Jordan University of Science and Technology

Faculty of Science & Arts

Mathematics Department

MATH261 Euclidean & Non-Euclidean Geometry

Summer Semester 2019-2020

Course Catalog
3 Credit Hours. What is geometry, Axioms of incidence , Axioms of incidence, Measurement Axioms, Parallelograms, Position vectors, Ceva?s Theorem, Length of a line, of a vector, Dropping a perpendicular, Dot products, Dot product, Two classic theorems, Angles, Trigonometry, Coordinate form, change of coordinates, Polygonal regions, Axioms of area.

Text Book	
Title	Elementary Geometry
Author(s)	John Roe
Edition	1st Edition
Short Name	Text
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Ref # 1	Geometry. A Comprehensive Course	Dan Pedoe	1st Edition	
Ref # 2	Euclidean Geometry: A First Course	Mark Solomonovich	1st Edition	

Instructor	
Name	**Prof. Kamel Al-Khaled**
Office Location	PH2, level 1, Ext. 23454
Office Hours	Sun : 12:00 - 13:00 Mon : 12:00 - 14:00 Tue : 13:00 - 14:00 Wed : 12:00 - 13:00 Thu : 11:00 - 12:00
Email	kamel@just.edu.jo

Class Schedule & Room
Section 1: Lecture Time: Sun, Mon, Tue, Wed : 08:30 - 10:00 Room: منصة الكترونية

Prerequisites		
Line Number	**Course Name**	**Prerequisite Type**
902450	MATH245 Set Theory And Logic	Prerequisite / Pass

Tentative List of Topics Covered		
Weeks	**Topic**	**References**
Week 1	What is geometry, Axioms of incidence	From **Text**
Week 2	Axioms of incidence	From **Text**
Week 2	Measurement Axioms, Parallelograms	From **Text**
Week 3	Parallelograms	From **Text**
Week 3	Vectors	From **Text**
Week 4	Affine spaces,	From **Text**
Week 4	Position vectors	From **Text**
Week 5	Some theorems, Ceva?s Theorem	From **Text**
Week 5	Length of a line, of a vector	From **Text**
Week 6	Dropping a perpendicular, Dot products	From **Text**
Week 6	Dot product, Two classic theorems	From **Text**
Week 6	Angles, Trigonometry	From **Text**
Week 7	Coordinate form, change of coordinates	From **Text**
Week 7	Polygonal regions, Axioms of area	From **Text**
Week 7	Method of exhaustion, Reduction to canonical form	From **Text**
Week 8	Final Exams	

Mapping of Course Outcomes to Program Student Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Understand measurement Axioms and apply these concepts to describe basic characteristics of vectors and parallelograms. Use the similarity axioms in proving propositions and lemmas. [3SLO1, 2SLO3]	30%	

Evaluate the position vectors via the use of some Theorems, like Ceva?s Theorem,. Area. [1SLO1, 1SLO4]	20%	
Recognize dropping a perpendicular. Dot product and properties. [2SLO1, 1SLO3, 2SLO4]	30%	
. Understand basic of some concepts, angles, rotations and reflections [3SLO3, 2SLO4]	20%	

Relationship to Program Student Outcomes (Out of 100%)					
SLO1	SLO2	SLO3	SLO4	SLO5	SLO6
40		30	30		

Evaluation	
Assessment Tool	**Weight**
Exam 1	30%
Second Exam	30%
Final	40%

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