



# **GRADUATE DEGREE PROGRAMS**

## **DEPARTMENT OF SOCIAL SCIENCES**

**MICHIGAN TECHNOLOGICAL UNIVERSITY**

**HOUGHTON, MI**

*MS & PHD IN ENVIRONMENTAL AND ENERGY POLICY*

*MS & PHD IN INDUSTRIAL HERITAGE AND ARCHAEOLOGY*

*OSM/VISTA MASTER'S PROGRAM*

**Information for 2018-2019 Academic Year**

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## **INTRODUCTION**

The following information has been compiled to assist graduate students with their adjustment to Graduate School and to outline the requirements and procedures for obtaining an advanced degree in the Department of Social Sciences. The information supplied herein is more specific than that in the Graduate School Catalog as it applies to our programs: M.S. in Environmental and Energy Policy and Industrial Archaeology, and Ph.D. in Environmental and Energy Policy and Industrial Heritage and Archaeology. Students should familiarize themselves with this handbook and the general regulations of the Graduate School as found in the Graduate School's Academics web pages, <http://www.mtu.edu/gradschool/administration/academics/>, which covers policies and procedures, degree requirements, necessary forms, and more. The Graduate School website <http://www.mtu.edu/gradschool/resources-for/students/index.html> also contains a wealth of information for current students. Convenient links to many of these resources are also available on the social sciences department website <https://www.mtu.edu/social-sciences/graduate/programs/>.

## **I. FACILITIES AND GENERAL INFORMATION**

### **A. Department Structure**

The Social Sciences department is a community of scholars and professional staff working together to further the mission of the department and the University. Major academic responsibilities in the department are handled by the department chair and several important faculty committees.

Department Chair: Hugh Gorman

Graduate Director: Chelsea Schelly

Social Sciences Graduate Studies Committee: Melissa Baird, Kathleen Halvorsen, Don Lafreniere, Roman Sidortsov and LouAnn Wurst

Industrial Archaeology Lab Director: LouAnn Wurst

Department Staff: Amy Spahn (Research and Program Administrator), Gina Stevens (Department Coordinator) and Christine Pfau (Office Assistant)

Graduate Student Government Representative: Bethel Tarekegne (EEP PhD student)

### **B. Keys, Desk, Computers, and Research Space Assignments**

Each graduate student with funding and in residence is provided a desk for personal use in an office and after hours access to that office. A student's Tech Express identification card and assigned M-number grant after-hours admission to the Academic Office Building (AOB) via the west entrance beside faculty parking and the Annex. Students will be assigned offices in either the Annex or AOB second floor. Office keys are ordered by the department coordinator. Students working on research projects may be issued keys to Annex facilities upon approval of the faculty member responsible for that work area. Requests for new keys, replacements for lost keys, or swipe-card access to restricted areas should be made to the department coordinator. Keys must not be passed on to anyone else, or duplicated, under ANY

circumstances. Lost keys need to be reported to supervisors as soon as they are noticed to be missing. A \$100 fee is assessed for any key lost/replaced or not returned to public safety when no longer needed.

All graduate students are provided computer access through the computer lab in the Annex and in graduate student offices. Questions and problems with computers should be directed to the Information Technology (IT) Help Desk, found on the first floor in the library or via email at [it-help@mtu.edu](mailto:it-help@mtu.edu). The IT staff will supply you with your username and password; change your password the first time you log into your account. Please read the policies for using social sciences computers as well as using any Michigan Tech computer facilities as soon as you begin using the computers. Computer use policies are available on our website at <http://www.mtu.edu/policy/policies/general/1-06/> and <http://www.mtu.edu/policy/policies/general/1-09/index.html>.

Students should pay particular attention to Michigan Tech computer use policies regarding copyrights, privacy, passwords, and hacking. These can be found through the link at the above web site, or directly at <https://www.mtu.edu/it/security/policies-procedures-guidelines/standards-acceptable-use.pdf>.

### ***C. E-Mail, Mail Service, Photocopier, Supplies, and Printers***

E-mail is the department's primary communication tool with graduate students regarding issues such as financial support, graduate program obligations and responsibilities, and semester timelines and deadlines, to name a few. You are expected to be responsive to departmental e-mails at all times. Mail is delivered daily to social sciences around 1:30 p.m. Student mailboxes are located in the main office, Academic Office Building 209. It is advisable to check your mailbox daily for mail and messages.

Photocopiers, laser printers, and office supplies are available for social sciences graduate students to use for research and teaching purposes only. Departmental resources are limited, so efficiencies such as double-sided printing and copying are appreciated. Please see one of the office assistants for office supplies & your photocopier access code. Also note that there are important national laws regarding photocopying copyrighted materials. If you have a question about copyright law please inquire in the library or see <http://www.admin.mtu.edu/admin/procman/ch13/ch13p10.htm>.

### ***D. Work Obligation of Teaching and Research Assistants***

Students who are supported in the Department (i.e. TA/RA) are contractually obligated to work 20 hours a week. Students are also expected to communicate with their supervisor and complete all required tasks. The student's performance will be assessed each semester via written faculty feedback, provided to the Graduate Director and the student's advisor. If the student's performance is deemed unacceptable, the Graduate Director and student advisor will communicate with the TA/RA supervisor, either in writing or via an in person meeting, about the specific conditions warranting concern. The Graduate Director and the student advisor will then meet with the student to discuss the deficiencies and the plan for improvement.

In the event that a student receives a second report of unsatisfactory performance as a TA/RA, the Graduate Director, student advisor, and Department Chair will expect communication from the TA/RA supervisor, either in writing or via an in person meeting, about the specific conditions warranting concern. The Graduate Director, student advisor, and Department Chair will then meet with the student to discuss the deficiencies and the plan for improvement. Given the sustained evidence of unsatisfactory performance, the students funding will be revoked.

### ***E. Safety***

There are a number of safety policies and procedures in effect at Michigan Tech that particularly apply to graduate students, such as those concerning hazardous waste, housekeeping, and safety orientation. Copies of these policies are supplied separately; please read them carefully. Questions can also be directed to safety coordinator or department chair. For safety purposes, visitors are not permitted in research and instructional labs unless written permission has been granted by the department chair; this includes spouses and children. There have been incidents in other departments where unauthorized visitors, including children, have had accidents causing themselves harm. This rule is designed to prevent this type of tragedy. For your reference, the Michigan Tech safety manual is available on line at <http://www.mtu.edu/ehs/documents/safety-manual/safetymanual.html>.

### ***F. Absence Policy***

Students receiving financial aid through the University (teaching assistantship, research assistantship, fellowship) are entitled to staff holidays. Please note that the breaks between academic terms and the break at Christmas are not automatically considered as holidays or time off. In the case of GRAs, excused absences must be arranged with the faculty advisor, and approved by the department coordinator. GTAs follow a similar policy, but require the approval of their advisor and GTA supervisor before a planned absence or travel. GTAs are expected to remain on campus through finals week until grading is completed. All GRAs and GTAs must have the approval of supervisors for a planned absence from duties.

In addition to being granted approval for excused absence, written approval is required for international travel: <http://www.mtu.edu/fso/forms/travel/>.

### ***G. Academic Integrity***

The University and the social sciences department expect all students to maintain the highest level of academic and scientific integrity in all aspects of their studies, from class work to exams to research. If you are unsure of or have specific questions about assignments, projects, examinations, etc., please ASK your instructor. A detailed booklet describing Michigan Tech's academic integrity policy and procedures, including definitions of plagiarism, cheating, fabrication, and facilitating academic dishonesty, is available from the Dean of Students office, or on the web at: <http://www.admin.mtu.edu/usenate/policies/p109-1.htm>.

All graduate students should carefully read this policy. Students must also view the orientation module on academic integrity at: <http://www.mtu.edu/gradschool/admissions/admitted/online-orientation/>.

Further information on Scientific Misconduct Procedures may be found at: <https://www.mtu.edu/research/administration/integrity-compliance/misconduct/>.

### ***H. International Students***

Upon arrival on campus all international students must register with the Office of International Programs and Services located in room 200 of the Administration Building. All matters concerning employment practice, visa renewals, and related matters are handled through this office. Changes in I-20 forms are handled in the Graduate School. All international students whose native language is not



English must take an English Language Assessment. The assessment takes place in the Michigan Tech Testing Center, Center for Teaching and Learning, Van Pelt and Opie Library 226. Visit the Testing Center to schedule a time to take the assessment or contact them at 906-487-1001, [techtesting-l@mtu.edu](mailto:techtesting-l@mtu.edu). More detail can be found at: <http://www.mtu.edu/ctl/for-graduate-teaching-assistants/language-assessment/>.

Additionally, all first-time international students must visit the International Graduate Student Communication and Cultural Center (IGSC3). Students' language skills and their cultural competency will be assessed, and students will be provided with services on an as-needed basis so they can provide better service to our undergraduates and faculty while serving as graduate teaching assistants. Additional information is found here: <https://www.mtu.edu/ctl/for-graduate-teaching-assistants/igsc3/>.

In order to be visa compliant, international students must register as full time students. Questions regarding I-20 forms, visa status, and full-time student status may be directed to the Graduate School.

### ***I. Stipend, Tuition, and Health Care***

Graduate teaching assistants and graduate research assistants are paid a stipend set by the Graduate School and, in some cases, their research advisor. Stipend levels generally increase as you progress toward your degree (i.e. complete program milestones such as those required to become ABD) and submit the required M- and D- forms (see the Graduate School website for details). Stipend payments are issued bi-weekly. Supported graduate students must be enrolled for nine credits each semester during the academic year and one credit in the summer, with tuition paid directly by the department or research grant. Tuition charges in excess of these values will be your responsibility, along with student voted fees and late registration fees. Limited summer teaching appointments are available to graduate students making satisfactory progress toward their degree, but are dependent upon availability of funds. Graduate students are required to enroll in the Michigan Tech graduate student health insurance program or provide proof of comparable insurance coverage. Financially supported students (GRA, GTA) receive partial support toward their health insurance cost. More information about health insurance and health care can be found at: <https://www.mtu.edu/hr/students/insurance/>. Questions regarding health insurance coverage can be addressed to the social sciences department representative to the Graduate Student Government (listed on page 1).

