



<b>Form: Course Syllabus</b>	<b>Form Number</b>	EXC-01-02-02A
	<b>Issue Number and Date</b>	2/3/24/2022/2963 05/12/2022
	<b>Number and Date of Revision or Modification</b>	
	<b>Deans Council Approval Decision Number</b>	2/3/24/2023
	<b>The Date of the Deans Council Approval Decision</b>	23/01/2023
	<b>Number of Pages</b>	07

1.	<b>Course Title</b>	<b>Modern Euclidean Geometry</b>
2.	<b>Course Number</b>	0331261
3.	<b>Credit Hours (Theory, Practical)</b>	3
	<b>Contact Hours (Theory, Practical)</b>	3
4.	<b>Prerequisites / Corequisites</b>	0331211
5.	<b>Program Title</b>	B.Sc.
6.	<b>Program Code</b>	
7.	<b>School/ Center</b>	Science
8.	<b>Department</b>	Mathematics
9.	<b>Course Level</b>	Department requirements
10.	<b>Year of Study and Semester (s)</b>	All semesters
11.	<b>Other Department(s) Involved in Teaching the Course</b>	None
12.	<b>Main Learning Language</b>	English
13.	<b>Learning Types</b>	<input checked="" type="checkbox"/> Face to face learning <input type="checkbox"/> Blended <input type="checkbox"/> Fully online
14.	<b>Online Platforms(s)</b>	<input type="checkbox"/> Moodle <input checked="" type="checkbox"/> Microsoft Teams
15.	<b>Issuing Date</b>	22-10-2024
16.	<b>Revision Date</b>	

**17. Course Coordinator:**

Name: Ayat Ababneh	Contact hours: S/T/W 10:30-11:30
Office number: 228	Phone number: (N/A)
Email: a.ababneh@ju.edu.jo	



**18. Other Instructors:**

Name:
Office number:
Phone number:
Email:
Contact hours:
Name:
Office number:
Phone number:
Email:
Contact hours:

**19. Course Description:**

Axiomatic systems: Consistency, Independent, Completeness and Categoricalness, Finite Geometry, Paradoxes of Euclidean Geometry. The Postulate of Connection, The Measurement of Distance, Ruler Postulate, Order Relations, Plane-Separation Postulate, Space-Separation Theorem, Pasch Theorem, Further Properties of Angles, Triangles, Congruent Postulate, Parallel Postulate, Similarity, Pythagorean Theorem, Theorems of Ceva and Menelaus, Erdos Theorem, Circles, Central and Inscribed Angles, Cyclic Quadrilaterals, Simson's Line, Nine Point Circle, Lines and Planes in Space.

**20. Program Student Outcomes (SO's):**

(To be used in designing the matrix linking the intended learning outcomes of the course with the intended learning outcomes of the program)

7. Utilize research methods, critical and creative thinking skills to assess and analyze information) to solve problems properly, then draw valid reasoning and logical conclusions leading to true consequences.

**21. Course Intended Learning Outcomes (CLO's):**

(Upon completion of the course, the student will be able to achieve the following intended learning outcomes)

1. Apply the axiomatic approach to define finite Geometry and prove some theorems concerning the subject.
2. To identify some paradoxes in Euclidean Geometry and utilize them to use axiomatic method in studying this Geometry.
3. Considering one case of congruency as an axiom and proving all other cases.



4. Proving several main theorems: space separation Theorem, Pasch' Theorem, Ceva Theorem, Menelaus Theorem, Pythagorean Theorem.
5. Proving several Theorems concerning circles and related subjects.

Course CLOs	The learning levels to be achieved					
	Remembering	Understanding	Applying	Analysing	evaluating	Creating
1		■				
2			■			
3				■		
4	■	■	■			
5		■		■		

22. The matrix linking the intended learning outcomes of the course with the intended learning outcomes of the program:

Course CLO's	Program SO's							
	SO (1)	SO (2)	SO (3)	SO (4)	SO (5)	SO (6)	SO (7)	SO (8)
CLO (1)							■	
CLO (2)							■	
CLO (3)							■	
CLO (4)							■	
CLO (5)							■	



23. Topic Outline and Schedule:

Week	Lecture	Topic	CLO/s Linked to the Topic	Learning Types Face to Face (FF) Blended (BL) Fully Online (FO)	Platform Used	Synchronous (S) Asynchronous (A)	Evaluation Methods	Larning Resources
1	1.1	Finite Geometry, Projective and Affine Geometry (An axiomatic approach)	7	FF	Teams	S	Exam	Textbook
	1.2	Finite Geometry, Projective and Affine Geometry (An axiomatic approach)	7	FF	Teams	S	Exam	Textbook
	1.3	Finite Geometry, Projective and Affine Geometry (An axiomatic approach)	7	FF	Teams	S	Exam	Textbook
2	2.1	Finite Geometry, Projective and Affine Geometry (An axiomatic approach)	7	FF	Teams	S	Exam	Textbook
	2.2	Finite Geometry, Projective and Affine Geometry (An axiomatic approach)	7	FF	Teams	S	Exam	Textbook
	2.3	Finite Geometry, Projective and Affine Geometry (An axiomatic approach)	7	FF	Teams	S	Exam	Textbook
3	3.1	Axioms of Euclidean Geometry.	7	FF	Teams	S	Exam	Textbook
	3.2	Axioms of Euclidean Geometry.	7	FF	Teams	S	Exam	Textbook
	3.3	Axioms of Euclidean Geometry.	7	FF	Teams	S	Exam	Textbook
4	4.1	Congruence of triangles.	7	FF	Teams	S	Exam	Textbook
	4.2	Congruence of triangles.	7	FF	Teams	S	Exam	Textbook
	4.3	Congruence of triangles.	7	FF	Teams	S	Exam	Textbook
5	5.1	Congruence of triangles.	7	FF	Teams	S	Exam	Textbook
	5.2	Congruence of triangles.	7	FF	Teams	S	Exam	Textbook
	5.3	Congruence of triangles.	7	FF	Teams	S	Exam	Textbook
6	6.1	Congruence of triangles.	7	FF	Teams	S	Exam	Textbook
	6.2	Congruence of triangles.	7	FF	Teams	S	Exam	Textbook
	6.3	Parallels and Parallelograms.	7	FF	Teams	S	Exam	Textbook
7	7.1	Parallels and Parallelograms.	7	FF	Teams	S	Exam	Textbook



