

**INTRODUCTION TO EUCLIDEAN AND
NON-EUCLIDEAN GEOMETRIES. SHORTENED
SYLLABUS FOR 88-537**

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1. COURSE SITE

<https://u.math.biu.ac.il/~katzmik/88-537.html>

2. CONTENTS

1. Theorems of Ceva and Menelaus
2. Theorems of Desargues, Pappus, Pascal, and Brianchon
3. Axioms of affine planes and projective planes
4. Cross-ratio
5. Geometric constructions, projective plane over an arbitrary field
6. Duality, self-dual axiom systems
7. Cross-ratio in homogeneous coordinates
8. Conic sections
9. Polarity, reciprocity
10. Construction of a generic point on a conic

3. PREREQUISITES

Calculus 2 and Linear Algebra 2

4. GRADE

Final exam 90%

Tirgul 10%

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