**ENVR 201 (A)**

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| **Course Name: Introduction to Environmental Sciences**  |
| **Instructor Name: Dr. Shazia Ilyas** **Designation: Assistant Professor (Environmental Sciences)** |
| **Course Code: ENVR201****Section: A** | **Course Type (Major, Core)** | **Course Credits: 4 (3+1)** |
| **Class Schedule** **Day Day and Timings Class room**Theory Class Monday, Wednesday, Friday (10:00-10:50 am) S341Lab Class Wednesday (02:00-03:50 pm) S417 |
| **Instructor Contact Details****Email:** shaziailyas@fccollge.edu.pk**Office Hours:** I will be available every Thursday from 10:00-12:00 hrs in S160. You can visit me during these hours.  |
| **Course Description**This course provides thorough understanding of the environmental sciences subject. Major environmental problems such as over population, non-renewable and renewable energy, loss of biodiversity, effect of agriculture, water and air pollution, climate change, solid waste, urban planning along with their causes and consequences will be discussed. Possible solutions are suggested with emphasis on conservation and management of the environment problems.  |
| **Course Objectives or** To introduce students to: 1. Natural environment and interaction with ecosystems
2. Environmental problems of local, regional and global origin
3. The causes and various impact of major environmental problems
4. Strategies to tackle environmental problems

[**Student Learning Outcomes**](https://docs.google.com/document/d/1me9vpl8iKR_zNX9gIODm7gkVFY9VkuSKpUJe1VyI57M/edit) **(SLOs)**After completion of the course the students will be able to:1. Possess key content knowledge
2. Understand natural environment and different ecosystems
3. Recognize and understand environmental problems
4. Understand the causes and various impact of major environmental problems
5. Suggest solutions to tackle with environmental problems to save our planet
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| **Main Mode of Instruction:** *(Moodle)** ***Course material delivery:***Course material will be available on [Moodle](http://tmoodle.fccollege.edu.pk/moodle/faq/index.html). All students are required to use their Moodle account to access the course. Course material includes textbook chapters, printable lecture slides, recording of class lectures, videos, reading material etc. Students will be asked to download them and study. Instruction will be sent through Moodle notifications. Students will be able to download the materials whenever their internet is good enough. Students have to prepare the assignments/activities as instructed and submit on Moodle within due date.
* ***Lecture delivery:*** We will follow in person classes. Main mode of teaching will be lectures, discussions during classes, out of class study (case study, discussion forums, any assigned home activity).

**Technology Requirements:**  *For this course you need a desktop or laptop or tablet/mobile with Moodle app. We will use Moodle (for course material, activities and assignments submission, Microsoft word, Excel and PowerPoint (for activities or assignments preparation). Due to nature of this course Lab component (1 credit hour) of this course is blend of worksheets activities and lab experiment activities which requires good command on Microsoft word and excel usage.*  |

**Course Contents**

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| **Week no.** | **Topic** | **Content breakdown** |
| **1** | Introduction to course | Introduction to course,Objectives/SLOs**,** Course content**,** Assessment**,** Grading**,** Class Netiquettes, Icebreaker Activity, Students IntroductionIntroduction to Environment and Environmental sciences studies |
|  | Activity1 | Documentary |
| **2** | Environmental Issues | Global env issues, Local env issues, Sustainability, Science and Values |
|  | Activity2 | Human Impacts on Environment |
| **3** | Ecosystems & Communities  | Ecosystem as basic life support system, Food chains, food webs, and trophic levels, Attributes of ecosystem, Ecological succession |
|  | Activity3 | Trophic Cascades and Keystone Species |
| **4** | Biodiversity Issues | Biodiversity loss, Valuing the biodiversity, Threats to biodiversity, Preservation of biodiversity |
|  | Activity4 | Biodiversity loss |
| **5** | Population Dynamics | Human Population growth, Age structure, Demographic transition, Carrying capacity of Earth |
|  | Activity5 | Population Data Analysis |
| **6** | Biogeochemical Cycles | Water cycle, Carbon cycle, Nitrogen cycle, Phosphorous cycle, Sulphur cycle |
|  | Activity6 | Carbon Cycle and Climate Change |
| **7** | Solid Waste Management | Solid waste generation and types, Envi. Impacts of solid waste, Waste Management practices |
|  | Activity7 | Composting |
| **8** | Energy Sources & Environment (Non-Renewable) | Non-renewable Energy sources (coal, oil, gas, nuclear), Environmental impactsAdvantages/disadvantages |
|  | Presentations | Group1, 2, 3, 4, 5 |
| **9** | Mid term break |
| **10** | Energy Sources & Environment (Renewable) | Renewable energy sources (Wind, water, solar, tidal, geothermal, biofuels) Environmental impacts, Advantages/disadvantages  |
|  | Presentations | Group 6, 7, 8, 9, 10 |
| **11** | Air Quality Issues | Air pollution, Gaseous and particle pollutants, Effects of air pollution on health, Management of air quality  |
|  | Activity8 | Measuring Air Quality |
| **12** | Water Pollution | Water resources, water pollution, impacts of water pollution, water pollution control |
|  | Activity9 | Water quality and treatment |
| **13** | Climate change/Global warming | Greenhouse effect, Greenhouse gases, Global warming/climate changeImpacts, Mitigation measures |
|  | Activity10 | Predicting Future of Earth’s Climate |
| **14** | Agriculture & Pest Management | Agriculture for man, Use of pesticides, Env impacts of pesticides, Integrated pest management |
|  | Activity11 | Can we feed growing population |
| **15** | Land Use Planning and Environment | Urbanization and environmental issues, Urban planning, Eco green cities |
|  | Activity12 | Urban planning-A River Puzzle |
| **16** | Sustainable Development Goals | Sustainable Development Goals (SDGs), History, Current status, Status in Pakistan |

**Course Requirements:**

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

The breakup is as follows:

**Class Participation (attendance, timely activity submissions) 5%**

**Assignments (written, PowerPoint, case study, discussions)** 40%

**Quizzes (3\*5):**  15%

**Final term exam:** 15%

**Lab activities 25%**

**TOTAL 100%**

**Attendance Policy:**

*Attendance will be marked for all the classes, students with less than 75% attendance will not be allowed to attempt final exam, 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

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| --- | --- | --- | --- |
| **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](https://www.fccollege.edu.pk/ccc/campus-counseling-center/)

[Writing Center](https://www.fccollege.edu.pk/faculty-of-humanities/writing-center/)

[Mercy Health Center](https://www.fccollege.edu.pk/mercy-health-center/)

[Sexual Harassment Policy](https://www.fccollege.edu.pk/wp-content/uploads/2018/05/Doc1.pdf)

[Anti-Corruption Policy](https://www.fccollege.edu.pk/wp-content/uploads/2018/05/Anti-corruption.pdf)

[Academic integrity](https://www.fccollege.edu.pk/policy-on-academic-integrity/)

[Plagiarism Policy](https://www.fccollege.edu.pk/wp-content/uploads/2018/05/FCCU-Plagiarism-Policy.pdf)

 [Academic Calendar](https://www.fccollege.edu.pk/academic-calendar/)

 [FCC Policy for Fall Semester 2020](https://docs.google.com/document/d/1DT4BSJD6eqy8rwyNEsFF6PPL5DLkSuMwpLGFpN69Y_4/edit)

***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.*