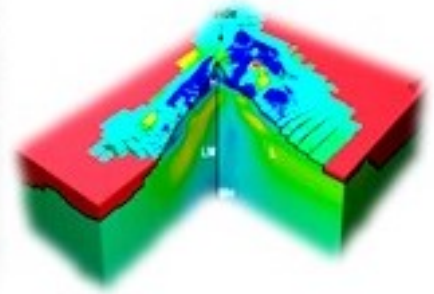
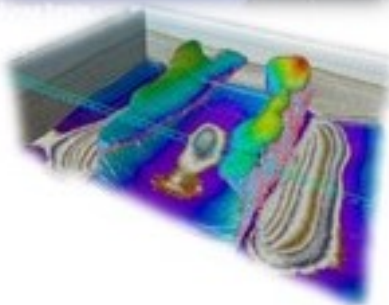
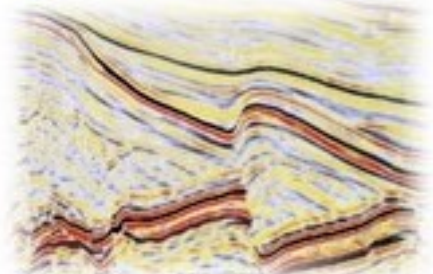
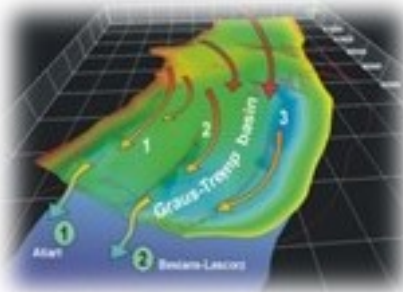


# Master UB-UAB

## «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

[\(Information Brochure\)](#)



## 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*

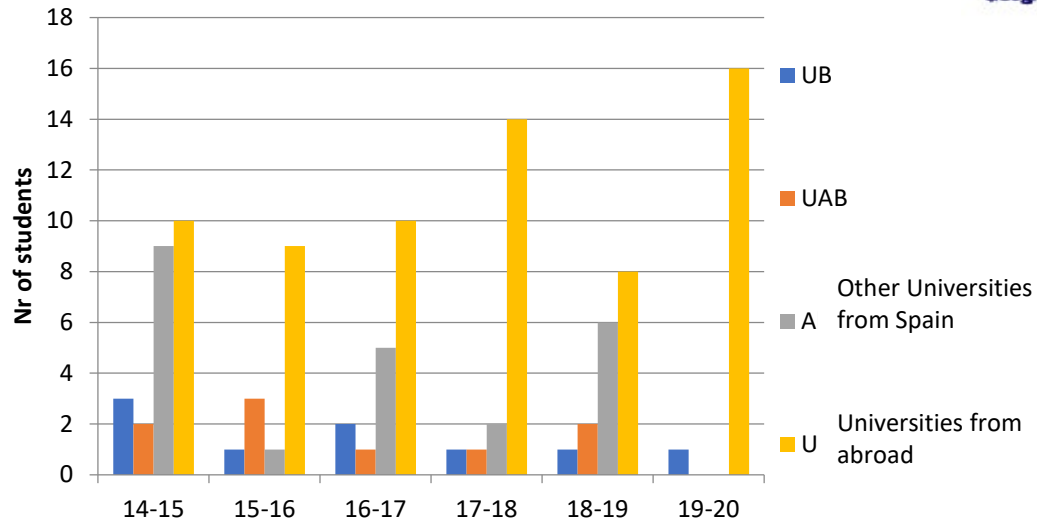
**25 ECTS**

*Master  
Final  
Project*

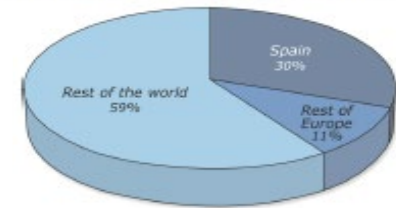
\* Possibility of doing partial time

Courses	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

# Profile of enrolled students



Geographic origin of the students (2015 to 2020)



**Aprox. 40 % with previous experience in exploration industry**

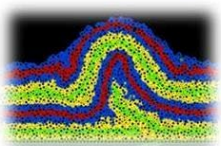
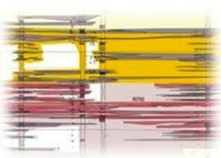
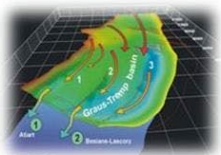
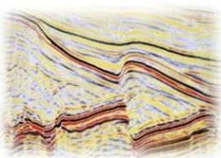
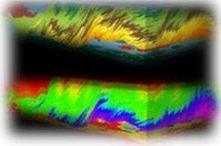
**Year 2020-21 and 2021-22 (lower registration due to COVID):**

- **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)

