

**1. General information****Course:** GEOMETRY**Type:** BASIC**Degree:** 378 - UNDERGRADUATE DEGREE PROGRAMME IN ARCHITECTURE**Center:** 606 - SCHOOL OF ARCHITECTURE OF TOLEDO**Year:** 1**Main language:** Spanish**Use of additional languages:****Web site:****Code:** 11301**ECTS credits:** 6**Academic year:** 2022-23**Group(s):** 40**Duration:** First semester**Second language:** English**English Friendly:** Y**Bilingual:** N**Lecturer:** IRENE GARCIA CAMACHA GUTIERREZ - Group(s): 40

Building/Office	Department	Phone number	Email	Office hours
Politécnico/2-C22	MATEMÁTICAS	925258800 Ext. 5356	Irene.GarciaCamacha@uclm.es	

2. Pre-Requisites

Not established

3. Justification in the curriculum, relation to other subjects and to the profession

Not established

4. Degree competences achieved in this course**Course competences**

Code	Description
E01	Applied knowledge of numerical calculus, analytical and differential geometry and algebraic methods
E02	Adequate and applied knowledge of metric and projective geometry in architecture and urban planning
G01	Capacity for analysis and synthesis
G02	Organizational and planning skills
G03	Information management capacity
G04	Problem solving
G05	Decision making
G06	Critical thinking
G13	Adaptation to new situations
G19	Innovation
G20	Motivation for quality
G22	Mastery of Information and Communication Technologies (ICT)

5. Objectives or Learning Outcomes**Course learning outcomes**

Description

Develop spatial vision of geometric shapes.

Understand the relationship between spatial geometric elements and architectural works.

Manage computer tools to operate and solve problems, such as symbolic and numerical calculation programs, spreadsheets, graphical representation of functions, etc.

Analytical and metric work with flat and spatial elements, relating them to certain architectural problems.

Apply geometry to the design of architectural projects.

Additional outcomes**6. Units / Contents****Unit 1:**

Unit 1.1

Unit 1.2

Unit 1.3

Unit 2:

Unit 2.1

Unit 2.2

Unit 2.3

Unit 3:

Unit 3.1

Unit 3.2

Unit 3.3

Unit 3.4

Unit 4:
Unit 4.1
Unit 4.2
Unit 5:

7. Activities, Units/Modules and Methodology							
Training Activity	Methodology	Related Competences (only degrees before RD 822/2021)	ECTS	Hours	As	Com	Description
Class Attendance (theory) [ON-SITE]	Lectures	E01 E02 G03 G06 G13 G20	0.92	23	Y	N	
Class Attendance (practical) [ON-SITE]	Project/Problem Based Learning (PBL)	G01 G02 G03 G04 G05 G06 G13 G19 G20 G22	0.8	20	Y	Y	
Laboratory practice or sessions [ON-SITE]	Combination of methods	E01 E02 G22	0.52	13	Y	Y	
Writing of reports or projects [OFF-SITE]	Combination of methods	E01 G01 G02 G03 G04 G05 G06 G13 G19 G20 G22	2.4	60	Y	Y	
Study and Exam Preparation [OFF-SITE]	Combination of methods	E01 G01 G02 G03 G04 G05 G06 G13 G19 G22	1.2	30	Y	N	
Progress test [ON-SITE]	Problem solving and exercises	E01 G01 G03 G04 G22	0.08	2	Y	Y	
Final test [ON-SITE]	Assessment tests	E01 G01 G02 G03 G04 G05 G06	0.08	2	Y	N	
Total:			6	150			
Total credits of in-class work: 2.4			Total class time hours: 60				
Total credits of out of class work: 3.6			Total hours of out of class work: 90				

As: Assessable training activity

Com: Training activity of compulsory overcoming (It will be essential to overcome both continuous and non-continuous assessment).

8. Evaluation criteria and Grading System			
Evaluation System	Continuous assessment	Non-continuous evaluation*	Description
Final test	70.00%	70.00%	
Assessment of activities done in the computer labs	30.00%	30.00%	
Total:	100.00%	100.00%	

According to art. 4 of the UCLM Student Evaluation Regulations, it must be provided to students who cannot regularly attend face-to-face training activities the passing of the subject, having the right (art. 12.2) to be globally graded, in 2 annual calls per subject, an ordinary and an extraordinary one (evaluating 100% of the competences).

9. Assignments, course calendar and important dates	
Not related to the syllabus/contents	
Hours	hours

10. Bibliography and Sources						
Author(s)	Title/Link	Publishing house	Citv	ISBN	Year	Description
Sernesi, E.	Linear algebra: a geometric approach	Chapman & Hall		0-412-40680-2	1993	
Alamino Prats Jerónimo Alamino et. al	Prácticas de Ordenador con Máxima http://euler.us.es/~renato/clases/maxima/manualesPDF/maxima-manual-UGR.pdf	Universidad de Granada				
Burgos Román, Juan de	Curvas y superficies : [Definiciones, Teoremas y Resultados]	García-Maroto		978-84-936299-3-9	2008	
Domínguez Somonte, Manuel	Unión e intersección de superficies geométricas	Universidad Nacional de Educación a Distancia		978-84-362-5250-7	2008	
Granero Rodríguez, Francisco	Algebra y geometría analítica	McGraw-Hill		968-451-775-6	1985	
Gray, Alfred	Modern differential geometry of curves and surfaces with Mat	Chapman and Hall		978-0-58488-448-4	2006	
Hernández, Eugenio	Álgebra y geometría	Addison-Wesley Universidad Autónoma de Madrid		978-84-7829-024-6	2008	
Ipanaqué Chero, Robert	Breve manual de máxima http://www.unp.edu.pe/pers/ripanaque/download/manual.pdf	eumed.net	Piura, Perú	978-84-693-7160-2	2012	
Mataix Plana, José Luis	Problemas de geometría analítica	Dossat		84-237-0218-9	1976	

Maxima source	Manual de Máxima 5.35.1 http://maxima.sourceforge.net/docs/manual/es/maxima.html			
Outerelo Domínguez, Enrique	Geometría diferencial elemental de curvas y superficies	Sanz y Torres	978-84-96808-52-2	2009
Outerelo Domínguez, Enrique	Nociones de geometría proyectiva	Sanz y Torres	978-84-96808-48-5	2009
Pozo Municio, J.M.	Geometría para la arquitectura. Concepto y práctica	Universidad de Navarra		
Rodríguez Riotorto, Mario	Primeros pasos en máxima http://maxima.sourceforge.net/docs/tutorial/es/max.pdf			2015
Ruiz Sancho, Jesús M.	Geometría analítica del plano y del espacio	Base Universitaria Anaya	84-667-2612-8	2003
Burgos Román, Juan de	Curso de álgebra y geometría	Alhambra Longman	978-84-205-0381-9	1990