TESC 239 Energy and the Environment Course Syllabus

NOTE: The syllabus is subject to change. All changes will be posted on the course website.

Meeting times:   
Room:

Instructor: Julie Masura  
Office Location:

Office Phone: 253-692-4317  
Office hours:   
Email: [jmasura@u.washington.edu](mailto:jmasura@u.washington.edu)   
  
Course Description: Provides an overview of various renewable and non-renewable energy resources, their distribution, availability, patterns of use, and impact on the environment. Evaluates relative energy efficiencies, as well as political and economic impacts on energy.

Required Materials:

Wolfson, R. 2008. Energy, Environment, and Climate. New York: Norton & Company. 532 pp. (ISBN 0-393-92763-6)  
Scientific Calculator

Access to internet

Group Project:

National Alternative Energy Issues

Set up groups

Choose Topic  
Annotative Bibliography (10 points)

Proposal (20 points)

Poster Session (35 points)

10 minute presentations, 5 minute questions (35 points)

Quizzes: Scheduled as outlined on the agenda.  Quizzes will be taken online and are open book and note.  All information covered in the reading will be fair game

Exams:

Exam 1: Chapters 1-4

Exam 2: Chapters 1-8  
Exam 3: Chapters 1-12  
Exam 4: Chapters 1-16

Participation: Each student will start off with 10 points of participation. 1 point will be deducted for each activity missed. Partial attendance will result in no points earned for the day. Don’t worry, it is only one point.

COURSE GRADING:

|  |  |
| --- | --- |
| Factor | Percentage |
| Activities | 30 |
| Group Project | 10 |
| Quizzes | 20 |
| Examinations | 30 |
| Participation | 10 |
| Total | 100 |

Grading Scale:

|  |  |  |
| --- | --- | --- |
| Percentage Earned | Grade-Point Equivalent | Letter-Grade Equivalent |
| 100-98 | 4.0 | A+ |
| 97-96 | 3.9 | A |
| 95-94 | 3.8 | A |
| 93-92 | 3.7 | A- |
| 91 | 3.6 | A- |
| 90-89 | 3.5 | B+ |
| 88-87 | 3.4 | B / B+ |
| 86 | 3.3 | B |
| 85 | 3.2 | B |
| 84 | 3.1 | B |
| 83 | 3.0 | B / B- |
| 82 | 2.9 | B- |
| 81 | 2.8 | B- |
| 80 | 2.7 | C / C+ |
| 79 | 2.6 | C |
| 78 | 2.5 | C |
| 77 | 2.4 | C |
| 76 | 2.3 | C |
| 75 | 2.2 | C |
| 74 | 2.1 | C- |
| 73 | 2.0 | C- |
| 72 | 1.9 | C- / D+ |
| 71 | 1.8 | D |
| 70 | 1.7 | D |
| 69 | 1.6 | D |
| 68 | 1.5 | D |
| 67 | 1.4 | D |
| 65 | 1.2 | D- |
| 64 | 1.1 | D- |
| 63 | 1.0 | D- |
| 62 | 0.9 | D- |
| 61 | 0.8 | D- |
| 60 | 0.7 | D- |
| ‹ 59 | 0.0 | F |

Extra Credit: Extra credit opportunities will be available for up to 10 extra credit points total. These will include listening to evening lectures, reading, or participating in environmental science activities. One extra credit opportunity will be worth 5 points. You can participate in 2 for credit. Your extra credit points will be applied to your quiz points at the end of the semester.

Late Work: I will accept late work. One point will be deducted for every class period the assignment is late.

Inclement Weather: Call (253) 383-INFO to determine whether campus operations have been suspended. If not, but driving conditions remain problematic; call the professor's office number. This number should provide information on whether a particular class will be held or not, and/or the status of pending assignments. If the first two numbers have been contacted and the student is still unable to determine whether a class(es) will be held, or the student has a part-time instructor who does not have an office phone or contact number, call the program office number for updated information.

