Course Description Template

Course Description

Analysis of mathematical equations from the significance of time to the significance of frequency by using integrative and differential properties

1. Educational Institution	Warith Al-Anbiya University
2. Scientific Department / Center	Department of Biomedical Engineering
3. Course Name/Code	WBM-31-01/ Engineering Analysis
4. Available Forms of Attendance	Weekly
5. Semester/Year	First Semester /2024
6. Number of Hours (Total)	60 Hours
7. Date of this description	21/9/2024
8. Course Objectives	
The topic of geometric analysis of frequency functions mathematically aims to clarify the practical and philosophical challenges of current geometric analyses that have stimulated this continuous development, as well as to provide the basic concepts of functions and their useful fields for further study of engineering sciences and applied analytical mathematics in the scientific and practical field. This is done starting from reviewing the basic principles, studying the meaning of the function and how to draw it on the attempt, analyzing the integrative in relation to time and frequency, finding the purpose for it, vectors, and finally the polar coordinates, in addition to introducing the principles of integration and calculus, their applications, and some functions in particular, in addition to increasing the opportunity for students to practice sound thinking methods, such as reflective, deductive, and inductive thinking, and increasing their skills in using the problem-	

solving method to understand what they are studying, and to reveal new relationships.

---

9. Course Outputs and Methods of Teaching, Learning and Assessment

A. Cognitive Objectives
  A1- Making the student able to show the real knowledge of analytical mathematical concepts during the study ladder and their applications in the field of communication science and the transmission and knowledge of the properties of waves.
  A2- Learn and understand the basic definitions used in geometric mathematics such as real value medals , exponents and roots, equations, inequalities and graphs.
  A3- Learn and understand solution methods and temporal applications in calculus and derivative
  A4- Learn and apply laws and formulas that result directly from mathematical concepts such as quadratic equations, exponential functions, properties of logarithmic relations , and Euler transformations.

B. Skills objectives of the course
  B1- Familiarity with the mathematical analytical relations that represent the types of algebraic functions and their drawing.
  C2- Familiarity with the laws of finding the derivative using the definition and returning it to the basic function under the influence of the integration properties.
  C3- Familiarity with finding the field and the corresponding field of a function with one variable and how to draw it in terms of Cartesian coordinates
  A4- Familiarity with concepts does not achieve the goal, solving immediate equations and performing algebraic operations on them.

Teaching and learning methods

  ✓ The teaching to give preferential theoretical lectures
  ✓ The teacher requests periodic reports for the basic topics of the subject.

Evaluation methods

- ✓ Daily exams with practical and scientific questions
- ✓ Participation scores for challenging competition questions among students
- ✓ Scoring homework and reporting assignments.
- ✓ Semester exams for the curriculum in addition to the mid-year exam and the final exam

C. Emotional and Value Goals

A1- Encouraging the student to think about ways to solve real-time equations and draw all kinds of functions.

A2- Encouraging the student to think about the importance of derivative applications and integration in solving engineering problems.

A3- Encouraging the student to integrate in knowledge in terms of benefiting from mathematical information in other theoretical and practical fields of study and relying on each other

A4- Encouraging the student to acquire growing skills for mathematics in terms of language, symbols, information, and thinking styles.

Teaching and learning methods

- ✓ The lecturer gives detailed theoretical lectures
- ✓ The teacher is familiar with the basic concepts, equations, and functions of all kinds and their practical applications, which enhances the method of learning and teaching.
- ✓ The teacher introduces students to the most important applications of mathematical equations in the design of various medical devices theoretically and practically.

Evaluation methods

- ✓ Daily exams with practical and scientific questions.
- ✓ Participation scores for challenging competition questions among students.
- ✓ Scoring environmental duties and reports assigned to them.
- ✓ Semester exams for the curriculum in addition to the mid-year exam and the final exam.

d. General and qualifying skills transferred (other skills related to employability and personal development).

