1. **Basic Information:**

|  |  |
| --- | --- |
| **Program Title** | Civil engineering |
| **Department Offering the Program** | Civil engineering |
| **Department Responsible for the Course** | Basic science and Engineering |
| **Course Title** | Project Management and Control |
| **Course Code** | ENG 402 |
| **Year/Level** | 4th level |
| **Specialization** | Major |
| **Authorization Date of Course Specification** |  |

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

1. **Course Aims:**

|  |  |
| --- | --- |
| **No.** | **Aims** |
| 04 | Use the techniques, skills effectively and professionally in project management to recognize business and management principles relevant to engineering industry. |

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

|  |  |
| --- | --- |
| **No.** | **Knowledge and understanding** |
| A7 | Recognize business and management principles relevant to engineering; project planning and schedule, network based scheduling, critical path method (CPM), program evaluation and review technique (PERT), Probability aspect of project completion time, Project cost control, Resource allocation and forecasting funds requirements. |

1. **Intellectual Skills:**

|  |  |
| --- | --- |
| **No.** | **Intellectual Skills** |
| B7 | Judge engineering decisions considering balanced costs, benefits, time from project cost control and forecasting funds requirements |
| B8 | Incorporate economic and risk management dimensions in design; in critical path method, resource allocation and program evaluation technique. |

1. **Professional Skills:**

|  |  |
| --- | --- |
| **No.** | **Professional Skills** |
| C1 | Apply knowledge of mathematics, information technology, business context and engineering practice to solve engineering problems in introduction to project management, Program evaluation technique. |

1. **General Skills:**

|  |  |
| --- | --- |
| **No.** | **General Skills** |
| D6 | Effectively manage tasks, time, and resources such as project planning and schedule, network based scheduling, critical path method (CPM), program evaluation and review technique (PERT), Project cost control, Resource allocation and forecasting funds requirements. |

**4. Course Contents:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Topics** | **Lectures** | **Tutorial** | **Practical** |
| 1 | Introduction to project management. | 2 | 2 | - |
| 2 | Project planning and scheduling. | 2 | 2 | - |
| 3 | Network based scheduling. | 2 | 2 | - |
| 4 | Critical path method. | 6 | 6 | - |
| 5 | Program evaluation& review technique (PERT) | 4 | 4 | - |
| 6 | Probability aspects of project completion time. | 2 | 2 | - |
| 7 | Project cost control. | 6 | 6 | - |
| 8 | Resource allocation | 2 | 2 | - |
| 9 | Forecasting funds requirement | 2 | 2 | - |
| Total | | 28 | 28 | 0 |

**5. Teaching and learning methods:**

|  |  |
| --- | --- |
| **No.** | **Teaching Methods** |
| 1 | Lectures |
| 2 | Discussion sessions |
| 3 | Information collection from different sources |
| 4 | Research assignment |
| 5 | Case studies |

**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 exam | A7,B8,C1 |
| 2 | Semester work | C1,D6 |
| 3 | Final term examination | A7,B7,B8, C1 |

**7.2 Evaluation Schedule:**

|  |  |  |
| --- | --- | --- |
| **No.** | **Evaluation Method** | **Weeks** |
| 1 | Semester work | , ,, |
| 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 | Bennett, F. Lawrence. 1996. The management of engineering. New York: Wiley. |
| 2 | Cleland, David. 1998. Flied guide to project management. New York: Wiley. |
| 3 | Smith, K.A. 2000. Project management and teamwork. New York: McGraw-Hill. |

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

|  |  |
| --- | --- |
| **No.** | **Facility** |
| 1 | Lecture classroom |
| 2 | Seminar |
| 3 | White board |
| 4 | Data Show system |

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Topic** | **Aims** | **Knowledge and understanding** | **Intellectual Skills** | **Professional Skills** | **General Skills** |
| 1 | Introduction to project management. | 04 | A7 |  | C1 |  |
| 2 | Project planning and scheduling. | 04 | A7 | B7 |  | D6 |
| 3 | Network based scheduling. | 04 | A7 |  |  | D6 |
| 4 | Critical path method (CPM). | 04 | A7 | B7,B8 |  | D6 |
| 5 | Program evalucation& review technique (PERT) | 04 | A7 | B8 | C1 | D6 |
| 6 | Probability aspects of project completion time. | 04 | A7 |  |  |  |
| 7 | Project cost control. | 04 | A7 | B7 |  |  |
| 8 | Resource allocation | 04 | A7 | B7,B8 |  | D6 |
| 9 | Forecasting funds requirement | 04 | A7 | B7 |  | D6 |

**Course Coordinator:** Prof. dr / Mohammed saad El-kady

**Head of Department:** Prof. dr / Mohammed saad elkhady

**Date of Approval:**