

جامعة : المنصورة
كلية : العلوم
قسم : الرياضيات

١- بيانات المقرر		
المستوى: الثاني	اسم المقرر : Computer science 2	كود المادة : Math 241
٢: عملي	عدد الوحدات الدراسية: ٣ ساعة معتمدة نظري: ٢	التخصص: إحصاء وعلوم الحاسب

<p>For students undertaking this course, the aims are to:</p> <ul style="list-style-type: none"> -Understand the basic concepts programming in c++ -Build programs in C++ language -Model problems in basic science using C++ programming -Understand programming algorithms to address proper mathematical problems -Use numerical methods in scientific programming and mathematical modeling 	٢- هدف المقرر :
٣- المستهدف من تدريس المقرر	
<p>a- Knowledge and Understanding On completing this course, students will be able to:</p> <p>a1 – list computer terms from the textbook, lecture, and readings a2- Acquire an understanding of the fundamental programming concepts such as variables , functions , loops and subroutines in C++ a3 - Identify application algorithm and use programming language a 4 – Read and write programs of real world applications</p>	أ- المعلومات و المفاهيم :
<p>b- Intellectual Skills On completeing the course, the student is will be able to:</p> <p>b1- Construct programming in C++ b2- Analyze code in C++ and adapt other people's code. b3- Create a detailed algorithmic solution to a well defined problem b4- Design program to solve application problem.</p>	ب- المهارات الذهنية :
<p>c-Professional and Practical Skills On completing this course, students will be able to:</p> <p>c1 – Use language C++ syntax in programming problems c2 – Make programs easy to use in market. c3 - Convert basic programs to equivalent C++ code; c4- Use C++ to develop more reliable programs</p>	ج- المهارات المهنية الخاصة بالمقرر :
<p>d-General and Transferable Skills On completing this course, students will be able to:</p> <p>d1- Solve problems in number systems d2- Work effectively both in a team and independently d3- Exhibit the sense of beauty and neatness d4- Use information and communication technology effectively</p>	د- المهارات العامة:
<ul style="list-style-type: none"> • Basic compilation of a C++ program & the various "bits" that make up a program. • The Basics of C++:input & output using cin & cout,built in data types such as int, double, char & bool and their relative sizes, The complex number type. • Control statements: if - else & switch. • Loops: for, while & do. • Header files & core C++. • Functions: including call be reference & overloading. • Arrays 	٤- محتوى المقرر :

<ul style="list-style-type: none"> • C++ mechanism for implementing Object Orientation. • functions. • Mathematical applications 	
1- Lecturer 2- Practical tutorial 3- Report	٥- أساليب التعليم و التعلم:
The same as normal students, only skeletal disabilities are allowed in the Faculty of Science.	٦- أساليب التعليم و التعلم للطلاب ذوي القدرات المحدودة
٧- تقويم الطلاب :	
1- Oral and Practical exam to assess b1-b4,d1-d4 2- Final exam to assess a1-a4, b1-b4, c1-c4 3- Mid-Term Exam to assess a1-a2, c1-c2 4 - Practical Examination to assess a1-a4, b1-b4, c1-c4	أ- الأساليب المستخدمة
1- Oral and Practical exam week 14 2- Final exam week 15 3-Mid-Term Exam week 7 4 - Practical Examination week 14	ب- التوقيت
- Mid-Term Examination 10% - Final-Term Examination 60% - Oral Examination 10% - Practical Examination 20% Total 100%	ج- توزيع الدرجات
٨- قائمة الكتب الدراسية و المراجع :	
- Note the Dept	أ- المذكرات
B. H. Flowers, An Introduction to Numerical Methods in C++ , Oxford, 2000.	ب- الكتب ملزمة
C++ for mathematicians. An introduction for Students and Professionals. ,Edward Scheinerman Bjarne Stroustrup, <i>The C++ Programming Language, 3rd edition</i> , Addison-Wesley, 1997	ج- كتب مقترحة
http://www.mans.edu.eg/facscim/english/ECourses/Default.htm	د- دوريات علمية أو نشرات ... الخ

(أ) مصفوفة المعارف والمهارات المستهدفة من المقرر الدراسي

المحتويات للمقرر	اسبوع الدراسة	المعارف الرئيسية	مهارات ذهنية	مهارات مهنية	مهارات عامة
Basic compilation of a C++ program & the various "bits" that make up a program.	1-3	a1	b1	c1	d1
The Basics of C++:	4-6	a2	b1	c1,c2	d2
Control statements: if - else & switch.loops: for, while & do.	7-8	a2,a3	b1	c3	d2
Header files & core C++.Functions: including call be reference & overloading.	9	a2,a3	b2	c2	d2
Arrays	10	a2,a4	b3	c3	d3
functions.	11	a2	b4	c4	d3
Mathematical applications	12-14	a2,a3,a4	b4	c4	d4