### ***J. Grievance Policy***

The Graduate School at Michigan Tech has established formal procedures for students to file grievances <http://www.mtu.edu/gradschool/policies-procedures/academic/grievance/>. The Department of Social Sciences strives to ensure that all students are treated equitably and in accordance with university policies. Should an instance arise in which a student has a concern or grievance, the student should first seek to resolve the issue informally with their academic advisor and/or communicate their concerns with the Director of Graduate Studies. Any and all communications with the Director of Graduate Studies are confidential. No adverse action will be taken against a student initiating a complaint. If these informal procedures prove unsatisfactory, the student may file a formal grievance with the Graduate School to seek resolution. This policy applies to academic issues that arise for graduate students.

## **II. ADVISING**

Advisors help students structure a program of study that addresses their needs and satisfies degree requirements. New MS students are initially assigned a temporary advisor. They must have a permanent advisor before the end of their second semester. PhD students are accepted into the program on the condition that a faculty member agrees to be their advisor. Once a research advisor is selected, an Advisory Committee is formed for each student. The Advisory Committee prepares a program of course study and research work that will lead to the desired graduate degree. It is up to the student and their advisor to fill out, get signed, and submit the appropriate forms to the Graduate School (M for M.S. degree; D for Ph.D. degree) at the appropriate times (see this link for current forms and instructions): <http://www.mtu.edu/gradschool/policies-procedures/forms-deadlines/>.

### **A. Course-Work Advising**

A first year student with a graduate teaching assistantship typically takes three courses each semester. Course loads are substantially reduced in subsequent years when the bulk of the student's effort is devoted to research. The University requires that full time graduate students receiving stipends register for nine credit hours per semester. To be considered full time during the summer semester, students must register for a minimum of one credit or one course. Please consult with your advisor and with the Graduate Committee chair for updates regarding rules for support and full-time status, especially during the summer and in the semesters approaching graduation. Once students finish required courses and examinations, they may submit the petition the Graduate School to enter research mode: <http://www.mtu.edu/gradschool/documents/policies-procedures/forms/research-only-mode.pdf>.

Students must still maintain full-time status but are eligible for a lower full-time research tuition rate. Students should check with the Graduate School in advance for the most up-to-date requirements.

Typically, such approval requires that students have taken or are taking required social sciences courses being offered during the same semester. In general, approval will be granted for taking only one course per semester outside of social sciences. Graduate research assistants are expected to work full time on their research and studies. Graduate students supported financially by the social sciences department may not be on the payroll of other departments.

### **B. Graduate Advisors - The Selection Process**

The process described below is intended to assist all first-year students in becoming familiar with research interests of the faculty prior to selecting a research advisor. Ambitious students may select a research advisor outside of this process if desired. While it is hoped that the student/advisor relationship will prove satisfactory for all concerned, in those instances where expectations are not met, it is possible for a student to change advisors in consultation with the Graduate Director. After a student selects a research advisor the Advisor and Committee Recommendation Form should be completed (online), printed, and filed with the department and Graduate School. Please view here at: <http://www.mtu.edu/gradschool/documents/policies-procedures/forms/advisor-committee.pdf>.

For most students, the process of selecting a permanent faculty research advisor should begin during the fall semester of the first year of residence. First-year students unable to find a research advisor must notify the Graduate Director so that the process can be facilitated.

### **C. Advisory Committee**

Each student accepted into the graduate program in the Department of Social Sciences should work with their advisor to select an advisory committee by the end of their second semester in residence, and no later than the beginning of their third semester. For MS students, three members are required. There is no stipulation that the third member must be outside the department. In order to graduate at the end of the second year, it is advisable for MS students to have their committee in place and have met with the student by the end of the second semester.

For PhD students, the Advisory Committee in place by the end of their third semester in residence. The comprehensive exam committee must be comprised of three members; a fourth external member (see below) may but is not required to serve on the committee for the purposes of the comprehensive exam. The same Advisory Committee may continue to operate as the Advisory Committee for the dissertation. For this committee to satisfy the requirements of a dissertation committee, there must be one member from outside the department; this member may be external to the department or external to the University. All students must file a form for their advisory committee by the end of their third term in residence. If a student changes the composition of the advisory committee, a new form must be filed with the Graduated School: <http://www.mtu.edu/gradschool/documents/policies-procedures/forms/advisor-committee.pdf>.

The primary purpose of the Advisory Committee is to guide and monitor the research work of the student. A graduate faculty member external to the Department of Social sciences is required for the final dissertation defense, but may be invited to participate on the Advisory Committee sooner.

### **III. GRADUATE DEGREE REQUIREMENTS**

Current (2018-2019) graduate students are utilizing the new 2018-2019 Curriculum in all MS and PhD programs. MS students who started in Fall 2017 may opt to graduate under the new 2018-2019 curriculum, or they may decide to remain in the older 2017-2018 curriculum. PhD students who began in Fall 2016 and Fall 2017 may choose to graduate under the older or the newer curriculum for their program. Consult with the Graduate Director for details and to confirm your choice.

#### **1. Graduate Degree requirements**

**2017-18**

##### **A. Master of Science in Environmental and Energy Policy - EEP**

**2017-18**

##### **i. Plan A - Thesis Option**

30 Minimum total credits (30)

24 Minimum coursework (20)

6-9 Research range (6-10)

Required credits:

15 Department Required

11 – 14 Electives Required

##### **ii. Plan B – Report Option**

30 Minimum total credits (30)

27 Minimum coursework (20)

3-6 Research range (6-10)

Required credits:

15 Department Required

\* Electives Required

3-5 Research

***B. Doctorate of Philosophy in Environmental and Energy Policy - EEP***

**2017 - 18**

30 Total Credits required with a master's (30)

60 Total Credits required without a master's (60)

Required credits:

15 Department Required

3 Required electives

6-18 Electives possible

0-6 Required research credits

***C. Master of Science in Industrial Archaeology - IA***

**2017-18**

***i. Plan A - Thesis option***

34 Minimum total credits (30)

26 Minimum Coursework (20)

8 Research range (6-10)

Required credits:

31 Department Required

>3 Electives required

>8 Research

***ii. Plan B - Report option***

34 Minimum total credits (30)

26 Minimum Coursework (24)

5 Research range (2-6)

Required credits:

28	Department Required
6	Electives required
5	Minimum research credits

**D. Doctorate of Philosophy in Industrial Heritage and Archaeology - IHA** **2017-18**

45	Total Credits required with a master's (30)
	Total Credits required without a master's (60)

Required credits:

6	Department Required
9	Required electives
15	Electives possible
15	Required research credits

**2. Graduate Degree Requirements** **2018-2019**

**A. Master of Science in Environmental and Energy Policy - EEP** **2018-19**

**i. Plan A - Thesis Option**

30	Minimum total credits (30)
24	Minimum coursework (20)
6-9	Research range (6-10)

Required credits:

9	Department Required
12	Electives Required
6	Research Required

**ii. Plan B – Report Option**

30	Minimum total credits (30)
27	Minimum coursework (20)
3-6	Research range (6-10)

Required credits:

9	Department Required
15	Electives Required

3 Research Required

**B. Doctorate of Philosophy in Environmental and Energy Policy - EEP**

**2018-19**

30 Total Credits required with a master's (30)

60 Total Credits required without a master's (60)

Required credits:

15 Department Required

15 Required electives

6-18 Electives possible

0-6 Required research credits

**C. Master of Science in Industrial Heritage and Archaeology - IHA**

**2018-19**

***i. Plan A - Thesis option***

34 Minimum total credits (30)

26 Minimum Coursework (20)

8 Research range (6-10)

Required credits:

12 Department Required

12 Electives required

6 Research

***ii. Plan B - Report option***

34 Minimum total credits (30)

26 Minimum Coursework (24)

5 Research range (2-6)

Required credits:

12 Department Required

15 Electives required

3 Minimum research credits

**D. Doctorate of Philosophy in Industrial Heritage and Archaeology - IHA**

**2018-19**

30	Total Credits required with a master's (30)
65	Total Credits required without a master's (60)
Required credits:	
15	Department Required
15	Required electives
15	Electives possible
15	Required research credits

**IV. SATISFACTORY PROGRESS IN GRADUATE SCHOOL**

Satisfactory progress toward degree completion. The Graduate School limits the amount of time any student can take for each step along the road to degree completion (Master's degree must be completed within five (5) calendar years, PhD must be completed within eight (8) calendar years; PhD students must complete their qualifying exam no later than the end of the 5th year and their research proposal exam no later than the end of the 6th year). Students who are within one academic year of these deadlines must keep the Graduate Director informed of their plans for completion.

**A. Milestones for M.S.**

Masters Form Submission Schedule

<http://www.mtu.edu/gradschool/policies-procedures/timelines/thesis/>

Form:	Term Due:
Advisor and Committee Recommendation Form	SECOND
M4 <sub>1</sub> Degree Schedule	TERM PRIOR TO DEFENSE TERM
Pre-Defense Form	TWO WEEKS PRIOR TO EVENT
Verification of Final Degree Requirements	TWO WEEKS after oral exam or at end of final exam week of final semester
Report on Final Oral Examination	Required for all students. Submit AFTER ORAL EXAM is complete and BEFORE SUBMITTING FINAL DRAFT of dissertation, thesis, or report.
Degree Completion Form	See deadlines on Graduate School website

MS: Program Objectives	Year One				Year Two			
Orientation	X							
Diagnostic Meetings		X			X			
Courses	X	X	X	X	X	X		
Field School (if applicable)				X				
Proposal					X	X		
Thesis Research / Writing					X	X	X	X
Department Presentation			X	X			X	X
Conference Presentation			X	X	X	X	X	X
Thesis Submission								X
Defense								X

Current versions of all tracking forms are available online at: <http://www.mtu.edu/gradschool/policies-procedures/timelines/thesis/>  
**Note for International Students:** Visa requirements for international students often change. International students should stay well informed of current visa requirements through the offices of International Programs or Graduate School related to timelines and possible changes of status after graduation.

