a venue for multidisciplinary work. For global perspectives, students are encouraged to participate in either a study abroad course with ecological food and farming systems content, or in a course with international focus.

The specialization is available as an elective to students who are enrolled in master's or doctoral degree programs at Michigan State University. With the approval of the department and college that administers the student's degree program, the courses that are used to satisfy the

specialization may also be used to satisfy the requirements for the master's or doctoral degree. The students program of study must be approved by the adviser for the specialization in the Department of Crop and Soil Sciences in advance and in writing.

**Requirements for the Graduate Specialization in Ecological Food and Farming Systems**

The student must complete 13 to 14 credits from the following:

				CREDITS
1.	All of the following courses (7 credits):			
	ACR	811	Community, Food and Agriculture: A Survey	3
	CSS	442	Agricultural Ecology	3
	CSS	892B	Ecological Food and Farming Systems Seminar	1
2.	One of the following courses (3 credits):			
	CSS	424	Sustainable Agriculture and Food Systems: Integration and Synthesis	3
	CSS	431	International Agricultural Systems	3
	CSS	893	Special Topics	3
	ENT	479	Organic Pest Management	3
	ENT	848	Biological Control of Insects and Weeds	3
	An international course approved by the student's adviser for the specialization.			
3.	One of the following courses (3 or 4 credits):			
	ACR	823	Contemporary Issues in Animal-Human Relationships	3
	ACR	853	The Industrialization of American Agriculture	3
	ACR	854	Agriculture and Social Movements	3
	ACR	891B	Advanced Topics in Community, Food, and Agriculture	2
	AEC	861	Agriculture in Economic Development	3
	FW	858	Gender, Justice, and Environmental Change: Issues and Concepts	3
	GEO	410	Geography of Food and Agriculture	3
	An international course approved by the student's adviser for the specialization.			
	Students may enroll in Community, Agriculture, Recreation and Resource Studies 891B more than once.			

Upon completion of the requirements for the Graduate Specialization in Ecological Food and Farming Systems, the student should contact the Chairperson of the Department of Crop and Soil Sciences to request certification for the completion of the specialization. After the certification is approved by the Chairperson of the Department of Crop and Soil Sciences and the Dean of the College of Agriculture and Natural Resources, the Office of the Registrar will enter on the student's academic record the name of the specialization and the date that it was completed. This certification will appear on the student's transcript.

Effective Fall 2009.

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7. Change the requirements for the **Bachelor of Science** degree in **Entomology** in the Department of Entomology as published on pages 138 and 139 of the 2007-2009 *Academic Programs* catalog.
- a. Under the heading **Requirements for the Bachelor of Science Degree in Entomology** make the following changes:
- (1) In item 3. a. make the following changes:
- (a) Change the total credits from '36' to '45'.
- (b) Delete the following courses:
- |     |     |                                    |   |
|-----|-----|------------------------------------|---|
| CEM | 142 | General and Inorganic Chemistry    | 3 |
| ENT | 404 | Insects: Success in Biodiversity   | 4 |
| PHY | 252 | Introductory Physics-Laboratory II | 1 |

Add the following courses:

CEM	143	Survey of Organic Chemistry	4
CSS	210	Fundamentals of Soil Science	3
ENT	404	Fundamentals of Entomology	3
PLB	218	Plants of Michigan	3
ZOL	355	Ecology	3
ZOL	355L	Ecology Laboratory (W)	1

- (2) Delete item 3. b.
- (3) Reletter item 3. c. to item 3. b.
- (4) Reletter item 3. d. to item 3. c. and replace with the following:

A minimum of 16 credits of course work in Entomology as approved by the student's academic adviser.

Effective Fall 2009.

8. Establish a **Minor in Entomology** in the Department of Entomology.

a. **Background Information:**

Students in agriculture and ecology-related fields often discover entomology as a science through their degree program. However, they do not have the time to focus entirely on entomology as a degree program. Many students have expressed an interest in a minor in entomology focusing on insect identification, life history, and management. A minor in entomology would be a useful adjunct to programs in the College of Agriculture and Natural Resources such as agronomy, turfgrass, horticulture, forestry, and fisheries and wildlife as well as College of Natural Science disciplines such as zoology or environmental science. This minor would strengthen a student's preparation for agriculture-related jobs or graduate school. Across the United States, few universities offer any type of entomology degree or minor which makes MSU unique in Michigan and surrounding states.

b. **Academic Programs Catalog Text:**

The Minor in Entomology, which is administered by the Department of Entomology, is designed to serve students in other fields who desire additional training in the insect sciences. It provides an introduction to a range of entomological knowledge, including insect identification, ecology, and management.

The minor is available as an elective to students who are enrolled in bachelor's degree programs at Michigan State University other than the Bachelor of Science Degree in Entomology. With the approval of the department and college that administers 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 12 unique credits counted towards the requirements for a student's minor must not be used to fulfill the requirements for that student's major.

Students who plan to complete the requirements for the minor should consult an undergraduate adviser in Entomology.

**Requirements for the Minor in Entomology**

			CREDITS
Complete 15 credits from the following:			
1.	The following course (3 credits):		
	ENT 404	Fundamentals of Entomology	3
2.	Complete 12 credits from the following:		
	ENT 205	Pests, Society and Environment	3
	ENT 364	Turfgrass Entomology	3
	ENT 407	Diseases and Insects of Forest and Shade Trees	4
	ENT 410	Apiculture and Pollination	2
	ENT 422	Aquatic Entomology	3

ENT	469	Biomonitoring of Streams and Rivers	3
ENT	470	General Nematology (W)	3
ENT	478	Pest Management II: Biological Components of Management Systems (W)	3
ENT	479	Organic Pest Management	3

Other Entomology courses may be used in fulfillment of this requirement with approval from the Entomology undergraduate adviser.

Effective Fall 2009.

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### **COLLEGE OF ARTS AND LETTERS**

1. Change the requirements for the **Master of Fine Arts** degree in **Studio Art** in the Department of Art and Art History as published on page 189 of the 2007-2009 *Academic Programs*. The University Graduate Council (UGC) approved this request at its April 20, 2009 meeting.
  - a. Under the **Admission** statement make the following changes:
    - (1) Replace the second paragraph with the following:

To be considered for admission to the Master of Fine Arts degree in Studio Art, an applicant must submit a portfolio of 15 to 20 images of original artwork and provide supplemental information as outlined at [www.art.msu.edu](http://www.art.msu.edu).
    - (2) Replace the fourth paragraph with the following:

Students are admitted to the Master of Fine Arts degree in Studio Art for Fall semester only. Application materials for admission must be postmarked by February 15.
  - b. Under the heading **Academic Standards** replace the first sentence with the following:

During the semester leading to the completion of 15 degree credits, but not later than the semester leading to the completion of 20 degree credits, students must participate in the 15-Credit Review. During the second year of study, students will participate in an additional review.

Effective Fall 2009.

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2. Establish a **Minor in Portuguese** in the Department of Spanish and Portuguese.
    - a. **Background Information:**

There is currently no transcriptable program in Portuguese at MSU. As the only university in the state with a 3-year Portuguese program, we would like to highlight our offerings and offer students a transcriptable way of recognizing their studies. The addition of the minor is expected to attract more students to continue their study of Portuguese. In addition, it is expected that the offering of the academic minor will increase participation in Portuguese courses while increasing enrollment in Portuguese-language study abroad programs.

The Minor in Portuguese will promote study of the liberal arts and assist in creating more globally aware, internationally focused graduates. Students will be able to communicate at high-intermediate to low-advanced levels of reading, writing, speaking and listening in Portuguese. They will be able to demonstrate awareness of Lusophone cultures through a general understanding of literature and other cultural expressions.

**b. Academic Programs Catalog Text:**

The Minor in Portuguese, which is administered by the Department of Spanish and Portuguese, promotes study of the liberal arts and assists in creating more globally aware, internationally focused graduates with knowledge of the language as well as the cultures of the Portuguese-speaking world.

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 administers 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 12 unique credits counted towards the requirements for a student's minor must not be used to fulfill the requirements for that student's major.

Students who plan to complete the requirements for the minor should consult an undergraduate adviser in the Department of Spanish and Portuguese.

**Requirements for the Minor in Portuguese**

				CREDITS
Complete 17 credits from the following:				
1.	All of the following courses (9 credits):			
	PRT 320	Advanced Portuguese		3
	PRT 340	Topics in Luso-Brazilian Culture		3
	PRT 350	Introduction to Literary Analysis (W)		3
2.	Eight credits from the following courses as approved by the adviser for the minor (8 credits):			
	PRT 101	Elementary Portuguese I		4
	PRT 102	Elementary Portuguese II		4
	PRT 150	Portuguese for Speakers of Other Romance Languages I (I)		4
	PRT 201	Second-Year Portuguese I		4
	PRT 202	Second-Year Portuguese II		4
	PRT 250	Portuguese for Speakers of Other Romance Languages II (I)		4
	PRT 290	Independent Study		1 to 4
	PRT 340	Topics in Luso-Brazilian Language and Culture		3
	PRT 490	Independent Study		1 to 4

Effective Fall 2009.

**ELI BROAD COLLEGE OF BUSINESS**

1. Establish a **Graduate Specialization in Business Concepts for Environmental Sustainability and Conservation** in the Department of Marketing. The University Graduate Council (UGC) approved this request at its April 20, 2009 meeting.

