1. **Basic Information:**

|  |  |
| --- | --- |
| **Program Title** | **All programs** |
| **Department Offering the Program** | **Basic Science and Engineering** |
| **Department Responsible for the Course** | **Basic Science and Engineering** |
| **Course Title** | **Introductions to Computer Systems** |
| **Course Code** | **ENG104** |
| **Year/Level** | **Level 1** |
| **Specialization** | **Major** |
| **Authorization Date of Course Specification** |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Teaching hours** | **Lectures** | **Tutorial** | **Practical** |
| **2** | **-** | **2** |

1. **Course Aims:**

|  |  |
| --- | --- |
| **No.** | **Aims** |
| 1 | Apply knowledge of mathematics, science and engineering concepts by identifying computer architecture and how to solve any engineering problems using flowcharts and programming language. |

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

|  |  |
| --- | --- |
| **No.** | **Knowledge and understanding** |
| A1 | Define the concepts and theories of mathematics, science necessary for engineering system analysis by completing how to apply technology on it |

1. **Intellectual Skills:**

|  |  |
| --- | --- |
| **No.** | **Intellectual Skills** |
| B3 | Create different ideas, views and knowledge from a range of sources to evaluate the characteristic and performance of component, systems and processes. |

1. **Professional Skills:**

|  |  |
| --- | --- |
| **No.** | **Professional Skills** |
| C1 | Apply knowledge of science, information technology, to solve engineering problems. |

1. **General Skills:**

|  |  |
| --- | --- |
| **No.** | **General Skills** |
| D2 | Work in stressful environment and within constraints (engineering problem and case student play a role in making stress on student). |
| D4 | Demonstrate efficient IT capabilities |

**4. Course Contents:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Topics** | **Lecture** | **Practical** | **Tutorial** |
| 1 | Computer architecture | **4** |  |  |
| 2 | Computer systems | **4** |  |  |
| 3 | Files systems | **2** |  |  |
| 4 | Computer networks | **4** |  |  |
| 5 | Internet networks | **4** |  |  |
| 6 | Data systems and information technology | **4** | **4** |  |
| 7 | Computer graphics – Multimedia systems | **2** |  |  |
| 8 | Methods of solving problems and logical design for the programs | **4** | **4** |  |
| 9 | Engineering applications in programming using one structured programming language |  | **20** |  |
| Total | | **28** | **28** | **-** |

**5. Teaching and learning methods:**

|  |  |
| --- | --- |
| **No.** | **Teaching Methods** |
| 1 | Lectures |
| 2 | Discussion sessions |
| 3 | Information collection from different sources |
| 4 | Research assignment |
| 5 | Practical training/lab |

**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 | Web communication with students | Better communication with certain cases |
| 3 | Asking small groups to do assignments; each composed of low, medium and high performance students. | Knowledge and skills transfer among different levels of students |

7**. Student evaluation:**

**7.1 Student evaluation method**:

|  |  |  |
| --- | --- | --- |
| **No.** | **Evaluation Method** | **ILO’s** |
| 1 | Midterm examination | A1 , B3 , D2 |
| 2 | Semester work | A1 , B3 , C1 , D2, D4 |
| 3 | Practical Examination | A1 , B3 , C1 |
| 4 | Final term examination | A1 , B3 , C1 , D2, D4 |

**7.2 Evaluation Schedule:**

|  |  |  |
| --- | --- | --- |
| **No.** | **Evaluation Method** | **Weeks** |
| 1 | Midterm examination | **08th** |
| 2 | Semester work | **2nd ,7th,9th,13th** |
| 3 | Practical Examination | **14th** |
| 4 | Final term examination | **15th** |

**7.3 weighting of Evaluation:**

|  |  |  |
| --- | --- | --- |
| **No.** | **evaluation method** | **Weights** |
| 1 | Mid-term examination | **10%** |
| 2 | final examination | **60%** |
| 3 | Practical examination | **10%** |
| 4 | Semester work | **20%** |
|  | total | **100%** |

**8. List of References:**

|  |  |
| --- | --- |
| **No.** | **Reference List** |
| 1 | Computing essentials timothy, O' leary and linda, 2015. |

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

|  |  |  |
| --- | --- | --- |
| **No.** | **Facility** |  |
| 1 | Lecture classroom |  |
| 2 | Presenter |  |
| 3 | White board |  |
| 4 | Data show system |  |
| 5 | Wireless internet |  |
| 6 | Sound system |  |

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Topic** | **Aims** | **Knowledge and understanding** | **Intellectual Skills** | **Professional Skills** | **General Skills** |
| 1 | Computer architecture | 1 | A1 | B3 | -- | D4 |
| 2 | Computer systems | 1 | A1 | -- | -- | D4 |
| 3 | Files systems | 1 | A1 | B3 | C1 | D4 |
| 4 | Computer networks | 1 | A1 | B3 | C1 | D4 |
| 5 | Internet networks | 1 | A1 | B3 | C1 | D2, D4 |
| 6 | Data systems and information technology | 1 | A1 | B3 | C1 | D2, D4 |
| 7 | Computer graphics – multimedia systems | 1 | A1 | B3 | C1 | -- |
| 8 | Methods of solving problems and logical design for the programs | 1 | A1 | B3 | C1 | D2, D4 |
| 9 | Engineering applications in programming using one structured programming language | 1 | A1 | B3 | C1 | D2, D4 |

**Course Coordinator: Dr. Yosry El-Helaly**

**Head of Department: Dr. Haythem Hussein Abdullah**

**Date of Approval:**