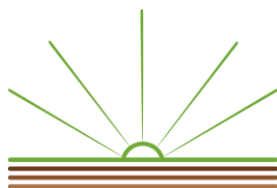




UNIVERSITÀ
DEGLI STUDI DELLA
TUSCIA

DIPARTIMENTO
DI SCIENZE AGRARIE
E FORESTALI



MEDSOILS CHALLENGE




Academic year 2026/27

INTERNATIONAL MASTER DIPLOMA (I Level) in

“Applied Soil Science in Mediterranean areas – MEDSOILS”

GENERAL INFORMATION

<p>HOSTING DEPARTMENT</p>	<p>Department of Agriculture and Forest Sciences (DAFNE), University of Tuscia, Viterbo, Italy</p>
<p>PARTNER INSTITUTIONS AND ORGANIZATIONS</p> 	<p>Department for Innovation in Biological, Agro-Food and Forest Systems (DIBAF), University of Tuscia, Viterbo, Italy</p> <p>Department of Arts and Sciences of Territory, Universidad de Extremadura, Cáceres, Spain</p> <p>Department of Geography, Faculty of Arts, University of Ljubljana, Ljubljana, Slovenia</p> <p>Adiyaman University, Vocational School of Technical Sciences, Adiyaman, Türkiye</p> <p>Evenor Tech SLU, Spain</p> <p>Timesis s.r.l., Italy</p>

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DURATION	Annual
EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM (ECTS)	60
MINIMUM / MAXIMUM STUDENTS	8 / 30
START OF LECTURES	October 2026
ADMISSION REQUIREMENTS	Bachelor's Degree or equivalent Fundamental knowledge of Soil science, agriculture, forestry or geography
ENTRY QUALIFICATION	Bachelor's Degree or equivalent
ENROLLMENT FEE	FREE OF CHARGE (Pilot Master's Diploma funded by the Erasmus+ KA220 Project "Medsoils-Challenge")
MASTER'S DIPLOMA COORDINATOR	Prof. Simone Priori Tel.: +390761 357327 E-mail: simone.priori@unitus.it

TRAINING OBJECTIVES AND GOALS OF THE MASTER'S PROGRAM

Through the recent framework legislation, the **"Soil Monitoring Law (EU) 2025/2360,"** the EU has set ambitious targets requiring Member States to monitor and safeguard soil health, promote sustainable management, and reduce soil sealing. A significant gap in knowledge and professional expertise regarding soil issues has emerged due to several factors. Soil is a highly complex and interdisciplinary matrix, often not covered comprehensively in agricultural, forestry, and environmental degree programs because of time constraints. Professionals such as agronomists, geologists, environmental engineers, and land planners now need not only basic technical knowledge but also **expertise in applied pedology** to:

1. **Certify soil health** and soil carbon stocks;
2. **Manage climate resilience** and adapt to droughts and extreme weather events;

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3. Address new EU obligations regarding soil monitoring.

The International Master's in "**Applied Soil Science in Mediterranean Areas**" aims to train **specialized professionals in pedology and soil monitoring** who can describe, understand, and classify soils. The program provides students with knowledge of Digital Soil Mapping (DSM) and applied soil technologies, including sensors, GIS tools, and remote sensing. Additionally, the Master's introduces soil quality monitoring methodologies, addressing knowledge gaps necessary to comply with the new **European Soil Monitoring Law (2025/2360)**.

JOB PROSPECTS

Career opportunities include entrepreneurship, freelance consulting, or employment in roles involving coordination, drafting, and project proposal, as well as positions of responsibility in private or public, national or international organizations or companies within the sectors of soil science, soil and environmental monitoring and certification, agriculture and forestry, and research and development institutions.

MASTER'S EDUCATIONAL ACTIVITIES

The full Master Diploma program consists of 1,500 hours of training and 60 ECTS credits (Educational Credits), in accordance with Art. 7, paragraph 4 of Italian Ministerial Decree (D.M.) 270/2004. Upon completion of the course and successful completion of the final examination, the **Level I Master's Diploma** in "**Applied Soil Science in Mediterranean Areas**" will be awarded, corresponding to **European Qualifications Framework (EQF) Level 7**.

