

رمز المادة	نوع المادة	الساعات الأسبوعية			السنة الدراسية	اسم المادة
	مساعدة	الوحدات	ع	ن	الثانية	برمجة الحاسوب Computer Programming
		٤	٢	١	٣٠ أسبوع	

أهداف المادة: بناء خيال برمجي لحل المسائل والتطبيقات الهندسية ومحاكاة المسائل الهندسية.

Week	Syllabus
1 <sup>st</sup> , 2 <sup>nd</sup>	<b>Software Engineering</b> Introduction, Structural and Functional Modelling, Software Development Life cycle. Requirements determination, feasibility analysis, final specifications, hardware and software study system (design – implementation –evaluation–modification). Role of systems analyst – attributes of a systems analyst – tools used in system analysis
3 <sup>rd</sup> , 4 <sup>th</sup>	<b>Data and Information</b> Types of information: operational, tactical, strategic and statutory – why do we need information systems – management structure – requirements of information at different levels of management – functional allocation of management – requirements of information for various functions – qualities of information – small case study
5 <sup>th</sup> , 6 <sup>th</sup>	<b>Algorithms and Flowcharts</b> Introduction, Symbols, Types of flowchart, Exercise.
7 <sup>th</sup> , 8 <sup>th</sup>	<b>Introduction to Visual studio.</b> Introduction to Visual studio. Platform, Environment, Menu Bar, Toolbars, Tool Box, Project explorer, Properties window, Form designer, Form layout. Design time and run time
9 <sup>th</sup> , 10 <sup>th</sup>	<b>Toolbox and objects :</b> Graphical User Interface, Command Buttons, Label, text box, check box, option, list box, Timer.
11 <sup>th</sup>	<b>Constants, Variable and Procedures</b> Constants and Variable, Arrays, Arithmetic operators, Expressions - Events, Properties, Methods - Procedures and Functions – Menus.
12 <sup>th</sup> , 13 <sup>th</sup> 14 <sup>th</sup> , 15 <sup>th</sup>	<b>Control Flow Statements:</b> Condition Statement: If-Then, Select Case. Loop statement: For-Next, Do-while, Do-Loop While, Exit Loop. Exit and stop statements
16 <sup>th</sup> , 17 <sup>th</sup> , 18 <sup>th</sup>	<b>Test phase</b> <b>Debugging , Error Handling</b>
19 <sup>th</sup> , 20 <sup>th</sup> , 21 <sup>th</sup>	<b>Advance objects</b> Mashed edit control – Chart controls – Rich text box – Slider – Tabbed Dialog – Multiple forms – common dialog control.
22 <sup>th</sup>	<b>Creating executable file</b> Creating executable file by Package & Deployment Wizard

23<sup>th</sup>, 24<sup>th</sup>, 25<sup>th</sup>  
26<sup>th</sup>, 27<sup>th</sup>, 28<sup>th</sup>  
, 29<sup>th</sup>, 30<sup>th</sup>

Applications: Create the applications for Fluid calculation, Trial and error calculation, Enthalpy calculation, non-linear equations, and matrix inverse