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| Image result for nit meghalaya logo | **National Institute of Technology Meghalaya**An Institute of National Importance | **CURRICULUM** |
| Programme | **Bachelor of Technology in Civil Engineering** | Year of Regulation | **2019-20** |
| Department | **Civil Engineering** | Semester | **IV** |
| CourseCode | Course Name | **Pre requisite** | Credit Structure | Marks Distribution |
| L | T | P | C | INT | MID | END | Total |
| **CE 220** | **Environmental Impact Assessment** | **Nil** | **3** | **0** | **0** | **3** | **50** | **50** | **100** | **200** |
| CourseObjectives | 1. To introduce basic Identify the need to assess and evaluate the impact on environment.
 | Course Outcomes | CO1 | Able to explain the concepts about the Environmental Impact Assessment (EIA). |
| 1. To introduce major principles of environmental impact assessment
 | CO2 | Able to evaluate the subjects which must be considered in EIA projects. |
| 1. To understand the different steps within environmental impact assessment
 | CO3 | Able to overview of assessing risks posing threats to the environment |
|  | CO4 | Able to access different case studies/examples of EIA in practice |
|  | CO5 | Able to prepare EIA reports. |
| No. | COs | Mapping with Program Outcomes (POs) | Mapping with PSOs |
| PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
| 1 | CO1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 2 | CO2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 3 | CO3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 4 | CO4 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 5 | CO5 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| SYLLABUS |
| No. | Content | Hours | COs |
| I | **Introduction**Environment and its components, Concept of Ecological imbalances, carrying capacity and sustainable development | **06** | **CO1, CO2, CO3** |
| II | **Legal, Policy & Regulatory framework** Legislative and environmental clearance procedures in India and other countries, Impact Assessment Methodologies? Matrices, overlays, network analysis | **06** | **CO3** |
| III | **EIA Procedure ‐ Scoping & Screening** Evolution of environmental impact assessment (EIA), Current screening process in India. A step-by-step procedure for developing EIA, Elements of Environmental Analysis. | **06** | **CO3** |
| IV | **EIA Methodologies and Impact Identification**Public consultation, Post monitoring, Data collection for Air Quality Impact analysis, Environmental health impact assessment, Environmental risk analysis, Economic valuation methods, Cost-benefit analysis | **06** | **CO4** |
| V | **Prediction & Assessment of Impacts on the Water and Soil Environment** Water Quality Impact Analysis and energy impact analysis, Impact Analysis of Water resources projects, Prediction & Assessment of Impacts on the Soil Environment | **06** | **CO5** |
| VI | **EIA Case Studies, EIA Reporting & Review of EIA**Case studies of Industrial and other EIA projects, Brief introduction about Environment legislation and Environmental Audit, Practical applications of EIA methodologies. | **06** | **CO5** |
| **Total Hours** | **36** |  |
| **Essential Readings** |
| 1. Environmental Impact Assessment by C.W. Canter
 |
| 1. Environmental Impact Assessment for Developing Countries: Asit K. Biswas
 |
| 1. A Chadwick, *Introduction to Environmental Impact Assessment*, Taylor & Francis , 2007
 |
| 1. Larry W. Canter, *Environmental Impact Assessment*, McGraw Hill Inc. Singapore , 1996
 |
| **Supplementary Readings** |
| 1. R.Therirvel, E. Wilson, S. Hompson, D. Heaney, D.Pritchard, *Strategic Environmental Assessment*, Earthscan, London , 1992
 |
| 1. Paul, A Erickson, A Practical Guide to Environmental Impact Assessment, Academic Press , 1994
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