

Course Code: CSE 326	CIE Marks: 60
Course Title: Social and Professional Issues in Computing	SEE Marks: 40
Credits: 3	

Course Content (from syllabus):

Social context of computing. Methods and tools of analysis. Professional and ethical responsibilities: freedom of speech, privacy. Ethical aspect of Social & professional context: normative ethics, computer ethics, technical ethics, research ethics. Intellectual property: copyright, patent and civil liberties. Computer crime: hacking, cyberwarfare. Risks and liabilities of computer-based systems. Evaluating technologies. Economic issues in computing: decision making and propagate creativity. Philosophical frameworks, teamwork.

Course Description/Rationale:

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, and 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.

Course Objective

To provide a solid conceptual understanding of the fundamentals of Social and Professional Issues in Computing. More specifically,

- To learn the implications and impact of the technology
- To learn the ethics regarding the dissemination of sensitive information
- To learn the concerns regarding the usage of social media in the workplace
- To learn about plagiarism
- To learn about the hacking by governments and vice versa.

Course Learning Outcome (CLO): (at the end of the course, students will be able to do:)

CLO1	Define the implications, impacts and benefits of modern computing technologies.
CLO2	Justify the application of freedom of speech, hate speech, privacy and Computer crime
CLO3	Explain different types of ethics from the perspective of data driven society to build a team with moral values.
CLO4	Interpret & apply the intellectual property such as copyright, patent, trademark and trade secret
CLO5	Assess the risks and failures for a better system, organization & society

Content of the course:

S L	Course Content (as summary)	Hrs	CLO's
1	Benefits	3	CLO-1
2	Privacy, Freedom of Speech, Computer Crime	12	CLO-2
3	Ethics, Technology and Engineering, AI, Empathy & Ethics, Ethical Issues in Data Science, Professional Ethics and Responsibilities, Teamwork & Creativity	21	CLO-3
4	Intellectual Property	3	CLO-4
5	Errors, Failures & Risks, Decision Making & Mitigating Risks, Evaluating & Controlling Technology	9	CLO-5

Mapping of Course Learning Outcomes to Program Learning Outcomes [attainment level used for

CLO's from 1(weak)-3(strong) correlation]

	P L O - 1	P L O- 2	P L O- 3	P L O- 4	P L O- 5	P L O- 6	P L O- 7	P L O- 8	P L O- 9	P L O- 10	P L O- 11	P L O - 1 2
CLO-1							✓					
CLO-2						✓						
CLO-3								✓				
CLO-4					✓							
CLO-5												✓

Mapping Course Learning Outcome (CLOs) with the Teaching-Learning and Assessment Strategy:

CLO's	Teaching Learning Strategy	Assessment Strategy	Corresponding PLO number	Domain Level/ Learning Taxonomy
	[course teacher will decide based on the type of the contents]			
CLO-1	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion.	Class Test/Assignment/ Midterm examination	PLO-7	L1
CLO-2	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture	Class Test/Assignment/ Midterm examination	PLO-6	L2

	video, Lecture note, Open discussion.			
CLO-3	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion.	Class Test/Assignment/Midterm examination/Final examination	PLO-8	L2
CLO-4	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion.	Class Test/Assignment/ Final examination	PLO-5	L2, L3
CLO-5	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion.	Class Test/Assignment/ Final examination	PLO-12	L5

Course Delivery Plan/Lesson Delivery Plan:

Week/Lesson (hour)	Discussion Topic and Book Reference	Student Activities during Online and Onsite [course teacher will decide based on the type of the contents]	Mapping with CLO and PLO	Assessment Plan
Week-1 Lesson 1 & 2 [3 Hours]	Lesson 1: Benefits (Unwrapping the Gift)- The Pace of Change Change and Unexpected Developments Ref. A Gift of Fire – Fourth Edition (Chapter 1)	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion	CLO-1, PLO-7	Class Test, Assignment, Midterm
	Lesson 2 : Benefits (Unwrapping the Gift)- Themes, Ethics Ref. A Gift of Fire – Fourth Edition (Chapter 1)	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion		

