MICHIGAN STATE UNIVERSITY

Report of THE UNIVERSITY COMMITTEE ON CURRICULUM to the Faculty Senate

November 17, 2020

November 17, 2020

TO: Faculty Senate

This report is prepared and distributed for the following purposes:

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

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

PART I - NEW ACADEMIC PROGRAMS AND PROGRAM CHANGES:

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

PART II - NEW COURSES:1

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:1

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

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

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

Prerequisite monitored in SIS

C: = Corequisite R: Restriction

Recommended background

RB: = SA: = Semester Alias

MICHIGAN STATE UNIVERSITY

November 17, 2020

TO: Faculty Senate

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 ARTS AND LETTERS

1. Delete the curriculum and degree requirements for the Minor in Religion in the Americas in the Department of Religious Studies. The University Committee on Undergraduate Education (UCUE) provided consultative commentary to the Provost after considering this request. The Provost made the determination after considering the consultative commentary from the University Committee on Undergraduate Education to discontinue the program.

No new students are to be admitted to the program effective Fall 2018. No students are to be readmitted to the program effective Fall 2018. Effective Spring 2020, coding for the program will be discontinued and the program will no longer be available in the Department of Religious Studies. Students who have not met the requirements for the Minor in Religion in the Americas through the Department of Religious Studies prior to Spring 2020 will have to change their program.

ELI BROAD COLLEGE OF BUSINESS

Change the name of the Master of Science degree in Business Analytics to Business Data Science and 1. Analytics in the Eli Broad College of Business. The University Committee on Graduate Studies (UCGS) approved this request at its October 12, 2020 meeting.

Students admitted to the major prior to Fall 2021 will be awarded a Master of Science Degree in Business Analytics.

Students admitted to the major Fall 2021 and forward will be awarded a Master of Science Degree in Business Data Science and Analytics.

Effective Fall 2021.

- 2. Change the requirements of the Bachelor of Arts degree in Hospitality Business in The School of Hospitality Business.
 - Under the heading Requirements for the Bachelor of Arts Degree Hospitality Business make a. the following changes:
 - (1) In item 2. b., delete the following paragraph:

Students must complete first-level 400-hour internship/professional work experience prior to enrollment in Hospitality Business 307. Students must complete first-and second-level 400-hour internship/professional work experience prior to enrollment in Hospitality Business 489.

(2) In item 2. d., add the following courses under the respective area:

Events

HB	280	Introduction to Event Management	3
HB	425	Golf Operations and Management	3
HB	480	Advanced Event Management	3

Food ar	nd Bever	age	
HB	346	Hospitality Managed Services	3
HB	411L	Hospitality Beverages Lab	3
Real Es	tate		
HB	470	Hospitality Asset Management	3
HB	472	Hospitality Financial Modeling	1
HB	474	Hospitality Valuation	3
Other			
HB	291	Hospitality Current Topics and Trends	1 to 3

Effective Fall 2021.

3. Change the name of the **Minor** in **Hospitality Business Real Estate Investment Management** <u>to</u> **Hospitality Real Estate** in The School of Hospitality Business.

Students admitted to the minor prior to Fall 2021 will be awarded a Minor in Hospitality Business Real Estate Investment Management.

Students admitted to the minor Fall 2021 and forward will be awarded a Minor in Hospitality Real Estate.

- 4. Change the requirements for the **Minor in Hospitality Real Estate**. The University Committee on Undergraduate Education (UCUE) approved this request at its October 15, 2020 meeting.
 - a. Under the heading **Admission** replace the entire entry with the following:

Enrollment in the minor is limited, and admission to the minor is competitive. Admission is based primarily on the cumulative grade-point average and grades in the core courses listed below. Academic and non-academic factors and experiences will also be considered. Minimum criteria for admission to the minor are:

1. Completion of 56 credits.

2. Completion of the following core courses:

a.	ACC Or	201	Princip	oles of Financial Accounting	3
	ACC	230	Surve	of Accounting Concepts	3
b.	CSE Or	101	Compi	uting Concepts and Competencies	3
	CSE Or	102	Algorit	hmic Thinking and Programming	3
	CSE	231	Introdu	uction to Programming I	4
C.	EC		201	Introduction to Microeconomics	3
d.	STT Or		200	Statistical Methods	3
	STT Or		201	Statistical Methods	4
	STT		315	Introduction to Probability and Statistics for Business	3

b. Under the heading **Minor in Hospitality Real Estate** replace the entire entry with the following:

Students must complete all of the following courses (25 credits):

EC HB	202 273	Introduction to Macroeconomics Hospitality Business Analytics	3
or ITM HB	209 282	Business Analytics and Information Systems	3
FI	311	Hospitality Real Estate Financial Management	3
or FI or	320	Introduction to Finance	3
HB HB HB FI	311 437 470 355	Hospitality Finance Hospitality Revenue Management Hospitality Asset Management Financial Modeling	3 3 3 3

3

or			
HB	472	Hospitality Financial Modeling	1
HB	474	Hospitality Valuation	3
MKT	300	Managerial Marketing	3
or MKT	327	Introduction to Marketing	3

Effective Fall 2021.

- Change the requirements for the Minor in Entrepreneurship and Innovation in the Department of Management.
 - a. Under the heading **Requirements for the Minor in Entrepreneurship and Innovation** make the following changes:
 - (1) In item 2. add the following course:

REL 285 Introduction to Social Entrepreneurship and Religion 3

(2) Replace item 3. with the following:

Completion of two **Entrepreneurship and Innovation Experiences Options**. Students may complete this requirement by choosing from the following options: 1) Participation in Startup Weekend; 2) Participation in the Burgess New Venture Challenge; 3) Start a Venture (Company/Organization); or 4) Participate in a highly experiential course.

Effective Fall 2021.

COLLEGE OF ENGINEERING

- Change the requirements for the **Doctor of Philosophy** degree in **Biomedical Engineering** in the College of Engineering. The University Committee on Graduate Studies (UCGS) approved this request at its October 12, 2020 meeting.
 - a. Under the heading Requirements for the Doctor of Philosophy Degree in Biomedical Engineering make the following changes:
 - (1) In item 1., add the following course:

BME 840 BioDesignIQ I

- (2) Renumber items 2. and 3. to items 4. and 5. respectively.
- (3) Add the following items 2. and 3.:
 - Complete at least 12 credits in thematic elective courses at the 800-level or above. Must include an engineering science course, a life science course, a mathematics/statistics/computational course, and another elective course chosen from a list of approved courses maintained by the department.
 - 3. Successful completion of the written and oral portions of the comprehensive examination by the end of the 4th semester in the program.

- 2. Change the requirements in the **Bachelor of Science** degree in **Civil Engineering** in the Department of Civil and Environmental Engineering.
 - a. Under the heading **Requirements for the Bachelor of Science Degree in Civil Engineering** make the following changes:
 - (1) In item 3. a. delete the following course:

CE	372	Risk Analysis in Civil and Environmental Engineering	2
----	-----	--	---

Add the following courses:

CE	275	GIS for Civil and Environmental Engineers	1
CE	372	Risk Analysis in Civil and Environmental Engineering	3

(2) In item 3. e. **Geotechnical** add the following course:

```
CE 485 Landfill Design 3
```

(3) In item 3. f. add the following courses:

CE	473	Smart and Sustainable Building Design and Operations	3
ENE	472	Life Cycle Assessment of Energy Technologies	3

Effective Fall 2021.

- 3. Change the requirements in the **Bachelor of Science** degree in **Environmental Engineering** in the Department of Civil and Environmental Engineering.
 - a. Under the heading **Requirements for the Bachelor of Science Degree in Environmental Engineering** make the following changes:
 - (1) In item 3. a. change the total credits from '52' to '53' and add the following courses:

CE	275	GIS for Civil and Environmental Engineers	1
CE	372	Risk Analysis in Civil and Environmental Engineering	3
ENE	480	Environmental Measurements Laboratory	2

Delete the following courses:

CE	273	Civil and Environmental Engineering Measurements	2
CE	372	Risk Analysis in Civil and Environmental Engineering	2
ENE	480	Environmental Measurements Laboratory	1

- (2) Reletter item 3. e. to 3. f.
- (3) Add the following item 3. e.:

Engineering Electives. Complete at least one course for a minimum of 3 credits of electives from the list below or by approval of the department. Students must contact the department for approval.

BE	449	Human, Health Risk Analysis for Engineering Controls	3
BE	469	Sustainable Bioenergy Systems	3
BE	482	Engineering Ecological Treatment Systems	3
BE	484	Water Resource Recovery Engineering	3
CE	473	Smart and Sustainable Building Design and Operations	3
CE	485	Landfill Design	3
ENE	472	Life Cycle Assessment of Energy Technologies	3

(4) In item 3. f., change the requirement to the following:

Complete at least two courses for a minimum of 6 credits of electives from the list below, list above (e.), or by approval of the department. Students may substitute a 3-credit experiential education experience for one of the three courses. The experience is obtained in a minimum of three out-of-classroom experiences through engineering cooperative education. Students must contact the department for approval.

(5) In item 3. f. delete the following courses:

CSUS FW GLG IBIO	425 443 412 303	Environmental Impact Assessment Restoration Ecology Glacial Geology and the Record of Climate Change Oceanography	3 3 4
Add the	e followir	ng courses:	
GLG GLG PLB	303 412 443	Oceanography Glacial Geology and the Record of Climate Change Restoration Ecology	4 4 3

Effective Fall 2021.

- Change the requirements in the **Doctor of Philosophy** degree in **Civil Engineering** in the Department of Civil and Environmental Engineering. The University Committee on Graduate Studies (UCGS) approved this request at its October 12, 2020 meeting.
 - a. Under the heading **Admission** replace the entire entry with the following:

An applicant for admission to the Ph.D. degree program in civil engineering should have a bachelor's or master's degree in civil engineering or a related field and should have a grade-point average that would indicate success in graduate study.

All applicants are encouraged to submit their scores from the Graduate Record Examination General Test.

In addition to meeting the requirements of the university and of the College of Engineering, students must meet the requirements specified by their guidance committees.

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

These general criteria are the same for all students, the specific requirements for each student are developed in consultation with the advisor and the guidance committee.

- Students with a Master of Science degree in Civil Engineering must complete 12 credits of course work at the 800-level or above in consultation with their advisor and guidance committee.
- Students admitted directly to the Doctor of Philosophy degree in Civil Engineering must also complete the requirements for the Master of Science degree in Civil Engineering as part of the doctoral plan of study.
- Students entering the program with a bachelor's or master's degree in a field other than
 civil engineering may be required to complete additional collateral course work to fulfil
 deficiencies in their academic background as specified by the guidance committee.
 This course work will not count towards the requirements for the doctoral degree program.
- 4. Complete the following course during the first year of study:
 - CE 900 Research Strategies and Methods in Civil Engineering
- 5. Complete 24 to 36 credits of CE 999 Doctoral Dissertation Research.
- 6. Complete a qualifying examination comprised of a written examination and an oral
- 7. Complete a comprehensive examination comprised of a written thesis proposal and oral presentation. This examination must be completed at least six months prior to the doctoral dissertation defense.

8. Complete and successfully defend the dissertation and present the results of the dissertation research in a public seminar.

Effective Fall 2021.

- 5. Change the requirements in the **Doctor of Philosophy** degree in **Environmental Engineering** in the Department of Civil and Environmental Engineering. The University Committee on Graduate Studies (UCGS) approved this request at its October 12, 2020 meeting.
 - a. Under the heading **Admission** replace the entire entry with the following:

An applicant for admission to the Ph.D. degree program in environmental engineering should have a bachelor's or master's degree in environmental engineering or a related field and should have a grade-point average that would indicate success in graduate study.

All applicants are encouraged to submit their scores from the Graduate Record Examination General Test.

In addition to meeting the requirements of the university and of the College of Engineering, students must meet the requirements specified by their guidance committees.

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

These general criteria are the same for all students, the specific requirements for each student are developed in consultation with the advisor and the guidance committee.

