UNIVERSITÀ DEGLI STUDI FIRENZE

Scuola di Ingegneria

School of Engineering, University of Firenze

CL *Magistrale* / Second Cycle Degree

a.y. 2020/2021

GEM Geoengineering

http://www.ing-gem.unifi.it

Welcome!

Coordinator

prof. **Enrica CAPORALI** (DICEA) enrica.caporali@unifi.it

Counseling

prof. **Johann FACCIORUSSO** (DICEA) johann.facciorusso@unifi.it

prof. **Veronica TOFANI** (DST) veronica.tofani@unifi.it

inggemUNIFI

UNIVERSITÀ DEGLI STUDI FIRENZE

Scuola di Ingegneria

School of Engineering, University of Firenze

CL *Magistrale* / Second Cycle Degree

a. y. 2020/2021

GEM Geoengineering

Classe di Laurea Magistrale

Master of Science Class

LM-35 Ingegneria per l'Ambiente e il Territorio /

"*Environmental Engineering*"

School of ENGINEERING

Department of Civil and Environmental Engineering - DICEA

Educational Office of School of Engineering (Segreteria Didattica)

- Support to the organization and functioning of Official bodies for of the Degree Courses
- Assistance to Quality Assurance of the degree courses
- Management of Applications for assessment of students applying for second cycle degrees

These "Welcome" slides are available on the GEM website

strudidaing@unifi.it

http://www.ing-gem.unifi.it

*"**New Academic Year, together in safety**": **video message of the UNIFI president Luigi Dei**, addressed to all students to illustrate the criteria that have been established for delivering lectures in safety during the academic year 2020/2021.*

Further Links & Addresses to take note

- **NEWS** of **GEM web site** **https://www.ing-gem.unifi.it/news.html**
- **Guidelines for Institutional activities**
  https://www.unifi.it/upload/sub/comunicazione/linee_guida_operative_1settembre2020_eng.pdf
- Timetable at **New Kairos application**: https://kairos.unifi.it/agendaweb/
- **MOODLE e-learning platform** - https://e-l.unifi.it/
- The **Students Guide of School of Engineering a. y. 2020/2021** the section on Geoengineering is available in Italian and in English.
- **Guide for Foreign Students: browsable version** and **downloadable version.**

name.surname@stud.unifi.it *is student "**institutional email address**" after the enrollment, accessible by **webmail.stud.unifi.it**. Trough this email address students receive the communications by UNIFI offices, administrative and academic staff. The use of this email address is recommended to contact UNIFI offices, administrative and academic staff.*

School of Engineering: campuses

Centro Didattico Morgagni (CDM)

- Bachelor degree programmes

School of Engineering (Santa Marta)

- Master degree programmes
- Education and Research Laboratories
- **Departments** and Professors offices
- Library

DINFO
Department of Information Engineering

DIEF
Department of Industrial Engineering

DICEA
Department of Civil and Environmental Engineering

Activities Organization

Sept – Dec	Jan – Feb	Mar – Apr	Apr	Apr – Jun	Jun – Jul
Lectures	Exams	Lectures	exams	Lectures	Exams

		start	end
AM	Lez. 1 A	08:20	10:30
	Lez. 2 A	10:40	12:50
BM	Lez. 1 B	08:30	10:40
	Lez. 2 B	10:50	13:00
CM	Lez. 1 C	08:40	10:50
	Lez. 2 C	11:00	13:10
Classrooms sanitization			
AP	Lez. 3 A	14:10	16:20
	Lez. 4 A	16:30	18:40
BP	Lez. 3 B	14:20	16:30
	Lez. 4 B	16:40	18:50
CP	Lez. 3 C	14:30	16:40
	Lez. 4 C	16:50	19:00

- ✓ The lectures are grouped in **blocks of 2 hours** (2 hours and 10 min with a break in between).
- ✓ When the lecture is in the **virtual classroom** (e.g. V001 or 001V) it is delivered only online.
- ✓ During the "**on site" lectures**, video-connected classrooms are delivered in parallel.
- ✓ Two are the blocks the morning and two in the afternoon. There is **one hour break** between the morning and the afternoon.
- ✓ The one hour break is also for classrooms **sanitization** during which it is necessary to leave the campus.
- ✓ To reduce crowds, **three groups of "on site" lectures** are defined with a 10-minute delayed start.
- ✓ The timetable for "**on line" lectures** is always that of the **first group** (AM and AP).

