GEOG 470 ENERGY ENVIRONMENT & SOCIETY (modified May 25th)

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Office: HSS 211 Office Phone: 838-8381

Office Hrs: Tuesday 1-5, Thursday 12-1 e-mail: mcgladm@wou.edu

Classroom: HSS 331 Class meets: T 5:15-9:05

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**Description**: This course will examine fundamentals of energy studies, the historical linkages between energy conversions and societal development, the modern energy system, fossil fuel combustion and climate change, emerging solar-based energy systems, other alternative energy sources, and energy and public policy at various scales.

**Assigned Readings**:

-Vaclav Smil (2006). Energy: a Beginner’s Guide. One World, Oxford. (First Edition). Note that later printings are suitable for this course, but the page numbers listed in the reading questions apply to the first printing.

-Online readings are posted on next page. Some others may be posted from time to time. There will also be required in class video viewings TBA.

**Requirements:** Graded activities for the class include weekly quizzes, a final exam, a worksheet, and a final written project/presentation. Worksheets may be assigned at instructor's discretion. No make up quizzes will be given, though the lowest score will be dropped. Therefore, please do not miss a quiz at your discretion, and then later have unforeseen circumstances prevent you from taking another one. Quizzes will be over all the previous weeks' readings, and will be open note unless otherwise noted.

**Project**: A person energy assessment will be done by each student. The first part, an electricity worksheet, will be assigned week 2. Later, an energy assessment consisting of diet, transportation, and other activities will be combined with your electricity worksheet to form the basis for your final project. Students will present projects in a practice session Tuesday, May 27, and later in the WOU Academic Excellence Conference Thursday, May 29 in the afternoon (exact time to later be announced).

Approximate weighting of requirements: quizzes 40%, final exam 25%, final project 25%, discussion/participation 10%. The grading scale:

A 90-100

B 80-90

C 70-80

D 60-70

F <60

Any student needing an accommodation for any type of disability should talk me during office hours or e-mail me the first week of the course and should contact the Office of Disability Services (838-8250v/tty).

Regarding e-mail: I will check my e-mail daily for messages, except sometimes not on Saturdays.

**TENTATIVE COURSE OUTLINE\***

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|  | Topic(s) | Assigned Reading |
| April 1 | introductory concepts | Smil chapter 1 (reading/study questions posted at [www.wou.edu/~mcgladm](http://www.wou.edu/~mcgladm))  Also:  <http://ngm.nationalgeographic.com/2009/03/energy-conservation/miller-text.html> |
| April 8 | energy in the biosphere,  electricity worksheet assigned | Smil chapter 2  (reading/study questions posted at www.wou.edu/~mcgladm) |
| April 15 | original solar-powered societies | Smil chapter 3  (reading/study questions posted at www.wou.edu/~mcgladm) |
| April 22 | burning buried sunshine: fossil fuel man | Smil chapter 4,  Can Coal Ever be Clean?  <http://ngm.nationalgeographic.com/2014/04/coal/nijhuis-text>  (reading/study questions posted at www.wou.edu/~mcgladm) |
| April 29 | modern society & energy, **electricity wksht. due** | Smil chapter 5  (reading/study questions posted at www.wou.edu/~mcgladm) |
| May 6 | the carbon cycle and climate change in today’s biosphere | Sigma Xi (2007) Confronting Climate Change, chapter 1:  <http://www.globalproblems-globalsolutions-files.org/unf_website/PDF/climate%20_change_avoid_unmanagable_manage_unavoidable.pdf> reading questions for Sigma Xi report at:  <http://www.wou.edu/~mcgladm/Geography%20470%20Energy/Unit%202%20for%20exam%202/>  ~~Spencer Wearhart,~~ ***~~Greehouse Gas Science History~~***  ~~Questions in unit 1 folder for GEOG 470 at www.wou.edu/~mcgladm~~ |
| May 13 | case for a modern solar-based society; what about nuclear? | ~~Friedman chapters 4, 6, 8, and perhaps 9~~  ~~Questions in unit two folder for GEOG 470 at~~ [~~www.wou.edu/~mcgladm~~](http://www.wou.edu/~mcgladm)~~.~~  Instead we will do 2 Billion Cars, and Friedman Ch 11 The Stone Age Didn’t End… All readings and questions in the “some required material” subfolder. |
| May 20 | alternative energy systems  ~~personal energy assessment due in class and electronically~~ | Grand Solar Plan, Scientific American  PDF in the “some required material folder” of the 470 class.  Smil chapter 6 Questions for both readings in ~~unit two~~ some required folder material folder for GEOG 470 at www.wou.edu/~mcgladm |
| May 27  ~~May 29~~ | alternative energy systems  personal energy assessment due in class and electronically  ~~student presentations at Academic Excellence Day~~ | for closed note quiz next week (June 3):   1. solar energy intro notes 2. passive solar house PDF   both of above readings in “for quiz June 3…” subfolder of “some required material” folder   1. basics of May 23 Oregonian article “Jordan Cove LNG Terminal (what is proposed, arguments for and against): <http://www.oregonlive.com/business/index.ssf/2014/05/jordan_cove_lng_terminal_in_co.html> |
| Week of June 3 | getting there  in-class presentations |  |
| **Tuesday June 10th** | **Final Exam 5:15 p.m.** | Comprehensive written exam |

**\***reading list and all other details are subject to changes. This syllabus is a rough guide to the readings and other activities. We will be viewing a number of online documentaries in the class.