- Students with a Master of Science degree in Environmental Engineering must complete 15 credits of coursework at the 800-level or above in consultation with their advisor and guidance committee.
- Students admitted directly to the Doctor of Philosophy degree in Environmental Engineering must also complete the requirements for the Master of Science degree in Environmental Engineering as part of the doctoral plan of study.
- 3. Students entering the program with a bachelor's or master's degree in a field other than environmental engineering may be required to complete additional collateral course work to fulfil deficiencies in their academic background as specified by the guidance committee. This course work will not count towards the requirements for the doctoral degree program.
- Complete the following course during the first year of study:
 ENE 900 Research Strategies and Methods in Environmental Engineering and Science
- 5. Complete 24 to 36 credits of ENE 999 Doctoral Dissertation Research.
- 6. Complete a qualifying examination comprised of a written examination and an oral examination
- Complete a comprehensive examination comprised of a written thesis proposal and oral
 presentation. This examination must be completed at least six months prior to the doctoral
 dissertation defense.
- 8. Complete and successfully defend the dissertation and present the results of the dissertation research in a public seminar.

Effective Fall 2021.

COLLEGE OF LAW

- Change the requirements for the LL.M. degree in the American Legal System in the College of Law. The University Committee on Graduate Studies (UCGS) approved this request at its October 12, 2020 meeting.
 - a. Under the heading **Academic Requirements** make the following change:
 - (1) In item 1., add the following statement:

Other Research, Writing, and Analysis courses may be approved by the Associate Dean for Graduate and International Programs.

Effective Fall 2021.

- Change the requirements for the LL.M. and M.J. degrees in Global Food Law in the College of Law. The University Committee on Graduate Studies (UCGS) approved this request at its October 12, 2020 meeting.
 - a. Under the heading L.L.M. and M.J. in Global Food Law make the following changes:
 - (1) Under the heading **Academic Requirements** replace the text with the following:
 - LL.M. students with a prior J.D. degree must complete 26 credits. International LL.M. students who do not have a prior J.D .degree from a U.S. law school must complete 28 credits. M.J. students must complete 30 credits. All students must complete the program within five academic years with a 2.0 minimum cumulative grade-point average.
 - (2) Change the total credits for item 1. from '11' to '11 to 13'.
 - (3) Add the following statement in item 1.:

International LL.M. students who do not have a prior J.D. degree from a U.S. law school must additionally complete the following course:

LAW 807A Foundations of Law and Legal Research

2

(4) Change the total credits for item 2. to the following:

At least 15 credits (LL.M.) or 19 credits (M.J.) from the following courses:

(5) Change the text following item 2. to the following:

Additional courses may be approved by the Associate Dean for Graduate and International Programs and Director of the Global Food Law Program. No more than 9 credits may be taken from LAW 810A, LAW 810B, LAW 810C, LAW 810E, LAW 810F, LAW 810V, LAW 810W, LAW 810X, LAW 810Y unless approved by the Associate Dean for Graduate and International Programs and Director for the Global Food Law Program.

Effective Fall 2021.

- Change the requirements for the Master of Jurisprudence (M.J.) degree and the Master of Laws (LL.M.)
 degree in Intellectual Property and Communications Law in the College of Law. The University
 Committee on Graduate Studies (UCGS) approved this request at its October 12, 2020 meeting.
 - a. Under the heading **LL.M. and M.J. in Intellectual Property and Communications Law** make the following changes under the section on **Academic Requirements**:
 - (1) Replace the introductory text with the following:

LL.M. students must complete 24 credits within two fall and spring semesters with a 2.0 minimum cumulative grade-point average. M.J. students must complete 30 credits within two fall and spring semesters with a 2.0 minimum cumulative grade-point average. A longer time period may be granted with a waiver.

Effective Fall 2021.

- Change the requirements for the Master of Legal Studies (M.L.S.) degree in Legal Studies in the College of Law. The University Committee on Graduate Studies (UCGS) approved this request at its October 12, 2020 meeting.
 - Under the heading M.L.S. in Legal Studies make the following changes under Academic Requirements:
 - (1) Change the total credits required for the degree from '24' to '30'.
 - (2) Add the following text after item 1.:

Other Research, Writing, and Analysis courses may be approved by the Associate Dean for Graduate and International Programs.

Effective Fall 2021.

- Change the requirements for the Master of Jurisprudence (M.J.) degree in Legal Doctrine
 Analysis in the College of Law. The University Committee on Graduate Studies (UCGS) approved
 this request at its October 12, 2020 meeting.
 - a. Under the heading **M.J. in Legal Doctrine Analysis** make the following changes under **Academic Requirements**:
 - (1) Delete the following courses:

LAW 500Q Professional Responsibility 3 LAW 530F Contract Negotiation 1

Add the following course to the core requirement:

LAW 624 Directed Study 2

- (2) Change the credits of LAW 530K from '0 to 1' to '0'.
- (3) Add the following text after the requirements:

Other courses may be used to satisfy the 30 credit hour requirement, subject to approval by the Associate Dean for Academic Affairs.

LYMAN BRIGGS COLLEGE

- Change the requirements for the Computer Science major leading to the Bachelor of Science Degree in Lyman Briggs College.
 - a. Under the heading **Requirements for Bachelor of Science Degree in Lyman Briggs College** replace item 2. **Computer Science** with the following:

A minimum of 37 credits from the following courses: All of the following courses (28 credits): CSE 231 Introduction to Programming I 4 **CSE** 232 Introduction to Programming II 4 **CSE** 260 Discrete Structures in Computer Science 4 **CSE** 320 Computer Organization and Architecture 3 **CSE** 325 Computer System 3 **CSE** 331 Algorithms and Data Structures 3 CSE 335 Objected-oriented Software Design 4 MTH Matrix Algebra with Computational 314 **Applications** 3 (2) Computer Science Electives - Complete one of the following concentrations (9 credits): Systems - Three of the following courses: (a) CSE 410 Operating Systems 3 Introduction to Parallel Computing **CSE** 415 3 **CSE** 422 Computer Networks 3 **CSE** 450 **Translation Programming Languages** 3 CSE 480 **Database Systems** 3 Intelligent Systems - Three of the following courses: (b) 3 CSE 402 Biometrics and Pattern Recognition CSE 404 Introduction to Machine Learning 3 CSE 440 Introduction to Artificial Intelligence 3 CSE 482 Big Data Analysis 3 Media - Three of the following courses: (c) Media Processing and Multimedia CSE 471 Computing 3 CSE 472 Computer Graphics 3 CSE 476 Mobile Application Development 3 CSE Web Application Architecture and 477 Development 3 (d) Security - Three of the following courses: CSE 425 Introduction to Computer Security 3 **CSE** 410 **Operating Systems** 3 422 CSE Computer Networks 3 Ethics Requirement - One of the following courses: (3)Advances in Science and Technology - Arts 322A LB and Humanities (W) 4 LB 322B Advances in Science and Technology - Social Sciences (W) 4 The completion of LB 322A or LB 322B satisfies the ethics requirement

for the major, but cannot be counted toward the Lyman Briggs College

Effective Fall 2021.

requirement.