The total academic workload of 60 ECTS is structured according to the following study plan:

N. Module	MODULE TITLE	ECTS
MODULE 1	Soil survey and classification	8
1.1	Brief recall of soil science fundamentals	1
1.2	Soil survey methodology, pedogenetic factors and processes, pedofeatures and pedogenetic processes identification	1
1.3	Landscape description, relationship soil/landscape	1
1.4	Soil geography, soil mapping	1

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1.5	Fundamentals and understanding of soil laboratory analysis	1
1.6	Bases of Soil taxonomy (USDA classification) + practice exercises	1
1.7	WRB international classification + practice exercises	2
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MODULE 2	Soil quality monitoring	7
2.1	Soil functions, soil quality and soil health concepts, threats to soil health	1
2.2	Soil structure and hydrology monitoring and modelling	1
2.3	Soil erosion monitoring	2
2.4	Organic matter and GHGs emissions monitoring	2
2.5	Soil biological and biochemical indicators	1
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MODULE 3	Technologies supported soil survey and monitoring	9
3.1	Digital soil mapping and geostatistics for soil data	1
3.2	GIS for soil mapping and exercises	2
3.3	Proximal soil sensing	2
3.4	Remote sensing for soil mapping	1
3.5	From soil data generation to DSM: a workflow in RStudio	1
3.6	Soil database and FAIR concepts	1
3.7	Decision Support System and soil modelling	1
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MODULE 4	Applications of soil science	6
4.1	Soil science for urban development planning	1
4.2	Land evaluation	1
4.3	Soil conservation and recovering, pedotechnologies	1

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4.4	Social innovation and participatory processes, soil communication	1
4.5	Sustainable soil management, living labs	1
4.6	Carbon farming	1
TOTAL LECTURES (Online)		30
PRACTICAL SESSIONS (in-person activities)		
	Practical session/demonstration in Adiyaman, Turkey (2-5 November 2026)	4
	Practical session / demonstration in Caceres, Spain (8-12 February 2027)	4
	Practical session / demonstration in Ljubljana, Slovenia (5-9 April 2027)	4
	Practical session / demonstration in Viterbo, Italy (4-8 September 2027)	4
TOTAL PRACTICAL ACTIVITIES		16
Other activities		
	Internship at a company or research institute for thesis work (200 hours)	8
	Final Thesis (Thesis dissertation 8 September 2027)	6
TOTAL OTHER ACTIVITIES		14
TOTAL credits (ECTS)		60

DELIVERY MODALITY, ATTENDANCE, AND FINAL EXAMINATION

Administrative Headquarters: The administrative headquarters of the Master's Diploma is the Department of Agricultural and Forest Sciences (DAFNE) at the University of Tuscia in

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Viterbo, Italy. Online lectures will be delivered through the Moodle platform, which is hosted and managed by the University of Ljubljana, Slovenia.

Lectures, schedule, and duration: Lectures will be delivered via distance learning (online) from Thursday to Saturday, from October 2026 to March 2027. Recorded sessions will be available to enrolled students for the entire duration of the Master's Diploma program. Attendance is mandatory. To be eligible for the final examination, students must attend at least 75% of the total scheduled hours. Absences must be proportionally distributed across the teaching modules and cannot exceed 25% of the total workload. In addition to attending the live interactive streaming sessions, students will have access to the recorded lectures for review.

Practical sessions and fieldwork activities will be condensed into four intensive weeks, with one week in each participating country (Turkey, Spain, Slovenia, and Italy). Attendance at all in-person activities is mandatory. A student may be excused from up to one week of practical activities only for documented health or family reasons, or due to visa processing delays. Absence from a second in-person session will result in exclusion from the Master's diploma.

Assessments and Grading: There will be tests at the end of each of the four modules to assess progress. Each test will be graded, and students who do not achieve a passing grade must retake the test.

Internship: A mandatory 200-hour internship must be completed at private companies or organizations, subject to a formal agreement with a partner university. Internships may also be completed at participating or external universities and research institutes.

Procedure for Internship and thesis: Before starting, students must submit a formal request for approval to the Scientific Committee, specifying the host institution, the company supervisor, and an academic tutor chosen from the teachers of the Master's Course. Upon completion, the student must submit a brief report on official letterhead detailing the activities performed, the level of involvement, and a logbook of days and hours completed. The report must be signed by both the company supervisor and the academic tutor.

Final Examination: The final exam consists of preparing and defending a written thesis on a topic explored during the training courses and internship. The topic must be selected and developed under the supervision of a Master's tutor. The final thesis must be submitted by email to the Organizing Committee at least 15 days before the defense.

