

## Module (Course Syllabus) Catalogue 2023-2024

College/ Institute	Erbil Technical Engineering College	
Department	Highway Engineering Department	
Module Name	COMPUTER ESSENTIALS	
Module Code	COE103	
Degree	Technical Diploma <input type="checkbox"/> Bachelor <input type="checkbox"/> / High Diploma <input type="checkbox"/> Master <input type="checkbox"/> PhD <input type="checkbox"/>	
Semester	1 <sup>st</sup>	
Qualification	MSc. Construction Management	
Scientific Title	Asst. Lecturer	
ECTS (Credits)	4	
Module type	Prerequisite <input type="checkbox"/> Core <input type="checkbox"/> / Assist. <input type="checkbox"/>	
Weekly hours		
Weekly hours (Theory)	( )hr Class	( )Total hrs Workload
Weekly hours (Practical)	( 3 )hr Class	(108)Total hrs Workload
Number of Weeks	12	
Lecturer (Theory)	Farah Subhi Hayder	
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Lecturer (Practical)	Farah Subhi Hayder	
E-Mail & Mobile NO.	Farah.hayder@epu.edu.iq	
Websites	-	

# Course Book

<b>Course Description</b>	<p>Microsoft Office (Word, Power Point and Excel) is a comprehensive suite of computer software designed to help create and share content in a professional manner. The programs in the Microsoft Office suite allow quick and easy design of professional documents, presentations, and spreadsheets while organizing information. As well as to be able to work effectively on the computer using the mentioned software to do engineering and scientific simulations. Learn to create spreadsheets in Excel for your engineering analysis, final year project and other engineering simulations.</p>
<b>Course objectives</b>	<ul style="list-style-type: none"><li>• To know how to use the most common Microsoft Office programs</li><li>• To be able to create documents for printing and sharing</li><li>• To be able to create and share presentations</li><li>• Create a spreadsheet to tabulate and record numeric values</li><li>• Indicate the names and functions of the Excel interface components.</li><li>• Enhance alpha and numeric date in an Excel Worksheet</li></ul>
<b>Student's obligation</b>	<p>Students must attend all lectures. They also do quick daily exams. Furthermore, they are required to do their homework and duties that will be assigned to them. Moreover, they must do seminars and projects. And finally, they must pass the final and midterm exam.</p>

<b>Required Learning Materials</b>	lectures are going to be presented in the computer lab. with projector for presenting the lectures. Also, white board will be used for demonstrating materials that needs more highlights.				
<b>Evaluation</b>	<b>Task</b>	<b>Weight (Marks)</b>	<b>Due Week</b>	<b>Relevant Learning Outcome</b>	
	Paper Review		-		
	Assignments	Homework	10		
		Class Activity	2		
		Report	-		
		Seminar	8		
		Essay	-		
		Project	8		
	Quiz		8		
	Lab.		-		
	Midterm Exam		24		
	Final Exam		40		
Total		100			
<b>Specific learning outcome:</b>	<ul style="list-style-type: none"> <li>Learners will understand which tasks each of the major Office programs can perform.</li> <li>Learners will be able to independently create professional-looking documents, presentations, and spreadsheets.</li> <li>Learners will be familiar with some advanced Office functions.</li> <li>Learners will understand how to use Word, Excel, and PowerPoint in a variety of professional, educational, and personal situations.</li> <li>Learners will be able to claim Office proficiency.</li> <li>Learners will be able to apply advanced formulas to lay data in readiness for analysis</li> <li>Learners will be able to use advanced techniques for report visualizations</li> </ul>				
<b>Course References:</b>	<ul style="list-style-type: none"> <li>Microsoft Office 2016 Step by Step, by Joan Lambert and Curtis Frye.</li> </ul>				

- Training computer driving "a practical course in windows 7 & office 2010

<b>Course topics (Theory)</b>	<b>Week</b>	<b>Learning Outcome</b>
Introduction to computer components hardware and software	1	
<b>Practical Topics</b>	<b>Week</b>	<b>Learning Outcome</b>
Introduction to Word software	2	
Working with Word files, inserting equations	3	
Introduction to PowerPoint software	4	
Working with PowerPoint files, inserting tables and SmartArt Graphics.	5	
Introduction to excel software	6	
Working with excel files and Entering data.	7	

Working with numbers and format cells	8	
excel formulas Sum , average , Max , Min , Count , Count a , If Sum IF , Count IF , .....	9	
excel formulas Sum , average , Max , Min , Count , Count a , If Sum IF , Count IF , .....	10	
excel formulas Sum , average , Max , Min , Count , Count a , If Sum IF , Count IF , .....	11	
Working with Charts and printing excel files. Applying math in excel and Revision of the course	12	

## Questions Example Design

1. Write the below equations using “Equation Editor” :(10 points)

a	$\text{sgn}(x) = \begin{cases} \frac{ x }{x}, & x \neq 0 \\ 0, & x = 0 \end{cases}$
b	$M = \int dm = \int_0^3 (3 - y) dy = \left( 3y - \frac{y^2}{2} \right) dy \Big _0^3 = 9 - \frac{9}{2} = 4.5g$

2. Solve below equation using Excel. (30 Points)

a)  $y = 3x^2 - 5x + 4$  Find:  $x_{min} = \frac{-b}{2a}$  ,  $f(x_{min})$  ,  $f(0)$  ,  $f(2)$  (20 Points)

b) 
$$\begin{cases} x + y + z = 6 \\ 2x - y + 3z = 9 \\ 3x + y - 4z = -7 \end{cases} \rightarrow \text{Solve for: } \begin{bmatrix} x \\ y \\ z \end{bmatrix} = \begin{bmatrix} \square \\ \square \\ \square \end{bmatrix} \quad (10 \text{ points})$$

**Extra notes:**

## External Evaluator

I hereby confirm that all syllabuses given in the attached course modules is sufficient to cover required subjects, areas and titles needed for students regarding this study year.



**Ahmed Suad Ali**

Senior scientific committee member of Highway Engineering Department