- 2. Change the requirements for the Lyman Briggs College 3 + 4 Option in Lyman Briggs College.
 - a. Under the heading **Lyman Briggs College 3 + 4 Option** replace the last sentence of paragraph one with the following:

Students interested in this option must be admissible to MSU and accepted into the Osteopathic Medical Scholars Program (OMSP).

Effective Fall 2021.

COLLEGE OF MUSIC

- Change the Master of Music degree in Music Theory in the College of Music. The University Committee on Graduate Studies (UCGS) approved this request at its October 12, 2020 meeting.
 - a. Under the heading **Requirements for the Master of Music Degree in Music Theory** make the following changes:
 - (1) In item 9., delete the following sentences:
 - Candidates who fail the Teaching Demonstration will be allowed to present a second one no earlier than the following semester. Candidates who fail twice will not be allowed to complete the degree.
 - (2) Under the heading *Procedures for the Capstone Requirements of the Master of Music in Music Theory Degree*, *Teaching Demonstration*, delete the following sentences:

The student who is not successful may reattempt the Teaching Demonstration no earlier than the start of the following semester. Students are urged not to wait until their last semester in residence.

Effective Fall 2021.

COLLEGE OF OSTEOPATHIC MEDICINE

- Change the requirements for the Master of Science degree in Integrative Pharmacology in the Department of Pharmacology and Toxicology. The University Committee on Graduate Studies (UCGS) approved this request at its October 12, 2020 meeting.
 - a. Under the heading **Requirements for the Master of Science Degree in Integrative Pharmacology** make the following changes:
 - (1) In item 1., change the total credits from '11' to '14' and add the following course:
 - PHM 813 Cardiovascular Pharmacology and Toxicology 3
 - (2) In item 2., change the credits of PHM 895 from '3 to 6' to '3 or 4'.
 - (3) In item 3., add the following courses:

PHM	811	Global Health: Pharmacology and Toxicology	
		Perspective	2
PHM	818	Practical Pharmacokinetics/Pharmacodynamics	
		Modeling and Simulation in Drug	
		Development	1
PHM	823	Current Topics in Pharmacology and Toxicology	1

PHM 838 Pharmacogenomics

2

(4) In item 4., change the total credits from '6 to 9' to '4 to 7'.

Effective Fall 2021.

 Change the requirements for the Master of Science degree in Pharmacology and Toxicology in the Department of Pharmacology and Toxicology. The University Committee on Graduate Studies (UCGS) approved this request at its October 12, 2020 meeting.

The concentrations in the Master of Science degree in Pharmacology and Toxicology are noted on the student's academic record when the requirements for the degree have been completed.

- a. Under the heading Requirements for the Master of Science Degree in Pharmacology and Toxicology make the following changes:
 - (1) In item 2., add the following courses:

PHM	811	Global Health: Pharmacology and Toxicology	
		Perspective	2
PHM	818	Practical Pharmacokinetics/Pharmacodynamics	
		Modeling and Simulation in Drug	
		Development	1
PHM	823	Current Topics in Pharmacology and Toxicology	1
PHM	838	Pharmacogenomics	2

Effective Fall 2021.

COLLEGE OF SOCIAL SCIENCE

- 1. Establish a **Minor** in **Digital Cultural Heritage and History** in the Department of Anthropology. The University Committee on Undergraduate Education (UCUE) recommended approval of this request on March 26, 2020.
 - a. Background Information:

Digital tool, methods, and computational approaches are having a significant impact on all areas of the domain of cultural heritage. Teaching, research, public engagement, preservation, and management - all have been untouched by advances in computation. Unfortunately, many cultural heritage scholars and professionals as well as museums, archives, cultural landscapes, heritage sites, and sites of memory and memorialization are being faced with uniquely digital questions and challenges for which they have little training or experience. As such, there is a critical need for programs and initiatives that provide students with the capacity to thoughtfully apply digital methods and computational approaches to cultural heritage collections, knowledge, data, and materials. Further, there also exists the need to develop and nurture communities in which students are connected through a shared perspective on digital methods and thoughtful application of these methods. The Digital Cultural Heritage and History minor, which would focus exclusively on the domain of cultural heritage, would complement existing programs in Digital Humanities in the College of Arts and Letters (CAL), as well as other MSU programs that are digitally inflected, such as Arts and Cultural Management and Museum Studies.

Michigan State University has a long record of accomplishment of thoughtfully applying digital methods and computational approaches to cultural heritage collections, knowledge, data, and materials. MATRIX: The Center for Digital Humanities an Social Sciences (CSS) is one of the oldest centers working in this domain. MATRIX is has a long track record of securing external funds for digital cultural heritage projects, many of which involve both graduate and undergraduate students. MSU also houses the Lab for Education and Advancement in Digital Research (History and Anthropology), the Digital Heritage Imaging and Innovation Lab (Anthropology), the Digital Scholarship Lab (Library), the Selma D. and Stanley C. Hollander MakeCentral: Makerspace

CREDITS

(Library), and the Digital Humanities and Literary Cognition Lab (English). In addition to these centers and labs, MSU offers an undergraduate minor, a graduate certificate in Digital Humanities (CAL), and a fellowship program for graduate students in Cultural Heritage Informatics (Anthropology).