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

Surface wave constraints in exploration for mineral systems

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**  
Contractional reactivation of a salt structure

# Participation of Master Students in International Competitions

## 2nd position Year 2020



**EAGE Minus CO<sub>2</sub> Challenge**  
Worldwide Finalists  
**GREEN TEAM**



**Mahdi Bakhtbidar**

**Dayana Abreu**

**Zeina Naim**

**Alvaro Solano Diaz**

**Raha Hafizi**



**EAGE**  
EUROPEAN  
ASSOCIATION OF  
GEOSCIENTISTS &  
ENGINEERS



UNIVERSITAT DE  
BARCELONA  
FACULTAT DE  
CIÈNCIES DE LA TERRA

# External Evaluation of the Master's Quality: Excellency Stamp from AQU – Catalunya



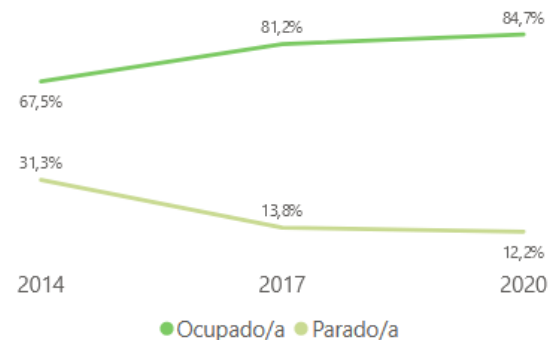
**EUC**

TITULACIÓN

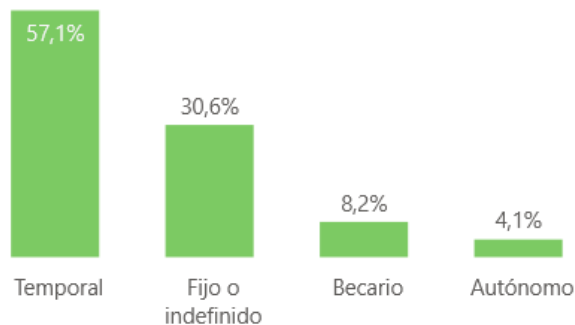
## Máster Universitario en Geología y Geofísica de Reservorios (UB)

Facultad de Ciencias de la Tierra

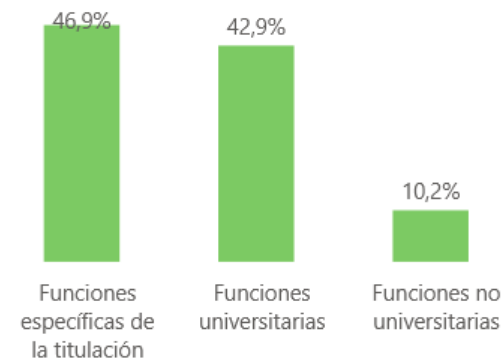
### Evolución de la situación laboral



### Tipo de contrato

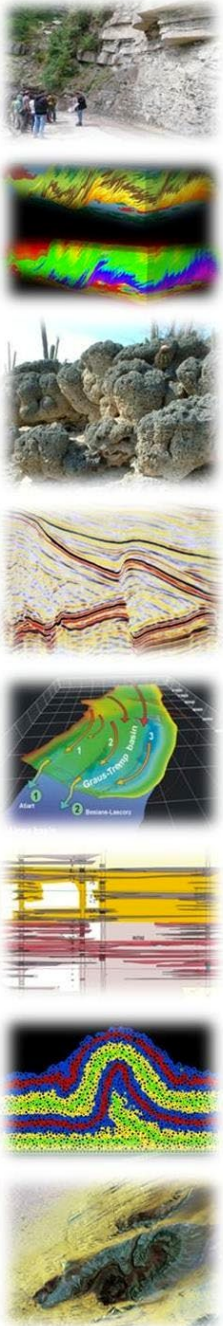


### Funciones realizadas en el trabajo



Los datos mostrados corresponden al último año disponible.





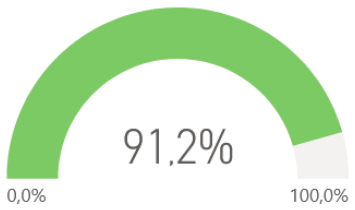
**EUC**

TITULACIÓN

# Máster Universitario en Geología y Geofísica de Reservorios (UB)

Facultad de Ciencias de la Tierra

**Estudiantes a tiempo completo**  
 (aproximación a partir de los créditos matriculados totales)



### Courses Evaluation



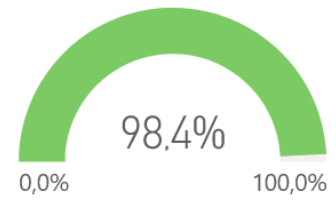
**Créditos aprobados del total de matriculados**



