Universidad de Navarra

Graphic Lab I (GEA)
Guía docente 2026-27

PRESENTACIÓN

Breve descripción: Graphic Lab I

PARTE 1. Layout. Javier Sáez

PARTE 2. 3D Modeling. Guest Professor: Adam Jorquera

- **Titulación**: Degree in Architectural Studies
- **Módulo/Materia**: Propedéutico
- **ECTS**: 3
- **Curso, semestre**: Anual
- **Carácter**: Obligatorio
- **Profesorado**: Javier Sáez (responsable), María Duro (laboratorio), Adam Jorquera (profesor invitado)
- **Idioma**: Inglés y Español
- **Aula, Horario**: Se detallará en el Cronograma del Curso

RESULTADOS DE APRENDIZAJE (Competencias)

BASIC COMPETENCES

BC02 Students must know how to apply their knowledge professionally to their job or career and have the skills that usually demonstrated by writing and supporting their arguments, and problem-solving within their area of study.

BC04 Students are able to convey information, ideas, problems and solutions to specialist and non-specialist audiences.

BC05 Students have developed the learning skills necessary to undertake further studies with a high degree of autonomy.

SPECIFIC COMPETENCES

SC02 Ability to conceive and represent the visual attributes of objects and good mastery of proportion and drawing techniques, including computer techniques (T).

SC05 Adequate knowledge of metric and projective geometry, applied to architecture and urban planning.

SC06 Adequate knowledge of graphical surveying techniques across all its phases, from sketching to scientific restoration, applied to architecture and urban planning.

SC10 Adequate knowledge of the fundamentals of topography, hypsometry and cartography and the techniques of land modification, applied to architecture and urban planning.

SC67 Use of English, level B2, to a sufficient level for the scientific and academic terminology typically used in architecture.

PROGRAMA

- 1st week: LAYOUT (three days during one week of September; 15h)

- 2nd week: 3D printing (three days during one week of January; 15h)

ACTIVIDADES FORMATIVAS

EDUCATIONAL ACTIVITIES			
AF1	Attendance and participation during in-person theoretical lessons	x	12
AF2	Attendance and participation during in-person practical lessons	x	9
AF3	Execution of standarisation work (individual and group-based)	x	9
AF5	Mentoring Participation	x	5
AF6	Study and personal work	x	40
			75

EVALUATION

REGULAR EXAMINATION

The course consists of two parts: each part will include an individual assignment that will account for 50% of the final grade.

To pass the course, it is mandatory to submit both assignments.

EXTRAORDINARY EXAMINATION

Students who do not pass the regular examination must redo the assignments with sufficient modifications to meet the minimum course requirements.

There are two possible scenarios in this case:

- One or both assignments failed: the student must redo one or both assignments to pass the extraordinary examination.
- One or both assignments not submitted: the student must submit one or both assignments to pass the extraordinary examination.

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The course is practical and requires in-person attendance; therefore, attendance is considered an indispensable factor for passing the course.

EVALUACIÓN

CONVOCATORIA ORDINARIA

La asignatura se compone de dos partes: cada parte de la asignatura contará con una práctica individual que representará el 50% de la nota.

Para aprobar la asignatura es obligatorio contar con las dos prácticas entregadas.

CONVOCATORIA EXTRAORDINARIA

Aquellos alumnos que no hayan superado la convocatoria ordinaria tienen que repetir las prácticas con los cambios suficientes para cumplir los mínimos exigibles de la asignatura.

Existen en este caso dos escenarios:

- Una o ambas prácticas suspensas: el alumno debe repetir uno o ambos ejercicios para poder superar la convocatoria extraordinaria.

- Una o ambas prácticas no entregadas: el alumno debe entregar uno o ambos ejercicios para poder superar la convocatoria extraordinaria.

El curso es práctico y presencial, por tanto, la asistencia se entiende como un factor ineludible para superar la asignatura.

OFFICE HOURS

Dr. Javier Sáez Gastearena (jsaezg@unav.es)

Office: Department of TPU - Theory, Projects, and Urbanism

Building: School of Architecture

Floor: 2nd

- **Office hours:** Thursdays, 3:00 PM - 4:00 PM (by appointment via email)

BIBLIOGRAFÍA

1. Basic bibliography:

Course material published on ADI Website

2. Complementary bibliography

Gibson, Ian, David Rosen, Brent Stucker y Mahyar Khorasani. Additive Manufacturing Technologies. 3.ª ed. Cham: Springer, 2021. Localízalo en la Biblioteca electrónico

Grigoriadis, Kostas, y Guan Lee. 3D Printing and Material Extrusion in Architecture: Construction and Design Manual. Berlín: DOM Publishers, 2023. Localízalo en la Biblioteca

Gramazio, Fabio, Matthias Kohler y Jan Willmann, eds. Made by Robots: Challenging Architecture at a Larger Scale. Architectural Design 84, n.º 3. Londres: Wiley, 2014.Localízalo en la Biblioteca

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Rangel, Bárbara, y João Correia da Silva, eds. 3D Printing for Construction with Alternative Materials. Cham: Springer, 2023. Localízalo en la Biblioteca electrónico

Pajonk, Anna-Maria, Ana Isabel Prieto, Ulrich Blum y Ulrich Knaack. “Multi-material Additive Manufacturing in Architecture and Construction: A Review.” Journal of Building Engineering 45 (2022): 103603. Localízalo en la Biblioteca

Livesu, Marco, Stefano Ellero, Jonàs Martínez, Sylvain Lefebvre y Marco Attene. “From 3D Models to 3D Prints: An Overview of the Processing Pipeline.” Computer Graphics Forum 36, n.º 2 (2017): 537–564. Localízalo en la Biblioteca