



University of Perugia  
Department of Physics and Geology

### Master of Science (MSc) in Petroleum Geology

Academic Years 2019-2021

You are welcome to visit the following websites:

<https://www.unipg.it/en/>

<https://www.unipg.it/en/international-students>

<https://www.fisgeo.unipg.it/fisgejo/index.php/en/students/geology-degree-programs/msc-in-petroleum-geology.html>

<https://www.youtube.com/watch?v=MdoRR5lvK-8&feature=youtu.be>

#### Aim of the Course

The MSc in Petroleum Geology is a two-years multidisciplinary course covering a range of subjects related to Earth Sciences, and their application to hydrocarbon exploration and production. The course is aimed at students who are intended to develop a professional position in the oil companies, environmental and geotechnical consulting industries, government agencies and for graduate studies at the doctoral level. The course has been structured in close collaboration with **Eni-ECU (Eni Corporate University)**.

The educational program will provide the students with an in-depth knowledge of geology, sedimentary geology, structural geology and geophysics related to hydrocarbon exploration with emphasis in application of modern concepts, methods and technologies (e.g. basin analysis, sequence stratigraphy, petroleum systems modelling, seismic interpretation).

The main purpose of this Master Course is to form technically qualified, complete hydrocarbon geoscientists with the potential to become company leaders; additionally, it is also an alternative course for graduates wishing to develop knowledge and skills for career as geoscientists.

At the end of the two-years course, graduates should be able: to apply the geoscience fundamentals; to solve geosciences-related problems; to analyse and synthesize using problem-solving skills; to demonstrate effective communication and management skills; to engage in lifelong learning and professional development.

During the two-years courses experts from Eni will supply seminars and practical courses on topics strictly related to the hydrocarbon geology. Additional seminars given from experts coming from Academy and Industry will be also scheduled.

An integral part of the training is focused on fieldwork activities, which are used to consolidate the students understanding by applying classroom-taught concepts in the field. Fieldtrips are taken to areas of outstanding geological interest in support of the full understanding of petroleum geoscience.

#### Outline of the MSc in Petroleum Geology

The normal extent for obtaining the Master's Degree is two years. In order to achieve the final title, the student must have acquired 120 credits (CFU). Each credit corresponds to 25 hours of student work. For each training credit, considering the different variable commitment (personal study) required, the corresponding number of hours is determined as follow:

Frontal lectures:	7 hours;
Practice in the classroom or lab	12 hours;
Tutorial on the ground:	usually 2 days;
Internships, preparation of the final Project and written Thesis.	25 hours.

The two academic years path (2019-2021) is organised in 4 semesters. The fourth semester is devoted to prepare the Master thesis. Students can choose to carry out their thesis project at the Department of Physics and Geology of this University or to apply for a stage in Industries, Research Centers and foreigner Universities (in the frame of the Erasmus Program). In all the cases the final dissertation of the MSc Thesis will be defended at the Perugia University with at least a tutor from the Perugia teaching staff.

## Academic Calendar

The educational activities during the 2 academic years (2019-2020 and 2020-2021) are divided into two semesters.

### *LM Petroleum Geology Teaching path* *cf. 2017-19 Teaching regulation*

#### *I<sup>st</sup> year (2019-2020)*

<i>Type of activity</i>	<i>Course</i>	<i>CFU</i>
<b><i>I° semester</i></b> (September – December)		
Fundamental	Sedimentology	9
Fundamental	Applied Geophysics	9
Fundamental	Global Tectonics	6

#### ***II° semester*** (March – May)

Fundamental	Seismic Interpretation	6
Fundamental	Applied Geochemistry	6
Fundamental	Structural Geology	9
Fundamental	Integrated Stratigraphy	6

Student option	1 optional course, chosen by the student during the first or second semester	6
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#### Other formative activities

Supplementary educational activity	Seminars given by Eni staff	3
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#### *II<sup>nd</sup> year(2020-2021)*

