



Course Specifications

Course Title:	Ethics and Data Protection
Course Code:	508PMDS-2
Program:	Professional Master of Data Science
Department:	Computer Science
College:	Collage of Computer Science and Information Systems
Institution:	Najran University

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A. Course Identification

1. Credit hours:
2. Course type
a. University <input type="checkbox"/> College <input type="checkbox"/> Department <input checked="" type="checkbox"/> Others <input type="checkbox"/>
b. Required <input checked="" type="checkbox"/> Elective <input type="checkbox"/>
3. Level/year at which this course is offered: Year 2/ Level 5
4. Pre-requisites for this course (if any):
5. Co-requisites for this course (if any):

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	50	100%
2	Blended		
3	E-learning		
4	Distance learning		
5	Other		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	30
2	Laboratory/Studio	20
3	Tutorial	
4	Others (specify)	
	Total	50

B. Course Objectives and Learning Outcomes

1. Course Description

This course will provide an overview of data protection, privacy concerns, and ethics. Ethical concerns related to government, corporate, and individual information will be raised and discussed. Data ethics is included as a critical topic in terms of privacy, data manipulation, data sharing and ownership, conflict of interest, and communications. This course will utilize case studies, trends, techniques, and best practices as it examines the topics of data quality, data security, and ethical questions associated with dealing in data.

2. Course Main Objective

After successful completion of this course, students should be able to:

- Acquire knowledge of data protection.
- Gain a basic understanding of privacy and personal information rules.
- Awareness of the laws relating to data transfer to other countries.
- Knowledge of the ethical issues in modern business resulting from the use of personal information and big data: surveillance, monitoring of individual activity and the provision of customized services and goods, while restricting the options and choices available on the market for individuals.
- Learn about the paradoxes of big data: transparency, identity and control.
- Identify and explain basic ethical and policy-based frameworks for working with big data and apply these frameworks to real-world cases.
- Identify situations where data is sensitive, assess the risks, and describe how various stakeholders could respond to those risks.
- Describe how to minimize privacy compromises through the data lifecycle (from collection through dissemination).
- Implement key practices in data protection and privacy.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge	
1.1	Gain an understanding of the rules and principles for protecting privacy and personal information for individuals and organisations	K1,K2
1.2	Describe ways in which ethics can be incorporated into Data Science	K1,K2
1.3	Explain the key social concerns in relation to digital tools within contemporary society	K1,K2
1.4	Understand key practices in ethics and security for data science	K1,K2
2	Skills :	
2.1	Identify legal problems concerning privacy protection and privacy	S2,S3
2.2	Evaluate the choices made at each stage of a data science process and the associated legal, ethical and governance issues.	S1,S3
2.3	Implement good security and privacy practices in personal data storage, use, and reporting.	S1,S3
3	Competences:	
3.1	Work in groups to analyse discipline-based data-analytic issues that have major ethical implications	C1, C2

C. Course Content

No	List of Topics	Contact Hours
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1	Data in the Digital Age	5
2	Ethical Frameworks for Evaluating Big Data	5
3	Privacy and data protection	5
4	Regulations regarding Internet and algorithms	5
5	Rule of law concerning Big data	5
6	Codes of practice	5
7	Privacy by design	7
8	Transfer of data	6
9	Modern business ethical challenges of usage of personal information, Big data analytics and data sharing	5
10	Final Exam	2
Total		50

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge and Understanding		
1.1	Gain an understanding of the rules and principles for protecting privacy and personal information for individuals and organisations	TS-1: Relate Course Learning Outcomes (CLOs) to the topics	Assignment, Midterm Exam, Project and presentation, Final Examination
1.2	Describe ways in which ethics can be incorporated into Data Science	TS-2: Lectures: using PPT presentation and other software to address verbally in front of students the concepts associated with examples with taking help of writing on the board as needed.	
1.3	Explain the key social concerns in relation to digital tools within contemporary society	TS-3: Communication: Given to students the main requirements of the project's reports and presentation	
1.4	Understand key practices in ethics and security for data science	TS-4: Encourage students to read different journals,	

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
		<p>seminars or websites at their leisure time to have better understanding about the current developments in ethics and data science.</p> <p>TS-5: Recall the topics of last lecture and the critical issues based on different topics, which certainly helps students to recall memory frequently and store that topic in their memory for long term</p>	
2.0	Skills		
2.1	Identify legal problems concerning privacy protection and privacy	<p>TS-1: Relate Course Learning Outcomes (CLOs) to the topics</p> <p>TS-2: Giving Lectures in PPT, recalling the lecture through asking Questions. Clarifying doubts on Lecture.</p> <p>TS-3: Conducting a discussion of real life problems, among teacher, students</p> <p>TS-4: Cooperative learning among the students. Encourage students to browse different journals, seminars or websites at their leisure time to have a better understanding about the course.</p> <p>These learning outcomes will be taught in a combined form of seminars and lab sessions. Readings will be assigned every week and students are expected to participate in discussion during the seminars. Students are also expected to participate in lab sessions and complete</p>	<p>Quiz</p> <p>Midterm Examination</p> <p>Final Examination,</p>
2.2	Evaluate the choices made at each stage of a data science process and the associated legal, ethical and governance issues.		
2.3	Implement good security and privacy practices in personal data storage, use, and reporting.		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
		lab exercises on computers.	
3.0	Competences:		
3.1	Work cooperatively in a small group environment		Final Project
3.2			
...			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Project, Presentation and Quiz	Week 4, 9 and 10	10%
2	Mid Term	Week 6 th	20%
4	Project 1	Weeks 1-10	10%
5	Project 2	Week 10 th	10%
6	Final Lab Exam	Week 11	10%
7	Final Theory Exam	Week 12 or 13	40%
8	Total		100%

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- Each faculty member should set up to 10 hours weekly as office hours in their time tables.
- Academic advisors are assigned to advise and support students.
- Instructors set specific office hours for each course he is teaching. The teaching load of staff members are available in the front of their offices.
- Instructors arrange and provide tutorials to students.

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	Ethics and Data Science by Mike Loukides, Hilary Mason, DJ Patil Released July 2018 Publisher(s): O'Reilly Media, Inc. ISBN: 9781492043881
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Essential References Materials	<u>Big Data: A Revolution That Will Transform How We Live, Work, and Think</u> by Viktor Mayer-Schönberger and Kenneth Cukier
	<u>Data and Goliath: The Hidden Battles to Collect Your Data and Control Your World</u> by Bruce Schneier
	<u>Future Crimes: Everything Is Connected, Everyone Is Vulnerable and What We Can Do About It</u> by Marc Goodman
Electronic Materials	
Other Learning Materials	N/A

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	<ul style="list-style-type: none"> Lecture Rooms with appropriate number of seats, Projector with Screen and a white board or a smart board. All the computers in all the laboratories should be installed with the latest version of the required software.
Technology Resources (AV, data show, Smart Board, software, etc.)	<ul style="list-style-type: none"> One PC and one projector and data show in the lecture room Number of PCs according to strength of students in the lab room

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Student	Online course survey: By the end of each semester, students give their opinions about many factors in the course. They give feedback about the teaching strategies, assessment methods, textbooks, instructor, etc.

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Student	Feedback about Course Learning Outcomes (CLOs): A course survey is distributed to students to take their opinions about the CLOs.
Assessment	Course coordinator	Checks all exams and make sure that they are related to CLOs and appropriate for the course

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	Computer Science Departmental Council
Reference No.	14440203-0185-00002
Date	1st Sep, 2022