**B. Milestones for Ph.D.**

Ph.D. Form Submission Schedule

<http://www.mtu.edu/gradschool/policies-procedures/timelines/dissertation/>

Form:	Term Due:
Advisor and Committee Recommendation Form	SECOND
D5 <sub>1</sub> Degree Schedule – PhD	SEMESTER PRIOR TO ORAL DEFENSE SEMESTER PRIOR TO MOVING TO RESEARCH ONLY MODE
Petition to Enter Research Mode	ONE WEEK PRIOR to target semester chosen for Research Mode. At least 30 credits need to be completed and all required courses must be completed
Pre-Defense Form	TWO WEEKS PRIOR TO DEFENSE
Report on final oral examination form	DAY OF ORAL DEFENSE
Verification of Final Degree Requirements	TWO WEEKS after oral exam or at end of final exam week of final semester
Approval of a Dissertation, Thesis, or Report	EXPECT to submit dissertation or thesis WITHIN ONE WEEK after submitting the form.
Degree Completion Form	See deadlines on Graduate School web site Current versions of all tracking forms are available online at:



PhD: Program Objectives	Year One				Year Two				Year Three				Year Four			
Orientation	X															
Diagnostic Meetings			X		X				X				X			
Courses	X	X	X	X	X	X	X									
Field School				X												
Comprehensive Exams				X	X	X	X	X	X							
Proposal						X	X	X	X	X						
Dissertation Research / Writing						X	X	X	X	X	X	X	X	X	X	
Department Presentation						X	X	X	X	X	X	X	X	X	X	
Conference Presentation						X	X	X	X	X	X	X	X	X	X	
Dissertation Submission														X	X	
Defense														X	X	

*Note for International Students: Visa requirements for international students often change. International students should stay well informed of current visa requirements through the offices of International Programs or Graduate School related to timelines and possible changes of status after graduation.*

**C. Grades and Maintaining a Status of Good Standing**

The MTU Graduate School provides a formal policy detailing 'good standing,' including an overview of the processes of probation, suspension, and dismissal that would occur if the student does not make satisfactory progress in their degree program: <https://www.mtu.edu/gradschool/policies-procedures/academic/good-standing/>.

The Department of Social Sciences also has expectations related to satisfactory progress that include three areas: grades, teaching, and timeliness toward degree.

i. Students are permitted to include up to 6 credits of BC/C grades in their graduate degree schedule toward degree completion. However, if a student is earning these grades, the department views these as a serious indication of deficiency in the student’s progress in the graduate program. Thus, in the event of receiving a grade of BC/C, the following actions may be followed.

ii. In the event that a student earns below a B in a course, the Graduate Director and student's advisor will communicate with the faculty member teaching the course, either in writing or via an in person meeting, about the specific conditions warranting the students earned grade. The Graduate Director and the student's advisor will meet with the student to discuss the deficiencies and will provide a plan for improvement (e.g., time management, professional development, etc.).

iii. In the event that a student earns below a B in another course in a subsequent semester, the Graduate Director, student's advisor, and Department Chair will communicate with the faculty member teaching the course, either in writing or via an in person meeting, about the specific conditions warranting the students earned grade. The Graduate Director, student advisor, and Department Chair will then meet with the student to discuss the deficiencies and the plan for improvement. The student's funding may be revoked for one semester so that the student can focus on improving coursework and performance. If the poor performance in coursework results in academic probation via the Graduate School (which is based on GPA), student support via TA/RA and access to Department funding for travel and research funds will be revoked so that students can focus solely on improvement in coursework performance.

## ***V. GRADUATE COURSE POLICY, WAIVERS, CURRICULUM, AND EXPECTATIONS***

The department offers a variety of courses designed to fill requirements for each degree. Students must be aware that there are certain courses that are required as core courses and considered foundational for all students seeking either a M.S. or Ph.D. degree in either Environmental Energy and Policy or Industrial Heritage and Archaeology, irrespective of intended research specialty. Course work is not limited to preparation for specific research work, but has been selected to provide a foundation for future study and a career. Each student should have the approval of their Advisor and, be in consultation with their Advisory Committee members on choice of non-core courses.

Students may request a waiver from the Graduate Director of a required course ONLY if they have taken a graduate course similar to a required course in the curriculum. The waiver requires a syllabus from the previous course and the approval of the request by the Advisor before consideration of the Graduate Director.

Responsible Conduct of Research (RCR) Training is an important aspect of being an effective scholar and is mandatory for both Masters and Doctoral degree candidates. Basic training must be completed within the first two semesters at MTU or a registration hold will be placed on the student's account. Advanced training must be completed by the end of the third semester. Students may not graduate or enter research only mode if RCR training is not complete:

<http://www.mtu.edu/gradschool/administration/academics/resources/rcr/>.

### ***A. Graduate Curriculum***

The Graduate Degree Requirements (outlined in Section III) are translated into Curriculum Planning forms that enable the student and Advisor to plan ahead so that all required courses are completed within the first two years. These forms are available in the Appendix. The Graduate Director will make available each Fall semester a list of the Graduate Courses offered for the subsequent two years (by course number and year/semester offered) so that students will be able to plan and complete their requirements on time. The Appendix also contains the list of specific courses required for each degree.

### ***B. Curriculum and Coursework***

A minimum of 30 course and/or research credit hours beyond the MS degree, or a minimum of 60 course and/or research credit hours beyond the Bachelor's degree are required for the Ph.D. degree. The core course and disciplinary elective requirements are detailed above under Graduate Degree Requirements. Additional coursework is determined by the student's Advisory Committee and early discussions with the committee in this regard are recommended. Once students have an advisor they may enroll in Readings and in Research courses. After all required courses are completed, and no later than the semester prior to the final oral examination, the M5 (MS students) or the D5 (PhD students) form should be completed, reviewed by the Graduate Director, and filed with the Graduate School. A copy must be provided to the Graduate Assistant for Department files.

### ***C. Research Proposal for MS Thesis or Report***

The Social Sciences department requires students in the MS programs to submit a research or report proposal to their committee prior to completing their thesis or report. The purpose of the research proposal is for students to demonstrate that they have envisioned and planned a feasible project and are prepared to conduct the project. The proposal allows the student's committee to provide detailed feedback and suggestions.

There are two related components of thesis or report completion: (1) the final oral examination and (2) the written thesis or report. They are outlined in the next section. Guidance for how each function in the Social Sciences Department are covered here. Please also see the MTU Graduate School webpage for specific details on additional degree completion forms that are required.

The proposal describes the central elements of the proposed thesis or report. The thesis proposal will vary in length. Students should consult with their advisor for style guidelines, which vary by discipline and approach. Examples of past proposals and faculty templates are available- check with the Graduate Program Director for access. Students may draft the proposal in the Research Design course, but this is not required.

#### **The proposal should:**

- a) Identify a research problem and state the research or practical significance
- b) Place the research problem within the literature or case context
- c) Describe methods to be used in data collection and analysis
- d) Provide a list of references
- e) Specify a timeline
- f) Summarize the structure and purpose- report or thesis

For students in the EEP program, the proposed project should involve an analysis of an environmental/energy policy problem or issue.

***i. The Approval Process:*** The committee reviews the proposal and makes a determination. If the proposal is approved, the student may proceed with the thesis work. If the proposal is not accepted, the student will revise based on the committee's comments; then the student will re-submit the proposal for another review. Upon acceptance of the proposal, the student may proceed with conducting research. If the proposed research involves human subjects, before students may begin collecting data

for their research project, the student and her/his advisor must receive formal approval from the Michigan Tech Institutional Review Board (IRB) for the Protection of Human Subjects. The plan for and status of the IRB approval process should be clearly stated in the proposal.

**ii. Timeline:** Students will generally submit their thesis proposal early in their 3rd semester.

**iii. Oral Presentation:** In their second year, all MS students are expected to share their research plans/progress in a short (5-10 minutes) public presentation in the MS Research Colloquium that is held annually in the fall semester as part of the SS Department Brownbag series. The Graduate Program Director organizes this colloquium and works together with the Brown Bag series coordinator to schedule the event. The presentation is not a formal defense, but rather a chance to share ideas, receive feedback, and learn from others.

#### **D. MS Thesis / Report and Defense**

Once the proposal is approved by the Advisory Committee, the MS student prepares a written thesis or report that will be publicly defended.

##### **i. Written Thesis or Report**

Students present the research they undertake as culmination of the Master's degree program in the form of either a monograph, report, or academic article. Students work with the advisor and committee to determine which style is most appropriate. Regardless of style, the written document must be prepared adhering to the Graduate School guidelines (the *The Guide* published by the MTU Graduate School), and the final document must be submitted to the Graduate School, along with forms required by the Graduate School. The final version will become a permanent acquisition of the MTU library and publicly available via Digital Commons.

Students will work with the advisor to determine the length and other expectations. Typically, the monograph is structured with an introduction, comprehensive review of relevant literature, research methods, final conclusion and summary, and bibliography. The candidate is sole author.

For students writing a report, the product will typically have an applied purpose. The format of the product may vary depending on the audience and purpose and may include, for example, a policy brief/agency report, a professional white paper, original database with documentation, film, National Register nomination, and so on. The student should work with her/his committee to evaluate acceptable products and formats. The Graduate School requires that students submitting reports also submit an overview text document describing the work.

For students writing an academic article, they should follow manuscript guidelines as published by a peer-reviewed journal where they plan to submit the work. When submitting to the Graduate School, students must follow their guidelines for submitting a thesis. For co-authored papers, the student should be lead author and undertake the majority of the work. In these cases, students should include an introductory section that describes their role in the research and writing in comparison to co-authors.

For students in the EEP program, their proposed project should involve an analysis of an environmental/energy policy problem or issue.

## ***ii. Scheduling the Public Defense***

Students are expected to work with the advisor and committee prior to the thesis or report defense to seek feedback on drafts to ensure a defensible project that is well-written and in a professional writing style.

Students must let their advisor know they plan to graduate by the start of the semester of planned graduation. By the first week of the semester, the student should work with their advisor and committee to develop a completion plan. This planning process includes sharing drafts and setting deadlines for completion. The committee will provide feedback and direction for revisions. Based on these, the advisor and student will determine if the thesis is defensible. Four weeks prior to the defense, the student must schedule the defense with the advisor and committee.

Students work with the Administrative Assistant to schedule a room, reserve any necessary technology, and to announce the defense to the department and MTU community.

At least two weeks prior to the scheduled defense, students must (1) distribute the completed final draft of the thesis or report to the advisor and committee; (2) submit the pre-defense form with the graduate school, found here: <https://www.mtu.edu/gradschool/documents/policies-procedures/forms/pre-defense.pdf>; and (3) submit the complete defense draft of the thesis/report to the Graduate School (via Canvas) for formatting review (it should already be formatted to graduate school specifications).

## ***iii. Oral Examination***

Students present their thesis research in a public oral examination at the defense. They should prepare a formal public presentation lasting 25-35 minutes explaining the project. Following the presentation, students should be prepared to take questions from the audience.

At the conclusion of the public defense, the student meets with the examining committee. The student is expected to defend and support the entirety of the research included in the written thesis/report. This discussion is an examination to determine whether the student has a good command of the topic under investigation, the related broader literature, and the methods employed. The student may also be asked to respond to broader questions to demonstrate expertise in field of degree. This meeting might also include a discussion of suggested revisions that committee members would like to see made to the written document. Students need to bring a copy of the Report on Final Oral Examination (see Graduate School) to the defense.