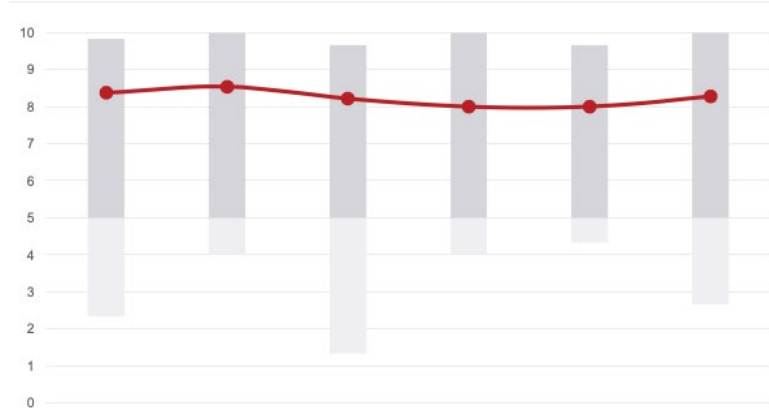
**Obtención del título en el tiempo previsto**



**Créditos impartidos por profesorado doctor**



### Professors Evaluation



# Pre-enrollment

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

## Pre-enrolment

### Pre-enrolment calendar

- First period: 26 January - 6 April 2022.
- Second period: 7 April - 13 July 2022.
- Third period: 14 July - 8 September 2022.

Open Pre-enrolment

[PRE-ENROLMENT FORM](#)

### Notes:

- **Pre-enrolment fee:** A pre-enrolment fee of 30,21 euros is charged. Students who apply to more than one master's degree must pay the fee for each pre-enrolment request. Pre-enrolment requests cannot be processed until this fee has been paid. Fees will only be refunded if the master's degree in question is suspended.
- **Reserved places:** A maximum of 5% of the new places of the master's degree are reserved for students who meet the general and specific access requirements and accredit the recognition of a degree of disability equal to or greater than 33%.

## 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)



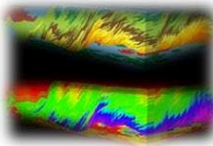
Schlumberger





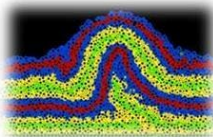
# Legalization of documents from abroad

[http://www.ub.edu/acad/noracad/documents/en/legalitzacio\\_en.htm](http://www.ub.edu/acad/noracad/documents/en/legalitzacio_en.htm)



## Legalization of academic documents issued outside Spain

<b>Concept</b>	<p>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.</p> <p>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.</p> <p><b>Note that the legalization or apostille must be affixed to the original document.</b></p>
<b>Procedures for which legalized documents are required</b>	<p>The legalization of academic documents is necessary for a number of procedures, including the following:</p> <ul style="list-style-type: none"><li>• Study of equivalence of a foreign qualification for admission to a university master's degree course or doctoral program.</li><li>• Study of equivalence of a foreign qualification for admission to a UB-specific master's degree or postgraduate diploma.</li><li>• Partial validation of foreign studies.</li><li>• Homologation of foreign doctoral degree qualifications.</li></ul>
<b>Documents requiring legalization</b>	<ul style="list-style-type: none"><li>• Degree certificates.</li><li>• Academic certificates.</li><li>• 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.</li><li>• European Diploma Supplement.</li><li>• Other documents required by UB bodies in order to complete the corresponding administrative procedure.</li></ul>
<b>International agreements</b>	<p>The specific legalization procedure will depend on the country in which the documents were issued and the applicable international agreements, if any.</p> <p>The most common situations and legalization procedures are outlined below:</p> <ul style="list-style-type: none"><li><a href="#">A. European Union member states and countries signatory to the Agreement on the European Economic Area or a bilateral agreement with the European Union.</a></li><li><a href="#">B. Countries signatory to the Hague Convention of 5 October 1961.</a></li><li><a href="#">C. Countries signatory to the Andrés Bello Agreement.</a></li><li><a href="#">D. All other countries.</a></li></ul>



# More information

Coord. UB [annamarti@ub.edu](mailto:annamarti@ub.edu)

Coord. UAB [albert.griera@uab.cat](mailto: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*



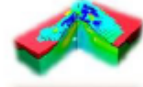
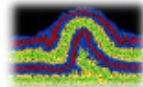
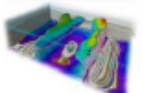
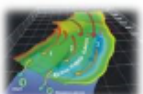
Information and administration

Secretaria d'Estudiants i Docència

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

Phone: +34 934 021 337

Coordinator: Anna Martí 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 (IGGC).

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.

### 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)



*Admission: 25 students per year*  
*The teaching language is English*

**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

[https://www.re5BRCqARisAAvtLnL48\\_x5ORSi](https://www.re5BRCqARisAAvtLnL48_x5ORSi)



Petroleum Experts