The Department of Anthropology has an international reputation in digital cultural heritage and archaeology and a long history of securing external funds (collaboratively or individually) for digital cultural heritage projects. In particular, the department, in collaboration with MATRIX, hosted the National Endowment for the Humanities (NEH) funded Institute for Digital Archaeology Method and Practice in 2015 and 2016. The minor will take full advantage of the resources provided by the Lab for Education and Advancement in Digital Research (History and Anthropology) and the Digital Heritage Imaging and Innovation Lab (Anthropology) to enhance the instruction and provide support for students enrolled in the minor

b. Academic Programs Catalog Text:

The Digital Cultural Heritage and History minor will provide students with an understanding of how digital tools, methods, and computational approaches can be used to capture, analyze, preserve, provide access to, and present cultural, archaeological, and historical data, content, collections, and materials. The minor focuses on: (1) the legal, political, and ethical issues that shape and inform the practice of digital cultural heritage and history; (2) the methods and approaches used to digitize, document, and preserve endangered cultural heritage; (3) the use of digital methods and computational approaches in cultural heritage and history for public and community outreach, engagement, and collaboration; (4) how institutions such as museums, libraries, world heritage sites, and archives use digital methods and computational approaches to preserve and provide access to collections of cultural, historical, and archaeological materials: (5) the application of computational approaches and digital methods to the analysis and interpretation of cultural heritage and historical data. The minor is both applied and experiential, not only asking students to explore and understand the impact that digital methods and computational approaches have in the domains of cultural heritage and history, but providing them with critical skills and opportunities to build digital applications and experiences. The minor has a strong ethos of openness, thoughtfully arguing for the value of open access, open source, and open data within digital cultural heritage and history as well as strongly encouraging the use of open source tools, frameworks, and technologies for applied work.

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.

Students who plan to complete the requirements for the minor should consult the undergraduate advisor in the Department of Anthropology.

Requirements for the Minor in Digital Cultural Heritage and History

	OKEDITO							
Complete a minimum of 15 credits from the following:								
1.	The follo							
	HST	251	Doing Digital History	3				
2.	One of the following courses (3 to 6 credits):							
	ANP	465	Field Methods in Digital Heritage	6				
	GEO	221	Introduction to Geographic Information	3				
	HST	489	Seminar in Digital History (W)	3				
	PLS	202	Introduction to Data Analytics and					
			the Social Sciences	3				
3.	Two of the following courses (6 or 7 credits):							
	CSE	102	Algorithmic Thinking and Programming	3				
	CSE	231	Introduction to Programming I	4				
	DH	285	Introduction to Digital Humanities	3				
	GD	160	Digital Graphic Design: Tools and Methods	3				
	MI	101	Understanding Media and Information	3				
	MI	201	Introduction to Information Science	3				
	MI	220	Methods for Understanding Users	3				
	MI	250	Introduction to Applied Programming	3				

4. The following capstone course (3 credits):
ANP 412 Method and Practice in Digital Heritage

3

Effective Fall 2021.

- 2. Change the requirements for the **Master of Arts** degree in **Sociology**. The University Committee on Graduate Studies (UCGS) approved this request at its October 12, 2020 meeting.
 - Under the heading Requirements for the Master of Arts Degree in Sociology replace the entire entry with the following:

The program is available only under Plan A (with thesis). The student must meet the requirements specified below:

1. Complete 30 credits including:

a.	All of the following courses (9 credits):					
	SOC	815	Classical Sociological Theory	3		
	SOC	881	Analysis of Social Data I	3		
	SOC	885	Methods of Sociological Inquiry	3		
b.	One of the following courses (3 credits):					
	SOC	883	Multi-Equation Quantitative Models	3		
	SOC	884	Applied Longitudinal Data Analysis	3		
	SOC	985	Qualitative Field Research	3		
	SOC	986	Survey Research Principles	3		
C.	At least 12 credits in four additional courses as approved by the student's					
	guidance committee.					

- d. Complete 6 credits of SOC 899 Master's Thesis Research.
- 2. Successful completion of the departmental Graduate Teaching Assistant workshop.
- 3. Successful completion of the departmental Professional Development Workshop Series.
- 4. Successful completion of the departmental Responsible Conduct of Research Requirements.
- 5. Successful completion and presentation of a qualifying paper.
- 6. Successfully pass an oral examination in defense of the thesis.

Effective Fall 2021.

PART II - NEW COURSES

DEPARTMENT OF BIOMEDICAL ENGINEERING

BME 840 BioDesignIQ I

Fall of every year. 3(2-3) RB: Bachelor's and/or Master's degree in an engineering discipline or a biological science related to medicine. R: Open to graduate students in the College of Engineering or approval of department.

Introduction to and application of medical technology innovation and entrepreneurship using the Biodesign process to address areas of under-met clinical needs.

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 2021

DEPARTMENT OF BIOSYSTEMS AND AGRICULTURAL ENGINEERING

BE 440 Entrepreneurial Engineering for Innovation in Health and Safety

Spring of every year. 3(3-0) P: MTH 124 or MTH 132 or LB 118 or MTH 152H or approval of department RB: Completion of Integrative Studies in Biological Sciences requirement R: Open to juniors or seniors in the College of Engineering and open to juniors or seniors in the Entrepreneurship and Innovation Minor.

Entrepreneurial and innovation principles and solving methodologies for scientific and engineering problems in the context of health and safety. Technology design from concept to market based on consumer needs that resolves design contradictions and risks. Effective Spring 2021

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING

ECE 842 Performance Modeling of Communication Networks

Fall of every year. 3(3-0) RB: ECE 280 or STT 351 R: Open to students in the Department of Electrical and Computer Engineering. Not open to students with credit in ECE 442.

Fundamental theories and protocols for communication networks, with an emphasis on statistical performance modeling of Medium Access Control, Data Link Control, Routing, and Transport Layer Protocols. Simulation based and application-driven class projects. Effective Fall 2020

SCHOOL OF HOSPITALITY BUSINESS

HB 280 Introduction to Event Management

Spring of every year. 3(3-0) R: Open to students in the Hospitality Business Major.

Key elements of planning a meeting or event. Understanding the process of planning meetings and events, including key industry terminology and protocol. Identifying current

trends and developing a knowledge base of the event industry.

Effective Fall 2021

HB 291 Hospitality Current Topics and Trends

On Demand. 1 to 3 credits. A student may earn a maximum of 9 credits in all enrollments for this course.

Emerging topics or issues confronting the hospitality industry.

Effective Fall 2021

HB 346 Onsite Foodservice Management

Spring of every year. 3(3-0) P: HB 267 and HB 265 R: Open to juniors or seniors in the School of Hospitality Business.

REINSTATEMENT Onsite and noncom

Onsite and noncommercial foodservice business and management. Current issues and future trends in foodservice. Contract firms and self-operated management companies.

Contract development. Effective Fall 2021

HB 411L Hospitality Beverages Lab

Fall of every year. Spring of every year. 1(0-2) P: HB 411 or concurrently RB: Must be 21 years of age R: Open to juniors or seniors in the Hospitality Business Major. Approval of school.