**a. Background Information:**

Natural resources and environmental professionals are well-trained in their respective disciplinary-specific areas. However, much of the governance, leadership and management of natural and environmental resources is interdisciplinary in nature, bringing together knowledge and skills from such disciplines as fisheries and wildlife ecology, economics, philosophy, political science, and law. While disciplinary-specific expertise is essential for the management of our state, regional, national and global natural resources, our conservation-related professionals require a skill set rich in human understanding, communication, ethics and philosophy, policy and law, and business philosophy and procedures. Much of how natural and environmental resources are governed and managed has direct connections to the theories and practices of business including supply chain management, marketing, entrepreneurship and leadership. For example, many fisheries are managed for human consumption, involving a process that moves fish along a supply chain from the water to the dinner table. Understanding this process requires a basic understanding in supply chain management as well as the ecological process that produces these fish. To be more effective natural resources managers and leaders, opportunities need to be provided to students to develop more holistic understanding and capabilities regarding the management of environmental resources and the demands that they are or could be experiencing.

Many graduate students are interested in gaining knowledge in the business world as it relates to natural resources management and the environment without having to become an expert in the field of business. They are interested in becoming familiar with the language, theory and practices of the business management-related discipline so they can better integrate their core education with their respective environmental or conservation-related disciplinary field, thereby becoming more effective and versatile conservation leaders in the future. These students often lack a background in basic business management. Similarly, there are many business students who would like to use their business education in the context of issues of the environment and natural resources conservation. Therefore the development of such a specialization specifically targets a broad understanding of business as it relates to environmental sustainability and conservation of our natural resources. Before students can understand the intricacies of how business interfaces with the environment they must first have a core foundation upon which to build. The academic and experiential curriculum included in this specialization provides that foundation as it relates to both business and the environment. No graduate specialization currently exists that specifically focuses on business concepts as they relate to environmental sustainability and natural resources conservation.

Given the many complementary connections between business and the management of our natural and environmental resources, the development of a Graduate Specialization in Business Concepts in Environmental Sustainability and Conservation is proposed to focus on the business of ecosystem goods and services, and highlights areas of supply chain management, marketing, leadership and entrepreneurship in the context of conservation sciences and practices.

**b. Academic Programs Catalog Text:**

The Graduate Specialization in Business Concepts for Environmental Sustainability and Conservation provides graduate students the opportunity to explore and understand the relationship between principles and practices of business and environmental sustainability and conservation of our natural resources. The specialization provides students with an awareness of the challenges of environmental sustainability in today's complex world as well as an understanding of appropriate business management tools needed to address these issues.

The specialization is available as an elective to students who are enrolled in master's or doctoral degree programs at Michigan State University. With the approval of the department and college that administers the student's degree program, the courses that are used to satisfy the specialization may also be used to satisfy the requirements for the masters' or doctoral degree. The students program of study must be approved by the adviser for the specialization.

**Requirements for the Graduate Specialization in Business Concepts for Environmental Sustainability and Conservation**

The student must complete 12 credits from the following:

				CREDITS
1.	All of the following courses:			
	FW	885	Leadership in Natural Resources and Environmental Management	3
	MKT	805	Marketing Management	3
	MKT	859	Venture Management Practicum	3
	SCM	800	Supply Chain Management	3
	Course substitutions are possible with approval of the adviser for the specialization.			

Upon completion of the requirements for the Graduate Specialization in Business Concepts for Environmental Sustainability and Conservation, the student should contact the Chairperson of the Department of Marketing to request certification for the completion of the specialization. After the certification is approved by the Chairperson of the Department of Marketing and the Dean of the Eli Broad College of Business, the Office of the Registrar will enter on the student's academic record the name of the specialization and the date that it was completed. This certification will appear on the student's transcript.

Effective Fall 2009.



## **COLLEGE OF COMMUNICATION ARTS AND SCIENCES**

1. Establish a **Specialization in Documentary Studies** in the Department of Telecommunication, Information Studies and Media.

- a. **Background Information:**

The Specialization in Documentary Studies brings together the talents and expertise of faculty and students from the College of Communication Arts and Sciences with those in the College of Arts and Letters. The impetus for this initiative comes from recognition of a shared interest among a group of trans-collegiate faculty members that fulfills a number of recommendations expressed in the "Boldness by Design" document. The task force report recommends a number of ways to "Enhance the Student Experience." One of the recommendations #5 asserts the importance of graduating students who not only possess "knowing how to learn" skills, but who are analytical, insightful, intuitive, and creative; whose solid social skills prepare them to be good teammates and collaborators; whose communication skills allow them to move flexibly between multiple modalities (oral, written, visual) and media (texts, films, slides); and whose civic and moral stances prepare them to behave honestly and responsibly.

A Specialization in Documentary Studies will promote writing, speaking and designing effective and persuasive messages that apply to a variety of situations and audiences. Students will not only study the style and content of multiple modes of communication, but they will also be required to express themselves and communicate their ideas using multiple forms of media such as film, photography, audio and written. Analytical and critical thinking skills will be promoted through a historical and theoretical engagement using a variety of these forms of media.

The skills involved in documentary production involve all of the logical, organizational and analytical skills associated with critical thinking. The combined analysis-production model will create an active structure of applied and theoretical learning giving students an opportunity to develop multimedia skills that they can directly apply to careers in journalism, film, radio, news, and creative arts. The specialization will provide a set of educational experiences that, in the words of the task force report, "leverage the strengths of different technologies for communication and dissemination." As a form of outreach, a specialization will enhance existing modes of student media expression by creating content for distribution via web, television, radio, exhibition and print. Local indigenous documentary production working with local and statewide issues will give MSU a new venue to address important public concerns. Finally, as a model of interdisciplinary scholarship, such a specialization will become a clearinghouse for a wide array of academic projects in all the disciplines of the University.

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

The Specialization in Documentary Studies introduces undergraduates to the history, theory, and production of documentary forms and modes of expression. Documentary studies focuses on issues of media, representation, and reality. It engages directly with the fundamental understanding of how the world is presented, represented, distorted, structured, and shaped. Interpretation and representation of reality constitutes a central axis of inquiry and debate. By integrating production and analysis, students in this specialization produce theoretically informed work and develop a cutting-edge understanding of the challenges inherent in representing reality.

The Specialization in Documentary Studies is jointly administered by the Department of Telecommunication, Information Studies and Media within the College of Communication Arts and Sciences and the College of Arts and Letters. The Department of Telecommunication, Information Studies and Media is the primary administrative unit. The specialization is available as an elective to students who are enrolled in bachelor's degree programs at Michigan State University. Students in the Department of English; the School of Journalism; the Department of Telecommunication, Information Studies and Media; and the Department of Writing, Rhetoric, and American Cultures may find this specialization of particular interest.

Students who are interested in the specialization are eligible to apply if they are in good academic standing. Students will apply for the specialization in the Spring of their sophomore year by submitting an application available in the advising offices of the Department of Telecommunication, Information Studies and Media and the College of Arts and Letters. Applications will be reviewed prior to annual enrollment.

With the approval of the department that administers the student's degree program, courses that are used to satisfy the requirements for the specialization may also be used to satisfy the requirements for the bachelor's degree. The student's program of study must be approved by the student's academic adviser for the specialization.

**Requirements for the Specialization in Documentary Studies**

The student must complete 15 to 18 credits from the following:

			CREDITS
1.	The following course (3 credits):		
	TC	233 Documentary Technologies and Problems of Reality-Based Arts	3
2.	One of the following courses (3 or 4 credits):		
	ENG	230 Introduction to Film	4
	ENG	330 Classical Film and Media Theory	3
	ENG	331 Contemporary Film and Media Theory	3
	ENG	332 Historical Approaches to Film	3
	ENG	333 Studies in Film Genres (D)	3
	JRN	345 Images and Messages	3
	JRN	408 Topics in Specialized Reporting and Writing	3
	Journalism 408 must contain content specific to documentary studies to meet this requirement. Students should contact the adviser for the specialization.		
3.	Complete 6 to 8 credits from one of the following areas:		
	<b>Audio</b>		
	TC	343 Basic Audio Production	4
	TC	443 Audio Industry Design and Management (W)	4
	<b>Broadcast News</b>		
	JRN	306 Broadcast News ( W)	4
	JRN	403 Broadcast News II	3
	<b>Digital Video</b>		
	One of the following, either (1) or (2):		
	(1)	TC 340 Introduction to Video and Audio	3
		TC 341 Film Style Production for Cinema and Television	4
	(2)	TC 391 Special Topics	6
	Telecommunication 391 must contain content specific to documentary studies to meet this requirement. Students should contact the adviser for the specialization.		
	<b>Magazine Writing</b>		
	JRN	332 Magazine Article Writing	3
	JRN	432 Advanced Magazine Writing	3
	<b>Multimedia</b>		
	WRA	210 Introduction to Web Authoring	3
	WRA	417 Multimedia Writing	4
	<b>Photography</b>		
	One of the following, either (1) or (2):		
	(1)	JRN 310 Photojournalism I	3
		JRN 410 Photojournalism II	3
	(2)	JRN 483 Photo Communication in Europe	6
	<b>Web</b>		
	Two of the following courses:		
	TC	346 Web-Based Interactive Media	4
	TC	349 Client-Side Web Development	4
	WRA	210 Introduction to Web Authoring	3
	<b>Writing</b>		
	ENG	223 Introduction to Creative Non-Fiction Writing	3
	ENG	423 Advanced Creative Non-Fiction Writing	3
4.	The following capstone course (3 credits):		
	TC	411 Collaborative Documentary Design and Production	3

Upon completion of the requirements for the Specialization in Documentary Studies, the student should contact the Chairperson of the Department of Telecommunication, Information Studies and Media to request certification for the completion of the specialization. After the certification is approved by the Chairperson of the Department of Telecommunication, Information Studies and Media and the Dean of the College of Communication Arts and Sciences, the Office of the Registrar will enter on the student's academic record the name of the specialization and the date that it was completed. This certification will appear on the student's transcript.

Effective Fall 2009.