Week-2 Lesson 1 & 2 [3 Hours]	Lesson 1: Privacy- Privacy Risks and Principles, The Fourth Amendment Ref. A Gift of Fire – Fourth Edition (Chapter 2)	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion	CLO-2, PLO-6	Class Test, Assignment, Midterm	
	Lesson 2: Privacy- Expectation of Privacy, and Surveillance Technologies Ref. A Gift of Fire – Fourth Edition (Chapter 2)	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion			
Week-3 Lesson 1 & 2 [3 Hours]	Lesson 1: Privacy- The Business and Social Sectors, Government Systems, Protecting Privacy, Technology, Markets, Rights, and Laws, Communications Ref. A Gift of Fire – Fourth Edition (Chapter 2)	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion			
	Lesson 2 : Privacy- Technology, Markets, Rights, and Laws, Communications Ref. A Gift of Fire – Fourth Edition (Chapter 2)	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion			
Week-4 Lesson 1 & 2 [3 Hours]	Lesson 1: Freedom of Speech- Communications Paradigms, Controlling Speech, Posting, Selling, and Leaking Sensitive Material Ref. A Gift of Fire – Fourth Edition (Chapter 3)	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion			Class Test, Assignment, Midterm
	Lesson 2: Freedom of Speech-	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture			

	Anonymity , The Global Net: Censorship and Political Freedom , Net Neutrality Regulations or the Market? Ref. A Gift of Fire – Fourth Edition (Chapter 3)	video, Lecture note, Open discussion		
Week-5 Lesson 1 & 2 [3 Hours]	Lesson 1: Computer Crime- Introduction, Hacking Identity Theft and Credit Card Fraud Ref. A Gift of Fire – Fourth Edition (Chapter 5)	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion	CLO-3 PLO-8	Class Test, Assignment, Midterm
	Lesson 2: Computer Crime- Whose Laws Rule the Web? Ref. A Gift of Fire – Fourth Edition (Chapter 5)	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion		
Week-6 Lesson 1 & 2 [3 Hours]	Lesson 1: Ethics- Normative vs. descriptive Ethics, Three types of normative Ethics, Three Main Ethical Approaches, Ref. Handout	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion		Class Test, Assignment, Midterm
	Lesson 2: Ethics- Whistleblowing, Virtue Theory (ethics of Character), Deontological Ethics, Consequentialism, Utilitarianism, Comparing the Three Ethical Approaches Ref. Handouts	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion		
Week-7 Lesson 1 & 2 [3 Hours]	Lesson 1: Ethics- “Whistleblowing”, Dimensions of Ethics (3 “R’s” of Ethics), Codes of Ethics, Positive roles of codes of ethics Ref. Handouts	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion		

	Lesson 2: Protecting the status of Quo, Limitations of codes of ethics, Computer Ethics Ref. Handouts	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion		
Week-8 Lesson 1 & 2 [3 Hours]	Lesson 1 : Ethics, Technology and Engineering-Responsibility of engineers, Ethical Cycle, Ethics in Designing Technology Ref. Handouts	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion	CLO-3 PLO-8	Class Test, Assignment, Midterm
	Lesson 2: Ethics, Technology and Engineering-Ethics in Distribution , Research Ethics Ref. Handouts	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion		
Week-9 Lesson 1 & 2 [3 Hours]	Lesson 1: AI, Empathy & Ethics-Fairness & Protection, Fairness vs. Accuracy, Perception & Empathy Ref. Handouts	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion		Class Test, Assignment, Midterm
	Lesson 2: AI, Empathy & Ethics-Discriminators, Manage Fairness and Non Discrimination Risks, Ethical Risk Analysis	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion		
Week-10 Lesson 1 & 2 [3 Hours]	Lesson 1: Ethical Issues in Data Science - Algorithmic Bias, Bias regarding Race & Gender Ref. Handouts	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion	Class Test, Assignment, Final exam	
	Lesson 2: Ethical Issues in Data	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture		