At the conclusion of the examination, the student will be asked to leave the room to allow the committee to confer. The committee will decide: (1) whether the student has passed the Final Oral Examination, and (2) if and what revisions to the written document are required before graduation. The student's oral examination results (pass or fail) must be reported to the Graduate School on the [Report on Final Oral Examination Form: https://www.mtu.edu/gradschool/documents/policies-procedures/forms/report-final-oral-exam.pdf](https://www.mtu.edu/gradschool/documents/policies-procedures/forms/report-final-oral-exam.pdf). This form is meant to capture the results of the oral exam and should be submitted to the graduate school following the oral defense and before submitting the final thesis or report. A student may pass the oral examination but still have extensive revisions to the written document required.

If revisions are required, the student's advisor should work with the full committee to document what specific revisions are required before final submission to the Graduate School and granting the degree.

The advisor and committee should complete this document as soon as is reasonable so that the student has an opportunity to make revisions before the final degree deadlines at the end of the semester.

If the student fails to pass the oral examination, they may be dismissed from the program. Alternatively, the student and their advisor can make the case that a second attempt should be allowed. To request a second attempt, the student should submit to their advisor a one-page document justifying why she/he believes a second chance is warranted. The advisor will comment, sign, and share the document with the committee and the Graduate Program Director. If the committee and the Graduate Program Director agree to a second attempt, it will be granted. The second attempt may not be scheduled in the same semester as the original. Failure to pass a second attempt will result in dismissal from the program.

### ***E. Post-defense***

Following the successful oral defense, the student makes all required revisions (as directed by the committee) and all formatting revisions (as required by the Graduate School). When the final document has been approved by the advisor and committee, the student must file the Approval of a Dissertation, Thesis, or Report Form to the Graduate School along with a copy of the final thesis/report by the deadline for the semester she/he wishes to complete the degree (the Monday of Week 13). Please note: Students who do not meet the Graduate School deadline will not graduate and will be required to maintain continuous enrollment (1 credit) until they complete their degree.

The Graduate School conducts a final formatting review (TDR review), which may take up to two weeks. The Graduate School will notify the student if there are formatting corrections that need to be made. If so, the student must complete these by the Friday of Finals Week to avoid additional fees.

Students should also check with the Graduate School and file any other additional completion of degree forms or exit surveys.

### ***F. Timeline***

This table summarizes steps and timelines. The first section lays out a general timeline for meeting key MS milestones. The second section on semester of defense includes deadlines that must be met to graduate on time. These deadlines are absolute. Students should be aware that if they are waiting until these deadlines, it is unlikely that everything will go perfectly and that they will graduate in that semester. Students defending near the last possible date, rarely have sufficient time to complete revisions in time to graduate that semester.

Students are advised to anticipate the deadlines in the semester prior to planned graduation and to have a near complete draft of the thesis/report in the first two weeks of the semester of planned graduation. Students should consider scheduling their defense earlier in the semester.

<b>General Timeline for Meeting Key MS Milestones</b>	
Semester 1	Coursework. Meet with potential advisors.
Semester 2	Coursework. Select Advisor. Identify research topic. Draft proposal (in Research Design class).
Semester 3	Write proposal. Define Committee. Proposal Defense. Conduct research.
Semester 4-5	Defense/Complete Degree
<b>Semester of Defense/Completion</b> (dates listed the last possible - plan to do sooner)	
Week 1	Develop a plan for completion with advisor and committee
Between Week 2 and Week 7	Schedule the defense & reserve room
Two weeks prior to defense date (Tuesday of Week 10 is last possible if you are defending on last possible day)	Submit final draft to committee and grad school. File pre-defense form with grad school.
Tuesday of Week 12	Hold public defense
Soon after the defense	File Oral Examination form with grad school
Thursday of Week 12	Make revisions & submit to advisor/committee for approval
Monday of Week 14	Submit final, committee-approved version of thesis to grad school, along with final forms

### **G. PhD Qualifying Exams**

Ph.D. students are required by the Michigan Technological University Graduate School to pass both a written and an oral qualifying exam before advancing to candidacy or entering “research only mode.”

There is a typical structure for the Ph.D. qualifying exam process in the Social Sciences Department for both the *Environmental and Energy Policy* and *Industrial Heritage and Archaeology* programs. There may be deviations from this typical structure when it meets the needs of the advisor, student, and committee. Structures that deviate from what is described below should be described in a written document, signed by the student and exam committee (with all agreeing to the structure), and submitted to the Graduate Program Director.

**i. Purpose:** Students build competence and demonstrate expertise in professional fields of scholarship. After successfully defending their exam, students will be able to teach and conduct research in their chosen fields.

**ii. Exam Topics:** Students select three field areas within which to take exams. The areas correspond to recognized professional fields of scholarship and/or to courses that we regularly offer. This gives students an opportunity to engage with base material in a classroom format and then more fully develop the areas in which they want to concentrate. Courses provide the starting point for learning material, but students are expected to take ownership of the process of more fully developing their expertise well beyond what is presented in class.

All students are required to submit a synthetic statement (~1,000 words) to their committee defining the exam areas, justifying or explaining the focus or scope, and specifying the relationship between the exam areas and the dissertation plan. That statement will be reviewed and signed by the exam committee and submitted to the Graduate Program Director for inclusion in the student’s file.

**iii. Exam Committee:** The comprehensive exam committee consists of at least 3 graduate faculty members. The committee will include the student’s dissertation committee chair (advisor) and at least one faculty member with expertise in each of the chosen fields of study. This may or may not be the same people as serve on the dissertation committee. Each committee member suggests questions for inclusion in the exam and provides these to the committee chair. The committee then reviews the questions and works together to determine the exam content.

**iv. Exam Content:** Exams are an analytical task, beyond simply describing what other scholars have found. This means that students are expected to be able to synthesize material from multiple, different sources, critically engage in debates within the fields and make arguments, and identify gaps in the fields. Students are expected to present evidence in the form of citations to scholarly work and sometimes to present empirical examples to support their claims.

The exam may include material presented in related courses, but students are expected to read beyond what is covered in class (as agreed on by the committee) especially in the parts of that field that are directly related to the student's’ dissertation topic. For example, a student with a dissertation topic related to mining in the Keweenaw who chooses to take the Environmental History exam should know the core ways of thinking, topics, and debates in environmental history as presented in courses and recommended readings. She/he should also expand that knowledge focusing specifically on environmental histories of mining regions. Think of the courses as a starting point. Students meet with their exam committee the semester prior to define the agreed upon exam content and develop their



synthetic statement. Exact content, length, and depth are at the discretion of the committee but should not include more than students should reasonably be expected to know within 4 semesters of graduate school.

**v. Reading Lists:** Students will develop a reading list for each field area in consultation with their advisor and members of the examination committees. Students sign these lists and then provide copies to the advisor and each committee member within the first three weeks of the semester when the exam will be taken. For exams that build on course material, reading lists should include both a list of courses for which material on the syllabus (and recommended readings) are included *and* additional materials expanding the student’s knowledge in that area. The lists developed should be broader than the specialized research pursued in the dissertation and extend beyond what is covered in courses. Reading lists may also include a summary statement/cover sheet (~ 1000-4000 words) that describes and justifies the scope and breadth of each exam, whether or not this summary is required is at the discretion of the committee.

**vi. Timing of Exam:** Students typically take the qualifying exam after the completion of coursework and before the dissertation proposal. The committee chair (advisor) and student together determine the exact timing. Students should typically choose their field areas by their third semester in residence and plan to take the exam in their fourth or fifth semester. Students should meet with each member of their exam committee during the semester before the exam to define the exam content, refine reading lists, and develop the synthetic statement.

Semesters 1-2	Take courses and consider field areas
Semester 2	Initial meeting with committee members
Semesters 2-3	Confirm field areas
Semesters 3-4	Finalize and meet with exam committee; Develop reading lists and synthetic statement; Submit statement/lists to graduate program director (must be submitted <i>before</i> fourth week of semester exam will be taken)
Semester 4 or 5	Exam plan (structure) determined & signed 4 weeks prior to exam  Take exam

The Graduate School requires that students successfully pass the qualifying exam and submit (record in Banner) the Report on Qualifying Examination form within five years after enrolment.

**vii. Structure of Written Exam:** The written exam should be taken over the course of no more than one week (M-F, 8:00am-5:00pm). It will be composed of three sets of questions that evenly represent all

field areas. The sections may be taken as: 1) four-hour sit-down exams; 2) eight-hour take-home exams (each must be completed within an eight hour time frame); 3) five-day take-home exams (given question on Monday and submit by Friday); or 4) a combination of the above. Whichever option is chosen must be made in consultation with the advisor and be approved by all members of the examination committee. The committee will decide on an open or closed book format. The plan should be determined at least four weeks before the exam begins and signed by student and committee.

Format Examples:

- 5-day take home: 5 days to write well-developed response(s) (~7,500-10,000 words)
- 1-day take home: 8 hours to write response(s) (~ 4,000 words)
- 4-hour exam: 4-hours to write response(s), may be closed book (~2,000-3,000 words)

The committee will work collaboratively to develop the exam from questions submitted by each committee member, making sure that each of the student's chosen fields are adequately and fairly represented. The committee chair will administer the exam as per the committee's recommendation. At the conclusion of the exam, the chair will collate and distribute the questions and the student's answers to the entire committee.

**viii. Evaluating Written Exams:** Students should make sure their answers clearly respond to the questions, and present coherently developed arguments and detailed treatments of the texts chosen to discuss as evidence. Students may introduce texts that do not appear on the reading lists, but the questions and responses are expected to prioritize the agreed upon content developed in the synthetic statement and reading lists.

Quality of writing is a factor in the evaluation of exams, but the exam committee will not penalize students for superficial blunders or stringent writing style standards, particularly if the exams are taken in the four-hour sit-down format. Take home (especially 5-day) exams will be held to a higher standard in this regard.

Regardless of how the exams are done, they are read by the full examination committee, which then by consensus decision-making confers as to whether or not the student has passed. It is possible that students would pass one field area and fail another. Students will be notified of the results within two weeks of the end of the exam. Committees may record a result of pass with distinction, pass, conditional pass, or fail. Decisions are made by committee consensus, rather than pass/fail a particular section given by a particular faculty member. Regardless of the results, examination committees should communicate clearly to students about the strengths and weaknesses of the exam.

