Jordan University of Science and Technology

Faculty of Engineering

Mechanical Engineering Department

ME305 Applied Math For Engineers
Summer Semester 2019-2020

Course Catalog
3 Credit Hours. This course is about the mathematics that is most widely used in the mechanical engineering core subjects: An introduction to ordinary differential equations (ODEs), including general numerical approaches to solving systems of equations. Other major topics include; Linear differential equations and applications, Laplace transformation, Fourier transformation and complex variables

Text Book	
Title	Advanced Engineering Mathematics
Author(s)	Kreyszig, E.
Edition	11th Edition
Short Name	1
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Ref #1	Advanced Engineering Mathematics	Greenberg, M. D.	2nd Edition	Prentice Hall New Jersy.
Ref #2	Advanced Engineering Mathematics,	Wylie, C. R. and Barrett, L. C	6th Edition	McGraw-Hill, New York.

Instructor	
Name	**Dr. YAHIA AL-SMADI**
Office Location	Autonomous Platforms Lab
Office Hours	
Email	ymsmadi@just.edu.jo

Class Schedule & Room
Section 1: Lecture Time: Sun, Mon, Tue, Wed : 11:30 - 13:00 Room: منصة الكترونية Section 2: Lecture Time: Sun, Mon, Tue, Wed : 10:00 - 11:30 Room: منصة الكترونية

Prerequisites		
Line Number	**Course Name**	**Prerequisite Type**
902030	MATH203 Ordinary Differential Equations	Prerequisite / Study
902010	MATH201 Intermediate Analysis	Prerequisite / Study

Tentative List of Topics Covered		
Weeks	**Topic**	**References**
	Definitions and Review of Basic First and Second Ordinary Differential Equations (Chapters 1,2)	
	2- Laplace Transformation (Chapter 6)	
	3- Fourier Series and Transformation (Chapter 1)	
	4- Partial Differentail Equations (Chapter 12 and Handouts)	
	5- Complex numbers and complex function (Chapter 13)	

Mapping of Course Outcomes to Program Student Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Solve basic first and second order ordinary differential equations. [1SLO1]	20%	
Familiar with complex numbers and complex functions. [1SLO1]	10%	
Use Laplace transformation technique to solve ordinary differential equations [1SLO1]	30%	
Perform Fourier expansion using Fourier series [1SLO1]	30%	
Familiar with partial differential equations. [1SLO1]	10%	

Relationship to Program Student Outcomes (Out of 100%)																	
A	B	C	D	E	F	G	H	I	J	K	SLO1	SLO2	SLO3	SLO4	SLO5	SLO6	SLO7
											100						

Evaluation

Assessment Tool	Weight
Exam 1	30%
Exam 2	20%
Final Exam	50%

Policy	
Course Policy	Follow JUST policies with regards to attendance and exams
Misconduct	1- Students who do not adhere to the code of conduct found in the Student Handbook will be subject to University disciplinary action. 2- You are expected to practice academic honesty in every aspect of this course and all other courses. You are also expected to be familiar with the content of the Student Handbook sections concerning misconduct. Students who engage in any form of misconduct are subject to University disciplinary procedures. 3-No tobacco products are allowed in the classroom.
Disruptive Behavior	Disruptive behavior in the class is prohibited. It includes talking, playing games, leaving your seat, and moving around the room. If the behavior persists you will be asked to leave the room and the day counts as an absence. All cell phones and pagers and other electronic devices not necessary for the class MUST be turned off.
Academic Dishonesty	Cheating, fabrication, academic misconduct, and plagiarism will not be tolerated. If you do so, you will be failed and the matter will be referred to the Dean of Students for removal from school and to the appropriate academic dean for academic disciplinary action. From that point on, all appeals go through the department chair and the respective dean.
Disability Statement	Students with disabilities, including learning disabilities, who wish to request accommodations in class should register with the Services for Students with Disabilities early in the semester so that appropriate arrangements may be made
University Regulations	Students are expected to comply with the student handbook?s requirements for graduation and curriculum prerequisites. Students not meeting prerequisite requirements will be dropped from the class

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