Identification	**Subject**	CMS 115 - Computer Application in Engineering-3 KU (6 ECTS) credits
	Department	Computer Science
	Program	Undergraduate
	Term	Fall 2023
	Instructor	Mohammad Ali AL-Qudah
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	Phone:	(+994 51)30-530-89)
	Classroom/hours	41 Mehseti str. (Neftchilar campus)
	Office hours	
Prerequisites	English	
Language	English	
Compulsory/Elective	Compulsory	
Required textbooks and course materials	***Core textbooks:*** Microsoft Excel 2016, Step by Step. Curtis D. Frye. (Microsoft Press,2016) Microsoft PowerPoint 2016, Step by Step, Joan Lambert (MicrosoftPress, 2016) Exploring Microsoft Access 2016 Comprehensive, Mary Anne Poatsy etal. (Pearson)	
Course outline	This course intends to facilitate students with foundation in Computer Science. Lecture notes given in classes will be conducted by examples which are crucial for better understanding of material. First lectures are designed to give an overview on computers' generation and their history. Later, computer components, computer languages, computer network types and system design will be discussed. Next classes will be dedicated to detailed observation on different computer-based applications. Mainly, Microsoft Office programs (Access, Excel, and PowerPoint) will be explained with complementary examples and exercises. At the end, Internet architecture, thebusiness application of Internet and some general aspects of computer security.	
Course objectives	To provide students with core understanding of computer science and its application in engineering. To familiarize students with computers' history, terminology, components and system hardware and software design. To prepare students to use the computer for later course work and to move directly into the workforce as a productive employee. The focus of this course is on engineering applications of software, including spreadsheets (MS. Excel), databases (MS. Access), presentation graphics (MS PowerPoint), and business utilization of the Internet.	

Learning outcomes	Upon completion of this course, the students must be able to: Apply course material to improve thinking skills. Acquire factual/practical knowledge related to business and technology. Use standard spreadsheet features to produce a representation and analysis of numerical data. Create and maintain databases and generate customized reports. Develop professional PowerPoint slides and present their skills andviewpoints.

Teaching methods	**Lecture**		x
	Group discussion		x
	Lab		x
Evaluation	**Methods**	**Date/deadlines**	**Percentage (%)**
	Midterm Exam		**30%**
	Assignment and quizzes		**20%**
	Project		**10%**
	Final Exam		**40%**
	Total		**100%**

Policy

Project description

Students should prepare a project using Power Point, Excel, or Access. The topic of the presentation will be given by the teacher. If students have their own idea of topic, they can choose it after teacher's confirmation. Students should present their topic by the end of December.

Preparation for class

The lecture material will focus on the major points introduced in the text. Reading the assigned chapters and having some familiarity with them before class will greatly assist your understanding of the lecture.

Withdrawal (pass/fail)

This course strictly follows grading policy of the School of Engineering and Applied Science. Thus, a student is normally expected to achieve a mark of at least 60% to pass. In case of failure, he/she will be required to repeat the course the following term or year.

Cheating/plagiarism

Cheating or other plagiarism during the Quizzes, Mid-term and Final Examinations will lead to paper cancellation. In this case, the student will automatically get zero (0), without any considerations.

Professional behavior guidelines

The students shall behave in the way to create favorable academic and professional environment during the class hours. Unauthorized discussions and unethical behavior are strictly prohibited.

	Ethics Students should not arrive in late to class. All cell phones must be turned off and stowed away before entering class. Use of any electronic devices is not allowed in the classroom and violators will be punished accordingly

WK	Date/Day (tentative)	Topics	Textbook/Assignments
1		**Fundamental Of Computer** Basic Concepts, Computer Organization, Data, Software/Languages, Communication and Computer Networks	Lecture Slides
2		**Spreadsheet** Basic Concepts of Spreadsheet, Using Worksheets to MakeBusiness Decisions, Starting Excel, The Excel Window, Workbook, Entering Data, Editing, Formulas & Formulas Auditing.	Microsoft Excel 2016
3		**Spreadsheet** Data Formatting, printing a Worksheet, Data Sorting, Working with Lists, Data Sorting by Multiple Keys, Conditional Formatting, Conditional Formulas.	Microsoft Excel 2016
4		**Spreadsheet** Analyzing Data with Pivot Tables, Create a Pivot, Change the Layout of a Pivot Table, Add or Remove a Field in a Pivot Table. **(Quiz 1)**	Microsoft Excel 2016
5		**Spreadsheet** Working With Function, Financial, Math & Trig, Statistical,Logical Functions, Condition and Look-up Functions, ExcelCharts, Creating Charts, updating a Chart, Data Analysis, Analyzing Statistical Data, Data Filters, Advanced Filter, Modifying an Excel Chart, Formatting Chart Labels.	Microsoft Excel 2016
6		**Spreadsheet** Performing What-if Analysis on Worksheet, Validation, Comments, Nested Logical Function, Macros, Integrating Worksheets with Other Software Applications.	Microsoft Excel 2016
7		**Database Management** Introduction to Database, The Access and Database Windows, Starting Access, Working with Existing Databases, Access Objects, Sorting, Creating an Access Table.	Microsoft Access 2016
8		**Midterm Exam**	
9		**Database Management** Exchanging Data between Access and Other Applications,Printing a Table, Access Data Formats, Validation, Relations, The Query Window, Creating and Running a	Microsoft Access 2016

		Query, Creating and Printing a Query, Filtering Data	
10		**Database Management** Defining Record Selection Criteria for Query, Updating a Database, Formulas in Query, Formulas with Parameters, Access Functions.	Microsoft Access 2016
11		**Database Management** Creating and Printing a Form, Creating and Printing a Report, Updating/Modifying the Database Using Forms, Modifying Structure of an Access Table.	Microsoft Access 2016
12		**Database Management** Creating a Dashboard or Switchboard in Access, Mail Mergeand Email Merge from Access. **(Quiz 2)**	Lecture Slides & Classroom Practice
13		**PowerPoint** The PowerPoint Window, Starting PowerPoint, Viewing Slides in Slide View, Animations, Effects, Editing/Controlling the Presentation in View Mode.	Microsoft PowerPoint 2016
14		**PowerPoint** Changing the Design Template, Changing the Slide Layout,Creating Speaker/Presenter Notes, Viewing the Completed Slide Show. Printing the Completed Slide Show.	Microsoft PowerPoint 2016
15		**Future Trends in Information Technology + ComputerProtection & Security** Fundamentals of Internet, Business Utilization of Internet,Threats to Computer Systems, Basic Protection Mechanisms. Course Wrap-up.	Lecture Slides & Notes
16		**Final Exam**	