



Panoramic view of the Escola Politècnica Superior

## Course Catalogue for Incoming Students in EPS

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Studying at UdG -EPS

Welcome to the [University of Girona](#)! It is a public institution that is part of the Catalan university system, located in Girona, a city of 100,266 inhabitants and situated just 100 km north of Barcelona and 70 km from the French border.

Welcome to the [Polytechnical Superior School](#) (EPS) your faculty! More than 2200 students, 300 lecturers, 250 administrative staff, 45 laboratories, 12 computer rooms and 32 Research Groups. We are waiting for you.

Our educational offer embraces four fields: architecture, industrial, computer science and food engineering. Comprised of 12 bachelor's degrees, 7 master's degrees and Doctorate Technology PhD Programme.

We would like to thank you for contacting our institution and provide you with some information that we have compiled here in the hope that it may be of interest to you.

What does EPS offer?

If you want to come to STUDY, you should follow the links grouped on bachelors and masters.

Our bachelor's degrees according to the four fields of EPS are:

Architecture:

- ✓ GATE: Grau en Arquitectura Tècnica i Edificació / [Degree in Architectural Technology and Building Construction \(GATE\)](#)
- ✓ GARQ: Grau en estudis d'Arquitectura / [Degree Architectural Studies Degree \(GARQ\)](#)

Industrial:

- ✓ GEB: Grau en Enginyeria Biomèdica / [Degree in Biomedical Engineering \(GEB\)](#)
- ✓ GEE: Grau en Enginyeria Elèctrica / [Degree in Electrical Engineering \(GEE\)](#)
- ✓ GEEIA: Grau en Enginyeria Electrònica Industrial i Automàtica / [Degree in Automation and Industrial Electronics Engineering \(GEEIA\)](#)
- ✓ GETI: Grau en Enginyeria en Tecnologies Industrials / [Degree in Industrial Technologies Engineering \(GETI\)](#)
- ✓ GEM: Grau en Enginyeria Mecànica / [Degree in Mechanical Engineering \(GEM\)](#)
- ✓ GEQ: Grau en Enginyeria Química / [Degree in Chemical Engineering \(GEQ\)](#)

Computer science:

- ✓ GDDV: Grau en Disseny i Desenvolupament de Videojocs / [Degree in Design and Development of Video Games \(GDDV\)](#)
- ✓ GEINF: Grau en Enginyeria Informàtica / [Degree in Computer Engineering \(GEINF\)](#)

Agrifood Technology and Engineering:

- ✓ GEA: Grau en Enginyeria Agroalimentària / [Degree in Agri-food Engineering \(GEA\)](#)
- ✓ GINSA: Grau en Innovació i Seguretat Alimentària / [Degree in Food Innovation and Security \(GINSA\)](#)

Our Master's Degrees:

Architecture:

- ✓ MARQ<sup>1</sup>: Màster en Arquitectura / [Master in Architecture \(MARQ\)](#)

Industrial:

- ✓ MEI: Màster en Enginyeria Industrial / [Master in Industrial Engineering \(MEI\)](#)
- ✓ MMS<sup>2</sup>: Màster en Mecànica de materials i Estructures / [Master of Science in Mechanics of Materials & Structures \(MMS\)](#)

Computer science:

- ✓ MCD: Màster en Ciència de Dades / [Data, Artificial intelligence, Knowledge \(MCD\)](#)
- ✓ MIRS<sup>2</sup>: Màster en Sistemes Robòtics Intel·ligents / [Master in Intelligent Robotic Systems \(MIRS\)](#)
- ✓ MIC<sup>2</sup>: Màster en Computació d'Imatge Mèdica / [Joint Master in Biomedical Data Sciences \(MIC\)](#)

Agrifood Technology and Engineering:

- ✓ MBTA: Màster en Biotecnologia Alimentària / [Master' degree in food biotechnology \(MBTA\)](#)

Doctoral Programmes:

The [Doctoral School](#) of the UdG will provide you with all the information you need to do your doctorate.