<i>Type of activity</i>	<i>Course</i>	<i>CFU</i>
<b><i>I° semester</i></b> (September – December)		
Fundamental	Petroleum Geology – mod. 1 <i>(Exploration and Petroleum System Modeling)</i>	6
	Petroleum Geology – mod. 2 <i>(Petrophysics and Reservoir Geology)</i>	6
Fundamental	G.I.S. Geographical Information Systems	6
Fundamental, to choose between the two	Micropaleontology	6
	Hydrogeology	6
Student option	1 optional course, chosen by the student during the first or second semester	6
Supplementary educational activity	Geological Field Activity	3

<b>II° semester</b> (March – May)			
<b>Final assessment</b>	<b>Final Exam (Thesis)</b>	<b>27</b>	

**Optional courses:** students can choose as optional among all the courses offered by the University of Perugia.

The optional courses given in English, offered by the Department of Physics and Geology for the next A.Y. 2019-2020 are:

<i>optional courses held in English</i>	<i>Semester</i>	<i>CFU</i>
<b>Sedimentary Petrography</b>	available in the first semester	6
<b>Reservoir Geology</b>	available in the first semester of the II° year	6

The optional courses given in Italian, offered by the Department of Physics and Geology for the next A.Y. 2019-2020 are:

<i>GEO/01</i>	<i>Paleontologia dei Vertebrati</i>	6
<i>GEO/03</i>	<i>Geologia dei terremoti</i>	6
<i>GEO/04</i>	<i>Telerilevamento</i>	6
<i>GEO/05</i>	<i>Rilevamento Geologico-tecnico e Monitoraggio</i>	6
<i>GEO/06</i>	<i>Georisorse Minerarie</i>	6
<i>CHIM/12</i>	<i>Chimica ambientale</i>	6
<i>MAT/05</i>	<i>Geomatica</i>	6

It is recommended to complete the study plan immediately after enrollment procedure, at the beginning of the first semester.

### **Calendar of the teaching activities**

<b>semester</b>	<b>lectures</b>	<b>exams</b>	<b>n. calls</b>
1°	from 23/09/2019 to 20/12/2019	from 25/11/2019 to 29/11/2019	1
		from 7/01/2020 to 22/02/2020	2
2°	from 24/02/2020 to 29/05/2020	from 15/04/2020 to 24/04/2020	1
		from 1/06/2020 to 31/07/2020	2
		from 01/09/2020 to 18/09/2020	2

More information visiting the website <http://www.fisica.unipg.it/fisgejo/index.php/en/students/geology-degree-programs/msc-in-petroleum-geology.html>

### **Teaching methods and Assessment**

The course is entirely delivered in English, and therefore it is required a properly certified (see below) knowledge of English language corresponding to the European level B1 or equivalent.

The training activities will be performed with different modalities, such as frontal lectures, practical work (in classroom and laboratory), seminars, training courses, individual and assisted studies, field works.

The practical activities intend to develop the student's ability to solve efficiently problems, to work independently, and to develop skills in team-working and data sharing. Exercises will allow the teacher to verify the learning level of each student. To improve student's skills, seminars and meetings with experts in Hydrocarbon Geology will be organized each year.

Lecture attendance is strongly recommended for all courses; attendance at scheduled seminars and fieldworks is mandatory. The credits are acquired after positive assessment of profit (exams). Evaluations have individual character, and may consist of written and/or oral and/or exercise to be performed in laboratory or in the field. All activities allowing acquisition of credit must be assessed. The evaluation of the students is made by specific committees,

consisting of at least two teachers. The mark is expressed in thirties. The composition of the specific committees and the calendar of exams are published on the website at the beginning of each academic year.

### **Pre-Requisites**

Curricular pre-requisites are:

- Bachelor Degree, preferably in Geology, or in topics related with geoscience. A basic knowledge on geoscience is strictly required.
- Basic training in mathematics, physics and chemistry.
- English proficiency certificate for non-English mother tongue.

In order to allow the pre-evaluation process, students are advised to submit the following documents **before 15 May 2019**:

- Bachelor Degree (translated in English or Italian).
- Transcript (in English, any format).
- Motivation Letter (in English, any format).
- English proficiency certificate for non-English mother tongue (see below).

Applications must be sent by post to Dr. **Marta Alunni Pini** at:

Dipartimento di Fisica e Geologia, Via Pascoli

06123 Perugia (Italy)

or by email at: [marta.alunnipini@unipg.it](mailto:marta.alunnipini@unipg.it).

