1. **ISCED Code: 0613**
2. **Course Code:** CSE-4805
3. **Course Title:** Social, Professional and Ethical Issues in Computing
4. **Type:** Compulsory
5. **Semester:** 8th
6. **Credit Hours:** 2
7. **Contact Hours:** 2 lecture hours per week
8. **CIE Marks** : 50
9. **SEE Marks:** 50
10. **Total marks:** 100
11. **Prerequisite:** None
12. **Co-requisite:** None
13. **Academic Session:** Spring 2025
14. **Instructor’s and Class Schedule and Locations**

**Instructor**: Prof. Dr. Md. Monirul Islam

**Office Location:** Room 211, CSE building

**Email**: monirliton@yahoo.com

1. **Course Rationale / Summary:**The purpose of this course is to introduce the concept of engineering ethics and impact on society. Social and Professional Issues in Computing course is a theory course which deals with different issues related to both social and professional life. Hence, this course will deal with different computing issues i.e. privacy, social engineering, crime, hacking, freedom of speech issue and so on. Furthermore, throughout the course we will focus on various professional issues like intellectual property, ethics and professional ethics, human vs computer, trusting computer etc. Besides, different social and international issues will also be discussed in this course.

Coursework consists of discussion questions, group presentations, mid-term and final written exam with essay-style questions. By those means it is expected that participants will also improve their verbal and written communication skills, as well as their presentation skills.

1. **Course Objective:** Upon completion of the course, students will be able to:
2. Identify areas of society where information technology has had a substantial impact and where its effects may be of concern.
3. Appreciate how different perspectives can contribute to making choices about the development and use of computing technology.
4. Appreciate the legal and social issues associated with the use of computers in organizations and computer crime.
5. Critically assess the concepts, theories and issues in recent public debates about technology and society and develop a personal position.
6. **Course Learning Outcomes (COs):**

Upon successful completion of this course, students will be able to:

|  |  |  |
| --- | --- | --- |
| **#** | **CO Description** | **Weightage** |
| CLO1 | **Understand and identify** different ethical philosophies, frameworks, methodologies and various legal framework related to computing. | 30% |
| CLO2 | **Identify and interpret** the codes of professional conduct relating to the disciplines of computer science and software engineering such as ACM Code of Ethics. | 40% |
| CLO3 | **Analyze** the local and global impact of computing on individuals, organizations, and society. | 30% |

1. **Mapping of CO-PO-WK-WP-WA:**

| **#** | **COs** | **POs** | **DL** | **KP** | **EP** | **EA** | **Teaching Learning Strategy (TLS)** | **Assessment Strategy (AS)** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CO1 | **Understand and identify** different ethical philosophies, frameworks, methodologies and various legal framework related to computing. | PO8 | Cognitive / Understand | K7 | - | - | Lecture, Class Discussion, Case Study | Presentation, Assignment, Exam, |
| CO2 | **Identify and interpret** the codes of professional conduct relating to the disciplines of computer science and software engineering such as ACM Code of Ethics. | PO8 | Cognitive / Evaluate | K7 | - | - | Lecture, Class Discussion, Case Study | Presentation, Assignment, Exam, |
| CO3 | **Analyze** the local and global impact of computing on individuals, organizations, and society. | PO6 | Cognitive / Analyze | K7 | - | - | Lecture, Class Discussion, Case Study | Presentation, Assignment, Exam, |
| **Note: DL:** Domain/level of learning taxonomy, **KP:** Knowledge Profile, **EP:** Attribute of Complex Engineering Problems, **EA:** Attribute of Complex Engineering Activities **Learning Domains** (C: Cognitive, A: Affective, P: Psychomotor) | | | | | | | | |

