كلية : العلـــوم
قسـم : الرياضيات

١ ـ بيانات المقرر		
كود المادة :Math 242	اسم المقرر : جبر الحاسب	المستوى: الثانى
التخصص: إحصاء وعلوم الحاسب	عدد الوحدات الدراسية: ٣ ساعة معتمدة نظرى ٢: تمارين: ٠ عملى: ٢	

٢ ـ هدف المقرر :	
For students undertaking this course, the aims are to: 1. apply well developed team skills to the application of solutions to engineering problems; 2. develop an appropriate mathematical model of statistical problem; 3. develop a logical and well structured computer program; 4. discuss and use the concepts of debugging a computer program; 5. use a range of numerical computing techniques to develop an appropriate model from available data; 6. demonstrate a knowledge of an make appropriate use of a range of methods in the design and analysis of engineering experiments; 7. analyse the behavior of mathematical system using a general purpose numerical software package.	
٣ ـ المستهدف من تدريس المقرر	
أ ـ المعلومات و المفاهيم :	**a- Knowledge and Understanding** On completing the course students will be able to: a1- recognize different types of data a2 – acquire the measures of central tendency, dispersion and correlation a3 - understand the basic concepts of probability, conditional probability and the related laws a4- explain different types of random variables a5- identify the probability function, moments, and moment generating function of a random variable a6- be aware of the properties of cumulative distribution function.
ب ـ المهارات الذهنية :	**b- Intellectual Skills** **On completing this course, students will be able to:** b1. differentiate between different types of data b2- distinguish between the central tendency and dispersion criteria b3- distinguish between the discrete and continuous random variables b4- apply probability laws to solve problems in probability
ج ـ المهارات المهنية الخاصة بالمقرر :	**c- Professional and Practical Skills** **On completing this course, students will be able to:** c1- design simple and grouped frequency tables c2 – evaluate measures of central tendency, dispersion and correlation for different types of data c3 - solve some problems related to distributions of discrete and continuous random variables
د ـ المهارات العامة :	**d- General and Transferable Skills** **On completing this course, students will be able to:** d1. Think independently, set tasks and solve problems on a scientific basis. d2. use , efficiently, information and communication technology d3. Work effectively in groups.

٤- محتوى المقرر :	1-Engineering problem solving methodologies and mathematical modeling 2- Problem solving case studies in engineering, drawn from areas such as mechanics, thermodynamics, structures, geomechanics, hydraulics and electromagnetic, that involve solving equations by iteration; solving sets of linear algebraic equations; regression and interpolation; and numerical calculus and differential equations. MATLAB will be the main tool employed in the solution of the case studies and emphasis will be given to problems that enhance the programming skills of students and that require the application of array and matrix operations; files, functions and data structures; and plotting
٥- أســـاليـــب التعليـــم و التعلـم	1- Lectures 2- Tutorial classes
٦- أساليب التعليم و التعلم للطـــلاب ذوى القـدرات المحـدودة	The same as normal students, only skeletal disabilities are allowed in the faculty of science.

٧- تقويـــــم الطـــلاب :

أ- الأساليب المستخدمة	1- Oral exam	to assess b1, b2, b3, b4, d1, d2, d3
	2- Final exam	to assess a1,a2,a3, a4, a5,a6, c1, c2, c3
	3- Mid-Term Examination	to assess
	4- Practical Examination	to assess
ب- التوقيت	1- Oral	week 15
	2- Final exam	week 15
	3- Mid-Term Examination	week 7
	4- Practical Examination	week
ج- توزيع الدرجات	- Mid-Term Examination	10 %
	- Final-Term Examination	60%
	- Oral Examination	10%
	- Practical Examination	20 0%
	- Semester work	0%
	- Other types of assessment	0%
		Total 100%

٨- قائمة الكتب الدراسية و المراجع :

أ- المذكرات	- Department out in this course
ب- الكتب ملزمة	- Introduction to mathematical statistics (Erwin Kreyszing)
ج- كتب مقترحة	Palm, W J 2001, *Introduction to Matlab 6 for Engineers*, McGraw-Hill.
د- دوريـــات علميـــة أو نشرات	

(أ) مصفوفة المعارف والمهارات المستهدفة من المقرر الدراسي

المحتويات للمقرر	اسبوع الدراسة	المعارف الرئيسية	مهارات ذهنية	مهارات مهنية	مهارات عامة
1-Engineering problem solving methodologies and mathematical modeling					
2- Problem solving case studies in engineering, drawn from areas such as mechanics, thermodynamics, structures, geomechanics, hydraulics and electromagnetic, that involve solving equations by iteration; solving sets of linear algebraic equations; regression and interpolation; and numerical calculus and differential equations. MATLAB will be the main tool employed in the solution of the case studies and emphasis will be given to problems that enhance the programming skills of students and that require the application of array and matrix operations; files, functions and data structures; and plotting					

أستاذ المادة : د.

رئيس مجلس القسم العلمي :ا.د. مجدى إياس فارس