	Science - Contemporary Ethical Issues from Tech Companies, Data Science in Healthcare Ref. Handouts	video, Lecture note, Open discussion		
Week-11 Lesson 1 & 2 [3 Hours]	Lesson 1: Professional Ethics and Responsibilities- What Is “Professional Ethics”? , Ethical guidelines for Computer Professionals Ref. A Gift of Fire – Fourth Edition (Chapter 9)	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion		Class Test, Assignment, Final exam
	Lesson 2: Professional Ethics and Responsibilities- Ethical Social Media , Scenarios Ref. A Gift of Fire – Fourth Edition (Chapter 9)	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion		
Week-12 Lesson 1 & 2 [3 Hours]	Lesson 1: Teamwork and Creativity- Changing & Challenging Perspectives , Raw & End Materials , Tools for Thinking Ref. Handouts	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion		Class Test, Assignment, Final exam
	Lesson 2: Teamwork and Creativity- Pitching Ideas , Uniformity & Social Control Ref. Handouts	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion		
Week-13 Lesson 1 & 2 [3 Hours]	Lesson 1: Intellectual Property- Principles, Laws, and Cases, Responses to Copyright Infringement Ref. A Gift of Fire – Fourth Edition (Chapter 4)	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion	CLO-4 PLO-5	Class Test, Assignment, Final Exam
	Lesson 2: Intellectual Property-	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture		

	Search Engines and Online Libraries, Free Software , Patents for Inventions in Software Ref. A Gift of Fire – Fourth Edition (Chapter 4)	video, Lecture note, Open discussion		
Week-14 Lesson 1 & 2 [3 Hours]	Lesson 1: Errors, Failures, and Risks- Failures and Errors in Computer Systems , Case Study: The Therac-25 Ref. A Gift of Fire – Fourth Edition (Chapter 8)	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion	CLO5 PLO-12	Class Test, Assignment, Final Exam
	Lesson 2: Increasing Reliability and Safety, Dependence, Risk, and Progress Ref. A Gift of Fire – Fourth Edition (Chapter 8)	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion		
Week-15 Lesson 1 & 2 [3 Hours]	Lesson 1: Decision Making & Mitigate Risks - Develop and Deploy Ethical Organizational Policies , The wind of change: how to fight ethical blindness Ref. Handouts	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion		Class Test, Assignment, Final Exam
	Lesson 2: Decision Making & Mitigate Risks - Risk Analysis, Globalization, Culture, and Brands Ref. Handouts	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion		
Week-16 Lesson 1 & 2 [3 Hours]	Lesson 1: Evaluating and Controlling Technology- Evaluating Information , The “Digital Divide” Neo-Luddite Views of Computers, Ref. A Gift of Fire – Fourth Edition (Chapter 7)	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion		Class Test, Assignment, Final Exam

	Lesson 2: Evaluating and Controlling Technology- Technology, and Quality of Life, Making Decisions About Technology Ref. A Gift of Fire – Fourth Edition (Chapter 7)	Brainstorming sessions, Classroom discussion, Voice over PPT, Lecture video, Lecture note, Open discussion		
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Assessment Pattern:

Assessment Task	CO's					Mark (Total=100)
	CO1	CO2	CO3	CO4	CO5	
Attendance	--	--	--	--	--	7
Class Test (CT1, CT2, CT3)	--	--	--	--	--	15
Assignment	--	--	--	--	--	5
Presentation	--	--	--	--	--	8
Midterm Examination	5	10	10	0	--	25
Semester Final Examination	0	10	10	15	5	40
Total Mark	5	20	20	20	--	100

CIE – Breakup (Theory) [60 marks]

Bloom's Criteria	Attendance (07)	Class Test (15)	Assignment (05)	Presentation (08)	Mid Exam (25)
Remember		05			05

Understand		05	02	02	20
Apply		05		03	00
Analyze			03		00
Evaluate					00
Create				03	00

SEE – Semester End Examination [40 marks] {Theory}

Bloom Criteria	Score for the Test
Remember	00
Understand	20
Apply	15
Analyze	00
Evaluate	05
Create	00

Learning Materials:

Textbook/Recommended Readings:

1. A Gift of Fire, 4th Edition Author: Sara Baase

Reference Books/Supplementary Readings:

1. Ethics for the Information Age – Sixth Edition