**Part B**

1. **Course Content**

**Midterm (30 Marks)**

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Content** | **Duration** | **CLOs** |
| **1.** | **Introduction:** History of computer hardware, software, networking; Overview of Technological Change; Impact of information technology on some sectors like education, business, industry, medicine etc. | 2 weeks | CLO1  CLO3 |
| **2.** | **Privacy and personal information:** Definition of privacy. How does computer technology effect privacy? To what moral problems does this lead? Ethical and legal basis for privacy protection; Privacy implications of database systems; Technological strategies for privacy protection. | 2 weeks | CLO1  CLO3 |
| **3.** | **Cyber Laws:** UNCITRAL model law, ICT Act 2006 in Bangladesh, Pornography Control Act 2012, Freedom of expression in cyberspace, Offensive speech and censorship in cyberspace Anonymity, Spam etc. | 2 weeks | CLO1  CLO2 |
|  |  |  |  |
|  | **Final: Part A (20 Marks)** |  |  |
| **4.** | **Computer & Software Reliability:** How liability is determined when computer hardware and software fails? Responsibility vs. Liability vs. Accountability; Some historical examples of software risks (such as the Therac-25 case) | 2 weeks | CLO1 |
| **5.** | **Intellectual Property:** What is intellectual property” Copyrights, patents, and trade secrets; Software piracy; Software patents; Free software, what is fair use? | 2 weeks | CLO1  CLO3 |
|  |  |  |  |
|  | **Final: Part B (30 Marks)** |  |  |
| **6.** | **Computer Crime:** History and examples of computer crime; “Cracking” (“hacking”) and its effects; Viruses, worms, and Trojan horses; Online scams, Identity theft; moral issues related to these crimes. | 2 weeks | CLO1  CLO3 |
| **7.** | **Computer and Work:** Impact of employment, work environment, Employee monitoring, Health issues. | 1 weeks | CLO1 |
| **8.** | **Professional Ethics and responsibilities:** What is Ethics? What is Computer ethics, some ethical guidelines for computer professionals, Examine and discuss professional codes of ethics, conduct, and practice (IEEE, ACM, SE, AITP, and so forth). | 2 weeks | CLO2 |

1. **Weekly Activity Plan:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Week** | **Topic** | **TLS** | **AS** | **CLOs** |
| Week-1 | Introduction: History of computer hardware, software, networking; Overview of Technological Change; | Lecture  Discussion | Presentation | CLO1 |
| Week-2 | Impact of information technology on some sectors. | Lecture  Discussion | Presentation | CLO1  CLO3 |
| Week -3 | Privacy and personal information: Definition of privacy. How does computer technology effect privacy? To what moral problems does this lead? | Lecture  Discussion | CT | CLO1 |
| Week -4 | Ethical and legal basis for privacy protection; Privacy implications of database systems; Technological strategies for privacy protection; | Lecture  Discussion | Assignment | CLO3 |
| Week -5 | Cyber Laws: UNCITRAL model law, ICT Act 2006 in Bangladesh, Pornography Control Act 2012 | Lecture  Discussion | Presentation | CLO1  CLO2 |
| Week -6 | Freedom of expression in cyberspace, Offensive speech and censorship in cyberspace Anonymity, Spam etc. | Lecture  Discussion | Case Study | CLO1  CLO2 |
|  | **MIDTERM EXAM** |  |  |  |
| Week -7 | Computer & Software Reliability: How liability is determined when computer hardware and software fails? | Lecture  Discussion | Presentation | CLO1 |
| Week -8 | Responsibility vs. Liability vs. Accountability; Some historical examples of software risks (such as the Therac-25 case) | Lecture  Discussion | Presentation | CLO1  CLO3 |
| Week -9 | Intellectual Property: What is intellectual property” Copyrights, patents, and trade secrets; | Lecture  Discussion | CT | CLO1 |
| Week -10 | Software piracy; Software patents; Free software, What is fair use? | Lecture  Discussion | Assignment | CLO3 |
| Week -11 | Computer Crime: History and examples of computer crime; “Cracking” (“hacking”) and its effects; | Lecture  Discussion | Case Study | CLO1  CLO2 |
| Week -12 | Viruses, worms, and Trojan horses; Online scams, Identity theft; moral issues related to these crimes. | Lecture  Discussion | Presentation | CLO1  CLO2 |
| Week -13 | Computer and Work: Impact of employment, work environment, Employee monitoring, Health issues | Lecture  Discussion | CT | CLO1 |
| Week -14 | Professional Ethics and responsibilities: What is Ethics? What is Computer ethics, Some ethical guidelines for computer professionals, | Lecture  Discussion | Assignment | CLO1  CLO3 |
| Week -15 | Examine and discuss professional codes of ethics, conduct, and practice (IEEE, ACM, SE, AITP, and so forth). | Lecture  Discussion | Presentation | CLO2 |
|  |  |  |  |  |