  D1- Enabling students to write assignments on topics related to mathematics.
  D2- Enabling students to solve algebraic equations in a way that can match the practical reality of communication systems.
  D3. Housing students from obtaining professional exams organized by local or international bodies.
  D4- Enabling students to develop continuously after graduation.
  D5- Holding special seminars for students for the purpose of self-development of their personalities

10. Course Structure					
Evaluation Method	Method of education	Unit Name/Topic	Required Learning Outcomes	Hours	The week
Daily exams + homework + monthly exams	Lectures presented in pdf format	Introduction	Introduction to wave analytics, Fourier series representation of periodic signals, trigonometric Fourier series orthogonality conditions for sine and coding function	4	The first Second
Daily exams + homework + monthly exams	Lectures presented in pdf format	Fourier series expansion	Fourier series expansion , even and odd function , half range expansion ,complex exponetion fourier	4	Third
Daily exams + homework + monthly exams	Lectures presented in pdf format	complex exponetion fourier	complex exponetion fourier Parssival's theorem for periodic function power, trigonometric series approximation	4	fourth fifth
Daily exams + homework + monthly exams	Lectures presented in pdf format	Fourier integral, Fourier transform	Fourier integral, Fourier transform, definition and properties	4	sixth
Daily exams + homework + monthly exams	Lectures presented in pdf format	multiplication and convolution	multiplication and convolution, duality, inverse Fourier transform, unit impulse function	4	seventh
Daily exams + homework + monthly exams	Lectures presented in pdf format	unit step function	unit step function, rectangular function, Sinc function, Parssival's theorem for aperiodic function energy	4	eighth ninth

Daily exams + homework + monthly exams	Lectures presented in pdf format	Laplace transform	Laplace transform, definition and properties asymptotes and dominant terms, Examples	4	tenth
Daily exams + homework + monthly exams	Lectures presented in pdf format	Laplace transform	Laplace transform of special functions	4	eleventh
Daily exams + homework + monthly exams	Lectures presented in pdf format	initial value	initial value and final value theorems	4	twelfth
Daily exams + homework + monthly exams	Lectures presented in pdf format	Laplace transform	inverse Laplace transform	4	Xiii
Daily exams + homework + monthly exams	Lectures presented in pdf format	partial fractions	partial fractions theorem	4	fourteenth

	11. Infrastructure
Signals and systems , Sanjay sharma. 2011	1- Required Textbooks
✓ College Library for additional curriculum resources. Refer to scientific websites to view the latest developments in the subject .	2- Key Reference(s)
All solid scientific journals that have to do with the broad concept of mathematical theories and their results.	A) Recommended Books and References (Scientific Journals, Reports, ...)
www.ieee.org	B) Electronic References, Websites, ...

12-Course Development Plan
1-   Keeping pace with the scientific development in the field of specialization and providing students with every new development. 2-   Updating and revising lectures annually. 3-   use Modern Means of Teaching and Learning.

Course Description Form of Histology

1. Course Name:	
Histology	
2. Course Code:	
WBM/31/05	
3. Semester / Year:	
Semester 1	
4. Description Preparation Date:	
2024-09-15	
5. Available Attendance Forms:	
presence in the classroom	
6. Number of Credit Hours (Total) / Number of Units (Total)	
60 Hours / 2 Units	
7. Course administrator's name (mention all, if more than one name)	

Name: Kawthar Ali Hasan
Email: Kawtharali@uowa.edu.iq

8. Course Objectives

Course Objectives	The Histology course aims to equip students with the following skills:
	• Provide students with general knowledge about tissues
	• Understand the characteristics of tissues and the damage that may occur in them
	• Learn about the types of specialized tissues
	• Recognize histological stains and their importance in sample preparation and early disease detection
	• Understand the relationship between histology and physiology

9. Teaching and Learning Strategies

Strategy	• Using the smart board and illustrative images whenever possible • Use of light microscopes with different magnifications through objective and ocular lenses

10. Course Structure

Week	Hours	Unit or subject name	Learning method	Evaluation method
1	2	Epithelial tissues	Lectures presented in	Daily exams , homework