الجمهورية العربية السورية
وزارة التعليم العالي والبحث العلمي
الجامعة الافتراضية السورية

الجامعة الافتراضية السورية
SYRIAN VIRTUAL UNIVERSITY

Institute of Engineering Management and Digitalization

Computer Skills Course

Computer Skills

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Course Description Document

1. Basic Information:

Computer Skills	Course Name
302GBS	Course Code
14	Theory Contact Hours
14	Practical Contact Hours
1	Number of Assignments
1	Number of Exams
42	Study Hours for Theory Contact
21	Study Hours for Practical Contact
3	Credit Hours

2. Prerequisite Courses

None

3. Course Objectives

1. **Understanding Basic Computer Components:** Equip students with the knowledge necessary to identify the basic components of a computer and its various peripherals, including the processor, memory, hard drive, and input/output units, with a focus on devices used in engineering applications.
2. **Familiarity with Engineering Software:** Enable students to study different types of software, focusing on software used in engineering fields such as AutoCAD and MATLAB. Understand how to apply these software tools to enhance performance and productivity in engineering projects.
3. **Mastering Networking Skills:** Develop students' understanding of computer networking fundamentals, including Local Area Networks (LAN) and Wide Area Networks (WAN), and how to use them effectively in an engineering work environment for file sharing and accessing digital resources.

4. **Using Email in an Engineering Environment:** Train students to use email applications such as Microsoft Outlook for effective communication in engineering projects, including sending, receiving, and organizing emails and project-related files.
5. **Document Preparation Skills Using Microsoft Word:** Enhance students' skills in creating and formatting engineering documents using Microsoft Word, including using tables, charts, indexes, and preparing documents for professional printing.
6. **Data Analysis Using Microsoft Excel:** Develop students' abilities to prepare and analyze engineering data using Microsoft Excel, focusing on using various functions, creating charts, and formatting spreadsheets.
7. **Creating Professional Presentations:** Teach students how to prepare engineering presentations using Microsoft PowerPoint, with a focus on inserting text, images, charts, and applying animation and transition effects for effective and professional presentations

4. Learning Outcomes

Number	Desired Learning Outcomes
1	Recognize basic computer components and their functions, and understand the computer's physical structure, including the processor, memory, storage units, and input/output units
2	Differentiate between various types of software and their applications, such as operating systems, application software, and engineering software, and understand how to use them to improve productivity and accuracy, with specific applications like AutoCAD, MATLAB, and Revit.
3	Understand the fundamentals of computer networking and its applications in engineering, including setting up Local Area Networks (LAN) and connecting devices in engineering work environments, and using the internet to access digital resources.
4	Master the use of email as a communication tool in engineering projects, using Microsoft Outlook to send and receive emails, manage attachments, and organize emails effectively
5	Create and format engineering documents using Microsoft Word, including setting up documents with text, tables, charts, and illustrative images, using advanced formatting tools, and preparing documents for professional printing
6	Analyze engineering data using Microsoft Excel, through preparing spreadsheets with engineering data, applying advanced functions and formulas, creating charts to illustrate results, and formatting data for printing
7	Prepare professional engineering presentations using Microsoft PowerPoint, including designing presentations with text, images, and charts, and applying motion and transition effects to deliver ideas in a professional and impactful manner.

5. Assessment Methods

Chapter Number	Chapter Title	Content	Recorded Lectures	Practical	Interactive Sessions	Final Exam/Assignments	Reports	Assessment Methods
(CH1+CH2)	Hardware	Basic computer components and peripherals, studying different types of software, with a focus on engineering applications	√	√	√	√		√
(CH3+CH4)	Software	Overview of software types (operating systems, engineering application software), studying different software applications in engineering such as AutoCAD and Revit, service software, and its importance in enhancing engineering work performance	√	√	√	√		√
(CH5+CH6)	Networking	understanding computer networking basics and its use in engineering work environments, including Local Area Network (LAN) setup and connecting devices in engineering settings, and using the internet to access digital resources	√	√	√	√		√
(CH7+CH8)	Outlook	using email for communication and managing project files	√	√	√	√		√
(CH9+CH10+ CH11 CH12+)	Microsoft Word	creating and formatting engineering documents, using tables, charts, and preparing documents for printing	√	√	√	√		√
(CH12+CH13 + CH14 CH15+)	Microsoft Excel	preparing and analyzing engineering data using functions, creating charts, and formatting spreadsheets for printing	√	√	√			√
(CH16+CH17	Microsoft PowerPoint	creating engineering presentations, applying motion and transition effects, and preparing professional presentations	√	√	√			√

