

Syllabus for ENVR 151/PHYS 151

Course Name: Sources of Energy and Environment		
Course Code: ENVR 151/ PHYS 151	Course Type (Core)	Course Credits: 3
Class Timings: Day M,W,F	Timings 09:00-09:50 am	Class room S424
		Student Meeting Hours Monday, Wednesday 12:00-14:00 pm Office S160
Instructor Name: Sumaira Akram Designation: Lecturer (Environmental Sciences)		
Instructor Contact Details Email: sumairaakram@fccollge.edu.pk Mobile and WhatsApp (03205500282) Guidelines for contacting instructor: If you have any question, please send me an email. If you do not get reply from email then send me text on my number.		
Course Description: Pre-requisites if any: None This course is intended to introduce students to the whole area of energy, connection between energy use and sustainability, how current energy use is contributing to global climate change, the difference between renewable and non-renewable energy sources, how to identify and distinguish between different forms of renewable energy, and understand the advantages and disadvantages of different renewable energy sources which are of vital importance for a sustainable future.		
Course Objectives or Student Learning Outcomes-(SLOs) By the end of the course, the students will: <ul style="list-style-type: none">• gain a good knowledge of renewable and non-renewable energy sources being used today.• learn the importance of the sun, the atmosphere and the earth's temperature• understand how renewable energy can be used to help reduce greenhouse gases• be more aware of the impact of the industrial age and the evidence of global warming that is affecting our environment		
Main Mode of Instruction: Course material delivery: Course material will be available on Moodle . All students are required to use their Moodle account to access the course. Course material includes textbook chapters, printable lecture slides, videos, reading material etc. Students have to prepare the assignments/activities as instructed and submit on Moodle within due date.		

Course Content, Learning Material & Activities Schedule

Week	Contents
1	Introduction to the energy topic Fossil Fuels, Formation of Coal, resources and consumption
2	Conventional energy resources Petroleum, history of production, world resources, regional and Pakistan resources, cost, refining, Future Natural gas, Resources in the world, regional and Pakistan resources, Future Oil Shale and Tar sand
3	Fossil fuels (environmental concerns)
4	Promise and problems of nuclear energy A short history of Nuclear Energy, Nuclear reactors, Nuclear fuel cycle, Nuclear accidents, Environmental concerns Quiz 1
5	Nuclear waste management
6	Air pollution and global impacts
7	Air pollution control strategies Quiz 2
8	Alternative energy sources (wind, solar, tidal etc.) Mid Term exam
9	Biomass and municipal solid waste as energy source
10	Biofuels, carbon capture and waste to energy technologies
11	Transportation and energy use Quiz 3
12	Urban and indoor air pollution
13	Green infrastructure Presentations
14	Energy management/ Energy auditing
15	Revision, Summary
16	Final Project FINAL Term exam

Textbooks, Materials, Supplies and other Resources

1. Environmental Science: Earth as a Living Planet, Botkin, Daniel B., Keller, Edward A. 9th Edition, 2014.
2. Energy and the Environment by R.A. Ristinen and J.J. Kraushaar, 2nd Edition John Wiley and Sons, Inc. Boyle, Godfrey, 2012.

Course Requirements:

In order to pass this course students need to complete assessment activities given in above table. Due dates for each activity submission is given in the table.

The breakup is as follows:

Assignments (written, PowerPoint, Poster, discussion sessions)	50%
Quizzes (2*5):	10%
Mid term exam:	10%
Final Project	30%
TOTAL	100%

Attendance Policy:

Attendance will be marked for all the classes and carries 5% marks in overall grading. If you will miss any class inform me in advance

Classroom Participation:

-Classroom participation will be part of your assessment. You will be given tasks in groups during class where you are required to participate actively.

Grade Determination & Course Assessment as per FCC Policy:

- *Missed exams will influence your over grades*
- *Late submissions of assignments will affect your grades as it carries 5% marks*

Grading Legend

Below is the grading legend of FCCU

Grade	Point Value	Numerical Value	Meaning
A	4.00	93-100	Superior
A-	3.70	90-92	
B+	3.30	87-89	Good
B	3.00	83-86	
B-	2.70	80-82	
C+	2.30	77-79	Satisfactory
C	2.00	73-76	
C-	1.70	70-72	
D+	1.30	67-69	Passing
D	1.00	60-66	
F	0.00	59 or below	Failing

Student Conduct & Other Issues:

- Classroom interactions will remain civil, respectful, and supportive.

Student Support Services

Go through following documents for additional support

[Student Counseling Services](#)

[Writing Center](#)

[Mercy Health Center](#)

[Sexual Harassment Policy](#)

[Anti-Corruption Policy](#)

[Academic integrity](#)

[Plagiarism Policy](#)

[Academic Calendar](#)

[FCC Policy for Fall Semester 2020](#)

Note: I expect that you will strictly follow the core values of FCCU and put your entire efforts to learn as per the course requirements, attend classes, read the textbook(s)/other assigned reading material and do the assignments in the stipulated time period.