Practical application of topics discussed in hospitality beverages. Evaluation and selection of hospitality beverages. Geographical origins and methods of production of beverages. Quality assessment of different varieties and types. Economic implications and financial aspects relating to hospitality operations. Discussion of health implications and pairings with food.

Effective Fall 2021

HB 425 Golf Operations and Management

Fall of every year. Spring of every year. 3(3-0) P: HB 420 R: Open to juniors or seniors or graduate students.

Golf course operations including human resource management, golf course and facility design, equipment, pro shop operations, golf cart fleet and tee sheet management. Golf tournament and outing planning and operations, common golf course legal issues, sustainable golf course maintenance and how the weather impacts the industry. Current trends and strategies in golf facility marketing and advertising. Importance of hospitality in golf operations as well as strategic food and beverage selection. Effective Fall 2021

HB 470 Hospitality Asset Management

Fall of every year. Spring of every year. 3(3-0) P: ((HB 273 or concurrently)) or (ITM 209 or concurrently)) and (HB 311 or FI 311 or FI 320) R: Open to juniors or seniors in the Hospitality Business Major or in the Hospitality Real Estate Minor.

Market forces effecting consumer and business spending applied to the management of real estate assets. Theoretical analyses, practical analyses, and hospitality industry specific cases requiring the use of spreadsheet software and technical writing skills. Application of operations expertise to capital investment and disposition decisions. Management contracts, franchise agreements, capital budgets, capital markets, capital structures, labor, market cycles, and brand decisions. Effective Fall 2021

HB 472 Hospitality Financial Modeling

Fall of every year. Spring of every year. 1(1-0) P: ((HB 273 or concurrently)) or (ITM 209 or concurrently)) and (HB 311 or FI 311 or FI 320) R: Open to juniors or seniors in the Hospitality Business Major or in the Hospitality Real Estate Minor.

Design and development of computer spreadsheet-based models to analyze real estate investment financial strategies and valuation issues.

Effective Fall 2021

HB 474 Hospitality Valuation

Fall of every year. Spring of every year. 3(3-0) P: ((HB 273 or concurrently)) or (ITM 209 or concurrently)) and (HB 311 or FI 311 or FI 320) R: Open to juniors or seniors in the Hospitality Business Major or in the Hospitality Real Estate Minor.

Financial management principles for real estate appraisal and valuation considering perspectives of brokers, consultants, developers, and investors. Theoretical and practical analyses with hospitality industry cases using spreadsheet software and technical writing. Capital markets, capital structures, discounted cash flow, internal rate of return, leverage, and net present value.

Effective Fall 2021

HB 480 Advanced Event Management

Spring of every year. 3(3-0) P: HB 380 R: Open to juniors or seniors in the Hospitality Business Major.

Execution of a live event. Event management practices necessary in carrying out the event assignment. Measure return on investment and achievement of the goal and objectives for the event. Planning, logistics, and on-site event management. Effective Fall 2021

COLLEGE OF HUMAN MEDICINE

HM 627 Interdisciplinary Exploration with Special Populations: Veterans Affairs

Fall of every year. Spring of every year. Summer of every year. 6(6-0) A student may earn a maximum of 18 credits in all enrollments for this course. P: FM 641 and MED 641 R: Open to graduate-professional students in the College of Human Medicine.

Interdisciplinary VA medical education elective in the care of a Veteran population within a Federal Veterans' Affairs system. Students may work with a variety of preceptors from various specialties.

Request the use of the Pass-No Grade (P-N) system. Request the use of ET-Extension to postpone grading.

The work for the course must be completed and the final grade reported within 2

semesters after the end of the semester of enrollment.

Effective Fall 2020

SCHOOL OF HUMAN RESOURCES AND LABOR RELATIONS

HRLR 493 Internship in Human Capital and Society

Fall of every year. Spring of every year. Summer of every year. 3 to 12 credits. RB: HRLR 201 R: Open to undergraduate students in the College of Social Science or approval of school. Not open to students with credit in SSC 493.

Faculty-guided internship in field related to human capital & society

Request the use of the Pass-No Grade (P-N) system.

Effective Summer 2021

JAMES MADISON COLLEGE

MC 338 Environmental Justice and Global Change

Spring of even years. 4(3-0) P: MC 230 or MC 231 or MC 280 or MC 281 or approval of college RB: (MC 334 or MC 337 or MC 369 or MC 382 or MC 385 or MC 386 or FW 445) or completion of Tier I writing requirement R: Open to undergraduate students in the James Madison College.

Social inequalities and unequal distribution of environmental risks, burdens, and benefits. Cultural politics and power relations informing how such inequalities and their symptoms are normalized, justified, and resisted.

Effective Spring 2021

MSU COLLEGE OF LAW

LAW 604 Bar Exam Success Fundamentals

Spring of every year. 0 to 6 credits. R: Open to Law students in the Law Major.

Development of bar examination study and test taking skills for multiple choice, essay, and multi state performance exams.

Effective Spring 2021

COLLEGE OF NURSING

NUR 353 BSNs Promoting Health Across the Care Continuum

Fall of every year. Spring of every year. 3(3-0) R: Open to undergraduate students in the College of Nursing.

Health promotion and risk reduction of individuals across the lifespan in the context of their families and environments including those from diverse and vulnerable populations. Effective Fall 2020

NUR 491H Research in Nursing

Fall of every year. Spring of every year. 1 to 3 credits. A student may earn a maximum of 3 credits in all enrollments for this course. RB: Completion of Tier I Writing Requirement R: Open to undergraduate students in the College of Nursing. Approval of college.

Integration of research practices to inform how research can support evidence-based nursing practice.

Request the use of the Pass-No Grade (P-N) system. Request the use of ET-Extension to postpone grading.

The work for the course must be completed and the final grade reported within 2

semesters after the end of the semester of enrollment.

