

Course Number and Name												
<b>BCE062 - ENVIRONMENTAL IMPACT ASSESSMENT</b>												
Credits and Contact Hours												
<b>3 &amp; 45</b>												
Course Coordinator's Name												
Dr.A.Mani												
Text Books and References												
<b>REFERENCES:</b>												
<ul style="list-style-type: none"> <li>• Lawrence, D.P., Environmental Impact Assessment - Practical Solutions to Recurrent Problems, Wiley- Interscience, New Jersey, 2003.</li> <li>• Petts, J., Handbook of Environmental Impact Assessment, Vol., I and II, Blackwell Science London,1999.</li> <li>• Canter, L.W., Environmental Impact Assessment , McGraw- Hill, New York,1996.</li> <li>• Biswas, A.K. and Agarwala, S.B.C. Environmental Impact Assessment for Developing Countries, Butterworth Heinemann, London,1994.</li> <li>• The World Bank Group, Environmental Assessment Source Book Vol. I, II and III. The World Bank, Washington,1991.</li> </ul>												
Course Description												
<ul style="list-style-type: none"> <li>• To educate the students on the scope, steps involved and various methods related to assessment of environmental impact due to development projects</li> </ul>												
Prerequisites						Co-requisites						
Environmental Engineering						NIL						
required, elective, or selected elective (as per Table 5-1)												
Course Outcomes (COs)												
CO1	To make them understand the basics of EIA and its limitations across sectoral issues and terms of references in EIA. It also includes the study of participation of Public and Non-Governmental Organizations in environmental decision making.											
CO2	To understand about the methods and components of EIA and to learn about the expert systems											
CO3	To understand in detail about the prediction tools for EIA along with the mathematical modeling for impact prediction											
CO4	To improve the knowledge on the ethical and quality aspects of Environmental Impact Assessment											
CO5	To know in detail about the Case studies of EIA related to the various sectors in a country like infrastructure, sources of energy etc.											
Student Outcomes (SOs) from Criterion 3 covered by this Course												
	COs/SOs	a	b	c	d	e	f	g	h	i	j	k
	CO1	H				M					L	

	CO2		H		M					M		
	CO3	H			H		M					
	CO4							H		M		
	CO5	H							M	H		

### List of Topics Covered

#### **UNIT I INTRODUCTION 9**

Environment Impact Assessment (EIA) - Environmental Impact statement – EIA in Project Cycle – Legal and Regulatory aspects in India according to Ministry of Environment and Forests – Types and Limitations of EIA- cross sectoral issues and terms of references in EIA- participation of Public and Non-Governmental Organizations in environmental decision making.

#### **UNIT II COMPONENTS AND METHODS 9**

Components of EIA – Processes – screening – scoping – setting – analysis - mitigation. Matrices-Networks –Checklists – connections and combinations of processes – Cost benefit analysis - Analysis of alternatives - Software packages for EIA-Expert systems in EIA.

#### **UNIT III PREDICTION, ASSESSMENT OF IMPACTS AND REPORTING 9**

Prediction tools for EIA-Mathematical modeling for impact prediction-Assessment of impacts-air-water-soil-noise-biological-socio-cultural environments-Cumulative Impact Assessment-Documentation of EIA findings-planning-organization of information and visual display materials-Report preparation.

#### **UNIT IV ENVIRONMENTAL MANAGEMENT PLAN 9**

Environmental Management Plan-preparation, implementation and review- Mitigation and Rehabilitation Plans-Policy and guidelines for planning and monitoring programmes - post project audit-Ethical and Quality aspects of Environmental Impact Assessment.

#### **UNIT V CASE STUDIES 9**

Case studies related to the following sectors-Infrastructure-Mining-industrial-Thermal Power –River valley and Hydroelectric-Nuclear Power.