

# Master in Reservoir Geology and Geophysics

## What is its aim?

The master's degree Reservoir Geology and Geophysics is an interuniversity degree coordinated by the University of Barcelona and the Autonomous University of Barcelona, with the participation of the Institute of Earth Sciences Jaume Almera of the Spanish Scientific Research Council (ICTJA-CSIC) and the Institut Cartogràfic i Geològic de Catalunya (ICGC).

It is intended to provide students with training in the main lines of R & D & I currently pursued in the exploration and in the geological and geophysical reservoir characterization.

The master aims at educating and training the students to understand and analyze geological reservoirs from different perspectives and scales, and to effectively characterize structural and sedimentary systems.

In this sense, this master focuses on an integrative and multidisciplinary formation, which includes from field trips to computerized classes that allow the students to gain familiarity in the most modern techniques, such as three-dimensional modelling of reservoirs or the analogical and numerical modelling of geological processes.

## Who is it aimed at?

The master's degree is addressed to students with broad education in the Earth sciences, including prior knowledge of specific disciplines in the program. Applicants should hold an official bachelor's degree or an equivalent undergraduate degree in geology, physics, geological engineering or mining engineering.

International students in possession of a bachelor's degree which has no specific equivalent in Spain are welcome to apply, provided that their degree curriculum covers aspects of geology and geophysics.

## Where does it lead?

This master leads to obtain highly qualified professional preparation and to be able to meet the most demanding requirements of companies exploring and managing sedimentary reservoirs.

It also leads to develop scientific research careers.

**Admission: 25 students per year**

**The teaching language is English**

## Location and Contact Information

The management centre is the Faculty of Earth Sciences of the University of Barcelona.

### Address

Facultat de Ciències de la Terra. Universitat de Barcelona  
C/ Martí i Franquès s/n, 08028, Barcelona, Spain



### Information and administration

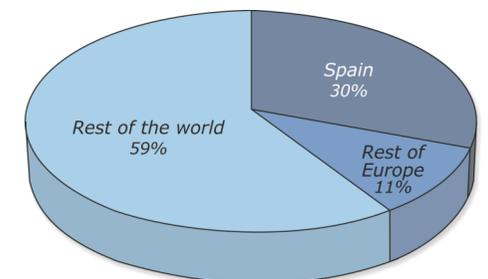
Secretaria d'Estudiants i Docència

e-mail address: [masters.ciencies.terra@ub.edu](mailto:masters.ciencies.terra@ub.edu)

Phone: +34 934 021 337

Coordinator: Anna Martí Castells

## Geographic origin of the students (2015 to 2020)



**RESERVOIR GEOLOGY AND GEOPHYSICS. UB - UAB OFFICIAL MASTER**

<https://www.ub.edu/portal/web/earth-sciences/university-master-s-degrees/-/ensenyament/detallEnsenyament/6062732>

## Course Curriculum

The academic program consists of 60 ECTS (40 obligatory and 20 elective).

Subjects	Credits	Type
Advanced Geology and Geophysics	5	Obligatory
Seismic reflection: seismic processing and interpretation	5	Obligatory
Integrated analysis of real basin and reservoir analogues	5	Obligatory
Reservoir geology	2.5	Elective
Diagenesis	2.5	Elective
Basin analysis	2.5	Elective
Petroleum systems	2.5	Elective
Clastic sedimentology	2.5	Elective
Carbonate sedimentology	2.5	Elective
Structural geology	2.5	Elective
3D geological and reservoir modelling	2.5	Elective
Basin architecture	2.5	Elective
Lithosphere dynamics and topography	2.5	Elective
Geophysical characterisation and monitoring of reservoirs	2.5	Elective
Well log analysis and petrophysics	2.5	Elective
Geophysical data analysis	2.5	Elective
Near-surface geophysics	2.5	Elective
Geophysical data field acquisition	2.5	Elective
Master's Degree Final Project	25	Obligatory

**RESERVOIR GEOLOGY AND GEOPHYSICS. UB - UAB OFFICIAL MASTER**

<https://www.ub.edu/portal/web/earth-sciences/university-master-s-degrees/-/ensenyament/>

## Objectives and competences

Students on the master's program Reservoir Geology and Geophysics will:

- Obtain highly qualified professional preparation in exploring and managing sedimentary reservoirs
- Enhance their knowledge of methodology in order to work successfully as researchers
- Expand and consolidate their knowledge of the characterization and modelling of processes governing the genesis and subsequent evolution of sedimentary geological reservoirs
- Acquire this training within a solid conceptual framework of geological and geophysical knowledge

## Techonology and materials

• Software licenses: [Petrel E&P software platform](#), [PetroMod petroleum systems modeling software](#), [ECLIPSE industry-reference reservoir simulator](#), [Techlog wellbore software platform](#), [GOCAD](#), [Move Suite](#), [The Kingdom Suite](#), [GeoLog](#), [RadExPro](#), [Geotools](#), [MATLAB](#).

- [Analogue Modelling Laboratory](#)
- Geophysical equipment: gravimeters, magnetotelluric, electrical tomography system, GPR, near surface seismic system, passive seismic, magnetometers.
- Laboratories of 2D/3D geological and numerical modelling
- [Paleomagnetism laboratory](#)
- Core laboratory ([CORE-LAB](#)) for non-destructive analysis of geological materials
- Core description room
- LiDAR
- Scanning electron microscopy, electron microprobe, X-ray diffraction, stable isotope analysis, gas chromatography, mass spectrometry
- Optical microscopy and cathodoluminescence laboratory
- Petroleum geochemistry laboratory



COLLABORATIVE COMPANIES



Schlumberger