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2. Establish a **Specialization in Information and Communication Technology for Development** in the Department of Telecommunication, Information Studies and Media.

a. **Background Information:**

The creation of the Specialization in Information and Communication Technology for Development is part of a joint initiative between the College of Communication Arts and Sciences and the College of Engineering. The core of this initiative is to train students in the unique opportunities and challenges for using information and communication technologies to enhance economic and social development in developing countries. Given that many corporations are looking to developing economies for future market growth, knowing how to apply technology in these contexts will increase the competitiveness in the job market of our students. Furthermore, as governments and non-governmental organizations increasingly look to information and communication technology as a mechanism to enhance the general welfare of people in less-developed countries, this curriculum provides our students with the opportunity to work and learn in an area that has a broader impact on the world.

MSU is a national leader in the field of information and communication technology. Even before it became an international priority, our faculty had built a reputation for studying global information and communication technology, economies, and policy issues. Furthermore, this topic fits into President Simon's Land Grant to World Grant strategy. As it becomes increasingly necessary for our students to have a global focus to compete in the modern marketplace, this program will increase the value of our student's education. Given the interest and experience of our faculty, the strategic direction of the university, and the educational needs of our students, this program is a strong addition to the educational portfolio of MSU.

b. **Academic Programs Catalog Text:**

The Specialization in Information and Communication Technology for Development focuses on the role of information and communication technology in fostering economic, social, and environmental change in developing countries. Students will gain a theoretical and practical background in the challenges and opportunities for deploying information and communication technology infrastructure. The program culminates in a field-based experience during which students implement an innovative project in a developing country as part of a study abroad program or execute a project in an underprivileged rural or urban region of the United States.

The Specialization in Information and Communication Technology for Development is administered by the Department of Telecommunication, Information Studies and Media and is available as an elective to students who are enrolled in bachelor's degree programs at Michigan State University from the College of Communication Arts and Sciences, and from the College of Engineering. Preference will be given to students in the College of Communication Arts and Sciences and in the College of Engineering. As space permits, students from other colleges desiring the specialization will be considered on an individual basis.

The specialization is open to sophomores, juniors, or seniors in good academic standing. Students who are interested in the specialization must submit an application essay describing their interest in the specialization and any applicable prior course work or work experience. Applications must be submitted by the second week of the fall or spring semester. Students accepted into the program may begin in either the following fall or spring semester.

With the approval of the department or school and college that administers the student's degree program, courses that are used to satisfy the requirements for the specialization may also be used to satisfy the requirements for the bachelor's degree. The student's program of study must be approved by the student's academic adviser for the specialization.

**Requirements for the Specialization in Information and Communication Technology for Development**

Students must complete a minimum of 15 credits selected from the following:

			CREDITS
1.	Two of the following courses (6 credits):		
	CSE 422	Computer Networks	3
	CSE 425	Introduction to Computer Security	3
	CSE 429	Interdisciplinary Topics in CyberSecurity	3
	CSE 471	Media Processing and Multimedia Computing	3
	ECE 404	Radio Frequency Electronic Circuits	4
	ECE 442	Introduction to Communication Networks	3
	ECE 457	Communication Systems	3
	ECE 458	Communication Systems Laboratory	1
	TC 361	Information and Communication Management	3
	TC 349	Client-Side Web Development	4
	TC 362	Web Administration	3
	TC 365	Introduction to Network Management	3
	TC 449	Server-Side Web Development (W)	4
	Students may not select both Computer Science and Engineering 422 and Electrical and Computer Engineering 442 as these are equivalent courses.		
3.	One of the following courses (3 or 4 credits):		
	ANP 322	Peasants and Social Change in the Developing World	3
	ANP 414	Anthropology of South Asia	3
	COM 391	Topics in Verbal, Intercultural, or Gender Communication	4
	COM 399	Special Topics in Communication	3
	EC 310	Economics of Developing Countries	3
	EC 412	Economic Analysis of Latin America	3
	EC 413	Economic Analysis of Asia	3
	EC 414	Economic Analysis of Sub-Saharan Africa	3
	GEO 335	Geography of Latin America	3
	GEO 337	Geography of Asia-Pacific (I)	3
	GEO 338	Geography of Africa	3
	ISS 315	Global Diversity and Interdependence (I)	4
	ISS 330A	Africa: Social Science Perspectives (I)	4
	ISS 330B	Asia: Social Science Perspectives (I)	4
	ISS 330C	Latin America: Social Science Perspectives (I)	4
	MC 320	Politics, Society, and Economy in the Third World	4
	SOC 362	Developing Societies	3
	Students selecting Communication 391 or 399 to fulfill this requirement must enroll in a section on intercultural or international communication.		
4.	The following course (3 credits):		
	TC 480	Information and Communication Technologies for Development	3
5.	The following course (3 credits):		
	TC 488	Information and Communication Technology Global Corps	3
	Students should meet with the adviser for the specialization to determine which of the region-specific sections will most effectively prepare them for field work.		

Upon completion of the requirements of the Specialization in Information and Communication Technology for Development, the student should contact the adviser for the specialization and request certification for the specialization. After the certification is approved by the Dean of the College, the Office of the Registrar will enter on the student's academic record the name of the specialization and the date that it was completed. This certification will appear on the student's transcript.

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**COLLEGE OF EDUCATION**

1. Establish a **Graduate Certificate in Educational Assessment for K-12 Practitioners** in the Department of Counseling, Educational Psychology and Special Education. The University Graduate Council (UGC) approved this request at its April 20, 2009 meeting.

*The Graduate Certificate in Educational Assessment for K-12 Practitioners is a Type 2 graduate certificate and will appear on the transcript as "Graduate Certificate Program in Educational Assessment for K-12 Practitioners".*

a. **Background Information:**

The No Child Left Behind Act of 2001 requires that every local educator understand and be able to use educational assessments to help students learn, as well as to demonstrate learning via a variety of student assessments. These include formative classroom assessment used during daily instruction, interim benchmark assessments used at the conclusion of units of instruction, and summative assessments used annually at the local district and state levels. Even with these external accountability pressures, improvements in student learning and achievement desired by policy makers has not happened. Very few teachers or administrators received pre-service training in assessment, and few have had adequate professional development experiences on the job.

Because Michigan State University (MSU) produces so many new educators annually, it is important that they learn how to create and use educational assessment in their classrooms. The same is true of educators already employed. The courses offered in the certificate program can help both pre-service and in-service educators learn how to use assessment to improve student learning.

b. **Academic Programs Catalog Text:**

The Graduate Certificate in Educational Assessment for K-12 Practitioners is designed for educators who desire to learn how to develop, administer, and use the educational assessments they oversee. The program will provide an understanding of the purpose, advantages, and challenges in using student assessments to guide and evaluate student learning.

**Admission**

To be considered for admission into the Graduate Certificate in Educational Assessment for K-12 Practitioners, applicants must have completed a bachelor's degree. Previous exposure to statistics or measurement course work is not necessary. For additional information, refer to the *Admission* section in the *Graduate Education* section of this catalog.

**Requirements for the Graduate Certificate in Educational Assessment for K-12 Practitioners**

Students must complete 9 credits from the following courses:

			CREDITS
1.	Both of the following courses (6 credits):		
	CEP 823	Overview of Balanced Assessment Systems	3
	CEP 837	Analyzing, Using and Reporting Assessment Results	3
2.	One of the following courses (3 credits):		
	CEP 825	Educational Assessments and Testing Programs	3
	CEP 830	Classroom-Based Assessment	3

Effective Spring 2010.

**COLLEGE OF ENGINEERING**

1. Change the requirements in the **Bachelor of Science** degree in **Chemical Engineering** in the Department of Chemical Engineering and Materials Science as updated on pages 10 and 11 of the March 25, 2008 Report of the UCC to the Academic Council.

*The concentrations in the Bachelor of Science degree in Chemical Engineering will be 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 Chemical Engineering** make the following changes:

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

(a) Change the total credits from '61' to '58'.

(b) Delete the following course:

CEM 391 Molecular Thermodynamics 3

- (2) Reletter item 3. d. to item 3. e.

- (3) Add the following item 3. d.:

One of the following courses: 3

CEM 483 Quantum Chemistry 3

CEM 484 Molecular Thermodynamics 3

- b. Under the heading **Concentrations in Chemical Engineering** make the following changes:

- (1) In the **Biochemical Engineering** concentration, modify the introductory statement to the following:

To earn a Bachelor of Science degree in Chemical Engineering with a biochemical engineering concentration, students must complete requirements 1., 2., 3.a., and 3.e. above and the following:

- (2) In the **Biomedical Engineering** concentration delete the following course:

BME 401 Quantitative Human Biology 3

Add the following course:

ZOL 341 Fundamental Genetics 4

Modify the introductory statement to the following:

To earn a Bachelor of Science degree in Chemical Engineering with a biomedical engineering concentration, students must complete requirements 1., 2., 3.a., 3.b., 3.d., and 3.e. above and the following:

- (3) In the **Environmental** concentration delete the following courses:

ESA 201 Environmental and Natural Resources 3

NSC 448 Ecology, Law and Economics 3

Add the following course:

ESA 200 Introduction to Environmental Studies and Agriscience 3

Modify the introductory statement to the following:

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

- (4) In the **Food Science** concentration delete the following course:

FSC	421	Food Law and Regulations	3
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Modify the introductory statement to the following:

To earn a Bachelor of Science degree in Chemical Engineering with a food science concentration, students must complete requirements 1., 2., 3.a., 3.b., 3.c., 3.d., and 3.e. above and the following:

- (5) In the **Polymer Science and Engineering** concentration, modify the introductory statement to the following:

To earn a Bachelor of Science degree in Chemical Engineering with a polymer science and engineering concentration, students must complete requirements 1., 2., 3.a., 3.b., 3.d., and 3.e. above and the following:

- (6) Add the following concentration:

**Bioenergy**

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

All of the following courses:			12
BE	469	Sustainable Bioenergy Systems	3
CHE	468	Biomass Conversion Engineering	3
CHE	481	Biochemical Engineering	3
CSS	467	Bioenergy Feedstock Production	3
One of the following courses:			3 or 4
AEC	829	The Economics of Environmental Resources	3
CHE	882	Advanced Biochemical Engineering	3
CHE	883	Multidisciplinary Bioprocessing Laboratory	3
GLG	471	Applied Geophysics	4
MC	450	International Environmental Law and Policy	3
MMG	445	Microbial Biotechnology	3

Effective Fall 2009.