	7.2	Parallels and Parallelograms.	7	FF	Teams	S	Exam	Textbook
	7.3	Parallels and Parallelograms.	7	FF	Teams	S	Exam	Textbook
8	8.1	Parallels and Parallelograms.	7	FF	Teams	S	Exam	Textbook
	8.2	Similar triangles.	7	FF	Teams	S	Exam	Textbook
	8.3	Similar triangles.	7	FF	Teams	S	Exam	Textbook
9	9.1	Similar triangles.	7	FF	Teams	S	Exam	Textbook
	9.2	Similar triangles.	7	FF	Teams	S	Exam	Textbook
	9.3	Similar triangles.	7	FF	Teams	S	Exam	Textbook
10	10.1	Similar triangles.	7	FF	Teams	S	Exam	Textbook
	10.2	The circle.	7	FF	Teams	S	Exam	Textbook
	10.3	The circle.	7	FF	Teams	S	Exam	Textbook
11	11.1	The circle.	7	FF	Teams	S	Exam	Textbook
	11.2	The circle.	7	FF	Teams	S	Exam	Textbook
	11.3	The circle.	7	FF	Teams	S	Exam	Textbook
12	12.1	The circle.	7	FF	Teams	S	Exam	Textbook
	12.2	The circle.	7	FF	Teams	S	Exam	Textbook
	12.3	Lines and planes in space.	7	FF	Teams	S	Exam	Textbook
13	13.1	Lines and planes in space.	7	FF	Teams	S	Exam	Textbook
	13.2	Lines and planes in space.	7	FF	Teams	S	Exam	Textbook
	13.3	Lines and planes in space.	7	FF	Teams	S	Exam	Textbook
14	14.1	Lines and planes in space.	7	FF	Teams	S	Exam	Textbook
	14.2	Lines and planes in space.	7	FF	Teams	S	Exam	Textbook
	14.3	Lines and planes in space.	7	FF	Teams	S	Exam	Textbook
15	15.1	Lines and planes in space.	7	FF	Teams	S	Exam	Textbook
	15.2	Lines and planes in space.	7	FF	Teams	S	Exam	Textbook
	15.3	Lines and planes in space.	7	FF	Teams	S	Exam	Textbook
16			7				Final Exam	

#### 24. Evaluation Methods:

Opportunities to demonstrate achievement of the CLOs are provided through the following assessment methods and requirements:

Evaluation Activity	Mark	Topic(s)	CLO/s Linked to the Evaluation activity	Period (Week)	Platform
Exam	20		7	Week 6	On campus
Midterm	30		7	Week 11	On campus
Final	50		7	Week 16	On campus



**25. Course Requirements:**

(e.g.: students should have a computer, internet connection, webcam, account on a specific software/platform...etc.):

**26. Course Policies:**

- A.** Attendance policies: Attendance is essential to succeed in this course. You are expected to attend every class; please notify your instructor if you know you are going to be absent. If a student is absent for more than 15% of lectures without an excuse of sickness or due to other insurmountable difficulty, then he/she shall be barred from the final examination also he/she will get a failing grade in this course. Medical certificates should be given to the University Physician to be authorized by him. They should be presented to the Dean of the Faculty within two weeks of the student's ceasing to attend classes.
- B.** Absences from exams and submitting assignments on time: All exams must be taken at the scheduled time. Exceptions will be made only in extreme circumstances, by prior arrangement with the instructor.
- C.** Health and safety procedures:
- D.** Honesty policy regarding cheating, plagiarism, misbehavior: Cheating is prohibited. The University of Jordan regulations on cheating will be applied to any student who cheats in exams or on homework
- E.** Grading policy: Exam papers shall be returned to students after correction. His/her mark is considered final after a lapse of one week following their return.
- F.** Available university services that support achievement in the course:

**27. References:**

**A-** Required book(s), assigned reading and audio-visuals:

C.R. Wylie, JR. Foundations of Geometry. McGraw-Hill Company.

**B-** Recommended books, materials, and media:

Martin, G. E. (1998). The foundations of geometry and the non-Euclidean plane. Springer.



## 28. Additional information:

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Name of the Instructor or the Course Coordinator: <b>Dr. Ayat Ababneh</b>	Signature: .....	Date: 23-10-2024
Name of the Head of Quality Assurance Committee/ Department: <b>Prof. Manal Ghanem</b>	Signature: .....	Date: .....
Name of the Head of Department: <b>Prof. Baha Alzalg.</b>	Signature: .....	Date: .....
Name of the Head of Quality Assurance Committee/ School of Science: <b>Prof. Emad A. Abuosba</b>	Signature: .....	Date: .....
Name of the Dean or the Director: <b>Prof. Mahmoud I. Jaghoub</b>	Signature: .....	Date: .....