Additional Notes:

- **Final Exam:** Administered once at the end of the semester and lasts for two hours.
- **Assignments:** Administered once after each unit or after four lectures during the semester.
- **Presentations and Interviews:** Conducted optionally to discuss projects and practical applications.
- **Reports:** Requested periodically to evaluate students' progress in practical skills

6. Course Content

Chapter Number	Chapter Title	Content	Number of Theoretical Teaching Units	Number of Practical Teaching Units
(CH1+CH2)	Hardware	Basic computer components and peripherals, studying different types of software, with a focus on engineering applications	1	1
(CH3+CH4)	Software	Overview of software types (operating systems, engineering application software), studying different software applications in engineering such as AutoCAD and Revit, service software, and its importance in enhancing engineering work performance	1	1
(CH5+CH6)	Networking	understanding computer networking basics and its use in engineering work environments, including Local Area Network (LAN) setup and connecting devices in engineering settings, and using the internet to access digital resources	1	1
(CH7+CH8)	Outlook	using email for communication and managing project files	1	1
(CH9+CH10+ CH11 CH12+)	Microsoft Word	creating and formatting engineering documents, using tables, charts, and preparing documents for printing	4	4

(CH12+CH13+ CH14 CH15+)	Microsoft Excel	preparing and analyzing engineering data using functions, creating charts, and formatting spreadsheets for printing	4	4
(CH16+CH17)	Microsoft PowerPoint	creating engineering presentations, applying motion and transition effects, and preparing professional presentations	2	2

7. Practical Section

Tools and Laboratories of the Practical Section

Tool Name	Tool Description	Application
Windows10	Basic operating system used to manage the computer and run applications	File and folder management, system and printer settings.
Word 2019	Microsoft word processing program.	Creating and formatting documents, inserting tables and images, preparing documents for printing
Excel 2019	Microsoft spreadsheet application.	Preparing and analyzing data, creating charts, formatting spreadsheets
Power Point 2019	Microsoft presentation software.	Creating and formatting presentations, adding motion and transition effects
Outlook 2019	Microsoft email application	Managing email, organizing messages, sending and receiving attachments

Distribution of Practical Work Across Course Topics

Chapter	Task Types	Notes and Clarifications
First	Exercises ☒ Assignments ☒ Research Meetings ☐ Reviews ☐ Experiments ☐ Others	Conduct a research on computer hardware components and how they work. Conduct a comparison between system software and application software.
Second	Exercises ☒ Assignments ☒ Research Meetings ☐ Reviews ☐ Experiments ☐ Others	Conduct a research on types of networks and how to connect to the internet.
Third	Exercises ☒ Assignments ☒ Research Meetings ☐ Reviews ☐ Experiments ☐ Others	Practical application on Windows 10 operating system.
Fourth	Exercises ☒ Assignments ☒ Research Meetings ☐ Reviews ☐ Experiments ☐ Others	Practical application on Word 2019 word processing program. Demonstrate the basic functions in Word 2019.
Fifth	Exercises ☒ Assignments ☒ Research Meetings ☐ Reviews ☐ Experiments ☐ Others	Apply a set of exercises on Excel 2019. Train on data analysis techniques and use of formulas.
Sixth	Exercises ☒ Assignments ☒ Research Meetings ☐ Reviews ☐ Experiments ☐ Others	Practical application on PowerPoint 2019 presentation program. Demonstrate the basic functions in PowerPoint 2019.
Seventh	Exercises ☒ Assignments ☒ Research Meetings ☐ Reviews ☐ Experiments ☐ Others	Practical application on Outlook 2019 email program. Demonstrate how to manage and organize emails.

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