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**MSU COLLEGE OF LAW**

1. Change the requirements for the **Juris Doctor** in the Michigan State University College of Law as updated on pages 18 and 19 of the February 24, 2009 Report of the UCC to the Academic Council. The University Graduate Council (UGC) approved this request at its April 20, 2009 meeting.

*The concentrations in the Juris Doctor degree will be noted on the student's academic record when the requirements for the degree have been completed.*

- a. Under the heading **Juris Doctor** replace the paragraph following the requirement listing with the following:

In addition to the required courses, students must complete at least one course that includes instruction in professional skills and a paper that satisfies an upper-level writing requirement. Both of these requirements may be completed anytime after the student has successfully completed 29 credit hours. Students have 48 credit hours of elective courses to gain a more generalized legal education, which may be used to fulfill the requirements for a certificate or concentration program. Complete information about concentrations can be found by visiting [www.law.msu.edu](http://www.law.msu.edu). The following concentrations are available:

- b. Delete the following concentrations:
  - Corporate Law
  - Criminal Law
  - Environmental and Natural Resource Law
  - Family Law
  - Health Law
  - Intellectual Property and Communications Law
  - International and Comparative Law
  - Public Law and Regulation
  - Taxation Law

Effective Fall 2009

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### COLLEGE OF NATURAL SCIENCE

- 1. Change the requirements for the **Bachelor of Science** degree in **Zoology** in the Department of Zoology as updated on page 8 of the November 18, 2008 Report of the UCC to the Academic Council.

*The concentrations in the Bachelor of Science degree in Zoology will be 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 Zoology** make the following changes:

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

- (a) In item (3) under the **General Zoology** concentration delete Zoology 453.

- (b) In item (3) under the **Cell and Developmental Biology** concentration delete the following courses:

ZOL	343	Genetics Laboratory	2
ZOL	428	Frontiers in Developmental and Tissue Biology (W)	3
ZOL	482	Cytochemistry (W)	4

Add the following course:

ZOL	343	Genetics Laboratory	3
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- (c) In item (3) under the **Marine Biology** concentration delete the following course:

ZOL	453	Field Studies in Marine and Estuarine Biology	3
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Effective Fall 2009.

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### **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 as published on pages 430 and 431 of the 2007-2009 *Academic Programs*. The University Graduate Council (UGC) approved this request at its April 20, 2009 meeting.
  - a. Under the heading **Admission** replace the paragraph with the following:

The program leading to the Master of Science degree is open to students with a bachelor's degree who have a biology, chemistry, or similar academic background.
  - b. Under the heading **Requirements for the Master of Science Degree in Pharmacology and Toxicology** replace the paragraph with the following:

The Master of Science program serves to broaden the scope of professional training to encompass scientific inquiry. The student must complete 30 credits under Plan A (with thesis) or Plan B (without thesis).

Effective Fall 2009.

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### **COLLEGE OF SOCIAL SCIENCE**

1. Establish a **Graduate Specialization in Forensic Science** in the School of Criminal Justice. The University Graduate Council (UGC) approved this request at its March 23, 2009 meeting.
  - a. **Background Information:**

The forensic sciences span a wide range of disciplines, including chemistry, biology, anthropology, entomology, medicine, engineering, psychiatry, nursing, veterinary science, plant biology, pathology, and a host of others. Many people with specialized expertise who are not enrolled in or graduates of a traditional forensic science program or employed in a crime laboratory find themselves called upon to apply their expertise to legal matters. There are no similar programs offered at Michigan State University, and there are no accrediting agencies or federal regulations related to this request.
  - b. **Academic Programs Catalog Text:**

The Graduate Specialization in Forensic Science provides a thorough understanding of the broad field of forensic science and prepares students for the role of court-qualified expert. Students study scientific, technical, and ethical issues and the relationship of their own area of expertise to the criminal justice system. The legal aspects of forensic science presented include the study of court-qualified expert qualifications, types of scientific evidence likely to be admissible in court, and how evidence may become inadmissible for scientific and technical reasons. Students will participate in a mock trial drawing on their systemic understanding of their field of expertise and their ability to explain methodology and evidence to laypersons.

This graduate specialization is available as an elective to students who are enrolled in doctoral degree programs at Michigan State University. The Graduate Specialization in Forensic Science, which is administered by the School of Criminal Justice, is designed for individuals in a discipline that typically does not lend itself to full-time employment in a crime laboratory but may require participation in the criminal justice system in order to offer expert advice. Completion of this specialization will provide students with knowledge of the United States legal system, scientific evidence, and intricacies of testifying, all of which are requisite to becoming an effective court-qualified expert in the courtroom.

With the approval of the department and college that administers the student's degree program, the courses that are used to satisfy the specialization may also be used to satisfy the requirements for the doctoral degree. The students program of study must be approved by the student's adviser for the specialization.

**Requirements for the Graduate Specialization in Forensic Science**

CREDITS

The student must complete 9 credits from the following:

- |    |   |   |
|----|---|---|
| 1. | All of the following courses (6 credits): |   |
|    | CJ 805 Survey of Forensic Science         | 3 |
|    | CJ 817 Law and Forensic Science           | 2 |
|    | FRS 890 Independent Study                 | 1 |

Independent study will entail a substantial literature and legal essay reviewing the student's specialized field as it relates to the forensic sciences and the legal system.

2. Complete a 3 credit 800 or 900-level course that is relevant to the discipline, such as forensic anthropology or forensic entomology, and is approved by the student's adviser and the Director of the Forensic Science program.

Upon completion of the requirements for the Graduate Specialization in Forensic Science, the student should contact the School of Criminal Justice and request certification for the completion of the specialization. After the certification is approved by the Chairperson of the School of Criminal Justice and the Dean of the College of Social Science, the Office of the Registrar will enter on the student's academic record the name of the specialization and the date that it was completed. This certification will appear on the student's transcript.

Effective Fall 2009.

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2. Change the requirements for the **Doctor of Philosophy** degree in **Economics** as published on page 465 of the 2007-2009 *Academic Programs* catalog. The University Graduate Council (UGC) approved this request at its April 20, 2009 meeting.

- a. Under the heading **Requirements for the Doctor of Philosophy Degree in Economics** make the following change:

- (1) Replace item 4. with the following:  
Demonstrate competence in two fields of specialization and advanced methods.

Effective Summer 2009

## **PART II - NEW COURSES**

### **DEPARTMENT OF COMMUNITY, AGRICULTURE, RECREATION AND RESOURCE STUDIES**

- PRR 211 Introduction to Natural Resource Recreation  
Fall of every year. Spring of every year. 3(3-0)  
History and providers of outdoor recreation. Careers in natural resource recreation.  
Effective Fall 2009
- PRR 495 Comprehensive Planning and Strategy Development in Natural Resource Recreation and Tourism  
Spring of every year. 3(3-0) P: PRR 370 and (ACR 492 or concurrently)  
Comprehensive planning for natural resource recreation, commercial recreation and  
tourism organizations. Organizational linkages and interdependency. Developing a plan  
and strategy for a targeted organization.  
Effective Summer 2011

### **DEPARTMENT OF ART AND ART HISTORY**

- STA 431 Screen Printing  
Fall of every year. Spring of every year. 4(0-8) A student may earn a maximum of 20 credits in all  
enrollments for this course. P: STA 300 or STA 320
- REINSTATEMENT Screen printing as a fine art print medium. Theory and techniques as a means to creative  
and expressive imagery.  
Effective Fall 2009

### **DEPARTMENT OF BIOSYSTEMS AND AGRICULTURAL ENGINEERING**

- BE 469 Sustainable Bioenergy Systems  
Spring of every year. 3(3-0) Interdepartmental with Chemical Engineering. P: BE 230 or CHE 201  
R: Open to juniors or seniors in the College of Engineering.  
Biorefinery analysis and system design. Life cycle assessment to evaluate sustainability  
of bioenergy systems. Current policy regulating the bioeconomy and system economics.  
Product commercialization.  
Effective Spring 2009

### **DEPARTMENT OF CHEMICAL ENGINEERING AND MATERIALS SCIENCE**

- CHE 468 Biomass Conversion Engineering  
Fall of every year. 3(3-0) Interdepartmental with Biosystems Engineering. P: (BE 351 or CHE 321)  
and (BE 360 or CHE 431)  
Physicochemical and biological pretreatment. Biomass conversion to alcohols, biodiesel,  
bio-oil, syngas, and other value-added products using advanced biological, chemical, and  
thermochemical treatments.  
Effective Fall 2009

### **DEPARTMENT OF CROP AND SOIL SCIENCES**

- CSS 467 BioEnergy Feedstock Production  
Fall of every year. 3(3-0) Interdepartmental with Forestry and Biosystems Engineering. P: MTH 103  
or MTH 116  
Agronomic, economic, technological, and environmental principles involved in bioenergy  
feedstock production. Cultivation, harvest, transportation, and storage of agricultural and  
forest biomass.  
Effective Fall 2009