UNIVERSITÀ DEGLI STUDI FIRENZE

Disclaimer, Copyright & Privacy Policy

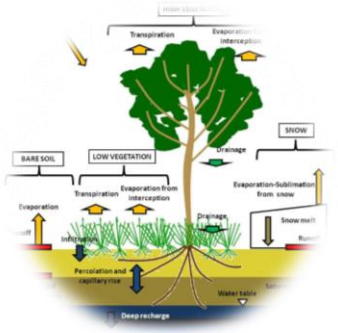
- ✓ All **materials and contents used in educational activities** are **protected by copyright**.
- ✓ They can be used, personally by those entitled, for the **exclusive teaching and research purposes**; they **cannot** be marketed, disseminated, distributed, modified or used in any other way that is not expressly authorized by the owners and / or holders of copyright.
- ✓ For the purposes of compliance with **data protection law**, the use of personal data processed during educational activities is **only allowed for personal use**, while any **further processing operation is prohibited** without the prior consent of the data subject.
- ✓ Please note that outside the strictly personal use, for any further use **the student will be considered Data Controller** and subject to the legal obligations provided for that figure.
- ✓ Any infringement will be punished according to the current **legislation on copyright and on privacy protection**.

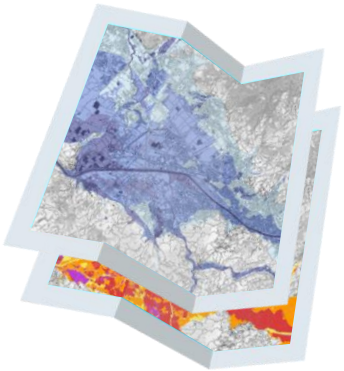
https://e-l.unifi.it/mod/page/view.php?id=478258

Disclaimer, Copyright & Privacy Policy

- This presentation was created to allow the conduction of online educational activities in the context of the ongoing COVID-19 pandemic.
- Contents are for educational purposes only and are released to Students under the Creative Commons BY-NC-ND (Attribution – NonCommercial – NoDerivs) license. Under this license:
  - You must give appropriate credit, provide a link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use of the material.
  - You may not use the material for commercial purposes.
  - If you remix, transform, or build upon the material, you may not distribute the modified material.
  - You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits.

- Licensor: *Teache Name*, Università degli Studi di Firenze





The master degree in **Geoengineering** is an **international** and **interdisciplinary** master devoted to train **specialist technicians/practitioners** in the activities of ***monitoring***, ***design and management of systems and structures*** for **geohydrological risk reduction** with particular reference to **floods**, **landslides**, **subsidence**, **sinkhole** and in general … to slope and basin scale dynamics.