Effective Fall 2021

DEPARTMENT OF PLANT, SOIL AND MICROBIAL SCIENCES

CSS 411 Fire and Environmental Quality

Spring of odd years. 3(3-0) Interdepartmental with Forestry. P: (CSS 210) and (CEM 141 or LB 171 or CEM 181H) RB: BS 162 or BS 172 or BS 182H or PLB 105 or LB 144

The role of fire in cultivated and natural environments. Use of fire by humans. Combustion reactions, fire effects on soil health, and air and water quality, and impacts on human communities around the world. Local field trip required. Effective Spring 2021

PLP 850 Physiological Plant Pathology

Fall of even years. 3(3-0) P: PLP 805 or concurrently RB: PLP 405 and PLB 415

Cytology of infection and mechanisms of colonization of plant by pathogens. Effects of disease on plant physiology. Plant-pathogen genetics and plant defenses.

Effective Fall 2020

PART III - COURSE CHANGES

DEPARTMENT OF AGRICULTURAL, FOOD, AND RESOURCE ECONOMICS

AFRE 900A Applied Microeconomics I

Fall of every year. Spring of every year. 3 credits. P: (AFRE 805 or EC 812A) and (AFRE 835 or EC 820A)

Empirical analysis of microeconomic problems with emphasis on applications to agriculture, natural resources, and the food sector.

SA: AEC 900A

Effective Summer 2015 Effective Fall 2020

AFRE 900B Applied Microeconomics II

<u>Fall of every year.</u> Spring of every year. 3 credits. P: (AFRE 805 or EC 812A) and (AFRE 835 or EC 820A)

Extended empirical analysis of microeconomic problems with emphasis on applications to agriculture, natural resources, and the food sector.

SA: AEC 900B

Effective Spring 2020 Effective Fall 2020

AFRE 930 Dynamic Analysis in Agriculture and Natural Resources

<u>Fall of every year.</u> Spring of every year. 3(3-0) RB: AFRE 801 and EC 812A R: Open to doctoral students in the College of Agriculture and Natural Resources or in the Eli Broad College of Business and The Eli Broad Graduate School of Management or in the College of Social Science or approval of department.

Methods of dynamic optimization and their application to agricultural and natural resources problems. Discrete time dynamic programming, calculus of variations, and discrete time maximum principle.

SA: AEC 991E, AEC 930

Effective Summer 2015 Effective Fall 2020

DEPARTMENT OF ART, ART HISTORY, AND DESIGN

STA 491E Selected Topics - Graphic Design

Spring of every year. 2 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. P: STA 360 or STA 365 P: GD 360 or GD 365 R: Approval of department.

Issues of technique, style, and content in graphic design.

Effective Fall 2015 Effective Fall 2020

STA 493 Design Internship

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. P: STA 460 or STA 462 or STA 465 or STA 465 or STA 466 or STA 467 or STA 468 P: GD 460 or GD 462 or GD 465 or GD 466 or GD 467 or GD 468 R: Approval of department.

Field experience in a working design environment under supervision of a design professional: art director, graphic designer, or photographer.

Request the use of the Pass-No Grade (P-N) system.

Effective Fall 2016 Effective Fall 2020

DEPARTMENT OF BIOMEDICAL ENGINEERING

BME 841 Translational Innovations Laboratory

BioDesignIQ II

Spring of every year. <u>3(1-4)</u> <u>3(2-3)</u> <u>P: BME 840 RB: Bachelors and/or Masters degree in an engineering discipline or a biological science related to medicine. R: Open to doctoral students in the Department of Biomedical Engineering or approval of department. R: Open to doctoral students in the College of Engineering or approval of department.</u>

Montered research conducted in multidisciplinary team. Translational research.

Development of biomedical technologies. Teamwork skills.—Continuation of BME 840.

Product innovation and design to meet healthcare needs and satisfy key stakeholders.

Prototyping to de-risk product concepts. Customer discovery. Regulatory pathways.

Intellectual property protection. Commercialization strategies.

Request the use of ET-Extension to postpone grading.

The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment.

Effective Fall 2016 Effective Fall 2021

SCHOOL OF CRIMINAL JUSTICE

CJ 220 Criminology

Fall of every year. Spring of every year. 3(3-0) Interdopartmental with Sociology R: Open to students in the Peace and Justice Studies Minor or in the Sociology Major or in the Youth and Society Minor or in the Criminal Justice Major or in the Law, Justice, and Public Policy Minor or in the Conservation and Environmental Law Enforcement Minor or approval of school.

Introduction to the socio-legal foundation of crime. Crime typology and measurement procedures. Theory and public policy. Societal responses to crime and criminals.

Effective Spring 2019 Effective Fall 2020

COLLEGE OF ENGINEERING

EGR 893 Graduate Experiential Education

Fall of every year. Spring of every year. Summer of every year. 1(1-0) <u>A student may earn a maximum of 3 credits in all enrollments for this course.</u> R: Open to graduate students in the College of Engineering. Approval of department.

Faculty-mentored graduate research or educational employment experience in industry or government.

Request the use of the Pass-No Grade (P-N) system.

Request the use of ET-Extension to postpone grading.

The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment.

Effective Summer 2020 Effective Spring 2021

EGR 993 Engineering Research Writing

Fall of every year. Spring of every year. Summer of every year. 1(1-0) <u>A student may earn a maximum of 3 credits in all enrollments for this course.</u> R: Open to graduate students in the College of Engineering. Approval of department.

Support for students engaged in substantial writing projects such as thesis or dissertation. Request the use of the Pass-No Grade (P-N) system.

Effective Summer 2020 Effective Spring 2021

DEPARTMENT OF FAMILY MEDICINE

FM 613 Clinical Research in Family Practice

Clinical Research in Family Medicine

Fall of every year. Spring of every year. Summer of every year. 6 to 12 credits. 3 to 6 credits. A student may earn a maximum of 12 credits in all enrollments for this course. A student may earn a maximum of 24 credits in all enrollments for this course. RB: FM 608 and MED 608 and PED 600 and SUR 608 and PSC 608 and OCR 608 R: Open to graduate-professional students in the College of Human Medicine.

Investigation of clinical research topics in family practice. Application of survey and opidemiologic research methods. Use of clinical data. Investigation of clinical research topics in family medicine. Application of survey and epidemiologic research methods. Use of clinical data.

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 3 semesters after the end of the semester of enrollment.

Effective Summer 2013 Effective Fall 2021

FM 616 Rural Family Practice Elective

Rural Family Medicine Elective

Fall of every year. Spring of every year. Summer of every year. 6 to 12 credits. 3 to 6 credits. A etudent may earn a maximum of 12 credits in all enrollments for this course. A student may earn a maximum of 24 credits in all enrollments for this course. RB: (FM 608) and at least 3 years of medical training in the College of Human Medicine. R: Open to graduate-professional students in the College of Human Medicine.

