ENG 5530  Graduate Colloquium in Sustainability

Course Personnel
Instructors:  Dr. John W. Sutherland (MTU)    Dr. Hassan Mahadallah (SUBR)
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Assistants:  Karl Haapala (ME-EM)    Jill Jensen (ChemE)
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Course Details
Time: 4:30 - 5:30 pm, Tuesday    Location: MEEM 208 (MTU), TBD (SUBR)

Course Description
This course will explore interdisciplinary issues related to sustainability. Class periods will consist
primarily of student-led discussions on various technical and professional topics. Topics will
include current research to define the science of sustainability, international issues related to
sustainable development, corporate leadership, and societal issues, as selected by course
participants. Students will complete a term project to address a sustainability problem.
Students/faculty from Southern University – Baton Rouge will participate via videoconferencing.

Course Goals
- Promote awareness of state of the art research in sustainability.
- Promote consideration of immediate and broader impacts of sustainability research.
- Develop skills needed to be an effective professional (e.g., critically review published papers
  and make public presentations).

Course Requirements
Attendance:  Attendance is compulsory for registered students and all IGERT Trainees and
Associates. Participating students will aid in selecting/presenting discussion topics, papers, and
speakers.

Project:  Students registered for credit will lead a project to address a sustainability issue on campus
at MTU or SUBR. Deliverables will include: i) project proposal (brief background, project
goals/timeline, and initial findings), ii) periodic project updates to the class, and iii) report
(executive summary, introduction, problem definition, approach, results, discussion, conclusions,
and opportunities for future work).

Prior Efforts:  The project will build on past efforts such as SS5400 (K. Bradoff's course), which
produced a report on "Developing sustainability indicators for the Michigan Tech Campus," and the
campus carbon footprint project.

Grade Determination
Participation/Attendance  50%
Project Proposal      10%
Project Presentation  20%
Project Report        20%
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Colloquium Schedule - TENTATIVE

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Responsible Party</th>
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</thead>
<tbody>
<tr>
<td>Sept. 4</td>
<td>Project discussion</td>
<td>Course instructors</td>
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<tr>
<td>Sept. 10</td>
<td>Optional lecture: Energy Production and Use</td>
<td>David Allen, Univ. of Texas at Austin 3pm, Dow 642</td>
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<tr>
<td>Sept. 11</td>
<td>Student Research Presentation</td>
<td>Environment/Ecology (Lauren Fry)</td>
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<td>Sept. 18</td>
<td>Professional Development Topic: Due: Project Proposals</td>
<td>Industry/Economics (Jeremy Rickli)</td>
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<td>Sept. 25</td>
<td>New Power Tour, Inc.</td>
<td>Society/Policy (Melissa Davis - TENTATIVE)</td>
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<td>Oct. 2</td>
<td>Discussion of Reading “Knowledge, technology and policy transfer between developed and developing communities”</td>
<td>Environment/Ecology (Valerie Fuchs)</td>
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<td>Oct. 9</td>
<td>Project Update</td>
<td>Industry/Economy (TBD)</td>
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<tr>
<td>Oct. 16</td>
<td>Student Research Presentation</td>
<td>Industry/Economy (TBD)</td>
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<tr>
<td>Oct. 23</td>
<td>Professional Development Topic</td>
<td>Society/Policy (SUBR student)</td>
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<td>Oct. 30</td>
<td>Faculty/Other Presentation</td>
<td>Environment/Ecology</td>
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<tr>
<td>Nov. 6</td>
<td>Discussion of Reading</td>
<td>Industry/Economy (Adam Manty, William Marcinak)</td>
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<tr>
<td>Nov. 13</td>
<td>Student Research Presentation</td>
<td>Social Sciences/Policy (Ginger Richardson - TENTATIVE)</td>
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<td>Nov. 20</td>
<td>Thanksgiving Recess, no class</td>
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<tr>
<td>Nov. 27</td>
<td>Professional Development Topic</td>
<td>Environment/Ecology (Melanie Kueber)</td>
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<tr>
<td>Dec. 4</td>
<td>Project Presentations</td>
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<tr>
<td>Dec. 11</td>
<td>Project Presentations Due: Project Reports</td>
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Proposed Course Projects
1) Defining the Michigan Tech Campus Carbon Footprint and Opportunities for Improvement
2) Michigan Tech Sustainability Island Development (Second Life)
3) Developing the Science in Support of Sustainability