|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | **National Institute of Technology Meghalaya**  An Institute of National Importance | | | | | | | | | | | **CURRICULUM** | |
| Programme | | | **Master of Technology (Structural Engineering)** | | | | | Year of Regulation | | | | | | **2018** | |
| Department | | | **Civil Engineering** | | | | | Semester | | | | | | **II** | |
| Course Code | | Course Name | | Pre-requisite | | Credit Structure | | | | Marks Distribution | | | | | |
| L | T | P | C | INT | | MID | | END | Total |
| **CE 522** | | **Advance Structure Design lab** | | **NIL** | | **0** | **0** | **2** | **1** |  | | | | **100** | **200** |
| Course Objectives | | To develop the student’s knowledge on understanding of structural analysis design | | | Course Outcomes | | CO1 | Student will be able to have a solid foundation in the various design tools used for structural analysis. | | | | | | | |
| To develop understanding on the various design software like Staad Pro., Etabs and Midas. | | |
| CO2 | Student will be able to possess the analytical and design related to structures. | | | | | | | |
| SYLLABUS | | | | | | | | | | | | | | | |
| No. | Content | | | | | | | | | | Hours | | COs | | |
| I | Instruction to STAAD Pro.,Etabs and Midas programme. | | | | | | | | | | 1 | | CO1 | | |
| II | Design of structural elements in a typical building. | | | | | | | | | | 1 | | CO1, CO2 | | |
| III | Analysis and design of multi-storeyed space frame, using STAAD Pro. | | | | | | | | | | 2 | | CO1, CO2 | | |
| IV | Analysis and design of multi-storeyed space frame using Etabs. | | | | | | | | | | 2 | | CO1, CO2 | | |
| V | Analysis and design of multi-storeyed space frame using Midas. | | | | | | | | | | 2 | | CO1, CO2 | | |
| VI | Analysis and design of water tank . | | | | | | | | | | 2 | | CO1, CO2 | | |
| VII | Analysis and design of industrial shed. | | | | | | | | | | 2 | | CO1, CO2 | | |
| Tota Hours | | | | | | | | | | | 12 | |  | | |
| **Essential Readings** | | | | | | | | | | | | | | | |
| 1. Alexander, M., Kusleika, D., “*Excel 2016 Power Programming with VBA*”, Wiley. | | | | | | | | | | | | | | | |
| 2. Sarma, T.S., “*Design of R.C.C. Buildings Using Staad Pro V8i with Indian Examples: Static and Dynamic Methods*’’, Ebooks2go Inc. | | | | | | | | | | | | | | | |
| **Supplementary Readings** | | | | | | | | | | | | | | | |
| 1. Varyani, U.H., ‘’*Structural Design of Multi Storeyed Building*’’, Standard Publications. | | | | | | | | | | | | | | | |
| 1. Shah, V. L., and Karve, S.R., ‘’Handbook of Reinforced Concrete Design (as per IS : 456 - 2000)’’, Structures Publications. | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | |