Republic of Iraq

Ministry of Higher Education and Scientific Research Supervision and Scientific Evaluation Apparatus



College: Shatt Al-Arab University College

Department: Civil Engineering

Stage: 2nd stage

Lecturer name: Dr. Wisam Abdulla Najim

Academic title: Lecturer

Course Weekly Outline

Name	Dr. Wisam Abdulla Najim AlHalfi							
E-mail address	Engwisam7@gmail.com							
Course name	Computer programming (CE217)							
Course objective	 Knowledge and Understanding 1. Familiarity with the Fortran programming language. 2. Learn how to write a program in Fortran. 3. Implement many engineering programs using the Fortran programming language. 4. Use the physical problem using Fortran 5. Identify variables and constants in the programming language. 6. Identify loops, arrays and subroutines. 							
Course description	 Write an engineering program in Fortran. Convert any problem into a program written in Fortran. Reserve places for engineering data in the program memory and use them. Link information to engineering reality. This unit covers a wide range of topics in Fortran 90 to provide the basic knowledge and foundations applied to various civil engineering problems. It is a simple language for high-performance computing and is used for programs that benchmark and classify the world's fastest supercomputers. This unit provides an introductory study of the program, inputs, outputs, constants, variables, arithmetic operations, IF and DO statements, Format and GOTO statements, arrays and examples of all these topics and their relevance to civil engineering. It is a general-purpose imperative programming, particularly suitable for numerical and scientific computing. 							
References	1. المرجع الأساسي في برمجة و تطبيقات فورتران 90 للـ(د. عوض منصور و د. محمود اباظة). 2. FORTRAN FOR SCIENTISTS & ENGINEERS 4th Edition, by Stephen Chapman.							
External sources	 فورتران 77 مدخل الى برمجة الحاسبات للــــــ (د. محمد زكي محمد و د. نبيل جليل) Computing for Scientists: Principles of Programming with Fortran 90 and C++ R. J. Barlow, A. R. Barnett. Fortran 90 for scientists and engineering for Brian D. Hahn. 							
Course assessment	Quizzes and assessment	Lab.	Classwork and absences	report	Mid-term exam	Final exam		
	10	10	10	10	10	50		
General notes			I	I	<u>I</u>	ı		

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Week No.	Theoretical	Experimental	Aims
1	Introduction to Fortran Programming (Initialization Section, Program Structure)	Introduction to Fortran Programming.	ge and uge for ify the ogram, ormat, ring. It
2	Variables and Constants (How to Write Variables and Constants)	Variables and Constants	wled, mgua class: class: o, F o, F class: class: o, F class: clas
3	Inputs and Outputs (How to Get Started Writing Inputs and Outputs)	Inputs and Outputs.	sic kno mple 1s rk and dy of th ents, D ivil eng for nur
4	GOTO and FORMAT (sentence and its types)	GOTO and FORMAT.	he ba s a si chma :y stu tatem e to c
5	Control Statements (Understanding Control Statements)	Control Statements.	of topics in Fortran 90 to provide the basic knowledge and is civil engineering problems. It is a simple language for and is used for programs that benchmark and classify the s. This unit provides an introductory study of the program, riables, arithmetic operations, IF statements, DO, Format, of all these topics and their relevance to civil engineering. It ive programming, particularly suitable for numerical and
6	DO Loop Statements (Using Loop Rules)	DO Loop Statements.	to poobler obler the intraction reation heir rhiculz
7	IF Statements and Their Types (Arithmetic and Logical IF Statements)	IF Statements and Their Types.	rtran 90 rring pr r progra vides a vic ope cs and tl ng, parf
8	Relationship rules and examples (some relationships between DO and IF)	Relationship Rules and Examples.	s in Fo enginee used for anit pro arithme se topii grammi
9	Multiple Selection Examples (Set of Examples)	Multiple Selection	topic civil d is u This u bles, all the
10	A collection of general notes and summaries of previous chapters.	Examples of previous topics.	property and the state of topic policies of various civil ance computing and is the supercomputers. This is, constants, variables, and examples of all the ourpose imperative proputing.
11	Introduction and properties of arrays.	Introduction and properties of arrays	le ran o var nputi ompu ants, umple impe
12	DIMENSION SENTENCE RULES	DIMENSION SENTENCE	ers a wid pplied to ance con t superco s, consts s and exa ourpose puting.
13	Use more than one method to read and print Read and print arrays.	arrays	This unit covers a wide range of topics in Fortran 90 to provide the basic knowledge and foundations applied to various civil engineering problems. It is a simple language for high-performance computing and is used for programs that benchmark and classify the world's fastest supercomputers. This unit provides an introductory study of the program, inputs, outputs, constants, variables, arithmetic operations, IF statements, DO, Format, GOTO, arrays and examples of all these topics and their relevance to civil engineering. It is a general-purpose imperative programming, particularly suitable for numerical and scientific computing.
14	Where statement specifies the domain of the array.	Where statement	This unit cove foundations a high-performa world's fastest inputs, output GOTO, arrays is a general-pscientific com
15	External and internal functions Sub-programs.	Sub-programs	This ur foundar high-pe world's inputs, GOTO is a ge scientif