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<sup>1</sup> Annual mobility. Not available on academic year 2023/24

<sup>2</sup> 100% in English

## Language skills

The main language of our University, and also our Faculty, is Catalan and most of the subjects are taught in Catalan. For this reason, the University of Girona, the International Office and the Modern Language Service, organize the "[Introductory Course on Catalan Language and Culture](#)" to make it easier to follow the classes.

It is offered every semester before the start of regular classes and lasts two weeks. The course is FREE of charge for all the students under the ERASMUS+, SICUE and Bilateral Agreement exchange programmes. Attendees can obtain 3 ECTS credits, so it can be included in the Learning Agreement (LA).

## English-taught programs

Although Catalan is the usual teaching language, there are several courses and teaching offer that can be done in English for Erasmus students.

Remember that as a country belonging to the EU, the Bachelor's and Master's degrees are measured in ECTS credits (European Credit Transfer and Accumulation System). One ECTS credit is equivalent to about 25 hours. For more information on this topic, we recommend reading the guide European Credit Transfer and Accumulation System (ECTS), published by the European Commission.

**Our main offer taught in English it is about 30 ECTS** by means of two subjects that can be carried out either in the first or in the second semester:

- **Traineeships in bachelor or master's degree studies (15 ECTS)**
- **Bachelor o master thesis (15 ECTS)**
- **Combination Traineeship and Bachelor thesis**

Next, there is as a general description of the above-mentioned courses:

- **Traineeships in bachelor or master's degree studies (15 ECTS)**

Students will be placed in a research laboratory for 10-12 weeks. Depending on the place of the internship the students can work on a research project or contribute to the daily work in the laboratory.

The guidance of an academic and research group supervisor will be carried out for each case.

The student must upload the report to the internship web platform before the deadline for submission.

How to submit the report:

- The report must be uploaded to the web [platform of internships in companies](#).
- The research group supervisor and the academic tutor must make the evaluation through the internship web platform.

- **Bachelor (TFG) or master (TFM) thesis (15 ECTS in most of the studies):**

Students develop a project on a specific research or academic topic, industrial problem, and a thesis must be written following the project report requirements. You will find all the details in this link (<https://www.udg.edu/en/eps/informacio-academica/projecte-treball-final-de-grau-i-master>).

The guidance of a supervisor will be carried out for each case in order to find a topic.

Please note that depending on the degree enrolment, the deadline for the presentation of the final thesis report varies, you can look up in the above webpage (*Section 5*).

Once you are in Girona after a first Meeting with the supervisor you will have to register your TFG or TFM on the following platform ( <https://aserv2.udg.edu/TFGM/EPS>). It will have to contain the motivation, the objective and the scope of the thesis depending on the field and the topic from a product/process industrial design or improvement to a research work, a software development, etc.

After the final thesis is uploaded to the platform, an oral presentation and defence will be made before a jury of 3 members. In some cases, professors from the home university may participate as guest jurors but may not participate in the evaluation.

- **Traineeships in bachelor or master's degree studies + Bachelor or master's thesis Combination (30 ECTS):**

Students are doing an internship/thesis combination in research groups. The training period consists of the development of a projects. This type of internship requires more time in the lab. The final thesis is mainly or partially related to the internship (one or more topics of the develop in the internship are studied in detail).

A Research Group of the University of Girona is a group of researchers, linked to the UdG, who carry out research activities within common research lines,

Table 1.

Table 1 Main research groups by EPS fields:

<b>Architecture</b>	<ul style="list-style-type: none"> <li>• Arquitectura i territori / <a href="#">Architecture and territory</a></li> <li>• Construcció: tecnologies avançades i sostenibilitat / <a href="#">Cats. Construction: advanced technologies and sustainability</a></li> </ul>
<b>Industrial</b>	<ul style="list-style-type: none"> <li>• Anàlisi i Materials Avançats per al Disseny Estructural (AMADE) / <a href="#">Analysis and Advanced Materials for structural Design</a></li> <li>• Grup de recerca en Enginyeria de Fluids, Energia i Medi Ambient – GREFEMA/ <a href="#">Fluids, Energy and Environmental Engineering Research Group - GREFEMA</a></li> <li>• Laboratori d'Enginyeria Paperera i materials polímers / Paper Engineering and Polymer Materials Laboratory <a href="#">Lepamap-Prodis</a></li> <li>• Grup de Recerca en Enginyeria de Procés, Producte i Producció (GREP) / <a href="#">Research Group in Process, Product and Production Engineering</a></li> <li>• Grup de Recerca Avançada sobre dinàmica empresarial i impacte de les noves tecnologies a les organitzacions. (GRADIENT)/ <a href="#">Advanced Research Group on Business Dynamics and the Impact of New Technologies on Organizations</a></li> <li>• Enginyeria de control i sistemes intel·ligents / <a href="#">Control Engineering and Intelligent Systems-Exit</a></li> <li>• Visió per ordinador i robòtica / <a href="#">Computer Vision and Robotics-Vicorob</a></li> </ul>
<b>Computer Science</b>	<ul style="list-style-type: none"> <li>• Laboratori d'investigació d'agents / <a href="#">Agents Research Lab.</a></li> <li>• Laboratori de Gràfics i Imatge (GILAB) / <a href="#">Graphics and Imaging Laboratory</a></li> <li>• Grup d'investigació en Anàlisi de Dades de Composició / <a href="#">Research Group in Statistics and Compositional Data Analysis</a></li> <li>• Lògica i Intel·ligència artificial (LAI) / <a href="#">LOGIC &amp; ARTIFICIAL</a></li> </ul>
<b>Agrifood Technology and Engineering</b>	<ul style="list-style-type: none"> <li>• Institut de tecnologia agroalimentària / Institute of Food and Agricultural Technology (INTEA) <ul style="list-style-type: none"> <li>• Tecnologia alimentària / Food technology</li> <li>• Patologia vegetal / Plant pathology</li> </ul> </li> <li>• Biomaterials avançats i Nanotecnologia (BIMATEC) Bimapec Advanced Biomaterials and Nanotechnology</li> </ul>

Nevertheless, some degrees have a small offer with English subject taught 100% in English, look Table 4. Whereas there are some master's degrees that are full taught in English (marked \* in Table 5).

## Application

When you are nominated from the International Office, follow their instructions regarding. Your passport /ID and health insurance issue upload.

Once this procedure is completed, we will contact you, through the EPS International Office ([relinter.eps@udg.edu](mailto:relinter.eps@udg.edu)), to ask for your TOR and in that way, we can recommend you the match degree from which you can choose the subjects that you should include in your **Learning Agreement**. We will provide you the link to consult the academic offer for the academic course, Figure 1.

UdG → Study → Courses offered → Bachelor's degrees → Bachelor's degree in Biomedical Engineering

General information  
Access  
Careers  
Continue studying  
Subjects  
Calendars and timetables  
Placements  
Bachelor's thesis  
Mobility  
Enrolment

## Bachelor's degree in Biomedical Engineering

Academic year 2023-2024

The application of engineering, data science and technology for the advancement of medicine, biology, health and welfare. Solid instrumental education in engineering which combines computer sciences, industrial electronics and biomechanics,

### SUBJECTS

Curriculum

Subjects offered for 2022-2023

Figure 1 From EPS website, link to subjects for the academic course

Remember that the subjects must be of the same semester of your mobility!

Check the courses offered and formulate your study Learning Agreement proposal.

When you have it ready, you can send it to [relinter.eps@udg.edu](mailto:relinter.eps@udg.edu) and we will submit it to our study coordinator for approval.

Class schedules for the next academic year are published between the end of June and the beginning of July. You are responsible for monitoring the course overlapping!

Useful information for filling LA

Next tables will help you in finding the codes for the subjects to be included in LA.

