

ENSC-312: ENVIRONMENTAL IMPACT ASSESSMENT (THEORY) (3 Credit hrs)

PRE-REQUISITES: F.Sc. or equivalent

LEARNING OUTCOMES

- This course will provide an introduction to the Environmental Impact Assessment to the students.
- The students will learn how to identify the physical, biological and cultural impacts
- They will have the knowledge about the role of EIA in decision making.
- The students will get used to how to manage different Environmental Impacts.

CONTENTS

This course provides an insight the importance and historical development of EIA, principles and purposes of IEE and EIA and main stages in EIA process. It also includes methods and techniques for impact prediction and evaluation, EIA review, EIA process management and overview of EIA regulations of Pakistan.

Theory

Unit-1: Introduction to EIA

- 1.1. Definition, Principles, Origin and Development of EIA
- 1.2. Purposes, Objectives, Scope and Effectiveness of EIA
- 1.3. Different types of impacts considered in EIA
- 1.4. Physical, Biological and Social Aspects.

Unit-2: Screening and Scoping in EIA

- 2.1. What is Screening and how is it done
- 2.2. Checklists for Screening and Project Categorization
- 2.3. Scoping, its Purpose, Objectives Guiding Principles
- 2.4. How Scoping is undertaken and Role of Public

Unit-3: Methods and Techniques for Assessment of Impacts

- 3.1. Methods and Techniques used for Assessing Impacts in EIA
- 3.2. The most Frequently used EIA Methods and Techniques
- 3.3. Moderately used Methods and Techniques
- 3.4. Low usage of Methods and Techniques

Unit-4: Public Participation and Consultation in EIA

- 4.1. Key Role of Public Participation and Consultation in the EIA Process
- 4.2. The Public and Public Interest, Stakeholders and their Representatives
- 4.3. History and Rationale of Public Involvement in EIA
- 4.4. Participation and Consulting Techniques, Public Participation in Pakistan

Unit-5: EIA Baseline Data Collection, Consideration of Alternatives and Mitigation

- 5.1. What Baseline Data need to be Collected and Reported in EIA
- 5.2. Role of Alternatives in EIA
- 5.3. The Importance of Avoidance, Mitigation, as well as Compensation Measures
- 5.4. EIA Requirement of the World Bank and the Asian Development Bank

Unit-6: EIA Reporting and EIA Report Quality Review

- 12.1. The EIA Report, Focus of an EIA Report
- 12.2. Pakistan Guidelines for Preparing Environmental Reports of Specific Sectors
- 12.3. The Importance of EIA Quality Review, EIA Report Quality Review Packages
- 12.4. The EIA Report in Pakistan
- 12.5. Exercises related to IEE/EIA

TEACHING – LEARNING STRATEGIES

- Lecture based examination
- Presentation/seminars
- Class discussion
- Quizzes
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ASSIGNMENTS – TYPE AND NUMBER WITH CALENDAR

It is continuous assessment. The weightage of Assignments will be 25% before and after midterm assessment. It includes:

- classroom participation,
- attendance, assignments and presentation,
- homework
- attitude and behavior,
- hands-on-activities,
- short tests, quizzes etc.

ASSESSMENT AND EXAMINATIONS:

Sr. No.	Elements	Weightage	Details
1.	Mid Term Assessment	35%	It takes place at the mid-point of the semester
2.	Formative Assessment	25%	It is continuous assessment. It includes: classroom participation, attendance, assignments and presentation, homework, attitude and behavior, hands-on-activities, short tests, quizzes etc.
3.	Final Assessment	40%	It takes place at the end of the semester. It is mostly in the form of a test, but owing to the nature of the course the teacher may assess their students based on term paper, research proposal development, field work and report writing etc.

RECOMMENDED TEXT BOOKS / SUGGESTED READINGS

1. Baharul, I.K.M., and Mahfooz, N.Z. (2021) Environment Impact Assessment: Precept & Practice, CRC Press.
2. Biswas, W. (2020) Environmental Impact Assessment of Buildings, Sciprofile.
3. Manyuchi, M. M., Mbohwa, C., Muzenda, E., & Sukdeo, N. (2020). *Environmental Impact Assessments and Mitigation*. crc Press.
4. Morrison-Saunders, A. (2018). *Advanced introduction to environmental impact assessment*. Edward Elgar Publishing.
5. Fisher, T.B., and Nadeem, O. (2014) Environmental Impact Assessment: Course Curriculum for Higher Education Institutions in Pakistan, National Impact Assessment Programm.