Clerkship in the unique issues and medical care of residents in rural communities.

Emphasis of the clerkship is on patient care management by the family physician.

Request the use of the Pass-No Grade (P-N) system.

Request the use of ET-Extension to postpone grading.

The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment.

Effective Summer 2013 Effective Fall 2021

FM 620 Family Practice Subinternship

Fall of every year. Spring of every year. Summer of every year. 6-credits. 3 to 6 credits. A student may earn a maximum of 12 credits in all enrollments for this course. P: FM 608 and PHD 600 and MED 608 and PHD 608 and PH

Care and management of patients in a family physician's office in a medically underserved community. Required project on integration of population based medicine into routine clinical care

Request the use of the Pass-No Grade (P-N) system.

Request the use of ET-Extension to postpone grading.

The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment.

Effective Summer 2013 Effective Fall 2021

DEPARTMENT OF HUMAN DEVELOPMENT AND FAMILY STUDIES

HDFS 447 Management of Human Service Programs

Fall of every year. Spring of every year. Summer of every year. 3(3-0) P: HDFS 270 or SW 200 $\underline{\mathbb{R}}$: Open to juniors or seniors.

Analysis of family and community service programs and organizations. Effective management and leadership processes. Programs and organizations from an ecological perspective.

SA: FCE 447

Effective Fall 2020 Effective Spring 2021

HDFS 481 Research and Quantitative Methods in Human Development and Family Studies

Fall of every year. Spring of every year. 3(3-0) P: (HDES 270) and ((MTH 103 or MTH 110 or MTH 116 or MTH 124 or MTH 132 or STT 200 or STT 201 or MTH 101 or MTH 102) or designated score on Mathematics Placement test) P: (HDES 270) and ((MTH 103 or MTH 116 or MTH 124 or MTH 132 or MTH 101 or MTH 102 or STT 200 or STT 201) or designated score on Mathematics Placement test.) R: Open to juniors or seniors or graduate students in the Department of Human Development and Family Studies.

Survey of qualitative and quantitative research methods. Evaluate, conceptualize and plan research. Validity and ethics explored for consumers of research in community agencies.

Effective Spring 2018 Effective Fall 2020

COLLEGE OF NURSING

NUR 323 Nursing Care of the Acute and Chronically III Patients I

Fall of every year. Spring of every year. Summer of every year. 5(2-9) P: (NUR 300 or NUR 301) and (MMG 201 and MMG 302) and (NUR 205 and PHM 350) P: (NUR 300 or NUR 301) and (NUR 205 and PHM 350)

Nursing process and clinical judgment to provide care for chronically and acutely ill adult patients at a novice level.

Effective Fall 2019 Effective Fall 2020

NUR 333 Health Promotion

Fall of every year. Spring of every year. Summer of every year. 4(3-3) P: (HNF 150 and PHM 350 and NUR 205 and NUR 301 and MMG 201 and MMG 302) and (HDFS 225 or PSY 238) P: (HNF 150 and PHM 350 and NUR 205 and NUR 301) and (HDFS 225 or PSY 238)

Principles and practices of health promotion/risk reduction through understanding and developing health capacity for populations, families, and individuals. Effective Fall 2020

SCHOOL OF PLANNING, DESIGN AND CONSTRUCTION

UP 458 Housing and Real Estate Development

Fall of every year. Spring of even years. 3(2-2)

Real estate development process from idea inception to asset management. Finance, organization, design and implementation. Housing, social impacts, and public sector involvement.

Effective Fall 2013 Effective Spring 2021

DEPARTMENT OF PLANT, SOIL AND MICROBIAL SCIENCES

PLP 405 Plant Pathology

Spring of every year. 3(2-3) 4(2-4) P: ((BS 161 and BS 162) and completion of Tier I writing requirement) or ((PLB 105 and PLB 106) and completion of Tier I writing requirement) or ((LB 144 and LB 145) and completion of Tier I writing requirement)

Plant diseases and the organisms that cause them. Principles of disease management including application of chemicals, plant breeding, biological control, and genetic engineering.

SA: BOT 405

Effective Fall 2016 Effective Fall 2021

PLP 805 Principals in Plant Pathology

Principles in Plant Pathology

Fall of every year. 2(2-0) RB: (PLP 405) or equivalent course

Biodiversity of plant pathogens, molecular plant microbe interactions, microbial ecology, epidemiology, and population genetics of plant pathogens.

Effective Fall 2019 Effective Fall 2021

PLP 881 Molecular and Biochemical Plant Pathology

Spring of even years. 3(2-2) RB; BMB 462 and ZOL 341 and PLB 415 RB; BMB 462 and IBIO 341 and PLB 415

Biochemical and molecular bases of host-pathogen interactions. Mechanisms of pathogenicity and the nature of disease resistance.

SA: BOT 881

Effective Spring 2016 Effective Spring 2020

DEPARTMENT OF POLITICAL SCIENCE

PLS 200 Introduction to Political Science

Fall of every year. Spring of every year. Summer of every year. 4(4-0)

The science of politics. Theory construction, model building, empirical testing, and inductive inference. Examples from American, international and comparative politics.

Effective Fall 2014 Effective Spring 2021

PLS 322 Comparative Legal Systems

Fall of every year. Spring of every year. Summer of every year. 3(3-0)

Cross-national study of common law and civil law systems. Judicial review and selection of judges. Models of judicial decision-making. High court-low court relations. Role of courts in society.

Effective Fall 2014 Effective Fall 2020

PLS 351 African Politics

Fall of every year. Spring of every year. 3(3-0)

Political institutions and governmental processes in Sub-Saharan Africa.

Effective Fall 2014 Effective Fall 2020

PROGRAM IN WOMEN, GENDER AND SOCIAL JUSTICE

SOC 351

WS 351 Gendered Violence and Intersections of Power

> Summer of every year. 3(3-0) Interdepartmental with Women's Studies. Interdepartmental with Sociology

Gendered violence from an intersectional perspective. Ways intersecting social statuses such as race, class, and sexuality shape gendered experiences.

Effective Summer 2019 Effective Summer 2021