UNESCO Chair - Prevention and sustainable management of GEO-HYDROLOGICAL HAZARDS

UNIVERSITÀ DEGLI STUDI FIRENZE

DICEA DIPARTIMENTO DI INGEGNERIA CIVILE E AMBIENTALE

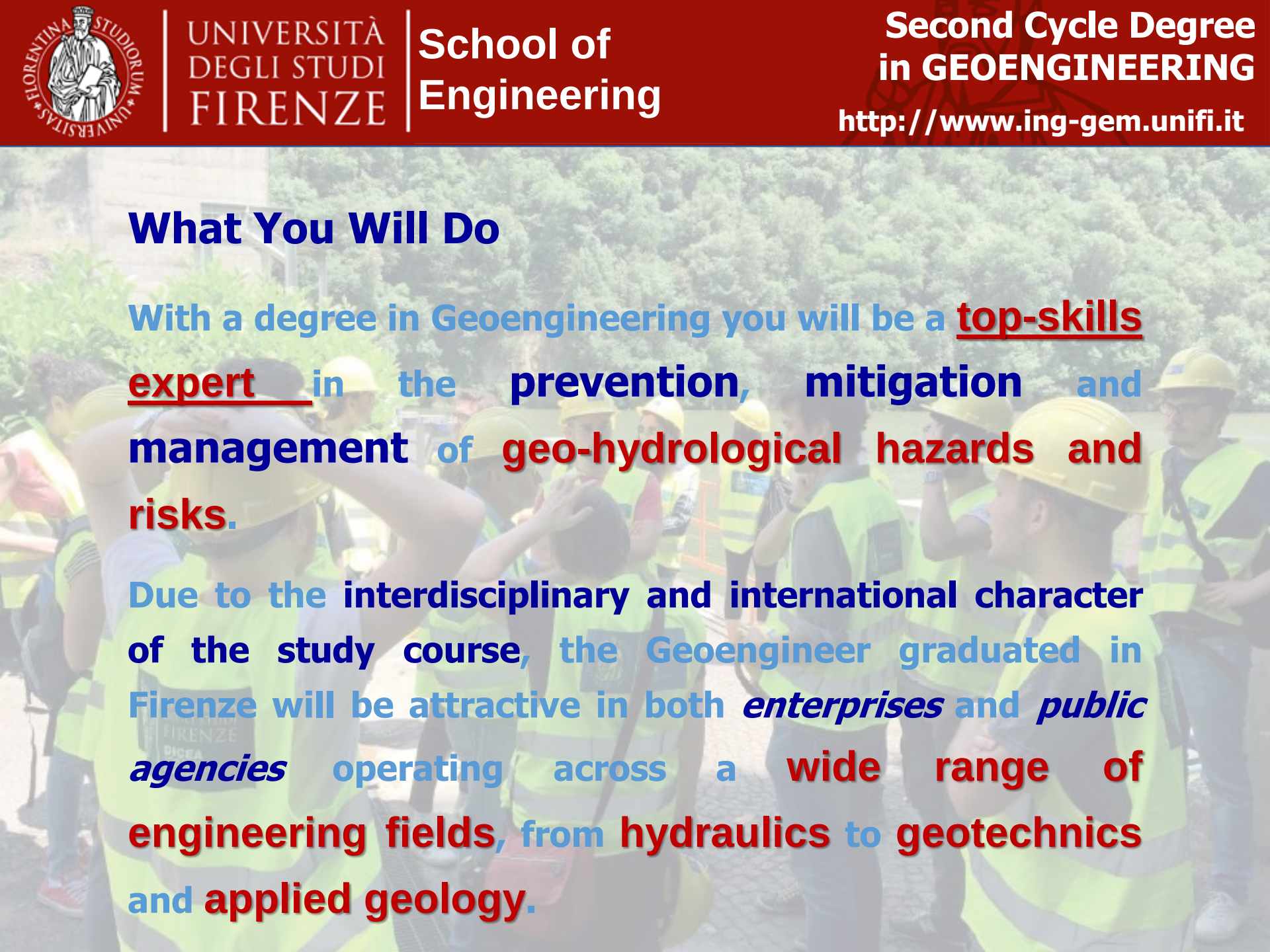
DST DIPARTIMENTO DI SCIENZE DELLA TERRA

1. To promote the development of innovative technologies for the prevention and mitigation of Geo-hydrological hazards.

2. To develop tools and procedures for supporting risk reduction policies and emergency management for the safety of the human life;

3. To promote the protection of cultural heritage threatened by geo-hydrological hazards;.

4. To promote research at international level by offering scientific facilities to post-graduated Students and visiting researchers.