**Pass with Distinction-** this is reserved for those rare cases where the student has achieved really excellent and superior work across the full exam. The exam critically engages with the fields of study, synthesizes material from diverse sources, is well written, makes strong arguments citing relevant evidence, identifies important gaps in the field, and demonstrates creative and critical thinking. All questions are answered completely and appropriately, and for most questions the student goes beyond what is required.

**Pass-** The exam critically engages with the fields of study, synthesizes material from diverse sources, is written well enough, makes good arguments citing relevant evidence, and identifies gaps in the fields as asked. All questions (except one in some cases) are answered completely and appropriately. Up to one question, may be questionable. Above all, the student demonstrates she/he knows and understands the core scholarship in these fields, can think about it critically, and can make solid arguments.

**Conditional Pass-** The exam demonstrates that the student generally knows and understands the core scholarship in the fields, can engage in debates, and makes arguments. However, one or two questions may be incomplete, contain inappropriate responses or illogical thinking, or lack evidence. The committee feels the student probably knows the material and is generally prepared to move on to candidacy, but some important questions remain, and the committee would like to offer the student the opportunity to demonstrate their knowledge in an oral exam. A conditional pass says that passing the written exam is conditional on the student's performance in the oral exam and suggests that supplementary work may be required.

**Fail-** The exam fails to demonstrate core competency and/or analytical thinking in the chosen fields. Responses to two or more questions are incomplete, contain inappropriate responses or illogical thinking, or lack evidence. Students who fail the written exam do not move on to the oral exam, but they may retake the written exam after at least 30 days have passed from the end of the initial exam. Students may take the written exam up to two times. After two failures of the written exam, students will be asked to leave the program.

**ix. Oral Exam:** The oral exam is held after the written exam has been passed and within 30 days of the end of the written exam. It should be no more than three hours in length. The oral exam is an opportunity for the committee and student to discuss core arguments/debates in the fields and hear the student's opinion on these. It may cover any of the same material/topics agreed on for the written exam. The examination committee has the discretion to structure the oral questions according to its determination of what is necessary for the student to pass the examination. Students should expect that if there are portions of the written exam that were insufficient or underdeveloped, these are topic areas that will likely be stressed in the oral exam. This can be an opportunity for students who scored a "conditional pass" to demonstrate that they do know the material and to achieve a passing grade on the examination as a whole.

Evaluation of the oral exam will be by consensus decision of the committee. Possible results are pass with distinction, pass, conditional pass, or fail (described above). Receiving a conditional pass indicates that the student will need to undertake supplemental work. The exact nature of supplemental work required is at committee's discretion, but it should be reviewed and approved by the full committee before an official passing grade on the full exam will be conferred.

Ultimately, a pass or fail grade will be reported to the Graduate School for the exam as a whole, not separately for the written and oral components or by field area, on the Report on Qualifying Examination form. In the instance that a student fails one field area, the committee decides whether the issues are serious enough to give an overall fail, and if so, how to administer a retake. If a student fails the qualifying exam twice, it cannot be retaken. In this case, the student will be dismissed from the program or transferred into the M.S. degree program, if this is acceptable to the advisory committee.

#### ***H. List of Field Areas: Environmental and Energy Policy***

The department requires the student to complete exam questions in three field areas. Students choose at least one area in Core Policy (Group A) and at least one Substantive/Disciplinary Area (Group B). The third area could be from either list or it could be focused on one or more research methods. Whether or not students choose a methods field area in the qualifying exam, they will be expected to answer both broad and specific questions about the methods they propose to use for dissertation research at their dissertation proposal defense.

The courses listed below are starting points- they are not required but suggestions. Students develop reading lists for each Field Area (in consultation with the examination committee) which may be based in associated coursework but then go deeper into a specific area of student interest beyond that which was required for the courses.

***i. Core Policy (Group A) - Choose one:***

Policy Theory - deep focus on the theory and practice of doing policy: SS 5301 The Policy Process; SS 3621 Introduction to Public Policy and Public Management; SS 3636 Perceptions of The Modern State and Governance

Environmental and Natural Resource Policy - focus on knowing basic environmental and natural resource policies in US and/or international context, as well as foundational material on policy theory and application: SS 5300 Environmental and Natural Resource Policy; SS 5313 Sustainability Science, Policy, and Assessment; SS 5325 Water, Policy History and Governance; EC 5640 Natural Resource Economics; 5301 The Policy Process; SS 5635 International Environmental Policy. *Other potential courses:* SS 3300 Environmental Problems; FW5400 Advanced Conservation Biology; FW5376 Advanced Forest and Environmental Resource Management

Energy and Climate Policy - focus on knowing basic energy policies in US and/or international context, as well as foundational material on policy theory and application: SS6100 Energy and Climate Policy; SS 5330 Special Topics in Energy Policy; 5301 The Policy Process; UN 5990 Climate Science and Policy; EC 5620 Energy Economics; SS 3800 Energy Technology and Policy; SS 3635 Climate Change Adaptation; SS 38XX Energy and Society; SS 3521 Energy in American History

***ii. Substantive/Disciplinary Field Areas (Group B) - Choose one:***

Open Topic: Field of choice determined by student and advisor.

Community Engagement & Planning: SS 4700 Communities & Research; SS 4380 Landscape Ecology and Planning; SS 3XXX Applied Anthropology; SS 5501 Industrial Communities

Environmental Anthropology: SS 4200 Environmental Anthropology; SS 5201 Cultural Dimensions of International Immigration and Research; SS 4210 Global Change in Culture and Society since 1400; SS 3410 World Resources and Development

Environmental Governance: SS 5302 Environmental Governance and Decisionmaking; SS 5325 Water, Policy History and Governance

Environmental History: SS 5550 Global Environmental History; SS 5325 Water, Policy History and Governance; SS 3520 US Environmental History

Environmental/Energy Justice: SS 3810 Energy Security & Justice; SS 3750 Social Inequality; SS 5530 Deindustrialization and Urban Environments; SS 4100 Native American and Indigenous Communities; SS 5315 Population and Environment; SS5400 Environmental Sociology

Environmental Sociology: SS 5400 Sociology of the Environment; SSFW 3760 Human Dimensions of Natural Resources

Methodological Focus: SS 6001 Research Design; any additional courses offered in the method of choice, such as Environmental Policy Analysis, Ethnographic Methods, GIS for Social Science, Statistics for Social Science, Survey Methods, Computational Social Science, Historiography, etc. and may include methods-related courses offered outside Social Sciences department.

Science and Technology Studies: SS 3581 History of Science; SS 3801 Science, Technology & Society; SS 3820 Ethical, Legal, and Societal Implications of Nanotechnology; SS 5340 Principles of Interdisciplinary Team Science

### ***I. Qualifying Exams: Industrial Heritage and Archaeology***

The department requires the student to complete exam questions from three areas of expertise, which can be topical, theoretical, geographic or methodological in focus. Students develop a synthetic statement that defines the exam areas, justifies or explains the scope, and specifies the relationship to the dissertation prospectus. At the committee's discretion, they may be asked to develop a summary statement (~ 1000 words) for each of the three exam areas. Students also develop reading lists for each exam area in consultation with the examination committee. The exams should support but also be broader than the specialized research pursued in the dissertation.

Developing the synthetic statement provides the student an opportunity to describe the content and boundaries of the exam areas. For this reason, it is essential that students work with their advisor and examination committee early in the process. It is expected that students demonstrate proficiency with the exam areas. Note that the exam areas could be based in associated coursework, but that it is expected that the student goes well beyond that which was required for the courses.

Whether or not students choose a methods field area in the qualifying exam, they will be expected to answer both broad and specific questions about the methods they propose to use for dissertation research at their dissertation proposal defense.

### ***J. Doctoral Dissertation Research Proposal Examination***

The structure for a Ph.D. student dissertation research proposal exam process in the Social Sciences Department is similar for both the *Environmental and Energy Policy* and *Industrial Heritage and Archaeology* programs.

Ph.D. students are required by the Michigan Technological University Graduate School to pass a research proposal examination before advancing to candidacy or entering "research only mode."

The purpose of the research proposal is for students to demonstrate that they are prepared to independently conduct a research project. The oral defense provides an opportunity to publicly present research plans and solicit feedback. It also allows the dissertation committee to collectively discuss the student's proposal with a view toward facilitating implementation of the research project.

#### ***i. Written Proposal***

The dissertation proposal should be academically rigorous and defensible. Students might use the proposal assignment from the Research Design class as an example for the type of structure and style required. Students should also consult with their advisor for style guidelines, which may vary by

discipline and approach. Examples of past proposals and faculty templates are available-check with the Graduate Program Director for access. Students may generate a proposal that is similar in content and style to those submitted to a major, student-based research grant (e.g., National Science Foundation (NSF) doctoral dissertation improvement grant or SSHRC dissertation proposal).

**The proposal should:**

- a) Define the research problem and state the research significance
- b) Place the research problem within the literature and its broader context
- c) Describe detailed methods to be used in data collection and analysis
- d) Provide a list of references
- e) Specify a timeline
- f) Summarize the structure that the dissertation will take (book style dissertation, set of peer-reviewed papers, etc.)

For students in the EEP program, their proposal should also identify the environmental/energy policy issue/area to which their research will contribute and how it will advance policy solutions.

***ii. Proposal Defense***

When the dissertation proposal is near completion and the student and her/his advisor feel it is appropriate, the student will schedule her/his proposal defense. Students should work with the Department Administrator to reserve a room for the presentation and to announce the proposal defense to the department.

Students must submit the full research proposal to the committee for review at least 2 weeks prior to the public presentation.

The defense includes a formal public oral presentation of the proposal lasting approximately 30 minutes followed by time for questions, feedback, and audience discussion. The student then meets privately with the examination committee who will provide feedback and suggestions. During this discussion, the student will be asked to demonstrate methodological expertise in areas pertinent to their proposed research. Ultimately, the committee determines whether to pass the student on to candidacy status.

Upon passing the proposal defense, the student may proceed with conducting dissertation research. The student is also eligible to advance to candidacy and for “research only mode” if they have already passed the qualifying exams. However, if the committee determines that the student has not successfully defended their proposed research, they may require the student to revise and resubmit the written proposal. If revisions are required, the committee withholds signatures on the graduate school proposal defense form until a revised version is approved.

Graduate School Deadlines and Forms: The Graduate School requires a Report on Research Proposal Examination form to be signed by the committee and submitted to the Graduate School at the successful completion of the dissertation proposal defense.

