Identification	**Subject**	CMS115, Computer Application in Engineering, 6 ECTS
	Department	Computer Science
	Program	Bachelor
	Term	Spring, 2026
	Instructor	Humay Huseynova
	Email:	hhuseynova@khazar.org
	Classroom/ hours	401N, Monday, 15:20-17:00
Prerequisites	No prerequisite required	
Language	English	
Compulsory/Elective	Compulsory	
Textbooks and course materials	Core textbooks: 1. Microsoft Excel 2019, Step by Step. Curtis D. Frye. (Microsoft Press, 2019) 2. Microsoft Power Point 2019, Step by Step, Joan Lambert (Microsoft Press, 2019) 3. Microsoft Access 2019 Tutorial and Lab Manual, David Murray. 4. Microsoft Access 365 for Beginners & Pros – Matt Vic (2021)	
Course description	This course aims to provide students with a foundation in Computer Science. The lectures are supported by practical examples, which help students understand the material more easily. The course begins with an overview of the history of computers and different generations of computer development. After that, students learn about computer components, computer languages, types of computer networks, and basic system design. In the following classes, attention is given to various computer-based applications. Special focus is placed on Microsoft Office programs such as Access, Excel, and PowerPoint, which are taught through hands-on examples and exercises. Finally, the course covers Internet architecture, business applications of the Internet, and general principles of computer security.	
Course objectives	• The objectives of this course are to provide students with a core understanding of computer science and its applications in engineering. The course familiarizes students with the history of computers, basic terminology, computer components, and the design of hardware and software systems. • It also prepares students to use computers effectively in their future coursework and helps them develop practical skills needed to enter the workforce as productive employees. • The main focus of the course is on engineering applications of software, including spreadsheets (Microsoft Excel), databases (Microsoft Access),	

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<tr><td></td><td colspan="3">presentation tools (Microsoft PowerPoint), and the business use of the Internet.</td></tr>
<tr><td>Learning Outcomes</td><td colspan="3">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 and viewpoints.</td></tr>
<tr><td rowspan="3">Teaching methods</td><td colspan="2">Lab</td><td>x</td></tr>
<tr><td colspan="2">Group discussion</td><td>x</td></tr>
<tr><td colspan="2">Lecture</td><td>x</td></tr>
<tr><td rowspan="8">Evaluation Criteria</td><td>Methods</td><td>Date/deadlines</td><td>Percentage (%)</td></tr>
<tr><td>Midterm Exam</td><td>TBA</td><td>30</td></tr>
<tr><td>Quizzes</td><td>March and April</td><td>10</td></tr>
<tr><td>Practical Assignments</td><td>May</td><td>5</td></tr>
<tr><td>Individual project</td><td>May</td><td>10</td></tr>
<tr><td>Attendance</td><td>During semester</td><td>5</td></tr>
<tr><td>Final Exam</td><td>TBA</td><td>40</td></tr>
<tr><td>Total</td><td></td><td>100</td></tr>
<tr><td>Class Policy</td><td colspan="3">Classroom activities description
Attendance (5 points)
Students who attend all classes will receive the full 5 points.
For every 2 missed classes, 1 point will be deducted.
Practical Assignments (5 points)
Students can earn up to 5 points through in-class discussions and home assignments.
Some tasks will be completed in class, while others will be assigned as homework.
To receive full points, all assignments must be submitted on time.
Quizzes (10 points total)
There will be 2 quizzes throughout the semester:
Quiz 1: March
Quiz 2: April
Each quiz is worth 5 points.
Students who miss a quiz without a valid reason will not be allowed a retake.
Individual Project
Task:
Students will prepare an individual project using Microsoft Excel, Microsoft Access, or Microsoft PowerPoint, applying the knowledge they have learned</td></tr>
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	in class. **Evaluation:** Project Quality (5 points): Correct use of the selected software, proper structure, organization of data or content, and effective use of features (formulas, tables, queries, slides, visuals, etc.). Understanding and Explanation (5 points): Clear explanation of the project idea, objectives, and how the chosen tools and functions were used to solve the given task. Submission: Students must submit their project by Week 13 and present their work in Week 14. **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 the 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 consideration. **Professional behavior guidelines** The students shall behave in a way to create a favorable academic and professional environment during class hours. Unauthorized discussions and unethical behavior are strictly prohibited. **Ethics** Students should not arrive late at class. All cell phones must be turned off or silent before entering class. Use of electronic devices is not allowed in the classroom, and violators will be punished accordingly

Tentative Schedule

Week	Date/Day (tentative)	Topics	Textbook/ Assignments
1	16.02.26	**Fundamental Of Computer** Basic Concepts, Computer Organization, Data, Software/Languages, Communication and Computer Networks	Lecture Slides
2	23.02.26	**Spreadsheet** Basic Concepts of Spreadsheet, Using Worksheets to Make Business Decisions, Starting Excel, The Excel	Microsoft Excel 2019

		Window, Workbook, Entering Data, Editing, Formulas & Formulas. Auditing.	
3	02.03.26	**Spreadsheet** Data Formatting, printing a Worksheet, Data Sorting, Working with Lists, Data Sorting by Multiple Keys, Conditional Formatting, Conditional Formulas.	Microsoft Excel 2019
4	09.03.26	**Non-working day**	
5	16.03.26	**Spreadsheet** Analyzing Data with Pivot Tables, create a Pivot, chang e the Layout of a Pivot Table, Add or Remove a Field in a Pivot Table. **(Quiz 1)**	Microsoft Excel 2019
6	23.03.26	**Spreadsheet** Working With Function, Financial, Math & Trig, Statistical, Logical Functions, Condition and Look-up Functions, Excel Charts, Creating Charts, updating a Chart, Data Analysis, Analyzing Statistical Data, Data Filters, Adva nced Filter, Modifying an Excel Chart, Formatting Char t Labels.	Microsoft Excel 2019
7	30.03.26	**Spreadsheet** Performing What- if Analysis on Worksheet, Validation, Comments, Nested Logical Function, Macros, Integrating Worksheets with Other Software Application s.	Microsoft Excel 2019
8	06.04.26	**Database Management** Introduction to Database, The Access and Database Windows, Starting Access, Working with Existing Databases, Access Objects, Sor ting, Creating Access Table.	Microsoft Access 2019
9	13.04.26	**Midterm Exam**	
10	20.04.26	**Database Management** Exchanging Data Between Access and Other Applications, Printing Table, Access Data Formats, V alidation, Relations, The Query Window, Creating and Running a Query, Creating and Printing a Query, Filtering Data	Microsoft Access 2019
11	27.04.26	**Database Management** Defining Record Selection Criteria for Query, Updating a Database, Formulas in Query, Formulas with Parameters, Access Functions.	Microsoft Access 2019
12	04.05.26		Microsoft Access 2019

		Database Management Creating and Printing a Form, Creating and Printing a Report, Updating/Modifying the Database Using Forms, Modifying Structure of an Access Table.	
13	11.05.26	**Database Management** Creating a Dashboard or Switchboard in Access, Mail Merge and Email Merge from Access. **(Quiz 2)**	Lecture Slides & Classroom Practice
14	18.05.26	**PowerPoint** The PowerPoint Window, Starting PowerPoint, Viewing Slides in Slide View, Animations, Effects, Editing/Controlling the Presentation in View Mode.	Microsoft PowerPoint 2019
15	25.05.26	**PowerPoint** Changing the Design Template, Changing the Slide Layout, Creating Speaker/Presenter Notes, Viewing the Completed Slide Show. Printing the Completed Slide S how.	Microsoft PowerPoint 2019
		Final exam	