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NRGY 295.50: Energy Technology Practicum II

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Recommended Citation

Layton, Bradley E. and Phear, Nicky, "NRGY 295.50: Energy Technology Practicum II" (2015). *University of Montana Course Syllabi*. 2957.

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DEPARTMENT OF APPLIED COMPUTING AND ELECTRONICS
ENERGY TECHNOLOGY PROGRAM

Bradley Layton

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Energy Technology Practicum II
Course Syllabus

NRGY 295 Energy Technology Practicum II

Co-convenes with CCS 395 Climate Change Practicum

Credits: 2-4

Faculty Supervisors

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Prerequisites

Consent of instructor.

Course Description

For students in the Energy Technology Program who want to design and perform a significant capstone project involving a creative solution to climate change. Students have responsibility for designing their projects, which are subject to faculty approval. Faculty may also propose and supervise specific practicum projects. Project proposal, narrative activity log, documentary report, and public presentation are required.

Learning Objectives

Upon completion of this course, the student will:

- Complete an individual or group project designed to advance climate change mitigation and/or adaptation,
- Integrate and apply information and techniques learned in Energy Technology Program,
- Gain hands-on experience working on real-world climate challenges using various technological approaches,
- Acquire a practical understanding of the opportunities and challenges related to climate change solutions,
- Build partnerships with Climate Change Studies students to advance projects and learn valuable skills in collaboration,
- Practice communicating their knowledge and experience through a written report and oral presentation.

Evaluation

Project proposal	20%
Narrative activity log	10%
Supporting Documents	50%
Final reflective paper	10%
Public presentation	10%

Project Proposal:

Students have responsibility for designing their projects, which are subject to faculty approval. Faculty may also propose and supervise specific practicum projects. Specific projects will change from semester to semester, but may include installing sustainable technologies such as solar thermal systems on campus with funding from the University's KRELF (Kress Revolving Energy Loan Fund), weatherizing low-income homes in Missoula to increase energy efficiency and cost savings, or conducting carbon accounting and developing a biomass project. Students are required to write a two-page, single-spaced project proposal due the beginning of the second week of the semester. Proposals must address the focus and scope of the project, the knowledge and skills to be applied, goals and outcomes for their practicum, final supporting documents to be created, and a brief timeline.

Narrative Activity Log:

Students are required mid-way through the semester to submit a one-page log narrating their work: status of the project; significant accomplishments and challenges; any adjustments to the original plan.

Supporting Documents:

At the end of the semester, students must submit the supporting documents created during the practicum. Students and their faculty member must have a clear plan at the start of the semester. Supporting documents may include, for example, reports, articles, posters, sample memos, educational curriculum, or other items.

Final Technical Paper:

At the end of the semester, students must complete a three- to four-page quantitative report that will include a summary of the project and people involved, key insights, knowledge and techniques applied, skills learned, and contributions made to advance climate change mitigation and/or adaptation. Paper guidelines will be emailed to the student mid-way through the semester. Excerpts from student reports may be posted on a Climate Change Studies website for public viewing.

Public Presentation:

Students will present their project to a spring Climate Change Solutions Symposium. Each May, student and faculty involved in the Climate Change Studies minor will gather to report on their projects and research related to climate change solutions. The purpose of the symposium is to create a space for students, faculty, and community members to meet and learn about research, service, and future opportunities (in course work, research, practicum projects) related to climate change. Students will present for three to five minutes about their project, key insights, and, if relevant, how it relates to their studies in the Climate Change Studies minor.

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University.

All students need to be familiar with the Student Conduct Code. The Code is available for review online at <http://www.umt.edu/SA/VPSA/index.cfm?page?1321>.

Course Credits:

Credits range depending on the amount of work involved (the typical formula is 45 hours of work per credit).