**Part C**

1. **Assessment Strategy:**

The assessment and evaluation strategies for the course are given as follows:

| ***Assessment Strategies*** | ***Description*** |
| --- | --- |
| **Class Participation:** | Students’ individual in-class responses, attention, and sense of discipline, morality will be judged on the basis of 10 (ten) marks. |
| **Class Test/Quiz:** | Students will sit for only 1 (one) class test/quiz during the semester. The test/quiz will be taken before midterm. Class test/quiz marks will be assessed in 5 (five). No makeup class test will be taken**.** Students are strongly recommended not to miss any test. |
| **Group Work:** | The students will have to form groups consisting of a maximum of 4 members. There will be 1 assignment consisting of 5 (five) marks. The topics or case studies will be given as assignments in groups during the class which they have to prepare at home and will submit on or before the due date. |
| **Assignment:** | No late submission of assignments will be accepted. |
| **Oral Presentation:** | Students, in groups, will have to present the report of their assignments. Oral presentations of the students will be assessed in 5 (five) marks.  No late presentation will be accepted. |
| **Viva-vocé** | Students will have to appear for viva-vocé before their Midterm (5 marks) and Final examination (5 marks). |
| **Midterm Exam:** | Midterm exam will be held according to the Academic Calendar published by the university. Midterm assessment marks will be 30 (thirty). |
| **Final Exam:** | Final exams will be held according to the Academic Calendar published by the university. Final assessment marks will be 50 (Fifty). Course contents learnt before Midterm examination will be included in the syllabus of Final Examination. |
| **Make-up Procedure:** | No late submission and/or make-up assignment/presentation/quiz will be allowed without prior permission and adequate and reasonable proof of absence. |

1. **Marks Distribution:**

**Course Assessment Pattern (Theory courses):**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Bloom’s Category | | Evaluations out of 100 marks | | | |
| CIE (50 marks) | | | SEE (50 marks) |
| Cognitive learning | Affective learning | Attendance  Marks (10) | Assignment/  Class Test (10) | Mid-term   (30) | Written Exam (50) |
| Remember |  |  |  |  |  |
| Understand |  |  | 5 | 5 | 5 |
| Apply |  |  | 5 | 10 | 15 |
| Analyze |  |  |  | 15 | 30 |
| Evaluation |  |  |  |  |  |
| Create |  |  |  |  |  |
|  | Responding | 10 |  |  |  |
| **Total allocated marks** | | 10 | 10 | 30 | 50 |

**Note: CIE**=Continuous Internal Evaluation, **SEE**= Semester End Examination

**Delivery methods & activities**: Lecture, White Board Writing, Questions and Answers, Discussions Powerpoint Presentation,

**Assessment tools:** Class Attendance, Class test, Quizzes/ Assignment on problem solution, Mid-Term & Final Exam. Project evaluation & Viva

1. **Grading Policy:** As per IIUC grading policy
2. **Code of Conduct:**
   1. It is mandatory for all the students to participate in the class regularly and maintain proper discipline in the class.
   2. If a student fails to attend any class test, term exams, or final examination, he/she will get a zero in that class test, term, or final examination.
   3. Adopting unfair means in the exams will be considered as a serious crime and the student shall be placed to the university disciplinary committee.
   4. All the assignments, class test and exam copies should be neat and clear and demonstrate professionalism.
   5. No student is allowed to duplicate other student’s work directly or with minor changes.
   6. Plagiarism is strictly restricted. One needs to provide a reference while using someone else's words, ideas, or research in assignments/exams.

**Part D**

1. **Learning Materials:**

**Text Books:**

| **#** | **Name of Authors** | **Title of Book** | **Edition** | **Publisher’s Name** | **Year** | **ISBN** |
| --- | --- | --- | --- | --- | --- | --- |
| **1** | Sara Baase | A gift of fire : social, legal, and ethical issues for computing technology | 4th Edition | Pearson Education, Inc., 2013 | 2013 | 10: 0-13-249267-9 |
| **2** | Joseph MiggaKizza | Ethics in Computing: A Concise Module |  | Springer International Publishing Switzerland, 2016 |  |  |

**Reference Books:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **#** | **Name of Authors** | **Title of Book** | **Edition** | **Publisher’s Name** | **Year** | **ISBN** |
| **1** | George W. Reynolds, | Ethics in Information Technology | 6th edition | Cengage Learning, Inc.,2019 | 2019 |  |
| **2** | Luciano Floridi, | The Cambridge Handbook of Information and Computer Ethics |  | Cambridge University Press, 2010 | 2010 |  |
| **3** | Adriano Fabris, | Ethics of Information and Communication Technologies |  | Springer International Publishing AG, 2018 | 2018 |  |