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|  | | | **National Institute of Technology Meghalaya**  An Institute of National Importance | | | | | | | | | | **CURRICULUM** | | |
| Programme | | | **Master of Technology** | | | | | Year of Regulation | | | | | **2018-19** | | |
| Department | | | **Civil Engineering** | | | | | Semester | | | | | **II** | | |
| Course Code | | Course Name | | Pre-requisite | | Credit Structure | | | | Marks Distribution | | | | | |
| L | T | P | C | INT | | MID | END | | Total |
| **CE 580** | | **Environmental Management** | | **NIL** | | **3** | **0** | **0** | **3** | **50** | | **50** | **100** | | **200** |
| Course Objectives | | 1. To develop skills and knowledge for translating the theory and concepts of resource and environmental management into practice relevant to communities and workplaces today 2. To apply monitoring and environmental management tools used by resource and environmental practitioners. 3. To consider the impacts of flows (energy, water, resources/waste) within the built, urban, agricultural and natural environments. 4. To consider the impacts of flows (energy, water, resources/waste) within the built, urban, agricultural and natural environments. 5. Study a curriculum that covers the cultures, values and roles, and concerns of institutions, organizations and stakeholders involved with understanding, evaluating, planning and managing the environment at a variety of scales. 6. Study a course that enables you to operate in a future-oriented, problem-solving way, and which yields sustainable solutions to environmental management problems. | | | Course Outcomes | | CO1 | Able to understand of environmental management approaches in India and internationally. | | | | | | | |
| CO2 | Able to to analyse environmental management in relation to the major principles of sustainable development, defined broadly as: Biodiversity conservation; The Precautionary Principle; Economic sustainability; Intragenerational equity; and Intergenerational equity. | | | | | | | |
| CO3 | Able to know the capacity to translate generic concepts and methods into critical reviews of contemporary, real-world environmental management practices.. | | | | | | | |
| CO4 | Able to to work effectively to create environmental management analysis outputs of professional quality, both independently and within team environments | | | | | | | |
| CO5 | Be able to conduct a project and firmly establish the study in a theoretical basis within environmental management and sustainable development | | | | | | | |
| SYLLABUS | | | | | | | | | | | | | | | |
| No. | Content | | | | | | | | | | Hours | | | COs | |
| I | **Introduction:**  Environmental management- principles, problems and strategies; Review of political, ecological and remedial actions; future strategies; multidisciplinary environmental strategies, | | | | | | | | | | 8 | | | CO1, CO 2 | |
| II | **Environmental Impact Assessment:**  planning, decision-making and management dimensions; environmental impact assessment (EIA), definitions and concepts, rationale and historical development of EIA | | | | | | | | | | 8 | | | CO2, CO3, CO4 | |
| III | **Sustainable Development:**  Sustainable development, Initial environmental examination, environmental impact statement, environmental appraisal, environmental impact factors and areas of consideration, measurement of environmental impact, organization, scope and methodologies of EIA, status of EIA in India. | | | | | | | | | | 10 | | | CO2, CO3, CO4 | |
| IV | **Environmental audit:**  Environmental audit, definitions and concepts, environmental audit versus accounts audit, compliance audit, methodologies and regulations; introduction to ISO and ISO 14000; Life cycle assessment; Triple bottom line approach. | | | | | | | | | | 10 | | | CO4, CO5, | |
| Total Hours | | | | | | | | | | | **36** | | |  | |
| **Essential Readings** | | | | | | | | | | | | | | | |
| 1. Canter, L. W., Environmental Impact Assessment, McGraw-Hill, 2nd Ed., 1997. | | | | | | | | | | | | | | | |
| 1. Agarwal, N. P., Environmental Reporting and Auditing, Raj Pub., 2002. | | | | | | | | | | | | | | | |
| 1. Judith, P. and Eduljee, G., Environmental Impact Assessment for Waste Treatment and | | | | | | | | | | | | | | | |
| **Supplementary Readings** | | | | | | | | | | | | | | | |
| 1. G. Burke, B. R. Singh and L. Theodore., Handbook of Environmental Management and | | | | | | | | | | | | | | | |
| 1. Technology, 2nd Ed., John Wiley & Sons, 2000. | | | | | | | | | | | | | | | |