Master UB-UAB
«Reservoir Geology and Geophysics»
Reservoir Geology and Geophysics

**Universities:** UB (academic management) - UAB

**Coordination:** Anna Martí (UB), Albert Griera (UAB)

**Teaching Credits, length:** 60 ECTS, 1 academic year

**Language:** English

**Admission:** 25 students/year

(Information Brochure)

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**Goals: Multidisciplinary, Geology - Geophysics**

- **Geology:** analysis, characterization and modeling of reservoirs
- **Geophysics:** characterization and monitoring of reservoirs, geodynamical processes
Organization: 1 academic year*

35 ECTS
15 Obligatory subjects
20 Elective subjects

25 ECTS
Master Final Project

* Possibility of doing partial time

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Profile of enrolled students

Aprox. 40 % with previous experience in exploration industry

Year 2020-21 and 2021-22 (lower registration due to COVID):
- 2020-21: Catalan and Spanish Universities (8), Universities from abroad (4)
- 2021-22: Catalan and Spanish Universities (5), Universities from abroad (10)
Final Master Project (TFM)

It is possible to develop it in:

• Departments UB, UAB

• GEO-3BCN Consejo Superior Investigaciones Científicas (CSIC-Barcelona)

• Institutions (universities, companies), national and international. Erasmus Traineeship program.
Examples TFM topics:

- WEB MASTER
  - Joint interpretation of geophysical datasets using Machine Learning methods to characterise the Alhama de Murcia Fault (East Betic Shear Zone).

- What controls the development of counter-regional faults on gravity-driven salt tectonics along passive margins?

- 3D Seismic interpretation of salt-sediment interaction in passive margins. The Tarfaya Basin case study (NW Morocco)

- Surface wave constraints in exploration for mineral systems

- Rock study of the Aghajari Oil Field – Asmari and Bangestan Reservoirs,

- AMT study to detect deeply buried cavities under urban conditions in Sallent

- GRAVIMETRIC CHARACTERIZATION OF STRUCTURAL CONTROLS ON SN-W ORE DEPOSITS

- The Cotiella megaflap
  - Contractual reactivation of a salt structure
Participation of Master Students in International Competitions

2nd position Year 2020

EAGE Minus CO₂ Challenge
Worldwide Finalists
GREEN TEAM

Mahdi Bakhtbidar
Dayana Abreu
Zeina Naim
Alvaro Solano Diaz
Raha Hafizi
External Evaluation of the Master’s Quality: Excellency Stamp from AQU – Catalunya

Máster Universitario en Geología y Geofísica de Reservorios (UB)
Facultad de Ciencias de la Tierra

Tipo de contrato

- Temporal: 57.1%
- Fijo o indefinido: 30.6%
- Becario: 8.2%
- Autónomo: 4.1%

Evolución de la situación laboral

- 2014: 67.3%
- 2017: 81.2%
- 2020: 64.7%

Funciones realizadas en el trabajo

- Funciones específicas de la titulación: 46.9%
- Funciones universitarias: 42.9%
- Funciones no universitarias: 10.2%

Los datos mostrados corresponden al último año disponible.
Pre-enrollment

https://www.ub.edu/portal/web/earth-sciences/university-master-s-degrees/-/ensenyament/detallEnsenyament/6062732/4

Cost per credit:
27,67 euros per credit (82 euros outside UE and non residents in Spain) + taxes
Prices for 2021-2022, full master: 1800 € - 5100 €

Scholarships: (Repsol), Master+ (UB)
Legalization of academic documents issued outside Spain

**Concept**

To certify the validity of courses of study completed outside Spain, a specific administrative procedure must be carried out to verify the existence of the institution by which the documents were issued, the course of study in question and the academic qualification obtained.

The legalization of foreign academic documents is governed by international agreements applicable between the country of issue in which the documents were issued and the country in which authentication is sought. The specific procedure varies according to the country of issue and the country in which they are required. Information on the legalization procedure should be obtained from the university at which the course of study was completed, consular services in the country of issue, or the competent authority in each case.

*Note that the legalization or apostille must be affixed to the original document.*

**Procedures for which legalized documents are required**

The legalization of academic documents is necessary for a number of procedures, including the following:

- Study of equivalence of a foreign qualification for admission to a university master’s degree course or doctoral program.
- Study of equivalence of a foreign qualification for admission to a UB-specific master’s degree or postgraduate diploma.
- Partial validation of foreign studies.
- Homologation of foreign doctoral degree qualifications.

**Documents requiring legalization**

- Degree certificates.
- Academic certificates.
- Certification by the competent authority that the academic qualification held by the student in question grants access to university master’s degree studies/doctoral studies in the country of issue.
- European Diploma Supplement.
- Other documents required by UB bodies in order to complete the corresponding administrative procedure.

**International agreements**

The specific legalization procedure will depend on the country in which the documents were issued and the applicable international agreements, if any.

The most common situations and legalization procedures are outlined below:

- **European Union member states and countries signatory to the Agreement on the European Economic Area or a bilateral agreement with the European Union.**
- **Countries signatory to the Lusace Convention of 5 October 1961.**
- **Countries signatory to the Andrés Bello Agreement.**
- **All other countries.**
More information

Coord. UB annamarti@ub.edu

Coord. UAB albert.griera@uab.cat

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 adress: masters.ciencies.terra@ub.edu
Phone: +34 934 021 337

Coordinator: Anna Marti Castells
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 effective 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.

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Geographic origin of the students (2013 to 2020)

Admission: 25 students per year
The teaching language is English

https://www.ub.edu/portal/web/earth-sciences/university-master-s-degrees/-/ensenyament/detailEnsenyament/5088782
Course Curriculum

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

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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.

Technology and materials

- Software licenses: Petrel E&P software platform, PetroMod petroleum systems modeling software, ECOSPE industry reference reservoir simulator, TechLog wellbore software platform, GOCAD, Move Suite, The Kineton Suite, GeoLog, RadExPro, Geotools, MATLAB
- Analogue Modelling Laboratory
- Geophysical equipment: gravimeters, magnetoelliric, 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

RESERVOIR GEOLoGY AND GEOPHysics, UB - UAB
OFFICIAL MASTER