**Bachelors:**

*Table 2 Codes for Traineeships and Bachelor thesis*

Degree	Traineeships	Bachelor thesis
<b>Architecture</b>		
GATE	Pràctiques externes/ <a href="#">External Internship</a> (3105G11028)	Treball final de Grau/ <a href="#">Bachelor's final project</a> (3105G14001)
GARQ	Pràctiques en empresa / <a href="#">Internships in companies</a> (3105G12042)	Treball fi de Grau / <a href="#">Bachelor's final project</a> (3105G12043)
<b>Industrial</b>		
GEB	Pràctiques acadèmiques externes/ <a href="#">External Internship</a> (3105G15030)	Treball fi de Grau/ <a href="#">Bachelor's final project</a> (3105G15031)
GEE	Pràctiques en empreses/ <a href="#">External Internship</a> (3105G09036)	Projecte fi de Grau/ <a href="#">Bachelor's final project</a> (3105G09042)
GEEIA	Pràctiques en empreses/ <a href="#">External Internship</a> (3105G03037)	Treball final de Grau/ <a href="#">Bachelor's final project</a> (3105G03038)
GETI	Pràctiques en empreses/ <a href="#">External Internship</a> (3105G08053)	Projecte fi de Grau/ <a href="#">Bachelor's final project</a> (3105G08052)
GEM	Pràctiques externes/ <a href="#">External Internship</a> (3105G04033)	Treball final de Grau/ <a href="#">Bachelor's final project</a> (3105G04042)
GEQ	Pràctiques en empreses/ <a href="#">External Internship</a> (3105G05037)	Treball final de Grau/ <a href="#">Bachelor's final project</a> (3105G05038)
<b>Computer Science</b>		
GDDV	Pràctiques / <a href="#">External Internship</a> (3105G13045)	Treball fi de Grau/ <a href="#">Bachelor's final project</a> (3105G13046)
GEINF	Estades a l'entorn laboral / <a href="#">Stays in the work environment</a> (3105G07055)	Projecte fi de Grau/ <a href="#">Bachelor's final project</a> (3105G07056)
<b>Agrifood Technology and Engineering</b>		
GEA	Pràctiques en empresa/ <a href="#">External Internship</a> (3105G06034)	Treball fi de Grau/ <a href="#">Bachelor's final project</a> (3105G06058)
GINSA	Pràctiques en empresa/ <a href="#">External Internship</a> (3105G10040)	Treball final de Grau/ <a href="#">Bachelor's final project</a> (3105G10030)

**Masters:**

*Table 3 Codes for Traineeships and Master thesis*

MEI	Pràctiques externes/ External Internship (3501M02264)	Treball final de Màster/ <a href="#">Master final project</a> (3501M02265)
MBTA		Treball final de Màster/ <a href="#">Master final project</a> (3501M02203)



These are the subjects available 100% in English:

Degrees:

Table 4 Degrees, Subjects 100%

Grade	Code	Catalan Name	English Name	ECTS
<b>Industrial Field</b>				
<b>GEB</b>	3105G15005	Imatges i senyals biomèdiques	Biomedical signals and images	6 ECTS
	3105G15019	Neurociència i neuroimatge	Neuroscience and Neuroimaging	5 ECTS
	3105G15020	Projecte d'ajut al diagnòstic per la imatge	Computer aided diagnosis project	5 ECTS
	3105G15022	Neuroenginyeria biomèdica	Neuroengineering biomedical	5 ECTS
<b>GEQ</b>	3105G05026	Experimentació en química II	Experimentation in chemistry II	3 ECTS
<b>GETI/ADE</b>	3107G00079	Màrqueting Cultural	Cultural marketing	6 ECTS
<b>Computer science</b>				
<b>GEINF</b>	3105G07012	Multimèdia i interfícies d'usuari	Multimedia and user interfaces	5 ECTS
<b>GDDV</b>	3105G13022	Disseny de motors de jocs I	Design of game engines I	5 ECTS
	3105G13023	Disseny de motors de jocs II	Design of game engines II	4 ECTS
	3105G07012	Multimèdia i interfícies d'usuari	Multimedia and user interfaces	5 ECTS

Master:

Table 5 Master, Subjects 100% English

Master	Code	Catalan Name	English Name	ECTS
<b>Industrial Field</b>				
<b>MMS</b>	3501MO2058	El mètode dels elements finits en mecànica estructural	The finite element method in structural mechanics	6
	3501MO2059	Mecànica de sòlids	Solid mechanics	6
	3501MO2060	Mecànica de fractura	Fracture mechanics	6
	3501MO2061	Eines de pre i post procés per a anàlisis estructurals d'elements finits	Pre and post-process tools for structural finite element analyses	6
	3501MO2062	Mecànica aplicada de materials i estructures	Applied mechanics of materials and structures	6
	3501MO2063	Seminaris de mecànica de materials i estructures	Seminars on mechanics of materials and structures	6
	3501MO2064	Disseny i anàlisi de composites amb elements finits	Design and analysis of composites with finite elements	3
	3501MO2065	Tècniques de producció i experimentals per compòsits	Production techniques and experiments by composites	3
	3501MO2066	Anàlisi estructural avançat	Advanced structural analysis	3
	3501MO2067	Optimització en enginyeria mecànica	Optimisation in engineering mechanics	3
	3501MO2068	Disseny mecànic amb elements finits	Mechanical design with finite elements	3
	3501MO2069	Dinàmica estructural	Structural dynamics	3
	3501MO2071	Modelització constitutiva avançada	Advanced constitutive modelling	3
	3501MO3060	Materials compostos en construcció	Composites for construction	3
	3501MO2075	Treball de recerca	Master Thesis	12
<b>Computer science</b>				
<b>MCD</b>	3501MO3312	Estadística per a ciència de dades	Statistics for Data Science	6
	3501MO3317	Visualització de la informació	Information visualization	3
<b>MIC</b>			All subjects	60
<b>MIRS</b>			All subjects	120

## Living in Girona



Figure 2 Girona, river view. From: <https://ca.wikipedia.org/wiki/Girona>

One of the most interesting in Catalonia, the historic city of Girona allows us to retrace more than 2,000 years of history through two fortified enclosures, the Força Vella (Old Fortress) and the Medieval Eixample. The former corresponds to the Roman foundation and the latter to the extension of the walls during the 14th and 15th centuries. The monuments here are abundant and the artistic riches they preserve are remarkable.

The attraction of Girona is completed with the suggestive Jewish quarter of El Call, where it is located within the Força Vella, the Jewish Quarter or Call is one of the city's most emblematic areas. It consists of a labyrinth of narrow streets and patis that have maintained their medieval atmosphere. It is one of the best-preserved Jewish quarters in the world and clear evidence of the importance of the Jewish culture in Girona.

We also have Modernist and Noucentist architecture. A stroll around the city centre and different neighbourhoods allows the visitor to admire apartment blocks, single-family houses and industrial buildings designed by different architects such as Rafael Masó (Batlle Apartment Block, Farinera Teixidor, Casa Masó, "la Punxa" and Casa Gispert Saüch).

The Cathedral is located at the heart of the Força Vella. Built between the 11th and 18th centuries, it includes a series of walls and spaces in different styles, from Romanesque (the cloister and Charlemagne tower) to the baroque façade and steps. Its most singular feature is its large Gothic nave (15th-16th centuries) which, at a width of 23 metres, is the widest of its kind in the world.

Girona maintains the charm of a small city in an unbeatable setting and with a modern and efficient transport network. It is easy to access the city from any part of Spain or Europe, by air, rail, road, or sea.

[The Girona Pyrenees](#) will surprise you. It will take you to magical places, to peaks that reach 3,000 m, to valleys and mountains where you can enjoy hiking, skiing, or cycling routes like never before. A perfect place to go all year round.



Figure 3 Núria Valley From: [https://www.catalunyamagrada.cat/llocs/pirineu-girona-magrada\\_44595102.html](https://www.catalunyamagrada.cat/llocs/pirineu-girona-magrada_44595102.html)

We are pleased to introduce you one of the most beautiful areas of the Mediterranean. Beaches and coves, incomparable natural areas, fishing villages... and one of the most outstanding cultural and gastronomic destinations in Europe. Explore the [Costa Brava](#). You will fall in love. And you will find it in less than an hour, by car.



Figure 4 Cadaqués village, Costa Brava From: <https://www.sensacionrural.es/blog/costa-brava-que-ver/>