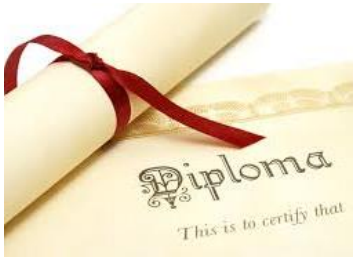
What You Will Do

With a degree in Geoengineering you will be a **top-skills expert** in the **prevention**, **mitigation** and **management** of **geo-hydrological hazards and risks**.

Due to the **interdisciplinary and international character of the study course**, the Geoengineer graduated in Firenze will be attractive in both ***enterprises*** and ***public agencies*** operating across a **wide range of engineering fields**, from **hydraulics** to **geotechnics** and **applied geology**.

The **Programme** is implemented through a **two-year study plan** that foresees the acquisition of a number of **ECTS** in accordance with the learning objects in different sectors, i.e. *structural mechanics*, *geotechnics*, *hydrology* and *hydraulics*, *geology and engineering geology* as well as in *numerical methods*, *statistics* and *geomatics* are all integrated.

The study plan is organized with focus on the interdisciplinarity:



- ✓ The **60 ECTS** of the I year are organized in disciplines, strongly characterized by interdisciplinarity: *Computational methods*, *Fluvial hydraulics*, *Structural mechanics and engineering, Geology*, *Engineering Geology, Engineering Geomorphology*;
- ✓ The **33 ECTS** of the disciplines of the II year are dedicated to: *Earthquake geotechnical engineering, Slope Stability, Watershed hydrology, Geomatics, Watershed management* or *Soil conservation:*
- ✓ **27 ECTS** are individual/personal educational activities:
  - ***Elective courses*** as free choice of the student within the **learning objects** of the degree course;
  - **Final examination** and **traineeship**

To be admitted to the Second Cycle (Master) **Degree** programmes, a first cycle or a single cycle degree awarded by an Italian or a foreign University is required.

In addition, applying students have to meet the **general educational requirements** and possess an **adequate personal education background.**

General educational requirements:

36 ECTS in **Basic Compulsory Subjects**, among which **18 ECTS** in the disciplines "Mathematics, Informatics and Statistics".

45 ECTS in **Compulsory Subjects**, Characteristic of the Class, among which **30 ECTS** in disciplines of "Civil Engineering" and "Environmental Engineering".

Personal education background

The **weighted average on the exams** must be equal or greater than 22/30

A knowledge in **English Language B2 Level** is required.

Educational plan

STUDY PLAN FIRST YEAR (60 ECTS*)

Year	I Semester		II Semester	
I	Teaching Course	ECTS	Teaching Course	ECTS
	Numerical Methods for Scientific Computing/Statistical Data Analysis (joint courses)			12
	Structural Mechanics and Engineering I/ Structural Mechanics and Engineering II (joint courses)			12
	Geology I/Geology II (joint courses)			12
	Fluvial Hydraulics	9	Engineering Geology	9
			Engineering Geomorphology	6

STUDY PLAN SECOND YEAR (60 ECTS*)

Year	I Semester		II Semester	
II	Teaching Course	ECTS	Teaching Course	ECTS
	Earthquake Geotechnical Engineering	6	*Elective course, one between:* Watershed Management Soil Conservation	6
	Slope Stability	6	*Elective courses, free choice activities*	9
	Watershed Hydrology	9	Final Exam	18
	Geomatics	6		

* ECTS - European Credit Transfer System, comparable to the Italian CFU - Crediti Formativi Universitari

ELECTIVE COURSES

For the elective activities, the degree course offers a list of discipline that allow the students to complete the training organically.