It is the responsibility of the student and Chair to consider Graduate School deadlines for passing the research proposal examination and submitting the required Report on Research Proposal Examination. The Graduate School website provides guidelines.

**Timeline:** Students will generally defend their dissertation proposal in their 5th or 6th semester.

**NOTE:** If the proposed research involves human subjects, before students may begin collecting data for their research project, the student and her/his advisor must submit a research protocol to the Michigan

Tech Institutional Review Board (IRB) for the Protection of Human Subjects. This protocol must be approved (or exempted) before the start of data collection.

### ***iii. Completing the Dissertation and Defense***

This document describes the process of completing the dissertation in the Social Sciences Department for both the *Environmental and Energy Policy* and *Industrial Heritage and Archaeology* programs. A dissertation is the culmination of a research project and a professional representation of not only the student's work, but the advisor, program, and Michigan Tech. It is important that dissertations are prepared professionally in order to best reflect the quality and intellectual merit of the work.

There are two related components of dissertation completion: (1) the final oral examination (public defense) and (2) the written dissertation document. Guidance for how each function in the Social Sciences Department are covered here. Please also see the MTU Graduate School webpage for specific details on additional degree completion forms that are required.

Students should recognize that multiple drafts of dissertation articles/chapters are almost always written and revised before the dissertation defense, and that significant revisions often occur even after the dissertation defense. If you are writing the first version in one semester, that will very rarely be the semester of defense.

### ***iv. Timeline***

This table summarizes steps and timelines. The first section lays out a general timeline for meeting key PhD milestones. The second section on semester of defense includes deadlines that must be met to graduate on time. These deadlines are the absolute last minute, and students should be aware that if they are waiting until these deadlines, it is unlikely that everything will go perfectly and that they will graduate in that semester. Students defending on the last possible date, often do not have sufficient time to complete revisions in time to graduate that semester.

Students are advised to anticipate the deadlines in the semester prior to planned graduation and to have a very near complete draft of the full dissertation by the very beginning of the semester of planned graduation. Students should consider scheduling their defense for earlier in the semester.

<b>General Timeline for Meeting Key PhD Milestones</b>	
Semester 4 or 5	Qualifying Exam
Semester 5 or 6	Dissertation Proposal Defense
Semester 6, 7, 8, or 9	Dissertation Defense/Complete Degree
<b>Semester of Defense/Completion</b> (dates listed the last possible- plan to do sooner)	
Week 1	Develop a plan for completion with advisor and committee
Between Week 2 and Week 7	Schedule the defense & reserve room
Two weeks prior to defense date (Tuesday of Week 10 is last possible if you are defending on last possible day)	Submit final draft to committee and grad school. File pre-defense form with grad school.
Tuesday of Week 12	Hold public defense
Soon after the defense	File Oral Examination form with grad school
Thursday of Week 12	Make revisions & submit to advisor/committee for approval
Monday of Week 14	Submit final, committee-approved version of dissertation to grad school, along with final forms

### ***K. Scheduling the Defense***

According to the MTU Graduate School, students may schedule their dissertation defense at least two academic-year semesters after successful completion of the qualifying examination and at least one academic-year semester following successful completion of the research proposal examination. The exact semester of defense will vary depending on type of research and speed of progress. While in “research-only mode,” students should remain in close communication with their advisor and committee about progress and plans for degree completion. Please note that committee members *may* not be available for summer defenses.



Students are expected to work with the committee chair (advisor) and other committee members (as necessary) sharing drafts of written work for several months prior to the dissertation defense. Advisors (and potentially other committee members) read and provide feedback on early drafts to ensure a defensible research project that is well-written and in a professional and publishable writing style.

Students must let their advisor know they plan to graduate by the start of the semester of planned graduation. By the first week of the semester, the student should work with their advisor and committee to develop a completion plan. This planning process includes sharing segments that are already completed, sharing work in progress, and setting deadlines for completion. The committee will review, make comments, and suggest revisions on current versions. Based on this feedback, the student confers with the advisor to determine if the dissertation is defensible that semester.

Five to seven weeks prior to the defense, the student schedules a time to conduct the defense with the advisor and committee. Students need to work with the Administrative Assistant to schedule a room, reserve any necessary technology, and to announce the defense to the department and MTU community.

At least two weeks prior to the scheduled defense, students must (1) distribute the completed final draft of the dissertation to the full advisory committee; (2) submit the pre-defense form with the graduate school, found here: <https://www.mtu.edu/gradschool/documents/policies-procedures/forms/pre-defense.pdf>; and (3) submit the complete defense draft of the dissertation to the Graduate School (via Canvas) for formatting review (it should already be formatted to graduate school specifications).

## ***L. Written Dissertation***

Students present the research they undertake as culmination of the doctoral degree program in the form of either a monograph or a collection of academic articles. Students work together with their advisor and committee to determine which style is most appropriate. Regardless of style, the written document must be prepared adhering to the [Graduate School guidelines](#) (the *The Guide* published by the MTU Graduate School), and the final document must be [submitted](#) to the Graduate School, along with forms required by the Graduate School. The final version will become a permanent acquisition of the MTU library and publicly available via Digital Commons.

Students writing a monograph will work with the advisor to determine the length and other expectations. Typically, the monograph is structured with chapters that include an introduction, comprehensive review of relevant literature, research methods, final conclusion and summary, and bibliography. The candidate is sole author.

For students writing a collection of academic articles, they will typically write 3 to 4 articles about a related topic/policy or following a consistent theme. Each article should typically be prepared for submission to a peer reviewed journal. If different audiences or formats are expected for one or more of the articles (i.e. a magazine article, policy brief, white paper, blog, website, database, video, National Register nomination, agency report, etc.), the student should work with her/his committee to evaluate those possibilities.

Students taking the collection of articles approach are also required to write an overview chapter that introduces the collection, describes how the multiple pieces fit together to address an overarching research and/or policy goal, explains how the collection fits within the larger body of scholarship on the topic/policy or in the field/sub-field, summarizes the findings and interprets what they (together) mean

and their joint implications, and describes the overall research process/methods. If the collection includes co-authored papers, the overview chapter should also include a description of the broader research project of which the dissertation is a part and clarify the student's specific role(s) in designing, conducting, and writing the included research. For co-authored papers to be included, the student should be first author and clearly explain the student's own role in co-authored papers, in comparison to co-authors.

For students in the Environmental and Energy Policy PhD program, the dissertation must include a focus on environmental and/or energy policy.

### ***M. Oral Examination***

Students present their doctoral dissertation research in a public oral examination at the defense. They should prepare a formal public presentation lasting 30-40 minutes explaining the dissertation research. The presentation may not cover all aspects of the work conducted, due to time constraints. For instance, a student who has written 3 articles, may choose to only very briefly review two of the articles and focus the public presentation on the third article. In the presentation, the candidate should justify the validity of the methods and conclusions contained in the dissertation and should demonstrate familiarity with the significance of the study in relation to the existing body of knowledge. Following the presentation, students should be prepared to take questions from the audience.

At the conclusion of the public meeting, the student meets privately with the examining committee. The student is expected to defend and support the entirety of the research included in the written dissertation. This discussion is an examination to determine whether the student has a good command of the topic under investigation, the related broader literature, and the methods employed. The student may also be asked to respond to broader questions to demonstrate expertise in field of degree. This meeting might also include a discussion of suggested revisions that committee members would like to see made to the written document. Students need to bring a copy of the Report on Final Oral Examination (see Graduate School) to the defense.

At the conclusion of the examination, the student will be asked to leave the room to allow the committee to confer in private. The committee will decide: (1) whether the student has passed the Final Oral Examination, and (2) if and what revisions to the written document are required before graduation. The student's oral examination results (pass or fail) must be reported to the Graduate School on the [Report on Final Oral Examination Form](#). This form is meant to capture the results of the oral exam and should be submitted to the graduate school following the oral defense and before submitting the final dissertation. A student may pass the oral examination but still have extensive revisions to the written document required.

If revisions are required, the student's advisor should work with the full committee to document what specific revisions are required before final submission to the Graduate School and granting the degree. The advisor and committee should complete this document as soon as is reasonable so that the student has an opportunity to make revisions before the final degree deadlines at the end of the semester.

If the student fails to pass the oral examination, they may be dismissed from the program. Alternatively, the student and their advisor can make the case that a second attempt should be allowed. To request a second attempt, the student should submit to their advisor a one-page document justifying why she/he believes a second chance is warranted. The advisor will comment, sign, and share the document with the committee and the Graduate Program Director. If at least three committee members (including the

advisor) and the Graduate Program Director agree to a second attempt it will be granted. The second attempt may not be scheduled in the same semester as the original. Failure to pass a second attempt will result in dismissal from the program.

### ***N. Post Defense***

Following the successful oral defense, the student makes all required revisions (as directed by the committee) and all formatting revisions (as required by the Graduate School). All revisions need to be approved by the advisor and also potentially by other committee members. When the final document has been approved by the committee, the student must file the Approval of a Dissertation, Thesis, or Report Form to the Graduate School along with a copy of the final dissertation by the deadline for the semester she/he wishes to complete the degree (the Monday of Week 13). Please note: Students who do not meet the Graduate School deadline will not graduate and will be required to maintain continuous enrolment (1 credit) until they complete their degree.

The Graduate School conducts a final formatting review (TDR review), which may take up to two weeks. Students will be notified by the Graduate School if there are formatting corrections that need to be made. If so, these will have to be completed by the Friday of Finals Week to avoid any additional fees.

Students should also check with the Graduate School and file any other additional completion of degree forms or exit surveys.

## ***VI. RESIDENCY REQUIREMENTS***

University policy requires that doctoral students spend at least four semesters (including summer) on campus at Michigan Tech beyond attainment of a bachelor's degree or two semesters on campus at Michigan Tech beyond attainment of a Master's degree in a formal program of study and research under direct supervision. Continuous enrollment in the fall and spring semesters is also required. This requirement may be waived under special circumstances with pre-approval. See the Graduate School Catalog for details.

The Graduate School requires that the qualifying examination must be taken within five years, and all requirements must be completed within eight years, from the time of a student's first enrollment in the doctoral program.

## ***VII. RESEARCH ONLY MODE***

All MS and PhD students are eligible to register for credits at a reduced tuition rate once they meet specific requirements. MS students must complete all their degree requirements plus the required number of credits for their degree. PhD students must complete their qualifying exams and dissertation proposal defense successfully. The Graduate School has details about entering Research Mode status: <https://www.mtu.edu/gradschool/policies-procedures/academic/research-mode>.