Applications will be evaluated by a committee of the Department of Physics and Geology and Eni.

## Transfers

*Procedures and criteria for the recognition of credits acquired in other courses of study.*

As for the recognition of credits, requests submitted by individual students will be examined by the CCCS and the earned credits will be evaluated taking into account the general criteria set out below.

If enrolled from study programs of the same class, CCCS will recognize every credit earned by the student in the previous curriculum. If enrolled from different class, CCCS will evaluate the congruity of the teaching program with that of this Master Course. Previously acquired knowledges and professional skills not corresponding to specific teaching courses will be checked by CCCS regarding their consistency with the objectives of the Master Course. In any case the recognized credits will never exceed the amount of 12 CFU.

The CCCS will provide assistance to the student in compiling the individual study plan.

The credits earned by students in the context of international study programs at Universities in force of bilateral agreements with the University of Perugia will be recognized with reference to the European Credit Transfer System (ECTS). Credits earned by students in other Italian Universities, European Union or in other countries not following the ECTS system, will be recognized on the basis of the documentation provided by the student. In the event of a bilateral agreement between the University of Perugia and the establishment of origin, we will proceed in accordance with the terms of the agreement.

## Final exam

After the exams, students undertake an independent project (Thesis). The final exam aims to test the ability of the student to work independently and to present and discuss the results of an original work on a specific topic. Students are expected to demonstrate independent thinking, critical and creative analysis, technical judgment in their project work, and to manage both the technical analysis and time-management aspects of the project.

The thesis is carried out with the supervision of a teacher (Supervisor), belonging to the teaching staff of the Geological Courses of the Department of Physics and Geology (Perugia University) eventually with one or more co-Supervisors. The co-Supervisor must be expert in the topic of the thesis and not necessarily belonging to an academic staff. The student makes his/her dissertation at the presence of a special committee appointed by the educational structure of reference.

The thesis can be written in Italian (with extended abstract in English) or in English (with extended abstract in Italian). The Committee is composed of 7 professors, including the thesis Supervisor. For the evaluation and the final score the committee will take into account of the quality of the thesis and presentation and also of the whole student career.

At the final examination up to ten points will be awarded, that will be added to the base score resulting from the weighted average of the exams obtained during the two years of the course. If the final score is equal to or greater than 110, the Committee, only if unanimously, may give honors (110 cum laude).

## Tutoring

The tutorial activities are organized and managed by the coordinator of the CCCS. The tutors for the Academic Years 2019/20 will be Dr. Amalia Spina and Dr. Massimiliano Porreca.

## Minimum language requirements for the admission

IELTS International English Language Testing System <a href="http://www.ielts.org">http://www.ielts.org</a>	Cambridge ESOL Examinations General English Exams <a href="http://www.cambridgeenglish.org/exams">http://www.cambridgeenglish.org/exams</a>	TOEFL Test of English as a Foreign Language <a href="http://www.ets.org/toefl">http://www.ets.org/toefl</a>		
		TOEFL ibt Internet-based Test	TOEFL cbt Computer-based Test	TOEFL pbt Paper-based Test
5.0	Council of Europe Level B1 score 55-59* Cambridge English: PRELIMINARY (PET) Pass *see the Statement of Results to verify the score	77-86	210-227	547-567

### **Exemption from the English language certificate**

Applicants in one of the following conditions could be exempted from the submission of an English language certification:

- attendance of a least one year of studies in the English language in a High/Secondary School; or
- possess of an educational qualification acknowledged as equivalent to the Italian High School Diploma, issued by a High/Secondary School where classes are held in the English language; or
- possess of a Bachelor (or equivalent) degree obtained in a University where classes are held in the English language.

In order to be exempted from the submission of an English language certification, applicants must enclose an official declaration/certification, on headed paper and duly stamped, attesting one of the abovementioned conditions and clearly specifying "the medium of instruction is English".

Candidates who are not able to present a language certification, or equivalent declaration, upon arrival in Perugia will not be enrolled.

DIRECTOR OF THE GEOLOGICAL COURSES