1. **Basic Information:**

|  |  |
| --- | --- |
| **Program Title** | Civil Engineering Department |
| **Department Offering the Program** | Civil Engineering Department |
| **Department Responsible for the Course** | Civil Engineering Department |
| **Course Title** | structures analysis (1) |
| **Course Code** | CIE 202 |
| **Year/Level** | level 2 |
| **Specialization** | Major |
| **Authorization Date of Course Specification** |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Teaching hours** | **Lectures** | **Tutorial** | **Practical** |
| 2 hours | 2 hour/week | **-** |

1. **Course Aims:**

|  |  |
| --- | --- |
| **No.** | **Aims** |
| 1 | Apply a basic knowledge of types of structures as beams, frames, trusses to teach the student the behavior of statically determinate structure. |

1. **Intended Learning Outcomes (ILO’S):**
2. **Knowledge and understanding:**

|  |  |
| --- | --- |
| **No.** | **Knowledge and understanding** |
| A5 | Recognize methodologies of solving Structural problems; Beams, frames, trusses and arches. |

1. **Intellectual Skills:**

|  |  |
| --- | --- |
| **No.** | **Intellectual Skills** |
| B2 | Think creatively and analytically to select the appropriate solutions for structural problems. |
| B5 | Solve structural problems, often on the basis of limited information. |

1. **Professional Skills:**

|  |  |
| --- | --- |
| **No.** | **Professional Skills** |
| C1 | Apply knowledge of mathematics, design and engineering practice to solve structural problems. |

1. **General Skills:**

|  |  |
| --- | --- |
| **No.** | **General Skills** |
| D7 | Search for information and engage in life-long self-learning discipline. |

**4. Course Contents:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Topics** | **Lect.** | **Lab.** | **Exer.** |
| 1 | Basic concept in structural analyses | 2 | - | 2 |
| 2 | Loadsandreactions | 4 | - | 4 |
| 3 | Statically determinate beams | 4 | - | 4 |
| 4 | Statically determinate rigid frames | 4 | **-** | 4 |
| 5 | Statically determinate arches | 4 | - | 4 |
| 6 | Statically determinate trusses**.** | 6 | - | 6 |
| 7 | Influencelinesfor Statically determinate structures | 4 | - | 4 |
| Total | | 28 |  | 28 |

**5. Teaching and learning methods:**

|  |  |
| --- | --- |
| **No.** | **Teaching Methods** |
| 1 | Lectures |
| 2 | Tutorial |
| 3 | Sheets and Exercises |
| 4 | Sessions of discussion |

**6. Teaching and learning methods for disable students:**

|  |  |  |
| --- | --- | --- |
| **No.** | **Teaching Methods** | **Reason** |
| 1 | Presentation of the course in digital material | Better access any time |
| 2 | Asking small groups to do assignments each composed of low, medium, and high performance students. | Knowledge and skills transfer among different level of students. |

7**. Student evaluation:**

**7.1 Student evaluation method**:

|  |  |  |
| --- | --- | --- |
| **No.** | **Evaluation Method** | **ILO’s** |
| 1 | Mid Term Examination | A5, B5 |
| 2 | Semester work | C1, D7 |
| 3 | Final Term Examination | A5, B2, B5 |

**7.2 Evaluation Schedule:**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Evaluation Method** | | **Weeks** |
| 1 | Semester work | exercises an assignments | , , |
| quizzes |
| 2 | Mid Term Examination | |  |
| 3 | Final Term Examination | |  |

**7.3 weighting of Evaluation:**

|  |  |  |
| --- | --- | --- |
| **No.** | **evaluation method** | **Weights** |
| 1 | Mid-term examination | 20% |
| 2 | Semester work | 20% |
| 3 | Final-term examination | 60% |
| TOTAL | | 100% |

**8. List of References:**

|  |  |
| --- | --- |
| **No.** | **Reference List** |
| 1 | Essential books (text books)  1- M. E. El-Dakhakhni, “ Theory of Stuctures “  2- Ashraf m. EL-shihy “Stucture Analysis “  3-ELO Dakhahhnt “ Theory of Stuctural“  4-Sayed s. Abdel Salam “Stuctural Analysis and Mechanics “  5- Fouad Abdel Rahman Abdel Rahman Bazara “ ElementryStuctural Analysis “ |
| 2 | Recommended books  1- M. Bakhoum, “ Structural Mechanics “  2- R.C.Coats, M. G. Coutie and F. K. Kong, “Structural analysis “, Second Edition. |
| 3 | Structural Engineering Web Sites -ASCE Periodicals. |

**9. Facilities required for teaching and learning:**

|  |  |
| --- | --- |
| **No.** | **Facility** |
| 1 | Seminar |
| 2 | discussions rooms with internet connections |
| 3 | teaching aids such as interactive (smart) board |
| 4 | Data Show |

**10. Matrix of knowledge and skills of the course:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Topic** | **Aims** | **Knowledge and understanding** | **Intellectual Skills** | **Professional Skills** | **General Skills** |
| 1 | Basic concept in structural analyses | 1 | A5 | B2 | C1 | D7 |
| 2 | Loadsandreactions | 1 | A5 | B5 | C1 | D7 |
| 3 | Statically determinate beams | 1 | A5 | B2, B5 | C1 | D7 |
| 4 | Statically determinate rigid frames | 1 | A5 | B2, B5 | C1 | D7 |
| 5 | Statically determinate arches | 1 | A5 | B2, B5 | C1 | D7 |
| 6 | Statically determinate trusses**.** | 1 | A5 | B2, B5 | C1 | D7 |
| 7 | Influencelinesfor Statically determinate structures | 1 | A5 | B2, B5 | C1 | D7 |

**Course Coordinator:** Dr/ Hamdyabdlaty

**Head of Department:** ASS.Prof / Khaled fawzy

**Date of Approval:** Jan 2017