Disability Support Services: If you would like to request academic accommodations due to a temporary or permanent disability, send an email to [dssuwt@u.washington.edu](mailto:dssuwt@u.washington.edu) or see the Disability Support Services Manager, in the Mattress Factory Bldg, Suite 253. An appointment can be made by calling253-692-4522. Appropriate accommodations are arranged after you've conferred with the DSS Manager and presented the required documentation of your disability to DSS.

The Center for Teaching, Learning, and Technology (TLC): The Teaching and Learning Center (TLC) offers academic support for students at all levels.

For writing, reading, learning strategies and public speaking needs, please make an appointment online at: <http://appt.tacoma.washington.edu/signup/index.shtml> or drop by KEY 202 during drop-in hours; 9 a.m. - 7 p.m. (M-Th) and 9 a.m. – 3 p.m. (F). Writing support is also available at our online writing center at [uwtwrite@u.washington.edu](mailto:uwtwrite@u.washington.edu) More information about our online writing center is available at: <http://www.tacoma.washington.edu/tlc/students/uwtwrite/>

For math, stats and quantitative needs, assistance is available on a drop-in basis in KEY 202. Please check our schedule at: <http://www.tacoma.washington.edu/ctlt/about_us>. For special needs, please contact Ingrid Horakova at [horaki@u.washington.edu](mailto:horaki@u.washington.edu)

Library: The UWT Library provides resources and services to support students at all levels of expertise. We guide students through the research process, helping them learn how to develop effective research strategies and find and evaluate appropriate resources. For assistance or to schedule an appointment, visit us at the Reference Desk in the Library, email [tacref@u.washington.edu](mailto:tacref@u.washington.edu) or phone 253-692-4442. For more information about the Library and its services, see <http://www.tacoma.washington.edu/library/>

Incomplete: <http://www.washington.edu/students/gencat/front/Grading_Sys.html#I>

An Incomplete is given only when the student has been in attendance and has done satisfactory work until within two weeks of the end of the quarter and has furnished proof satisfactory to the instructor that the work cannot be completed because of illness or other circumstances beyond the student's control. A written statement of the reason for the giving of the Incomplete, listing the work which the student will need to do to remove it, must be filed by the instructor with the head of the department or the dean of the college in which the course is given.

Campus Safety:

### Escort Service: Safety Escorts are available Monday - Thursday 6 a.m. – 11 p.m. and Friday 6 a.m. to 10 p.m. They can be reached either through the duty officer or by dialing #300 from a campus phone or 253-692-4416.

### In case of a fire alarm: Take your valuables and leave the building. Plan to return to class once the alarm has stopped. Do not return until you have received an all-clear from somebody "official," the web or email.

### In case of an earthquake: DROP, COVER, and HOLD. Once the shaking stops, take your valuables and leave the building. Do not plan to return for the rest of the day. Do not return to the building until you have received an all-clear from somebody "official," the web or email.

For more information, please refer to the Emergency and Safety Plan prepared by the UWT Safety Committee: <http://www.tacoma.washington.edu/safety/emergency/Emergency_plan.pdf>

Plagiarism: A major part of your experience in the class will be reading, synthesizing, and using the knowledge and ideas of others. It is the responsibility of the faculty to help you in this process and to be certain you learn to credit the work of others upon which you draw. To plagiarize is to appropriate and to pass off, as one's own ideas, writing or works of another. Plagiarism is no less of a misconduct violation than vandalism or assault. Ignorance of proper documentation procedures is the usual cause of plagiarism. This ignorance does not excuse the act. Students are responsible for learning how and when to document and attribute resources used in preparing a written or oral presentation.

For more information, please refer to the Academic Honesty: Cheating and Plagiarism document prepared by the Committee on Academic Conduct in the College of Arts and Sciences, UW Seattle: <http://depts.washington.edu/grading/issue1/honesty.htm>

Student Counseling Services: To schedule an appointment with a counselor, please call the front desk in Student Affairs at 692-4522. Appointments are available as soon as the next day. We are open for appointments Monday through Thursday from 9 a.m. to 6 p.m. and on Friday from 9 a.m. to noon. If crisis services are needed outside of these hours, call Emergency Services at 911. Services are currently free, with the exception of any assessment or testing fees or outside consultations that may be necessary.

For more information, please refer to the Student Counseling Center web page: <http://www.tacoma.washington.edu/student_affairs/counseling/>

Email Policy: <http://www.tacoma.washington.edu/policies_procedures/E-mail_Policy.pdf>

Electronic Devices: Electronic devices (including, but not limited to, cell phones, pagers, laptops, and personal digital assistants) may only be used in the classroom with the permission of the instructor. Activities that are non-relevant to the course, such as checking/ sending email, playing games, and surfing the web, are considered disruptive activities when class is in session.

TESC239 Course Agenda:

|  |  |  |  |
| --- | --- | --- | --- |
| **Week/Day** | **Topics** | **Readings** | **Assignments/Activities** |
| 1 () | Introduction to Energy |  |  |
| Tuesday () | Earth and Energy | Chapter 1 A Changing Planet, p. 1-21.  Boyle, G., B. Everett, and J. Ramage, 2003, Energy Systems and Sustainability, Oxford: Oxford University Press, pp. 95-109. | Quiz 0 () Quiz 1 () Assignment 1 () |
| Thursday () |  |  | Graphing Module |
| 2 () | Energy and Heat |  |  |
| Tuesday |  | Chapter 2 High-Energy Society Reddy, A.K.N., and J. Goldemberg, 1991, Energy for the Developing World, in Energy for Planet Earth, Scientific American, p. 59-71. | Quiz 2 () Assignment 2 () |
| Thursday () | Energy Conversion | Chapter 3 Energy: A Closer Look  Evans, R., L. 2007, The energy conversion chain *in* Fueling Our Future, Cambridge: Cambridge University Press, pp. 10-17. | Annotative Bibliography () Plotting Points Module |
| 3 () |  |  |  |
| Tuesday () |  | Chapter 4 Energy and Heat  McFarland, E.L., J.L. Hunt, and J.L. Campbell, 1998, Energy and Power in Today’s World in Energy, Physics, and the Environment, p. 1-25. | Quiz 3 () Assignment 3 ()  Peer Review Annotative Bibliographies (form research groups) () |
| Thursday () |  | Chapter 5 Fossil Fuel Energy Hubbert’s Peak | Conversions Module |
| 4 () |  |  |  |
| Tuesday () |  | Chapter 6 Environmental Impacts of Fossil Fuels  The Future of Hydrocarbons: Hubbert’s Peak or Plateau. | Quiz 4 () Assignment 4 () |
| Thursday () |  |  | Rates Module |
| 5 () |  |  |  |
| Tuesday () |  | Chapter 7 Nuclear Energy | Quiz 5 ()  Assignment 5 () |
| Thursday () |  | Chapter 8 Energy from Earth and Moon | Exam 1: Chapters 1-4 () |
| 6 () |  |  |  |
| Tuesday () |  | Chapter 9 Direct from the Sun: Solar Energy | Quiz 6 () Assignment 6 () |
| Thursday () |  | Chapter 10 Indirect from the Sun: Water, Wind, Biomass | Reading Points from a Line Module |
| 7 () |  |  |  |
| Tuesday () |  | Chapter 11 Hydrogen Futures? | Quiz 7 () Assignment 7 () |
| Thursday () |  |  | 5 minute presentation on group topic () Create poster plan ()  Rearranging Equations Module |
| 8 () |  |  |  |
| Tuesday () |  | Chapter 12 Keeping Warm: The Science of Climate | Quiz 8 () Assignment 8 () |
| Thursday () |  | Chapter 13 Forcing the Climate | Exam 2: Chapters 1-8 () |
| 9 () |  |  |  |
| Tuesday () |  | Chapter 14 Is Earth Warming? | Quiz 9 () Assignment 9 ()  Peer Review Poster Plan () |
| Thursday () |  |  | Quiz 13 ()  Assignment 13 ()  Rearranging Equations Module |
| 10 () |  |  |  |
| Tuesday () |  |  | Quiz 10 ()  Assignment 10 () |
| Thursday () |  |  | Exam 3: Chapters 1-12 |
| Finals |  |  |  |
|  |  |  | Final Exam: Chapters 1-16 |