## VIII. APPENDICES

### **Appendix 1A**

#### **Environmental and Energy Policy – MS - Plan A Curriculum for 2017-18**

Prerequisites for admission (taken as electives if necessary): Environmental Sciences, Statistics, and Microeconomics

*Thesis option*

*Required Core Courses- 15 credits*

SS 5300	Environmental & Energy Policy	3 credits
SS 5350	Environmental Policy Analysis	3 credits
SS 5400	Sociology of the Environment	3 credits
SS 5550	Global Environmental History	3 credits

*Electives Required- 11 – 14 credits*

*Method Credits Required- 3-4*

*Area/ Topics Courses- 6-9*

*Research Credits- 3-5*

**Appendix 1B**

**Environmental and Energy Policy - MS - Plan B Curriculum for**

**2017-18** Report option

*Required Core Courses- 15 credits*

SS 5300	Environmental & Energy Policy	3 credits
SS 5350	Environmental Policy Analysis	3 credits
SS 5400	Sociology of the Environment	3 credits
SS 5550	Global Environmental History	3 credits

*Electives Required- 6-9 credits*

Concentration determined by committee chair in consultation with the committee

*Method Credits Required- 3-4*

Courses approved by committee chair

*Research Credits- 3-5*

**Appendix 1C**

**Environmental and Energy Policy - MS - Plan C Curriculum for 2017-18**

*Course option*

*Required Core Courses- 15 credits*

SS 5300	Environmental & Energy Policy	3 credits
SS 5350	Environmental Policy Analysis	3 credits
SS 5400	Sociology of the Environment	3 credits
SS 5550	Global Environmental History	3 credits

*Method Credits Required- 3-4*

Methods determined by committee chair and grad director.

*Area/ Topics Courses - 11-12*

*Elective Credits- 15*

## **Appendix 1D**

### **Environment and Energy Policy - PHD – Curriculum for 2017-18**

Minimum 30 credits if student enter Ph.D. with a M.S. degree

Minimum 60 credits if student enters Ph.D. without a M.S. degree

#### *Required Core Courses- 15 credits*

SS 5004	Statistics for the Social Sciences	3 credits
SS 5300	Environmental & Energy Policy	3 credits
SS 5301	The Policy Process	3 credits
SS 5302	Environmental Governance and Decision Making	3 credits
SS6002	Research Design	3 credits

#### *Methods Courses- 3 credits*

SS 4211	Ethnographic Methods	3 credits
SS 4380	Landscape Ecology and Planning	3 credits
SS 5003	Survey Methods	3 credits
SS 5005	Computational Social Science	3 credits
SS 5050	Intro GIS for Social Sciences	3 credits
SS 5350	Environmental Policy Analysis	3 credits
SS 4200	Econometrics	3 credits

#### *Program Electives- 6-12 credits*

SS 4200	Environmental Anthropology	3 credits
SS 4390	Seminar in Sustainability Issues	various credits
SS 4700	Communities and Research	3 credits
SS 5111	Advanced Natural Resource Policy	3 credit
SS 5201	Cultural Dimensions of International Immersion and Research	1 credits
SS 5310	Ecological Economics	3 credits
SS 5313	Sustainability Science, Policy, and Assessment	3 credits
SS 3315	Population and the Environment	3 credits
SS 5318	Public Sector Management	3 credits
SS 5320	Special Topics in Environmental Policy	3 credits
SS 5325	Water Policy, History, and Governance	3 credits
SS 5330	Special Topics in Energy Policy	various credits

SS 5340	Principles of Interdisciplinary Sustainability Research	3 credits
SS 5400	Sociology of the Environment	3 credits
SS 5550	Global Environmental History	3 credits
SS 5635	International Environmental Policy	3 credits
SS 5905	Heritage Ecologies: Anthropological Engagements with Nature	3 credits
SS 6100	Advanced Seminar in Energy and Climate Policy	3 credits

*Electives Possible- 6-18 credits*

Choose 0 – 6 credits of any 3000-level or higher course

\*For those students entering Ph.D. without a M.S, 30 credits must meet above requirements

12-18 credits additional electives 3000-level or higher

(Maximum 12 credits total of 3000 and 4000-level courses)

*Required research credits- 0-6*

\*For those students entering Ph.D. without a M.S, Research credits- 12-18



**Appendix 1E**

**Industrial Archaeology - MS – Plan A Curriculum for 2017-18**

*Thesis option*

*Required Courses- 31 credits*

SS 5500	IA Proseminar	3 credits
SS 5501	IA Proseminar	3 credits
SS 5502	IA Proseminar	3 credits
SS 5503	IA Proseminar	3 credits
SS 5600	Industrial Archaeology	3 credits
SS 5700	Archaeological Field Methods	various credits
SS 5800	Documenting Historic Structures	3 credits
SS 5900	Heritage Management	3 credits

*Electives- 3 credits*

*Research- 8 credits*

**Appendix 1F**

**Industrial Archaeology - MS – Plan B Curriculum for 2017-18**

*Report option*

*Required Courses- 28 credits*

SS 5500	IA Proseminar	3 credits
SS 5501	IA Proseminar	3 credits
SS 5502	IA Proseminar	3 credits
SS 5503	IA Proseminar	3 credits
SS 5600	Industrial Archaeology	3 credits
SS 5700	Archaeological Field Methods	various credits
SS 5800	Documenting Historic Structures	3 credits
SS 5900	Heritage Management	3 credits

*Electives- 6 credits*

Electives must contribute to a student's program of learning and must be approved by the program's director.

*Research- 5 credits (minimum)*

**Appendix 1G**

**Industrial Heritage and Archaeology – PhD – Industrial Heritage & Archaeology 2017-18**

*Required Courses- 6 credits*

SS 6010	Special Topics in Industrial Heritage	various credits
SS 6020	Special Topics in Industrial History	various credits

*Electives- 15 credits*

*Research- 15 credits*

REQUIRED CREDITS 45

## **Appendix 2A**

### **Environmental and Energy Policy, MS – Curriculum for 2018-19**

*Prerequisites for admission (taken as electives if necessary):* Environmental Sciences, Statistics, and Microeconomics

#### *Required Core- 9 credits*

SS5300 Environmental and Natural Resource Policy

OR SS6100 Energy and Climate Policy

SS5350 Environmental Policy Analysis

SS5950 Professional Development 9

#### *Methods- 3 credits*

(or alternate subject to advisor and Grad Director approval)

SS5001 Advanced Social Science Methods

SS5004 Social Statistics

SS5003 Survey Methods

SS5049 GIS for Graduate Researchers

SS5050 Advanced GIS Methods and Projects

SS4211 Ethnographic Methods 3

#### *Humans & the Environment - 3 credits*

(or alternate subject to advisor and Grad Director approval)

SS5550 Global Environmental HistorySS5310

Ecological Economics

SS4200 Environmental Anthropology

SS5400 Sociology of the Environment

SS4700 Communities and Research 3

#### *Policy & Governance - 3 credits*

(or alternate subject to advisor and Grad Director approval)

SS5325 Water Policy, History & Governance

SS5301 Policy Process

SS5313 Sustainability Policy

SS5300 Environmental and Natural Resource Policy

OR SS6100 Energy and Climate Policy	3
<i>Electives- 6 credits</i>	6*
<i>Thesis Research - 6 credits</i> _____	<u>6**</u>
REQUIRED CREDITS	30

*\* Students funded for 2 years have 6 addition credits available to them, usually taken as research credits.*

*\*\* Students electing to take the Report Option have 9 credits of electives and 3 credits for the Report.*

**Appendix 2B**

**Environmental and Energy Policy, PhD – Curriculum for 2018-19**

Prerequisites (taken as electives if necessary): Graduate Statistics, Microeconomics

*Required Core- 15 credits*

SS5300 Environmental and Natural Resource Policy

OR SS6100 Energy and Climate Policy

SS5301 The Policy Process

SS6002 Research Design

SS5720 Social Thought, Contemporary Issues

SS5950 Professional Development

15

*Methods- 3 credits*

(or alternate subject to advisor and Grad Director approval)

SS5001 Advanced Social Science Methods

SS5004 Social Statistics

SS5003 Survey Methods

SS5049 GIS for Graduate Researchers

SS5050 Advanced Methods and Projects

SS4211 Ethnographic Methods

3

*Humans & the Environment- 3 credits*

(or alternate subject to advisor and Grad Director approval)

SS5550 Global Environmental History

SS5310 Ecological Economics

SS4200 Environmental Anthropology

SS5400 Sociology of the Environment

SS4700 Communities and Research

3

*Policy & Governance - 3 credits*

(or alternate subject to advisor and Grad Director approval)

SS5325 Water Policy, History & Governance

SS5301 Environmental Policy Analysis

SS5313 Sustainability Policy

SS5300 Environmental and Natural Resource Policy

OR SS6100 Energy and Climate Policy 3

*Electives- 6 credits* 6

MINIMUM CREDITS 30\*

*\* Students funded for three years take up to 54 credits; most are taken as research credits (SS6600) but students also can take additional courses, including directed readings (SS6500).*

## **Appendix 2C**

### **Industrial Heritage & Archaeology, MS – Curriculum for 2018-19**

#### *Required Core- 12 credits*

SS6010 Global Industrial History	
SS5720 Social Thought	
SS6002 Research Design	
SS5950 Professional Development	12

#### *Methods- 6 credits*

SS5700 Archaeological Field Methods	
SS5049 GIS for Graduate Researchers	
SS5050 Advanced GIS Methods and Projects	
SS4211 Ethnographic Methods	
SS5230 Arch Analysis and Interpretation	
SS5800 Documenting Buildings	
SS5503 Material Culture Studies	6

#### *Area/ Topics Courses- 6 credits*

SS5600 Industrial Archaeology	
SS5502 Historical Archaeology	
SS5501 Industrial Communities	
SS5500 History of Technology	
SS5900 Heritage Management	
SS5530 Deindustrialization and Urban Environments	
SS5550 Global Environmental History	
SS5010 Directed Study	6

*Thesis Credits (SS5990) - 6 credits max\** 6

**REQUIRED CREDITS 30\*\***

*\* Students electing the Report Option take 3 credits of unrestricted electives and 3 research credits for the Report.*

*\*\* Funded MS students have up to 36 credits available to them.*



**Appendix 2D**

**Industrial Heritage and Archaeology, PhD – Curriculum for 2018-19**

Required Core- 15 credits

SS6010 Global Industrial History

SS5720 Social Thought

SS6002 Research Design

SS5950 Professional Development

SS5900 Heritage Management 15

Directed Readings SS6500 (Qual. Exam Prep) – 9 credits 9

Electives 6\*

Minimum Required Credits 30\*\*

\* A student funded for three years has up to 54 credits available to them--so 6 credits of electives is a minimum not the norm.

