



**Jordan University of Science and Technology**  
**Faculty of Science & Arts**  
**Physics Department**

PHY200 Introduction To Mathematical Physics

First Semester 2020-2021

**Course Catalog**

3 Credit Hours. Determinants , matrices , Complex numbers, double integrals and applications, triple integrals, Green theorem, Divergence theorem, stocks theorem.

**Text Book**

<b>Title</b>	1- MATHEMATICAL PHYSICS
<b>Author(s)</b>	Nabil. Laham and Nabil. Ayoub
<b>Edition</b>	2nd Edition
<b>Short Name</b>	Math Physics 1
<b>Other Information</b>	

**Course References**

Short name	Book name	Author(s)	Edition	Other Information
2- Calculus	2- Calculus	Howard Anton	5th Edition	
Math Physics 1	Mathematical methods in the physical science	Mary Boas	2nd Edition	

**Instructor**

Name	<b>Bashar Al Jawrneh</b>
Office Location	-
Office Hours	
Email	bsaljawrneh@just.edu.jo

**Class Schedule & Room**

## Section 1:

Lecture Time: Sun, Tue : 11:30 - 13:00

Room: منصة الكترونية

## Prerequisites

Line Number	Course Name	Prerequisite Type
901020	MATH102 Calculus 2	Prerequisite / Pass

## Tentative List of Topics Covered

Weeks	Topic	References
Weeks 1, 2	Complex number	From <b>Math Physics 1</b>
Weeks 3, 4	Determinant	From <b>Math Physics 1</b>
Weeks 5, 6, 7	Matrices	From <b>Math Physics 1</b>
Week 8	Double Integrals	From <b>Math Physics 1</b>
Week 9	Surface Area	From <b>Math Physics 1</b>
Week 10	Triple Integrals in Cylindrical and Spherical Coordinate	From <b>Math Physics 1</b>
Week 11	Vector Fields	From <b>Math Physics 1</b>
Week 12	Line Integrals	From <b>Math Physics 1</b>
Week 13	Independence of Path; Conservative Vector Fields	From <b>Math Physics 1</b>
Week 14	Green's Theorem	From <b>Math Physics 1</b>
Week 15	The Divergence Theorem	From <b>Math Physics 1</b>

Mapping of Course Outcomes to Program Student Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Apply determinants and matrices to solve systems of linear equations in physics problems. [31]	25%	Final, quizzes
Show a basic knowledge and understanding the Complex numbers, and solve related problems [31]	15%	Final, quizzes
Show a basic knowledge and understanding the multiple integrals, and solve related problems [31]	30%	Final, quizzes, Midterm
Apply Vector calculus to solve physics problems [31]	30%	Final, quizzes, Midterm

Relationship to Program Student Outcomes (Out of 100%)					
1	2	3	4	5	6
100					

Evaluation	
Assessment Tool	Weight
Final	50%
quizzes	20%
Midterm	30%

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