### **DEPARTMENT OF ENGLISH**

ENG 427           Advanced Playwriting  
Spring of every year. 3(3-1) P: ENG 327 and (ENG 223 or ENG 228 or ENG 229 or ENG 334)  
REINSTATEMENT   Advanced workshop in writing plays. Reading and analysis of published plays. Attention  
to production.  
Effective Summer 2009

### **DEPARTMENT OF FISHERIES AND WILDLIFE**

FW 439           Conservation Ethics  
Spring of odd years. 3(3-0) P: Completion of Tier I Writing Requirement RB: Additional coursework  
in ecology, natural resources, philosophy, or environmental sciences. R: Open to juniors or seniors  
or graduate students.  
Ethical concepts and arguments underlying natural resources.  
Effective Spring 2010

FW 813           Democracy and Environment  
Fall of odd years. 3(3-0) RB: Exposure to social science or legal approaches to the environment.  
Relationship between democracy and environmental protection and management. Effects  
of democratic institutions on natural resource management.  
Effective Fall 2009

FW 868           Water Policy and Management  
Fall of odd years. 3(3-0) RB: Familiarity with biological and ecological science and environmental  
policy issues.  
Environmental policy issues associated with the use, management, and protection of  
water resources and aquatic ecosystems. Case studies in water science and  
management.  
SA: FW 468  
Effective Fall 2009

### **DEPARTMENT OF HORTICULTURE**

HRT 259A         Student Organic Farm Practicum I  
Spring of every year. 3(0-9) R: Open to agricultural technology students.  
Intensive organic vegetable, fruit, herb, and flower farming by direct involvement in the  
weekly activities and operation of the MSU Student Organic Farm. Local food systems,  
farm operations, transplanting, community-supported agriculture management, winter  
hoophouse, and edible forest gardening.  
SA: HRT 259  
Effective Fall 2009

HRT 259B         Student Organic Farm Practicum II  
Summer of every year. 4(0-12) P: HRT 259A R: Open to agricultural technology students.  
Intensive organic vegetable, fruit, herb, and flower farming by direct involvement in the  
weekly activities and operation of the MSU Student Organic Farm. Equipment basics, soil  
fertility, field cultivation, harvesting, post-harvest handling, summer hoophouse, and farm  
stand operations.  
SA: HRT 259  
Effective Fall 2009

HRT 259C         Student Organic Farm Practicum III  
Spring of every year. 3(0-9) P: HRT 259B R: Open to agricultural technology students.  
Intensive organic vegetable, fruit, herb, and flower farming by direct involvement in the  
weekly activities and operation of the MSU Student Organic Farm. Harvest and post-  
harvest handling, crop storage, fall hoophouses, cover crops, crop specialty planting,  
organic farm plan, crop plan, farm stand, and community-supported agriculture.  
SA: HRT 259  
Effective Fall 2009

### **DEPARTMENT OF KINESIOLOGY**

- KIN 482E History of the Modern Olympic Games  
Summer of every year. 2(2-0)  
Olympic philosophies, ideals and history. Modernization and changes to the Olympic Games. Professional and amateur sports. Political controversies and achievements.  
Effective Summer 2009
- KIN 827 Clinical/Professional Experience in Athletic Training  
Fall of every year. Spring of every year. 1 to 4 credits. A student may earn a maximum of 4 credits in all enrollments for this course. RB: Undergraduate major in athletic training and participation in the graduate athletic training concentration in Kinesiology R: Open to graduate students in the Kinesiology major.  
Knowledge and critical thinking skills. Managing athletic training services program.  
Clinical skills for the prevention and management of athletic injuries.  
Request the use of the Pass-No Grade (P-N) system.  
Effective Fall 2009
- KIN 857 Promoting Positive Youth Development Through Sport  
Fall of every year. 3(3-0)  
Educational athletic programs for youth. Positive youth development through sports.  
Coaching and mentoring.  
Effective Fall 2009

### **DEPARTMENT OF MATHEMATICS**

- MTH 922 Harmonic Analysis  
Fall of odd years. 3(3-0) RB: MTH 829 and MTH 920
- REINSTATEMENT Fourier series, mean and pointwise convergence, conjugate functions, Fourier transform, Plancherel theorem, Paley-Wiener theorem, interpolation of operators, Hausdorff-Young theorem.  
Effective Fall 2009

### **COLLEGE OF NATURAL SCIENCE**

- GEN 840 Genetics Writing Skills  
Fall of every year. Spring of every year. Summer of every year. 1(1-0) R: Open to graduate students in the Genetics major. Approval of department.  
Development of a genetics research proposal: content, composition, and peer review through a graduate writing group.  
Request the use of the Pass-No Grade (P-N) system.  
Effective Fall 2009
- GEN 891 Selected Topics in Genetics  
Fall of every year. Spring of every year. Summer of every year. 1 to 4 credits.  
Genetics topics, trends, or issues of current interest.  
Effective Fall 2009

### **SCHOOL OF SOCIAL WORK**

- SW 822 Topics in Policy Practice and Advocacy  
Spring of every year. 3(3-0) P: SW 812B or SW 820 R: Open to graduate students in the School of Social Work. Not open to students with credit in SW 822A or SW 822B or SW 822C.  
Information and skills for policy practice for advocacy at local, community, agency, state and federal levels. National and international policy comparisons.  
Effective Spring 2010

- SW 830A Social Work Research Methods and Data Analysis  
Fall of every year. 2(2-0) P: SW 812B RB: Only students who are enrolled in the Advanced Standing MSW programs should take this course. R: Open to master's students in the Master of Social Work in Clinical Social Work or in the Master of Social Work in Organizational and Community Practice. Not open to students with credit in SW 829 or SW 830.  
Research methods and statistics. Experimental, quasi-experimental, and single system designs. Survey and qualitative methods. Data analysis and computer applications in social work.  
Effective Fall 2009
- SW 844 Essential Theories in Organizations and Communities Social Work Practice  
Fall of every year. 2(2-0) P: SW 810 R: Open to graduate students in the School of Social Work or approval of school.  
Selected theoretical approaches to organizational and community phenomena. Emphasis on macro-organization and community theories using organization and community as the level of analysis. Decision-making by a collective of organizational and community actors. Organization and community functions.  
Effective Fall 2009
- SW 876 Substance Use, Mental Health and Co-Occurring Disorders: Treatment and Intervention Strategies  
Spring of odd years. 3(3-0) R: Open to graduate students in the School of Social Work or approval of school.  
Theories, assessment, interventions and policy related to work with dual-diagnosis people/co-occurring disorder. Social and human service delivery models of treatment addressed within socio-political, clinical, and historical context.  
Effective Fall 2009

### **DEPARTMENT OF SOCIOLOGY**

- SOC 851 Demography and Public Health  
Spring of even years. 3(3-0)
- REINSTATEMENT Causes and consequences of transitions from high to low population growth rates. National and subnational comparisons of fertility and mortality.  
Effective Fall 2009
- SOC 861 Agricultural Structure and Change  
Fall of even years. 3(3-0)
- REINSTATEMENT Social dimensions of agricultural structure and change. Concepts, principles, research approaches, and policy issues. Farm work patterns, role of women, migrant workers, food systems, alternative agriculture, and part-time farming.  
Effective Fall 2009
- SOC 884 Applied Longitudinal Data Analysis  
Fall of every year. 3(3-0) P: SOC 881 and SOC 882 RB: A solid knowledge of multiple regressions is required.  
Application of statistical methods to analyze data in a longitudinal design.  
Effective Fall 2009

### **DEPARTMENT OF TELECOMMUNICATION, INFORMATION STUDIES AND MEDIA**

- TC 233 Documentary Technologies and Problems of Reality-Based Arts  
Fall of every year. 3(2-2) Interdepartmental with English and Writing, Rhetoric and American Cultures. R: Open to students in the Specialization in Documentary Studies.  
Introduction to theoretical, historical, and methodological issues concerning documentary expression and reality-based art forms in a range of media.  
Effective Fall 2009

- TC 411 Collaborative Documentary Design and Production  
Spring of every year. 3(2-2) Interdepartmental with English and Journalism and Writing, Rhetoric and American Cultures. R: Open to students in the Specialization in Documentary Studies.  
Design and development of documentaries in a team setting using video and audio, still photography, web design, and print media. Participation in a production cycle including idea generation, research, design, production, and distribution  
Effective Fall 2009
- TC 480 Information and Communication Technologies for Development  
Fall of every year. 3(3-0) P: TC 201 or approval of department R: Open to juniors or seniors in the College of Engineering or in the Department of Telecommunication, Information Studies and Media or in the Specialization in Information and Communication Technology for Development.  
Role of information and communication technologies in facilitating social, political, economic, and environmental change in developing nations.  
Effective Fall 2009
- TC 488 Information and Communication Technology Global Corps Field Study  
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 juniors or seniors in the College of Engineering or in the Department of Telecommunication, Information Studies and Media or in the Specialization in Information and Communication Technology for Development.  
Implementation of an information and communication technology project in a developing country, rural region of the U.S., or low-income urban area. Includes on-campus preparation followed by field work on location.  
Effective Fall 2009