\*\* Student w/o a MS when entering the IHA program must take an additional 30 credits

**Appendix 3A**

**Environmental & Energy Policy M.S. Program - Curriculum Planning Sheet (ends 2018)**

Name: \_\_\_\_\_

Plan (check one): Thesis \_\_\_\_\_ Report \_\_\_\_\_

Credit Requirements: Must total a minimum of 30 credits to graduate.

**1. Prerequisites:** One course each in environmental science, microeconomics, and statistics.

<b>2. Required Courses (12 credits)</b>	<b>Credits</b>	<b>Term</b>
SS5300 Environmental and Energy Policy	3	_____
SS5350 Environmental Policy Analysis	3	_____
SS5400 Sociology of the Environment	3	_____
SS5550 Global Environmental History	3	_____

**3. Other Courses (at least 18) credits**                      **Credits**                      **Term**

A. Methods Course (3-4 credits)

\_\_\_\_\_

B. Concentration electives (6-9 credits under thesis option, 9-12 credits under project option)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

C. Thesis or project credits (6-9 credits for thesis, 3-6 credits for project)

\_\_\_\_\_

\_\_\_\_\_

D. Other courses/credits (0-3 credits)

\_\_\_\_\_

\_\_\_\_\_

At least 20 credits must be at or above the 5000 level. Nine credits is considered full time for graduate students during the Fall and Spring semesters.

**Appendix 3B**

**Environmental & Energy Policy Ph.D. Program - Curriculum Planning Sheet (ends 2018)**

Name: \_\_\_\_\_

Must total a minimum of 30 credits beyond the Master's Degree.

<b>1. Core Courses (15 credits)</b>	<b>Credits</b>	<b>Term</b>
SS5300 Environmental and Energy Policy	3	_____
SS5301 The Policy Process	3	_____
SS5302 Env. Governance & Decision Making	3	_____
SS6002 Research Design	3	_____
SS5004 Statistics for the Social Sciences	3	_____

<b>2. Additional Methods Course* (3-4 credits)</b>	<b>Credits</b>	<b>Term</b>
_____	_____	_____

<b>3. Program Electives* (6 - 12 credits)</b>		
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

<b>4. Other Courses (0 - 6 credits)</b>		
_____	_____	_____
_____	_____	_____
_____	_____	_____

At least 20 credits must be at or above the 5000 level. Maximum of 12 credits at 3000 or 4000 level (with advisor approval). Nine credits is considered full time for graduate student during the Fall and Spring semesters.

\* Choose from courses listed on EEP PhD Curriculum for 2015-16

**Appendix 3C**

**Industrial Archaeology M.S. Program - Curriculum Planning Sheet (ends 2018)**

Name: \_\_\_\_\_

Plan (check one): Thesis \_\_\_\_\_ Report \_\_\_\_\_

Credit Requirements: Must total a minimum of 34 credits to graduate.

<b>1. Required Courses (24 credits minimum)</b>	<b>Credits</b>	<b>Term</b>
SS5500 IA Proseminar: History of Technology	3	_____
SS5501 IA Proseminar: Industrial Communities	3	_____
SS5502 IA Proseminar: Historical Archaeology	3	_____
SS5503 IA Proseminar: Material Culture Studies	3	_____
SS5600 Industrial Archaeology	3	_____
SS5800 Documentation of Historic Structures	3	_____
SS5900 Heritage Management	3	_____
SS5700 Field Archaeology	3	_____

**2. Approved Elective (3-6 credits)**

Plan A (Thesis): Minimum 3 credits

\_\_\_\_\_

Plan B (Report): Minimum 6 credits

\_\_\_\_\_

\_\_\_\_\_

**3. Thesis or project credits (6-9 credits for thesis, 3-6 credits for project)**

\_\_\_\_\_

\_\_\_\_\_

**4. Other courses/credits**

\_\_\_\_\_

\_\_\_\_\_

At least 20 credits must be at or above the 5000 level. No more than 12 credits in the 3000-4000 level can be counted toward degree requirements. Nine credits is considered full time for graduate students during the Fall and Spring semesters.



**Appendix 3E**

**Environmental and Energy Policy, MS – Curriculum planning sheet**  
**(Effective with the 2018-19 academic year)**

*Prerequisites for admission (taken as electives if necessary):* Environmental Sciences, Statistics, and Microeconomics

<i>Required Core- 9 credits</i>	<i>Semester/Year completed</i>
SS5300 Environmental and Natural Resource Policy	
<b>OR</b> SS6100 Energy and Climate Policy	_____
SS5350 Environmental Policy Analysis	_____
SS5950 Professional Development	_____
	9

*Methods- 3 credits Choose 1*  
 (or alternate subject to advisor and Grad Director approval)

_____ SS5001 Advanced Social Science Methods; SS5004 Social Statistics SS5003 Survey Methods; SS5049 GIS for Graduate Researchers SS5050 Advanced GIS Methods and Projects; SS4211 Ethnographic Methods	3
--	---

*Humans & the Environment - 3 credits Choose 1*  
 (or alternate subject to advisor and Grad Director approval)

_____ SS5550 Global Environmental History; SS5310 Ecological Economics SS4200 Environmental Anthropology; SS5400 Sociology of the Environment SS4700 Communities and Research	3
--	---

*Policy & Governance - 3 credits Choose 1*  
 (or alternate subject to advisor and Grad Director approval)

_____ SS5325 Water Policy, History & Governance; SS5301 Policy Process SS5313 Sustainability Policy SS5300 Environmental and Natural Resource Policy <b>OR</b> SS6100 Energy and Climate Policy	3
---	---

*Electives- 6 credits* 6\*

*Thesis Research - 6 credits* 6\*\*

**REQUIRED CREDITS 30**

\* Students funded for 2 years have 6 addition credits available to them, usually taken as research credits.

\*\* Students electing to take the Report Option have 9 credits of electives and 3 credits for the Report.

**Appendix 3F**

**Environmental and Energy Policy, PhD – Curriculum planning sheet**  
**(Effective with the 2018-19 academic year)**

Prerequisites (taken as electives if necessary): Graduate Statistics, Microeconomics

*Required Core- 15 credits* *Semester/Year Completed*

SS5300 Environmental and Natural Resource Policy	
<b>OR</b> SS6100 Energy and Climate Policy _____	
SS5301 The Policy Process _____	
SS6002 Research Design _____	
SS5720 Social Thought, Contemporary Issues _____	
SS5950 Professional Development _____	
	15

*Methods- 3 credits Choose 1* \_\_\_\_\_

(or alternate subject to advisor and Grad Director approval)

SS5001 Advanced Social Science Methods	
SS5004 Social Statistics	
SS5003 Survey Methods	
SS5049 GIS for Graduate Researchers	
SS5050 Advanced Methods and Projects	
SS4211 Ethnographic Methods	3

*Humans & the Environment- 3 credits Choose 1* \_\_\_\_\_

(or alternate subject to advisor and Grad Director approval)

SS5550 Global Environmental History	
SS5310 Ecological Economics	
SS4200 Environmental Anthropology	
SS5400 Sociology of the Environment	
SS4700 Communities and Research	3

*Policy & Governance - 3 credits Choose 1* \_\_\_\_\_

(or alternate subject to advisor and Grad Director approval)

SS5325 Water Policy, History & Governance	
Offered Spring - Offered alternate years beginning with the 2016-2017 academic year	
SS5301 Environmental Policy Analysis	
SS5313 Sustainability Policy	
SS5300 Environmental and Natural Resource Policy	
<b>OR</b> SS6100 Energy and Climate Policy	3

*Electives- 6 credits* \_\_\_\_\_ 6

---

**MINIMUM CREDITS 30\***

*\* Students funded for three years take up to 54 credits; most are taken as research credits (SS6600) but students also can take additional courses, including directed readings (SS6500).*

**Appendix 3G**

**Industrial Heritage & Archaeology, MS – Curriculum planning sheet**  
**(Effective with the 2018-19 academic year)**

*Required Core- 12 credits*

*Semester/Year Completed*

SS6010 Global Industrial History	_____
SS5720 Social Thought	_____
SS6002 Research Design	_____
SS5950 Professional Development	_____
	12

*Methods- 6 credits Choose 2*

	_____
	_____
SS5700 Archaeological Field Methods	
SS5049 GIS for Graduate Researchers	
SS5050 Advanced GIS Methods and Projects	
SS4211 Ethnographic Methods	
SS5230 Arch Analysis and Interpretation	
SS5800 Documenting Buildings	
SS5503 Material Culture Studies	6

*Area/ Topics Courses- 6 credits Choose 2*

	_____
	_____
SS5600 Industrial Archaeology	
SS5502 Historical Archaeology	
SS5501 Industrial Communities	
SS5500 History of Technology	
SS5900 Heritage Management	
SS5530 Deindustrialization and Urban Environments	
SS5550 Global Environmental History	
SS5010 Directed Study	6

*Thesis Credits (SS5990) - 6 credits max\** 6

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**REQUIRED CREDITS 30\*\***

*\* Students electing the Report Option take 3 credits of unrestricted electives and 3 research credits for the Report.*

*\*\* Funded MS students have up to 36 credits available to them.*



**Appendix 3H**

**Industrial Heritage and Archaeology, PhD – Curriculum planning sheet**  
**(Effective with the 2018-19 academic year)**

*Required Core- 15 credits*

*Semester/year completed*

SS6010 Global Industrial History \_\_\_\_\_  
SS5720 Social Thought Contemporary Issues \_\_\_\_\_  
SS6002 Research Design \_\_\_\_\_  
SS5950 Professional Development \_\_\_\_\_  
SS5900 Heritage Management \_\_\_\_\_

*Directed Readings SS6500 (Qual. Exam Prep) – 9 credits*

9

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\_\_\_\_\_  
\_\_\_\_\_

*Electives*

6\*

\_\_\_\_\_  
\_\_\_\_\_

***Minimum Required Credits***

**30\*\***

\* A student funded for three years has up to 54 credits available to them--so 6 credits of electives is a minimum not the norm.

\*\* Student w/o a MS when entering the IHA program must take an additional 30 credits