

GUJARAT TECHNOLOGICAL UNIVERSITY, AHMEDABAD, GUJARAT

COURSE CURRICULUM
COURSE TITLE: ENVIRONMENTAL IMPACT ASSESSMENT
(COURSE CODE: 3361306)

Diploma Programme in which this course is offered	Semester in which offered
Environment Engineering	Sixth

1. RATIONALE

Environmental Impact Assessment course is a course for giving students opportunity to understand the purpose of Environmental Impact Assessment studies for making decision for better environmental management. The major components, processes, and attributes to EIA systems will be dealt in the course. The course will also introduce different aspects and methodologies of planning and managing an EIA study.

2. COMPETENCY

The course content should be taught and curriculum should be implemented with the aim to develop required skills in the students so that they are able to acquire following competency:

- **Undertake Environmental Impact Assessment studies of different projects**

3. COURSE OUTCOMES (COs)

The theory should be taught and practical should be carried out in such a manner that students are able to acquire required learning outcomes in cognitive, psychomotor and affective domain to demonstrate following course outcomes:

- i. Identify Environmental Impacts and methods of their assessment.
- ii. Select the mitigation methods of different Environmental Impacts.
- iii. Interpret the implications Environmental attributes, Environmental settings and EIA notifications
- iv. Implement the Prediction Methods of assessments of Impacts
- v. Interpret the EIA notification 2006 and its amendments.

4. SCHEME OF STUDIES AND EXAMINATIONS :

Teaching Scheme (In Hours)			Total Credits (L+P+T)	Examination Scheme				
				Theory Marks		Practical Marks		Total Marks
L	T	P	C	ESE	PA	ESE	PA	
3	0	0	3	70	30	-	-	

Legends : L-Lecture ; T-Tutorial /Teacher Guided Student Activity ; P-Practical ; C-Credit ; ESE-End Semester Examination ; PA –Progressive Assessment

5. COURSE CONTENT DETAILS

Unit	Major Learning Outcomes (In Cognitive Domain)	Topics and Sub-topics
UNIT-I Concepts of Environmental Impact Assessment	1a. Explain the concept of sustainable development. 1b. Explain important terms related to Environmental Impact Assessment (EIA) 1c. Explain the role of public participation in environmental decision making process	1.1 Sustainable Development 1.2 Logic of Sustainable Development; 1.3 Methods to Achieve Sustainable Development 1.4 Environmental Impact Analysis 1.5 Environmental Impact Assessment 1.6 Environmental Impact Statement 1.7 EIA- As An Integral Part of The Planning Process 1.8 Public participation in environmental decision making process.
UNIT-II Environmental Monitoring	2a Explain project and environment description 2b Explain Anticipated Environmental Impacts and Mitigation Measures 2c Describe Environmental Monitoring Programme	2.1 Project and Environment description 2.2 Anticipated Environmental Impacts and Mitigation Measures 2.3 Environmental Monitoring Programme
UNIT-III Environment Attributes and Setting	3a. Describe all the environmental attributes and need of their protection. 3b. Describe the purposes for Environmental Setting and Inclusion or Exclusion of Environmental Items	3.1 Environmental attributes: Air, Water, Noise, Socioeconomic, Cultural and biological 3.2 Purposes of defining the Environmental Setting 3.3 Inclusion or Exclusion of Environmental Items
UNIT-IV Prediction and Methods of Assessment	4a. Describe the Prediction Methods of assessments of Impacts	4.1 Prediction and methods of assessment of impacts on various attributes of environment
UNIT-V EIA Notification	5a. Interpret the EIA notification 5b. Explain the amendments with their practical meaning.	5.1 EIA notification September 2006 5.2 Amendments

6. SUGGESTED SPECIFICATION TABLE WITH HOURS and MARKS (Theory)

Unit	Unit Title	Teaching Hours	Distribution of Theory Marks			
			R Level	U Level	A Level	Total Marks
I	Concepts of Environmental Impact Assessment	08	04	04	04	12
II	Environmental Monitoring	08	04	07	03	14
III	Environment Attributes and Setting	13	07	06	07	20
IV	Prediction and Methods of Assessment	08	04	07	03	14
V	EIA Notification	05	04	03	03	10
Total		42	23	27	20	70

Legends: R = Remember, U = Understand, A= Apply and above Level (Bloom's revised taxonomy)

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

7. SUGGESTED EXERCISES/PRACTICALS

Not applicable

8. SUGGESTED STUDENT ACTIVITIES (Home Assignment)

- i. Role plays activity, showing concern for environment as a result of some project and role of public.
- ii. Assignments based on concept of EIA
- iii. Assignments based on Detailed Contents of EIA
- iv. Assignments based on Environmental Attributes.

9. SPECIAL INSTRUCTIONAL STRATEGIES (If Any)

- i. Arrange Expert Lectures by consultants engaged in EIA studies
- ii. Ask students to explore internet for EIA studies carried out at other places of world and prepare a summary of these reports.

10. SUGGESTED LEARNING RESOURCES**(A) List of Books**

S. No.	Title of Books	Author	Publication
1	Environmental Impact Analysis Handbook	Whooten , Rau	McGraw Hill publications
2	Environmental Impact Assessment	Canter, Larry	McGraw Hill publications
3	Environmental Impact Analysis– A Decision Making Tool	Jain, R K	Van Nostrand Reinhold Company
4	Handbook of Environment Impact Assessment	Petts ,Judith	McGraw Hill publications

(B) Software/Learning Websites

- i. <http://www.environsoftware.com/Studies.aspx>
- ii. <http://envfor.nic.in/division/introduction-8>

11. COURSE CURRICULUM DEVELOPMENT COMMITTEE :**Faculty Members from Polytechnics**

- **Prof M.C. Sanandiya**, Lecturer in Environmental Engineering, K.J .Polytechnic, Bharuch
- **Prof Jini Sunil**, Lecturer in Environmental Engineering, Shri K. J. Polytechnic, Bharuch

Coordinator and Faculty Members from NITTTR Bhopal

- **Prof. M.C. Paliwal** , Associated Professor, Department of Civil and Environment Engineering
- **Dr V. H. Radhakrishnan**, Professor, Department of Civil and Environment Engineering,