COURSE OUTLINE

INSTITUTION FAST School of Computing, National University of Computer and Emerging Sciences, Islamabad

BS-CS **Fall 2023**

PROGRAM(S) TO BE EVALUATED

Course Description

Course Code	CS4001
Course Title	Professional Practices in IT
Credit Hours	3
Prerequisites by Course(s) and Topics	Nil - Course is for out-going students, registered in or have completed FYP-1 or FYP-II
Assessment Instruments with Weights (homework, quizzes, midterms, final, programming assignments, lab work, etc.)	*100% Theory* Assessment items of Theory Part

Assessment Item	**Number**	**Weight (%)**
Assignments	7	15
Quizzes	4	5
Industry Seminar	1	5
Project/presentation	1	10
Mid Exam	2	25
Final Exam	1	40

Course Instructors	Shahzeb Khan
Lab Instructors (if any)	N/A
Course Coordinator	Shahzeb Khan
URL (if any)	
Current Catalog Description	Introduction to profession, Professional Ethics, Code of Conduct for Computing Professionals, Ethical theories and Decision Making, Human Rights, Legal System in Pakistan, Human rights in constitution of Pakistan, Intellectual Property rights, Computer/cyber Crimes, PECA 2016, Freedom of Information and Privacy, Data Protection, Computer Contracts, Types of IT and IT enabled businesses, IT company formation and registration, Software business and revenue models, Resume writing, Virtual management, change management, Job Interviews and Business of Software

Textbook (or **Laboratory Manual** for Laboratory Courses)	**Professional Issues in IT,** by Frank Bott. **Ethics for the Information Age,** By Michall J. Quinn
Reference Material	**Ethical Decision making and Information Technology,** Ernest A. Kallman and John P. Grillo, 2nd Edition
Course Learning Outcomes	

A. Course Learning Outcomes (CLOs)

After completion of the course, the students shall be able to:

1. Understand the basic concepts and importance of ethics that can be mapped in the professional lives.
2. Highlight the Impact of social media and social implications of computing and networked communication regarding ethics and morality.
3. Understand the making and implementation of framework for ethical decision making.
4. Understand professional ethical theories and code of ethics (IEEE/ACM)
5. Demonstrate the concepts and types of intellectual property rights, and mechanisms of IPR protection.
6. Understand the concepts of Privacy, Data protection, Computer Crimes, and the Cyber protection Laws, PECA 2016
7. Highlight the concepts of anonymity, security policies, computer fraud, social engineering, and to provide the guidelines for a sustainable practitioner.
8. Understand the Software Industry dynamics, different business and revenue models in IT industry, computer enabled products/services, virtual and change management, and technology trends and careers.

B. Program Learning Outcomes

1. Academic Education:	To prepare graduates as computing professionals	☐
2. Knowledge for Solving Computing Problems:	Apply knowledge of computing fundamentals, knowledge of a computing specialization, and mathematics, science, and domain knowledge appropriate for the computing specialization to the	

	abstraction and conceptualization of computing models from defined problems and requirements.	
3. Problem Analysis:	Identify, formulate, research literature, and solve complex computing problems reaching substantiated conclusions using fundamental principles of mathematics, computing sciences, and relevant domain disciplines.	
4. Design/ Development of Solutions:	Design and evaluate solutions for complex computing problems, and design and evaluate systems, components, or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.	☐
5. Modern Tool Usage:	Create, select, adapt and apply appropriate techniques, resources, and modern computing tools to complex computing activities, with an understanding of the limitations.	
6. Individual and Team Work:	Function effectively as an individual and as a member or leader in diverse teams and in multi-disciplinary settings.	☐
7. Communication:	Communicate effectively with the computing community and with society at large about complex computing activities by being able to comprehend and write effective reports, design documentation, make effective presentations, and give and understand clear instructions.	☐
8. Computing Professionalism and Society:	Understand and assess societal, health, safety, legal, and cultural issues within local and global contexts, and the consequential responsibilities relevant to professional computing practice.	☐
9. Ethics:	Understand and commit to professional ethics, responsibilities, and norms of professional computing practice.	☐

10. Life-long Learning:	Recognize the need, and have the ability, to engage in independent learning for continual development as a computing professional.

C. Mapping of CLOs on PLOs
(CLO: Course Learning Outcome, PLOs: Program Learning Outcomes)

		PLOs									
		1	2	3	4	5	6	7	8	9	10
CLOs	1	☐								☐	
	2	☐						☐	☐	☐	
	3				☐		☐		☐		
	4	☐			☐				☐	☐	
	5							☐	☐	☐	
	6	☐			☐		☐		☐		
	7	☐						☐		☐	
	8	☐					☐				☐

Topics Covered in the Course, with Number of Lectures on Each Topic (assume 15-week instruction and one-hour lectures)

Topics to be covered:

List of Topics	No. of Weeks	Contact Hours	CLO(s)
Computing as a Formal Profession	**0.5**	**1.5**	**1**
Ethics vs. Morals	**0.5**	**1.5**	**1**
Professional Ethics	**1**	**3**	**1**
Ethical Decision Making	**1**	**3**	**3**
Importance of Ethical Decision Making	**1**	**3**	**3**
Ethical Theories/Human Right	**1**	**3**	**4**
ACM and IEEE code of Ethics	**1**	**3**	**4**

	Ethical Decision Making (4 Step Process)	**1**	**3**	**3**
	Software development process and Software House Org. and communication	**1**	**3**	**1,2,6,8**
	Trends in IT, Software Business and Revenue Models	**1**	**3**	**2,6,7,8**
	Careers in computing and survival Resume Writing and Job Interviews	**1**	**3**	**6,8,10**
	Virtual management, Change management	**1**	**3**	**2,8**
	Legal Aspects of Computing	**1**	**3**	**5**
	Intellectual Property Rights	**1**	**3**	**5**
	Computer Crimes	**1**	**3**	**6**
	Computer Contracts	**1**	**3**	**6**
	Project Presentations	**1**	**3**	**1,2,3,4,5,6**
	Total	**15**	**45**	

Laboratory Projects/Experiments Done in the Course	Project and student presentation based on a topic covering current trends in computing field along with related professional issues			
Programming Work Done in the Course	N/A			
Class Time Spent (in hours)	**Theory**	**Problem Analysis**	**Solution Design**	**Social and Ethical Issues**
	40 min.	40 min.	40 min.	40 min.
Oral and Written Communications	Every student is required to submit at least __5__ written reports of typically _2-5_ pages and to make __1___ oral presentations of typically __10___ minute's duration. Include only material that is graded for grammar, spelling, style, and so forth, as well as for technical content, completeness, and accuracy.			