## **PART III – COURSE CHANGES**

### **DEPARTMENT OF BIOCHEMISTRY AND MOLECULAR BIOLOGY**

- BMB 471 Biochemistry Laboratory (W)  
Spring of every year. ~~3(0-9)~~ 3(0-6) P: BMB 461 and (CSE 101 or CSE 131 or CSE 231 or LB 126) and CEM 262 and Completion of Tier I Writing Requirement R: Open to students in the Biochemistry and Molecular Biology/Biotechnology major or in the Biochemistry and Molecular Biology major or approval of department. Not open to students with credit in BMB 473.  
Biochemical methods and principles used in the study of enzymes (proteins), carbohydrates, lipids, and cell organelles.  
SA: BCH 471  
~~Effective Fall 2008~~ Effective Summer 2010
- BMB 472 Biochemistry Laboratory  
Fall of every year. ~~3(0-9)~~ 3(0-6) P: CEM 262 and BMB 461 ~~RB: BMB 462~~ R: Open to students in the Biochemistry and Molecular Biology/Biotechnology major or in the Biochemistry and Molecular Biology major or approval of department. Not open to students with credit in BMB 473.  
Methods of molecular biology and the underlying principles on which these methods are based.  
SA: BCH 472  
~~Effective Spring 2008~~ Effective Summer 2010
- BMB 473 ~~Biochemistry and Molecular Biology Laboratory~~  
Biochemistry and Molecular Biology Laboratory (W)  
Summer of every year. 6(0-18) P: (BMB 461 and BMB 462) and (CSE 101 or CSE 131 or CSE 231 or LB 126) and CEM 262 and Completion of Tier I Writing Requirement R: Open to students in the Biochemistry and Molecular Biology/Biotechnology major or in the Biochemistry and Molecular Biology major or approval of department. Not open to students with credit in BMB 471 or BMB 472.  
Biochemical methods and principles used in the study of enzymes (proteins), carbohydrates, lipids, and cell organelles. Methods of molecular biology and the underlying principles on which these methods are based.  
~~Effective Summer 2009~~ Effective Summer 2010

### **DEPARTMENT OF CHEMICAL ENGINEERING AND MATERIALS SCIENCE**

- CHE 972 Viscoelasticity and Flow of Polymeric Materials  
Spring of odd years. 3(3-0)  
Time dependent and steady flow properties of polymeric materials related to molecular and structural parameters. Examples of polymeric blends and composites with thermoplastic and thermoset components.  
DELETE COURSE  
Effective Spring 2009

### **DEPARTMENT OF COMMUNICATION**

- COM 360 Advanced Sales Communication  
Fall of every year. Spring of every year. 3(3-0) ~~Interdepartmental with Marketing and Supply Chain Management and Advertising. P: MSC 313 and (MSC 300 or MSC 327) P: MKT 313 and (MKT 300 or MKT 327) RB: COM 400~~ R: Open to undergraduate students in the Sales Communication Specialization.  
Need-based selling and leadership role in meeting client needs. Advanced methods of questioning, customer need analysis, negotiation, effective presentations and interpersonal communication relationships with clients. Sales role-playing presentations, business and technical writing, portfolio presentations, and case studies.  
~~Effective Spring 2009~~ Effective Summer 2010

COM 874      Communication in Supply Chain Management  
Fall of every year. ~~4(1-1)~~ 2(1-2) ~~R: Open to masters students in the Logistics major.~~ R: Open to master's students in the Supply Chain Management major.  
~~Development of effective interpersonal communication skills. Oral communication in business settings. Use of appropriate technology for management presentations.~~  
Development of effective interpersonal communication skills. Oral communication in business settings, including presentation and interview skills. Use of appropriate technology for management presentations. Analysis of presentations in the work 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 2006~~ Effective Summer 2010

### **DEPARTMENT OF COMMUNITY, AGRICULTURE, RECREATION AND RESOURCE STUDIES**

PRR 213      Introduction to Parks, Recreation, and Leisure  
Fall of every year. Spring of every year. Summer of every year. 3(3-0)  
The scope and management of recreation services and resources. Historical and philosophical foundations. Influence of recreation behavior on state, national, international, economic, political and social institutions.  
DELETE COURSE  
Effective Fall 2010

PRR 215      Recreation Program Management  
Fall of every year. Spring of every year. 4(3-2)  
Programming and leadership principles for planning, management, and evaluation. Program design and conduct to service different clienteles, using leisure education, program development, and small group processes. Field Trips required.  
DELETE COURSE  
Effective Spring 2012

PRR 293      Field Work in Park and Recreation Resources  
Fall of every year. Spring of every year. Summer of every year. 1 to 4 credits. A student may earn a maximum of 4 credits in all enrollments for this course. R: Approval of department.  
Professional field experience in a park or recreation setting.  
Request the use of the Pass-No Grade (P-N) system.  
DELETE COURSE  
Effective Spring 2012

PRR 295      Field Study in Park, Recreation and Tourism Resources Delivery Systems  
Spring of every year. 2 credits. P: PRR 213 and PRR 215 R: Open only to sophomores or juniors or seniors. Approval of department; application required.  
Field course illustrating public, non-profit, and commercial recreation delivery systems. Interrelationships of recreation with natural resources, cultural resources, facilities, and communities. Partnerships and competition among providers.  
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.  
DELETE COURSE  
Effective Fall 2009

PRR 351      Recreation and Natural Resources Communication (W)  
Fall of every year. Spring of every year. 3(2-2) P: (PRR 213) and completion of Tier I writing requirement R: Open only to students in the Department of Community, Agriculture, Recreation and Resource Studies. Not open to freshmen.  
Principles of communication for recreation and natural resource audiences. Application to various forms of interpretive media including verbal, graphic, and written.  
DELETE COURSE  
Effective Fall 2009

- PRR 370 Administration and Operation of Park and Recreation Systems (W)  
Fall of every year. 3(3-0) ~~P: (PRR 213 and PRR 215) and completion of Tier I writing requirement~~  
~~P: PRR 211 and PRR 214 RB: PRR 293~~ R: Not open to freshmen or sophomores.  
Administration, operation and policy of park, recreation and tourism organizations. Legal foundations, concepts and responsibilities, ethical decision-making and personnel management.  
~~Effective Summer 2008~~ Effective Spring 2009
- PRR 371 Management of Park and Recreation Agencies and Organizations  
Spring of every year. 3(3-0) P: PRR 213 and PRR 215 R: Not open to freshmen or sophomores.  
Management concepts and methods. Budgeting, service marketing, and strategic planning in park, recreation and tourism organizations.  
DELETE COURSE  
Effective Spring 2012
- PRR 388 Physical Resource Management in Parks, Recreation and Tourism  
Fall of every year. 3(2-2) P: PRR 213 and PRR 215 RB: PRR 293 R: Open only to sophomores or juniors or seniors.  
Relationships among natural resources, the environment, recreational use and site design and development. Principles to safeguard, maintain and restore recreation environments.  
DELETE COURSE  
Effective Fall 2009
- PRR 389 Planning and Evaluation in Parks, Recreation and Tourism  
Fall of every year. 3(3-0) P: PRR 215 and PRR 213 RB: PRR 293 R: Open only to juniors or seniors.  
Planning, research and evaluation of recreation and tourism systems. Research methods, resource inventory and classification, use estimation, demand forecasting, marketing, and needs assessment. Formative, process, and summative evaluations using secondary data, surveys, observation, experiments, case studies and focus groups  
DELETE COURSE  
Effective Fall 2009
- PRR 393 Professional Seminar  
Fall of every year. Spring of every year. 1(1-0) P: PRR 293 R: Open only to students in the Department of Community, Agriculture, Recreation and Resource Studies.  
Linkage of field work and internship. Integration of course work with professional practice.  
DELETE COURSE  
Effective Spring 2012
- PRR 448 Foundations of Natural Resource Based Recreation Management  
Spring of every year. 3(3-0) ~~P: PRR 210 or PRR 302~~ P: PRR 210 or PRR 211 or PRR 302 RB: ~~Basic Ecology course R: Open only to juniors or seniors or graduate students.~~ R: Open to juniors or seniors or graduate students.  
History and current status of natural resource-based recreation. Integration of natural resource management, security, interpretation, and outdoor programming. Visitor and resource management tools and models.  
~~Effective Fall 2006~~ Effective Spring 2009
- PRR 449 Natural Resource Based Recreation Management Applications  
Spring of every year. 3(3-0) ~~P: PRR 210 or PRR 302~~ P: PRR 210 or PRR 211 or PRR 302 ~~R: Open only to juniors or seniors or graduate students.~~ R: Open to juniors or seniors or graduate students.  
Application of management principles to trail, camping, and dispersed recreation activities and settings. Security of visitors, resources, and support facilities. Case studies and integrated problem solving.  
~~Effective Fall 2006~~ Effective Spring 2009

- PRR 451 Interpretation and Visitor Information Systems  
Spring of every year. 3(2-2) ~~P: (ESA 200 or PRR 213 or approval of department) or ((AL 485 or concurrently) or (ZOL 369 or concurrently))~~ P: (ESA 200 or PRR 211 or approval of department) or ((AL 485 or concurrently) or (ZOL 369 or concurrently)) R: Open to juniors or seniors or graduate students.  
Interpretation principles and practice for nonformal settings, such as parks, museums, zoos, aquaria, nature and visitor centers, and historic sites. Goals and functions of interpretation. Planning, implementation and evaluation of interpretive programs for diverse audiences. Information systems and visitor services. National certification optional. Field trips required.  
~~Effective Summer 2008~~ Effective Spring 2009
- PRR 473 Commercial Recreation and Tourism Businesses and Organizations  
Fall of every year. 3(3-0) ~~P: PRR 214 RB: PRR 370 R: Open only to juniors or seniors or graduate students.~~ R: Open to juniors or seniors or graduate students.  
Start-up and management of commercial recreation and tourism businesses with an emphasis on small businesses. Roles and responsibilities of industry associations. Establishment and operation of tourism marketing organizations.  
~~Effective Fall 2002~~ Effective Fall 2009
- PRR 474 The Tourism System  
Fall of every year. 3(3-0) ~~P: PRR 214 RB: PRR 370 and PRR 371 R: Open only to juniors or seniors or graduate students.~~ R: Open to juniors or seniors or graduate students.  
Major sectors and emerging types of tourism. Industry and market trends. Tourism and community development. Evaluating and managing the impact of tourism.  
~~Effective Fall 2002~~ Effective Fall 2009
- PRR 488 Community-Based Recreation Programming  
Spring of every year. 3(2-2) RB: PRR 215 and PRR 370 and PRR 371 and PRR 388 and PRR 485  
R: Open only to juniors or seniors or graduate students.  
Recreation programs and services in rural and urban settings. Nonprofit, public and private agencies. Delivery systems and research procedures. Effective community-based recreation in relation to human services.  
DELETE COURSE  
Effective Fall 2009
- PRR 493 ~~Professional Internship in Park, Recreation and Tourism Resources~~  
Professional Internship in Natural Resource Recreation and Tourism  
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. ~~P: PRR 303 and PRR 203 P: ACR 492 R: Open to seniors in the Department of Community, Agriculture, Recreation and Resource Studies. Approval of department; application required.~~ R: Open to seniors in the Department of Community, Agriculture, Recreation and Resource Studies. Approval of department; application required. A student may earn a maximum of 6 credits in all enrollments for any or all of these courses: ABM 493, ANR 493, ANS 493, CMP 493, CSS 493, EEP 493, ESA 493, FIM 493, FSC 493, FW 493, HRT 493, PKG 493, PLP 493, and PRR 493.  
~~Supervised professional experiences in agencies and businesses related to park, recreation and tourism resources.~~ Supervised professional experiences in agencies and businesses related to natural resource recreation and tourism.  
Request the use of ET-Extension to postpone grading.  
The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment.  
~~Effective Summer 2007~~ Effective Summer 2010