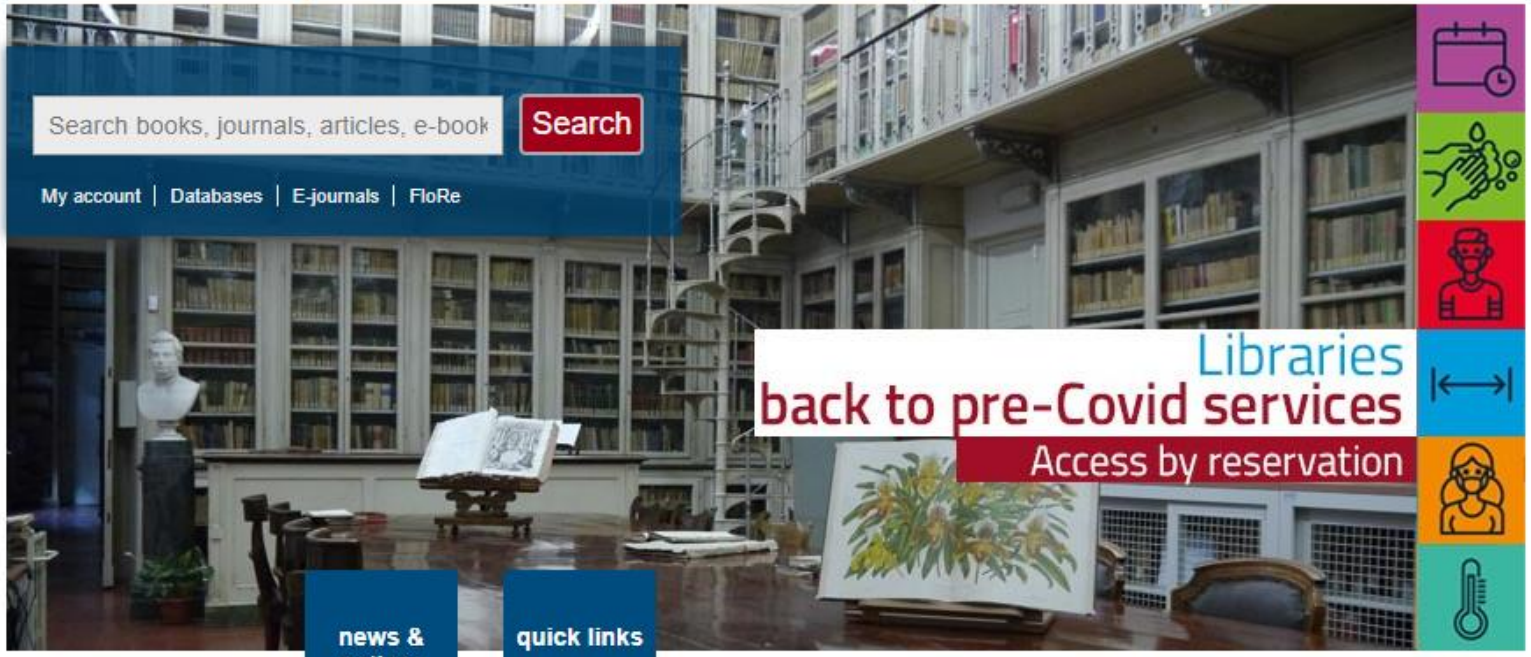
SSD	Discipline	ECTS	Semester
ICAR/01-ICAR/08	Continuum Mechanics	6	I
ICAR/02	Coastal Dynamics	6	II
ICAR/02	Flood Risk	6	II

* ECTS - European Credit Transfer System, comparable to the Italian CFU - Crediti Formativi Universitari

CONTINUUM MECHANICS

In the first semester of the current academic year 20/21, the "new" course of **Continuum Mechanics lectured by Proff. Claudio Borri and Enio Paris** is offered as "**elective course**" to those students to whom the acquisition of missing contents in the disciplines of Continuum Mechanics was recommended in the enrolment decision.

