**Contemporary Challenges to a Clean Energy Future – Spring 2011**

**Instructor:** Alan Hardcastle, Ph.D. **Phone:** 360/485-8844 **Email:** [Hardcastlea@evergreen.edu](mailto:Hardcastlea@evergreen.edu)

**Description**: This 4-credit course will examine current trends in the clean energy sector and the intersections with efforts to develop a green and sustainable economy and environment that also enhances social equity. The class will integrate research, policy papers and other readings with guest lectures, seminar discussion and two field trips to explore the current social, technical and political context for the shift to clean energy. The class will include a focus on energy labor markets, human resources issues, education and training, and the societal implications for regional alternative energy and energy efficiency initiatives.



**The overall objectives of the course include:**

* Learning and understanding the current state of clean energy research, technologies and implementation.
* Understanding and interpreting economic, social and environmental research related to clean energy
* Developing and enhancing research and analysis skills
* Improving report writing, summarizing and presentation skills
* Defining potential career interests and identifying employment opportunities in clean energy sectors.

**Class Resources**: All class materials will be posted on the evergreen website, under Clean Energy Future. All class readings and materials, include presentations, articles, books, videos and web links. Other materials will be provided as needed. There is no text to purchase for the class.

**Class Meetings:** Wednesday evenings from 6:00 PM to 10:00 PM. Meetings will be held in a building and room TBD.

**Field Trips:** Two field trips have been scheduled for this course (see below). Both trips are on Fridays. Please make necessary work and personal arrangements as *participation on both trips is expected*.

1. **Friday April 8. 1:15 PM to 4:00 PM**. Olympia LOTT, formal name and address. We will tour, learn about and discuss with LOTT staff a co-generation project that captures methane and uses it to generate electrical power for the facility.
2. **Friday April 22. 7:00 AM to 11:00 PM.** Energy Northwest-Richland, WA: Columbia Generating Station Nuclear Plant and Nine Canyon Wind and Solar Farm. We will drive over and spend the day touring these facilities then meet for discussion with Vice President Jack Baker and his staff.

In addition, the Northwest EcoBuilding Guild is sponsoring a South Sound Green Tour on April 16/17 (Sat/Sun) in Olympia, and students are strongly encouraged to participate in the sessions/workshops at this event. For details: <http://www.ecobuilding.org/guild-chapters/olympia/green-tour>

**Attendance and Course Credit:** Students are expected to attend all class sessions and field trips. Each person brings a perspective, expertise and/or insightful questions, and a significant portion of the learning from this class will be the result of interaction with class participants, guest speakers and field trip experiences. Absences from class or field trips exceeding 10 hours, without prior arrangements with the instructor, will cause a partial loss of class credit.

**Expectations and Evaluation:** Your progress and performance will be evaluated based on the following general criteria:

1. **Participate**: Shared learning and teaching is the responsibility of all students, therefore students are expected to participate in class through group discussions, formal and informal presentations, and by helping to facilitate topic discussions as appropriate. Individuals naturally vary in how they prefer to participate; do your best to contribute and expand your skills in this area.
2. **Complete Assigned Readings**: A portion of class time and field trips will be based on assigned readings, and are therefore central to productive discussions and to maximize learning. Students are expected to complete assigned readings prior to classes and field trips, as noted. Additional readings may be assigned.
3. **Bring Current Events Articles**: Students will be expected to bring one clean energy-related article to share with the class each week; articles may come from journals, newspapers or other sources. Preferably, these articles will relate to the general topic covered that week. Students will summarize the article for the class, and describe the implications for clean energy development or implementation.
4. **Write Field Trip Reports**: You will be expected to take notes during each field trip. Your raw notes are to be converted into a concise, 3-5 page summary describing your observations, key learnings, and any follow-up questions that the experience may have stimulated. *Field trip reports are due and to be* *emailed to the instructor within one week of each field trip*.
5. **Complete Term Paper and Presentations**: This class will require completion of a 12-15 page term paper on a topic related to the focus of the course. The term paper may be co-authored and presented by small teams of students (2-3), and this approach is encouraged. Students will choose the general topic by the Week 3 class, and give a brief presentation on the topic—including the general outline, background research, and early findings—during the Week 6 class. Final, formal presentations of term papers, with visual aids (powerpoint, other) will be delivered by students during the Week 8 or 9 class. The final paper is due Monday, May 30.

**SCHEDULE (Weekly)**

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| **Week/Date** | **Subject** | **Activity** |
| 1 – 3/30 | Overview | Introduction to class. Overview of content and outcomes; energy basics and research |
| **2** – 4/6  4/8 (Fri) | The Context for Clean Energy  LOTT Field Trip | Guest Speakers: Jack Zeiger, Energy Engineer, WSU Extension Energy Program; George Mobus, Professor, UW-Tacoma  Energy Co-Generation Project; 1:30-4:00 at LOTT treatment facility, 500 Adams St., Olympia |
| **3**—4/13  4/15  4/16-17 | Bioenergy and Biofuels; Renewable Energy Policy  Field Trip Report  EcoBuilding Green Tour | Guest Speaker: Peter Moulton, Bio-energy Policy Specialist, Dept. of Commerce  LOTT Field Trip Report due 4/15  Participate: Explore technologies, career options and collect term paper data/resources. |
| **4**—4/20  4/22 (Fri) | Solar, Wind and Nuclear Energy  Energy NW Field Trip | Guest Speaker TBD  Depart at 6:45 AM for Richland. Meet at Evergreen: time/location; return by 11:00 PM. |
| **5**—4/27    4/29 | **NO CLASS**  Field Trip Report | Work on Term paper and field trip report  Energy NW Field Trip Report due 4/29 |
| **6**—5/4 | Energy Efficiency | Guest Speaker TBD |
| **7**—5/11 | Clean Energy Policy and Legislation | Guest Speaker: Tony Usibelli, Director of Energy Policy, Dept. of Commerce; Scott Richards, Staff Policy Analyst, Washington State House of Representatives; |
| **8**—5/18 | Clean Energy Economy and Social Equity | Guest Speakers: Sean Bagsby, Director of Alternative Energy, IBEW Local 46; Rhys Roth, Co-Director, Climate Solutions |
| **9**—5/25 | Energy Workforce Education and Training | Barbara Hins-Turner, Executive Director, Pacific Northwest Center of Excellence for Clean Energy;; Bob Guenther, Lobbyist, IBEW Local 77. |
| **10**—6/1 | Clean Energy Careers | Speakers TBD |
| TBA | Evaluation Conferences | Schedule with instructor. |