### DEPARTMENT OF CROP AND SOIL SCIENCES

- CSS 220 BioEnergy Crop Production  
Spring of every year. 2(3-0) RB: CSS 101  
Agronomic, economic, and environmental impacts of bioenergy crop production. Integration of bioenergy crops into existing production systems. Offered first ten weeks of semester.  
DELETE COURSE  
Effective Fall 2009

### DEPARTMENT OF FAMILY AND COMMUNITY MEDICINE

- FCM 640 ~~Principles of Family Medicine I~~  
Principles of Family Medicine  
Fall of every year. 1(0-4) RB: Successful completion of Semesters 1, 2, 3 and 4 of the graduate-professional program in the College of Osteopathic Medicine R: Open to graduate-professional students in the College of Osteopathic Medicine.  
Preceptorship experience in family medicine taught by faculty and clinical preceptors at multiple sites.  
Request the use of the Pass-No Grade (P-N) system.  
Request the use of ET-Extension to postpone grading.  
The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment.  
~~Effective Fall 2008~~ Effective Summer 2010
- FCM 650 ~~Principles of Family Medicine II~~  
Principles of Family Medicine - Intensive  
Fall of every year. Spring of every year. Summer of every year. 1(0-4) ~~A student may earn a maximum of 20 credits in all enrollments for this course.~~ RB: Successful completion of semesters 1, 2 and 3 of the graduate-professional program in the College of Osteopathic Medicine R: Open to graduate-professional students in the College of Osteopathic Medicine.  
~~Continuation of FCM 640. One week intensive preceptorship in family medicine.~~  
Request the use of the Pass-No Grade (P-N) system.  
Request the use of ET-Extension to postpone grading.  
The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment.  
~~Effective Fall 2008~~ Effective Summer 2010

### DEPARTMENT OF FISHERIES AND WILDLIFE

- FW 468 Great Lakes Water Policy  
Fall of every year. 2(2-0) P: BS 110 or BS 148H or ISB 200 or ISB 202 or ISB 204 or ISB 206H or LB 144 RB: Familiarity with biological and ecological science and environmental planning and policy issues. R: Open to juniors or seniors.  
Environmental policy issues associated with the use, management, and protection of the binational Great Lakes basin ecosystem.  
DELETE COURSE  
Effective Spring 2009
- FW 471 Ichthyology  
Fall of every year. 4(3-3) Interdepartmental with Zoology. P: (BS 110 or BS 148H or LB 144) and completion of Tier I writing requirement  
~~Fish morphology and physiology. Development, behavior, evolution, and ecology. World fishes with emphasis on freshwater fishes. Fish morphology and physiology. Development, behavior, evolution, and ecology. World fishes with emphasis on freshwater fishes. Field trips required.~~  
Effective Fall 2008 Effective Spring 2009
- FW 474 Limnological Techniques  
Fall of every year. 3(2-3) Interdepartmental with Zoology. P: (FW 414 or concurrently) or (FW 420 or concurrently) or FW 472  
~~Field and laboratory techniques for the investigation and analysis of lake and stream ecosystems and their biota. Field and laboratory techniques for the investigation and analysis of lake and stream ecosystems and their biota. Field trips required.~~  
Effective Summer 2009 Effective Summer 2009

### DEPARTMENT OF GEOGRAPHY

- GEO 337 Geography of Asia-Pacific (I)  
Spring of every year. 3(3-0) P: Completion of Tier I writing requirement. R: Not open to freshmen.  
Spatial patterns and processes of economic, urban, human and physical geography in eastern Asia, including China, Korea, Japan, Australia, New Zealand, the Indian subcontinent and other Asian countries. Contemporary regional development.  
~~Effective Fall 2009~~ Effective Summer 2010
- GEO 865 Advanced Quantitative Methods in Geography  
Spring of every year. 4(4-0) ~~RB: GEO 465~~  
Statistical and mathematical approaches. Multiple regression, principal components and factor analysis, discriminant analysis. Related taxonomic methods.  
~~Effective Fall 1995~~ Effective Spring 2009
- GEO 866 Spatial Data Analysis  
Fall of every year. 4(3-2) Interdepartmental with Statistics and Probability. ~~RB: (GEO 463 or STT 421 or STT 430) or equivalent quantitative methods courses~~ RB: (GEO 363 or STT 421 or STT 430) or equivalent quantitative methods courses.  
Theory and techniques for statistical analysis of point patterns, spatially continuous data, and data in spatial zones.  
SA: GEO 466  
~~Effective Fall 2009~~ Effective Spring 2009

### DEPARTMENT OF HORTICULTURE

- HRT 259 Student Organic Farm Practicum  
Fall of every year. Spring of every year. Summer of every year. 2 to 4 credits. A student may earn a maximum of 10 credits in all enrollments for this course. R: Open to agricultural technology students.  
Year-round intensive organic vegetable, fruit, herb, and flower farming by direct involvement in the weekly activities and operation of the MSU Student Organic Farm. Planning, scheduling, planting, growing, irrigation, fertility, use of tools and equipment, harvesting, storage, CSA and farm stand marketing, record keeping, and organic certification.  
DELETE COURSE  
Effective Summer 2009

### LYMAN BRIGGS COLLEGE

- LB 171 ~~Principles of Chemistry I – Structure~~  
Principles of Chemistry I  
Fall of every year. 4(4-0) P: MTH 114 or (MTH 116 or concurrently) or (MTH 132 or concurrently) or (MTH 133 or concurrently) or (MTH 152H or concurrently) or (LB 118 or concurrently) or (LB 119 or concurrently) R: Open to students in the Lyman Briggs College. Not open to students with credit in CEM 141 or CEM 151 or CEM 181H. C: LB 171L concurrently.  
~~Chemical principles: structure and bonding, periodic properties, Stoichiometry, states of matter, Solutions, acids and bases, equilibria, thermodynamics, and kinetics.~~  
Stoichiometry, quantum mechanics and interactions of light with matter, periodic trends, Lewis dot structures, molecular structure, polarity and intermolecular forces, valence bond theory, introduction to organic chemistry, enthalpy and heat transfer.  
SA: LBS 165, LBS 171  
~~Effective Fall 2009~~ Effective Summer 2010

- LB 172 ~~Principles of Chemistry II – Reactivity~~  
Principles of Chemistry II  
Spring of every year. 3(4-0) P: LB 171 or CEM 141 or CEM 151 or CEM 181H R: Open to students in the Lyman Briggs College. Not open to students with credit in CEM 142 or CEM 152 or CEM 182H. C: LB 172L concurrently.  
~~Spectroscopy, coordination chemistry, solubility and stability constants. Electrochemistry, main group chemistry, atmospheric chemistry, and organometallic chemistry. Polymers and biochemistry. Gases, properties of solutions, introduction to solid state chemistry, molecular orbital theory, chemical equilibria, chemical kinetics, acid/base equilibria, solubility equilibria, entropy, free energy, electrochemistry, redox reactions, nuclear chemistry.~~  
SA: LBS 266, LBS 172  
~~Effective Fall 2009~~ Effective Summer 2010

### DEPARTMENT OF MANAGEMENT

- MGT 409 Business Policy and Strategic Management  
Fall of every year. Spring of every year. Summer of every year. 3(3-0) ~~P: MSC 300 and MSC 303 and FI 311 and ITM 309~~ P: MKT 300 and SCM 303 and FI 311 and ITM 309 R: Open to seniors in the Eli Broad College of Business and The Eli Broad Graduate School of Management and not open to undergraduate students in the School of Hospitality Business.  
Techniques for building and maintaining consistent and effective policy and strategy.  
Major functions within a firm. Strategic integration, ethics, and international competition.  
Effective Fall 2009
- MGT 863 Negotiations  
Summer of every year. 1 to 2 credits. ~~Interdepartmental with Marketing and Supply Chain Management.~~ Interdepartmental with Supply Chain Management R: Open to master's students in the Supply Chain Management major.  
Strategic negotiations, negotiation preparation, buyer-supplier relationship assessment, international negotiations, and negotiation simulation.  
~~Effective Summer 2009~~ Effective Summer 2010