*Please note that the contents of "continuum mechanics" that will be dealt within the first weeks, are preparatory to the contents of **"Structural mechanics and engineering I"** that will be addressed later. At the same time, the contents of the last weeks must be considered an integration to the contents of **"Fluvial Hydraulic"**.*



biomedical
sciences
social sciences
technology
humanities
prato campus
sol - online services

news & notices

Libraries, back to pre-Covid services
From 14 September. Access by reservation

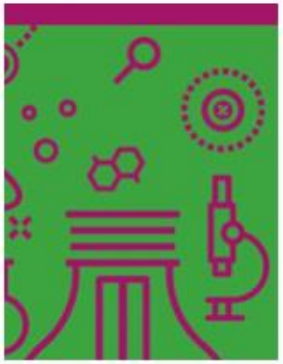
Online courses at the libraries
Continuing your education online

#IoRestoacasa (Istayhome)
Remote-access services and resources

quick links

- Book your library access
- Search resources: OneSearch
- Libraries hours and locations
- My account
- Inter-library loans - Document delivery
- Need help? Ask a librarian!
- Off-campus access: PROXY
- CEDAF Documentation Center on Floods

ScienzEstate
Edizione 2020



B2 Academic English Course dedicated to GEM Students

October 7 – December 9, 2020
Wednesday 9.30 – 12.30
30 hours

Special Academic English Course

dedicated to new Geoengineering Students

In collaboration with the Centro Linguistico di Ateneo, a special **B2 Academic English Course** dedicated to Geoengineering - GEM students, will be held from 9.30 am to 12.30 pm, starting on **Wednesday the 7th of October to the 9th of December 2020** for a total of 30 hours. You are expected to have already attained a B2 level of general English.

- The lessons will be online, via **Zoom**, with plenty of interaction and some collaborative work using the breakout rooms. You will receive an email with instructions on how to sign up for the **google classroom**. You will be asked to fill in a 'needs analysis' form, so the course can be adapted to meet individual needs.
- "***Academic English***" differs from general English, and is required at University where you are expected to express yourselves clearly and efficiently, during oral or written exams, when giving presentations, asking questions, answering queries, describing key concepts, discussing options, analyzing processes, comparing methods, trends, and so on. These should be valuable to you not only during your course of studies but also in your future working life as geoengineers.
- **All four skills will be covered**: speaking for everyday situations, listening for understanding lectures or conferences, writing short paragraphs related to your field, reading for scientific papers. A variety of scanned EAP material will be used, online resources such as TedED, bbcenglish.co.uk, and subject-related scientific articles and papers.

The course is dedicated to the **new GEM students enrolled to the current a.y. 2020/21**. The Department of Civil and Environmental Engineering will cover all the costs, but there is a maximum number of 18 students. In order to sign up, please contact by e-mail the GEM coordinator prof. Enrica Caporali, as soon as possible.

23 September 2020

Italian Course at UNIFI Linguistic Center are also available

if you are interested to improve your Italian and enrol to a course, you need to write at the following email address infoitaliano@cla.unifi.it

Award for the new entrolled student

Call for the conferment of 4 awards to new enroled in the master degree in Geoengineering

PUBLIC CALL FOR A COMPARATIVE EVALUATION PROCEDURE BASED ONLY ON QUALIFICATION TITLES FOR THE CONFERMENT OF 4 AWARDS AS AN INCENTIVE TO ENROLMENT IN THE MASTER DEGREE IN GEOENGINEERING.

In order to promote the Master's Degree Course in Geoengineering, DICEA announces a call for applications for the assignment of an award of € 1,000.00 gross of charges to be paid by the recipient, in favour of Italian or foreign students who will **enrol to the first year of the Master's Degree Course in Geoengineering in the academic year 2020/2021**.

The text of the announcement is published in the Official Register of the University of Florence and published on the website of the Department of Civil and Environmental Engineering (DICEA). The notice and the application is available at the following link.

16 August 2020

public call for a comparative evaluation procedure for 4 awards to NEW ENROLLED STUDENTS to the master degree in Geoengineering