# UNITED INTERNATIONAL UNIVERSITY

Department of Computer Science and Engineering (CSE)

**Course Syllabus**

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|---|---|---|
| 1 | **Course Title** | Introduction to Computer Systems |
| 2 | **Course Code** | CSE 1110 |
| 3 | **Trimester and Year** | Fall 2024 |
| 4 | **Pre-requisites** | N/A |
| 5 | **Credit Hours** | 1.0 |
| 6 | **Section** | B |
| 7 | **Class Hours** | Tuesday 8:30 AM – 11:00 AM |
| 8 | **Class Room** | 327 |
| 9 | **Instructor's Name** | Md. Fahim Bin Amin |
| 10 | **Email** | fahimbinamin@gmail.com |
| 11 | **Office** | Room # 935 (A) |
| 12 | **Counselling Hours** | Given on LMS |
| 13 | **Text Book** | Programming in ANSI C |
| 14 | **Reference** | Lecture documents |
| 15 | **Course Contents (approved by UGC)** | |
| 16 | **Course Outcomes (COs)** | |
| 17 | **Teaching Methods** | Lecture, laboratory exercise and reports. |

| CO | Description |
|---|---|
| CO1 | Identify the components of a computer and demonstrate its internal mechanisms. |
| CO2 | Derive the solution steps and flowchart of any programs. |
| CO3 | Analysis the code to find errors and trace outputs manually. |
| CO4 | Use a programming language to write error-free programs. |

**18 CO with Assessment Methods**

| CO | Assessment Method | (%) |
|---|---|---|
| - | Attendance | 10 |
| - | Class Performance | 20 |
| - | Assignment | 15 |
| CO1, CO2 | Midterm | 25 |
| CO3,CO4 | Final | 30 |

**19 Mapping of COs and Program outcomes**

| CO | Statement | Bloom's Domain |
|---|---|---|
| **CO1** | Identify the components of a computer and demonstrate its internal mechanisms. | **C** |
| **CO2** | Derive the solution steps and flowchart of any programs. | **C** |
| **CO3** | Analysis the code to find errors and trace outputs manually. | **C** |
| **CO4** | Use a programming language to write error-free programs. | **C** |

**20 Lab Outline**

| Class | Lecture/Activities | Evaluation Methods | COs |
|---|---|---|---|
| **1** | **Internal mechanism of computer**<br>Parts of a computer and their basic functionalities, how computer works, memory vs. storage, Applications of different softwares | - **Group discussion** | **CO1** |
| **2** | **Algorithm and Flowcharts**<br>Ability of thinking a problem as INPUT-PROCSS-OUTPUT, basics of algorithm and flowchart | - **Group discussion** | **CO2** |
| **3** | **Algorithm and Flowcharts**<br>Write algorithms and flowcharts for various real-life problems. | - **Group discussion** | **CO2** |
| **4** | **Introduction to C**<br>Codeblocks, basic syntax, datatypes, variables, built-in functions | - **Class Test** | **CO3, CO4** |
| **5** | **Problem Solving**<br>Arithmetic operator, formatted I/O, solve real-life problems | - **Group discussion** | **CO3, CO4** |
| **6** | **MID-TERM EXAM** | | |
| **7** | **Problem Solving**<br>Logical and Relational operator, conditional statement, solve real-life problems | - **Group discussion**<br>- **Exercise problem** | **CO3, CO4** |
| **8** | **Problem Solving**<br>If, if..else, else….if, solve real-life problems | - **Class Test** | **CO3, CO4** |
| **9** | **Problem Solving**<br>Nested if…else, solve real-life problems | - **Group discussion**<br>- **Exercise problem** | **CO3, CO4** |
| **10** | **Problem Solving**<br>Switch statement, solve real-life problems | - **Group discussion**<br>- **Exercise problem** | **CO3, CO4** |
| **11** | **Problem Solving**<br>Nested switch statement, solve real-life problems | - **Class Test** | **CO3, CO4** |
| **12** | **REVICE** | | |

**Appendix 1: Assessment Methods**

| Assessment Types | Marks |
|---|---|
| Attendance | 10% |
| Class Performance | 20% |
| Assignment | 15% |
| Mid Term | 25% |
| Final Exam | 30% |

## Appendix 2: Grading Policy

| Letter Grade | Marks % | Grade Point | Letter Grade | Marks% | Grade Point |
|---|---|---|---|---|---|
| A (Plain) | 90-100 | 4.00 | C+ (Plus) | 70-73 | 2.33 |
| A- (Minus) | 86-89 | 3.67 | C (Plain) | 66-69 | 2.00 |
| B+ (Plus) | 82-85 | 3.33 | C- (Minus) | 62-65 | 1.67 |
| B (Plain) | 78-81 | 3.00 | D+ (Plus) | 58-61 | 1.33 |
| B- (Minus) | 74-77 | 2.67 | D (Plain) | 55-57 | 1.00 |
| | | | F (Fail) | <55 | 0.00 |

## Appendix-3: Program outcomes

| | Program Outcomes |
|---|---|
| **1** | **Engineering knowledge:** Apply knowledge of mathematics, natural science, engineering fundamentals and Computer Science and Engineering to the solution of complex engineering problems. |
| **2** | **Problem analysis:** Identify, formulate, research literature and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences. |
| **3** | **Design/development of solutions:** Design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations. |
| **4** | **Investigation:** Conduct investigations of complex problems using research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions |
| **5** | **Modern tool usage:** Create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to complex engineering problems, with an understanding of the limitations. |
| **6** | **The engineer and society:** Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solutions to complex engineering problems. |
| **7** | **Environment and sustainability:** Understand and evaluate the sustainability and impact of professional engineering work in the solution of complex engineering problems in societal and environmental contexts. |
| **8** | **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice. |
| **9** | **Individual work and teamwork:** Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings. |
| **10** | **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions. |
| **11** | **Project management and finance:** Demonstrate knowledge and understanding of engineering management principles and economic decision-making and apply these to one's 13 own work, as a member and leader in a team, to manage projects and in multidisciplinary environments. |

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| **12** | **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. |