### COLLEGE OF OSTEOPATHIC MEDICINE

- OST 532 Growth and Development: Cases  
Summer of every year. 1(0-2) P: OST 528 RB: Successful completion of semesters 1, 2, 3, 4, 5 and 6 of the graduate-professional program in the College of Osteopathic Medicine R: Open to graduate-professional students in the College of Osteopathic Medicine.  
Case studies in growth and development.  
Request the use of the Pass-No Grade (P-N) system.  
~~Effective Fall 2009~~ Effective Fall 2009

### DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY

- PHM 819 Principles of Drug-Tissue Interactions  
~~Fall of every year.~~ Spring of every year. Summer of every year. 1 to 2 credits. A student may earn a maximum of 3 credits in all enrollments for this course. ~~R: Approval of department.~~ R: Open to graduate students or lifelong graduate students.  
General principles relevant to the interaction of chemicals with biological systems. Topics include pharmacokinetics and/or pharmacodynamics.  
~~Effective Summer 2009~~ Effective Fall 2009
- PHM 829 Neuropharmacology  
Fall of every year. 2(2-0) P: PHM 819 RB: Some background in physiology. ~~R: Open to graduate students.~~ R: Open to master's students or doctoral students or lifelong graduate students.  
Description of targets in the mammalian central nervous system of clinically useful drugs and the mechanism of action, clinical use, and side effects of those drugs. Offered first ten weeks of semester.  
~~Effective Fall 2007~~ Effective Fall 2009

### DEPARTMENT OF PHYSICAL MEDICINE AND REHABILITATION

- PMR 601 Physical Medicine and Rehabilitation Clerkship  
Fall of every year. Spring of every year. Summer of every year. ~~2 to 12 credits. 1 to 18 credits. A student may earn a maximum of 12 credits in all enrollments for this course. A student may earn a maximum of 18 credits in all enrollments for this course.~~ R: Open to graduate-professional students in the College of Osteopathic Medicine.  
Physical medicine and rehabilitation inpatient and ambulatory setting clinical experience, didactic sessions, case documentation and presentation, hospital rounds. Strong emphasis on evaluation of neuromusculoskeletal disorders and treatment of function deficits.  
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 2000~~ Effective Summer 2010

### DEPARTMENT OF PHYSIOLOGY

- PSL 250 Introductory Physiology  
Fall of every year. Spring of every year. 4(4-0) ~~R: Not open to students in the Department of Physiology.~~ R: Not open to students in the Physiology major. Not open to students with credit in PSL 310.  
Function, regulation and integration of organs and organ systems of higher animals emphasizing human physiology.  
~~Effective Fall 1992~~ Effective Summer 2010

### DEPARTMENT OF PLANT BIOLOGY

- PLB 856 ~~Plant Molecular Biology~~  
Plant Molecular and Omic Biology  
Spring of every year. 3(3-0) Interdepartmental with Biochemistry and Molecular Biology and Crop and Soil Sciences. RB: ZOL 341  
Recent advances in genetics and molecular biology of higher plants.  
SA: BOT 856  
~~Effective Fall 2004~~ Effective Summer 2010

### SCHOOL OF SOCIAL WORK

- SW 829 ~~Essential Research Tools for Social Work Practice~~  
Social Work Research Methods I  
Fall of every year. Spring of every year. Summer of every year. 2(2-0) RB: Bachelors degree required. ~~R: Open only to graduate students.~~ R: Open to graduate students in the School of Social Work.  
~~Role of research in social work. Nature of the evidence base in social work. Critical thinking, ethics, diversity, and social justice issues. Research designs in social work. Descriptive and inferential statistics. Knowledge and skills in critical thinking, statistical methods. Concepts of data, distributions, samples and populations, measurement, descriptive statistics, inferential statistics and related topics using either SPSS or Excel. Ethics, diversity, social justice issues.~~  
~~Effective Summer 2006~~ Effective Summer 2010

- SW 830 ~~Applied Social Work Research: Experimental and Quasi-Experimental Designs~~  
Social Work Research Methods II  
Fall of every year. Spring of every year. Summer of every year. 2(2-0) P: SW 829 RB: One introductory research methods course and one introductory data analysis course. ~~R: Open only to graduate students in the School of Social Work.~~ R: Open to graduate students in the School of Social Work.  
~~Evaluation of social work programs and practice. Measurement and evaluation processes. Experimental, quasi-experimental, and single-system designs. Sampling processes. Data analysis and computer applications in social work. Foundation of research skills and methodologies. Evidence-based practice. Literature reviews. Advanced single system designs. Experimental and quasi-experimental research designs. Qualitative methods. Survey methods. Measurement and sampling.~~  
Effective Fall 2007 Effective Summer 2010
- SW 832 ~~Applied Social Work Research: Survey and Field Designs~~  
Evaluating Social Work Programs and Practice  
Fall of every year. Spring of every year. 2(2-0) ~~P: SW 830 or SW 842B~~ P: SW 830 R: Open to graduate students in the School of Social Work.  
~~Evaluation of social work processes and outcomes. Scales of measurement. Survey, field, and qualitative research methods. Sampling strategies. Computer technologies in social work evaluation. Data analysis and dissemination of findings. Applied social work methods using a program evaluation framework. Understanding evaluation in the context of research. Evaluation of program process and outcomes objectives. Scales of measurement. Survey, field and qualitative research methods. Sampling strategies. Computer technologies in social work evaluation. Data analysis and dissemination of findings.~~  
Effective Fall 2007 Effective Summer 2010
- SW 833 Topics in Advanced Social Work Research  
Fall of every year. Spring of every year. 2(2-0) A student may earn a maximum of 4 credits in all enrollments for this course. P: SW 832 ~~R: Open only to graduate students in the School of Social Work.~~ R: Open to graduate students in the School of Social Work.  
Advanced social work research designs and evaluation techniques. Research collaborations and the role of stakeholders. Application of research methods and statistics to contemporary problems and settings in social work.  
~~Effective Summer 2006~~ Effective Fall 2009

### **DEPARTMENT OF SOCIOLOGY**

- SOC 368 Science, Technology and Society  
Fall of every year. 3(3-0) ~~Interdepartmental with Lyman Briggs School. Interdepartmental with Lyman Briggs~~ RB: (LBS 133) or some familiarity with basic concepts and methods in sociology. ~~RB: (LBS 133) or some familiarity with basic concepts and methods in sociology.~~ R: Not open to freshmen or sophomores. ~~R: Not open to freshmen or sophomores.~~ Approval of department.  
Role of science and technology in social change. Values and ethics in contemporary perspectives, controversies, and cases. Science and technology as forms of knowledge.  
~~Effective Fall 2000~~ Effective Summer 2010
- SOC 424 ~~Complex Organizations~~  
Organizations and Society  
Fall of every year. Spring of every year. 3(3-0) P: Completion of Tier I writing requirement. ~~R: Not open to freshmen or sophomores.~~ R: Not open to freshmen or sophomores. Approval of department.  
~~Complex formal organizations and bureaucracies. Interorganizational relationships. Structural and procedural problems of organizations. Utility of analytical models of organizations.~~ Formal and informal organizations and bureaucracies. Interorganizational relationships. Structural and procedural problems of organizations. Utility of analytical models of organizations.  
~~Effective Fall 1998~~ Effective Summer 2010

SOC 481 ~~Intentional Social Change~~  
~~Social Movements and Collective Identities~~  
Fall of every year. 3(3-0) ~~R: Not open to freshmen or sophomores.~~ R: Not open to freshmen or sophomores. Approval of department.  
~~Directions, sources, processes, patterns, and consequences of planned social change. Factors stimulating or hindering acceptance and success of designed social change. How social movements emerge, change, and are challenged by others. Identity issues within social movements.~~  
~~Effective Fall 1998~~ Effective Summer 2010

### DEPARTMENT OF ZOOLOGY

ZOL 445 Evolution (W)  
Fall of every year. 3(3-0) ~~Interdepartmental with Plant Biology.~~ Interdepartmental with Plant Biology and Crop and Soil Sciences P: (ZOL 341) and completion of Tier I writing requirement P: ZOL 341 or CSS 350 and completion of Tier I writing requirement R: Not open to freshmen.  
Processes of evolutionary change in animals, plants. Microbes. Population genetics, microevolution, speciation, adaptive radiation, macroevolution. Origin of Homo sapiens.  
SA: ZOL 345  
~~Effective Fall 2008~~ Effective Summer 2010

ZOL 851 ~~Quantitative Methods in Ecology and Evolution~~  
~~Statistical Methods for Ecology and Evolution~~  
Fall of every year. 3(3-0) Interdepartmental with Plant Biology. ~~RB: STT 465~~ RB: (STT 814) or an equivalent course.  
~~Interpretation and analysis of ecological and evolutionary biology data. Statistical computer software. Statistical modeling and interpretation of ecological and evolutionary biology data. Parameter estimation and measures of uncertainty. Review of least squares. Introduction to maximum likelihood, resampling methods and simulation. Model fitting, likelihood ratios and information criteria. General linear models: ANOVA, regression, multiple regression, and ANCOVA. Generalized linear models. Process models and mixed models. Introduction to Bayesian methods.~~  
~~Effective Fall 2002~~ Effective Summer 2010

ZOL 897 ~~Ecosystem Ecology~~  
~~Ecosystem Ecology and Global Change~~  
~~Spring of every year.~~ Spring of even years. 4(4-0) Interdepartmental with Plant Biology and Fisheries and Wildlife.  
~~Structure and function of natural ecosystems. Succession, food web analysis, energy flow, nutrient cycling, and effects of human activities on ecosystems. Global environmental change. Ecosystem management and restoration. Structure and function of natural ecosystems and their responses to global environmental change. Biogeochemical cycles, food webs, energy flow, nutrient cycling, and ecosystem management and restoration.~~  
~~Effective Fall 2002~~ Effective Summer 2010