

Fulvio ZUANNI

Programme of "Geometry"		
<ul style="list-style-type: none"> • Code: I0197 • type of course unit (compulsory, optional): compulsory • level of course unit: 1st Cycle in Industrial Engineering • year of study, semester: 1st year, 1st semester 		
Number of ECTS credits: 9		
Teacher: Fulvio Zuanni		
1	Course objectives	<p>This course is an introduction to Linear Algebra and Euclidean Geometry.</p> <p>The goals of this course are:</p> <ul style="list-style-type: none"> - to introduce students to the terminology and theorems of Linear Algebra, and of Euclidean Geometry; - to apply logical, algebraic, and spatial reasoning to solve Geometry problems.
2	Course content and Learning outcomes (Dublin descriptors)	<p>Topics of the course include:</p> <p>vectors; vector spaces; elementary operations on vectors; linear independence; bases; matrices; matrix operations; rank of a matrix; determinants; linear systems; eigenvalues, and eigenvectors; Cartesian coordinates; equations of simple geometric places; Euclidean plane Geometry; elements of spatial Euclidean Geometry.</p> <p>On successful completion of this course, the student should:</p> <ul style="list-style-type: none"> - have knowledge of basic techniques in Linear Algebra and in Geometry; - have knowledge and understanding of logical and deductive arguments; - understand and explain the meaning of statements using mathematical notion and language; - understand the fundamental concepts of Linear Algebra and Geometry; - understand and apply geometric properties and relationships; - demonstrate skill in mathematical reasoning and ability to conceive a proof; - demonstrate capacity for solving small problems.
3	Prerequisites and learning activities	The studente must have the basic mathematical notions and methods as acquired in the secondary school.
4	Teaching methods and language	<p>Lectures and exercises.</p> <p>Language: Italian</p> <p>Ref. Text books</p> <p>1) Carfagna, Piccolella – Lezioni di Geometria e Algebra lineare – Zanichelli</p> <p>2) Carfagna, Piccolella – Complementi ed esercizi di Geometria e Algebra lineare - Zanichelli</p>
5	Assessment methods and criteria	Written and oral exam