

Branch Name:	Environment Engineering
Program Code:	ET212
Subject Title:	Environmental Impact Assessment (Elective : I)
Subject Code:	2ET2120104T
Pre-requisite Subject:	Sustainable Development, environmental studies, environmental statement etc.

Course Objective:

- To identify potential environmental impacts from proposals, such as projects and programs, and to propose means to avoid or reduce the significant impacts.
- Analyze proposed development project plans for possible environmental effects and prepare appropriate initial studies.
- Utilize EIA documents for policy development, project planning or for legal or political action planning.

Teaching and Examination Scheme:

Credit	Teaching Scheme Hours per week				Evaluation Scheme (Marks)								
					Theory (Marks)				Practical (Marks)				Total (Marks)
	L	T	P	Total	SEE		CCA		SEE		CCA		
					Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
4	3	1	-	4	24	60	16	40	-	-	-	-	100

Subject Contents				
Sr. No	Topic	Total Hours	Weightage (%)	
1	Introduction and Basic Concept of EIA : Concept of Sustainable Development, Evolution of EIA, concepts, Screening, Scoping, Base line studies, Mitigation, General Structure of EIA, EIS, Limitation of EIA, Environmental Risk Assessment	6	15	
2.	Methodologies and strategies: Impact prediction techniques, Adhoc Method, Checklist, Matrix, Network methods, Cost benefit Analysis, Public participation, Public hearing procedure,	12	28	
3.	Practical Consideration and Case studies: Economic development and environmental degradation, environmental impacts of typical industries, power plant, larger projects, present scenario of various government resolution on selecting the location of industries, case studies related to infrastructure, mining, thermal power plant, hydro electric, Nuclear power Plant.	12	30	
4.	EIA Notification by MOEF (Govt. of India): Provision in the EIA notification, categorization of Industries for seeking environmental clearance from concern authorities, Procedure for environmental clearance, Procedure for conducting EIA Report, Rapid and Comprehensive EIA.	6	15	
5	Environmental Management: Environmental Management Plan, Post Environmental monitoring, Life cycle assessment, ISO-14000, Conservation of natural resources, Environmental monitoring and assessment	6	12	

Reference Books:

1. Environmental Impact Assessment: By Larry Canter, Mc Graw Hill Pub.
2. Handbook of EIA by John Ray and Rau Whooten
3. Environmental Impact Analysis- a Decision Making Tool: By R K Jain, L. V. Urban and G.S. Stacey Publishers : van Nostrand reinhold New York
4. Handbook of Environment Impact Assessment: By Judith Prett
5. Theory and Practice of Environmental Impact assessment: By Abbasi and Ramesh
6. Environmental Impact Assessment: By Shrivastava Environmental Impact Assessment and Statement. John E. Heer, Joseph Hoggerty

List of Experiments:

1. Delphi technique for assigning significance to Environmental Attributes.
2. Adhoc Method of EIA
3. Matrices Method of EIA
4. Network Method of EIA
5. Overlays Method of EIA
6. Visit to a Project site/ Office of EIA expert
7. A report of EIA is to be prepared by a student on the project of his specialization.

List of Open Source Software/learning website:

- http://eia.unu.edu/course/index.html%3Fpage_id=173.html
- <http://elearning.vtu.ac.in/>

Course Learning Outcomes (CLO): On completion of this course, the students will be able to:

CLO	Description	Bloom's Taxonomy Level
CLO1	Prepare portions of environmental documents through administrative and legal Requirements and standards of professional practice	L-2
CLO2	Fully participate in interdisciplinary environmental report preparation teams	L-5
CLO3	Critically review an EIA document for completeness and adequacy.	L-4
CLO4	Analyze proposed development project plans for possible environmental effects and prepare appropriate initial studies.	L-4
CLO5	Utilize EIA documents for policy development, project planning or for legal or political action planning.	L-4

L1- Remember, L2- Understand, L3- Apply, L4- Analyze, L5- Evaluate, L6- Create

Mapping of CLOs with POs & PSOs

	Program Outcomes (POs)												Program Specific Outcomes (PSOs)		
Course Learning Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CLO1				M		M	M	M	M					M	M
CLO2				M		M	M	M	M					M	M
CLO3				M		M	M	M	M					M	M
CLO4				M		M	M	M	M					M	M
CLO5				M		M	M	M	M					M	M

H: High, M: Medium, L: Low