If the Scientific Committee finds the thesis insufficient, the student must make revisions before the final defense.

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Final Grade and Awarding of Title: The final grade for the Master's diploma is determined by the Scientific Committee based on test results, the final exam, and the student's participation in lectures and practical activities. Students who successfully pass the tests and final discussion will receive the title of Master's Diploma in "Applied Soil Science in Mediterranean Areas." The most deserving students will receive the same title "with honors

MASTER'S LECTURERS

The International Master Diploma in "Applied Soil Science in Mediterranean Areas," offered by the University of Tuscia, is developed in collaboration with the University of Extremadura (Spain), the University of Ljubljana (Slovenia), the University of Adiyaman (Turkey), and two private soil science consulting firms: Timesis (Italy) and Evenor-Tech (Spain). This partnership ensures the involvement of internationally renowned academic experts in soil science, along with experienced professionals who provide practical and innovative insights.

ADMISSION REQUIREMENTS

To be eligible for the selection process, candidates must meet the following minimum requirements by the application deadline:

Academic Qualifications: Possession of a Bachelor's degree (3-year duration, equivalent to EQF Level 6) from a recognized university. The bachelor's or, alternatively, the master's degree must be in one of the following fields or closely related disciplines:

- o Agricultural and Forest Sciences;
- o Natural and Environmental Sciences;
- o Geological or Earth Sciences;
- o Environmental Engineering;
- o Geography;
- o Archeology and archeometry;
- o Landscape, spatial and environmental planning.

Language Proficiency: Knowledge of the English language equivalent to at least Level B2 of the Common European Framework of Reference for Languages (CEFR) is required. A formal certificate is not strictly necessary. A self-declaration signed by the candidate stating their proficiency level is accepted during the application phase.

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ADMISSION MODALITIES

Eligibility Applications for admission to the Master's program are open to candidates of any age or nationality, provided they hold at least a three-year Bachelor's degree (or equivalent). Students enrolled in a Master's degree or PhD program are allowed, provided minimum attendance requirements are met.

The application for admission to the selection process must be submitted using the designated form, which can be downloaded from:

<https://www.unitus.it/post-laurea/master/master-i-livello/>

and sent to simone.priori@unitus.it and dafne@unitus.it

by 24th July 2026

The application must include:

- 1) The applicant's full personal details, including date and place of birth, and preferred contact address for of admission to the program;
- 2) A brief motivation letter explaining the reasons for applying to the program;
- 3) An updated Curriculum Vitae (CV);
- 4) A copy of the Bachelor's (or if applicable Master's) degree certificate;
- 5) A copy of a valid ID or passport, signed by the applicant to certify its conformity with the original;
- 6) A copy of the residence permit for non-EU applicants residing in Italy;
- 7) And any additional qualifications or certificates required for evaluation (e.g. list of exams; English proficiency certification, etc.).

The Committee convened to select candidates for admission to the Master's program reserves the right to request additional documents. Failure to submit the documents listed above will result in no points being awarded for the relevant qualifications or denial of admission to the Master's program.

Enrollment Fees: For this first pilot edition of the Master's Diploma, no enrollment fees are required. All costs are fully covered by funding from the Erasmus+ Medsoils-Challenge project.

SELECTION INTERVIEW AND SCHOLARSHIPS

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The Scientific Committee will evaluate the applications and determine each candidate's eligibility for the interview. All candidates will receive an email with the result of their admission to the interview, along with the interview link.

The interview will be conducted online with at least three members of the Scientific Committee participating. During the interview, candidates will be expected to briefly outline their motivations for joining the Master's program and their previous experience in soil science.

The final ranking list will be published within 7 days after the conclusion of the interviews at:

<https://www.unitus.it/post-laurea/master/master-i-livello/>

The criteria for the ranking list will be:

Criterion	Description	Max Points
A. Academic Merit	Final graduation grade/GPA	10
B. Specific Competence	Exams/Credits (ECTS) specifically in Soil Science	10
C. Recency of Degree	Maximum points < 3 years since graduation, -1 point each year after graduation > 3	10
D. Relevant Experience	Publications/Job experience in Soil, GIS, Remote Sensing	5
E. Other Titles	Additional academic degrees, English language certification (TOEFL, IELTS, Cambridge, etc..), proof of Erasmus study abroad experience	5
F. Interview	Motivation and English proficiency during interview	20

A minimum score of **25 points** is requested for admission to the Master's diploma.

Minimum and Maximum number of students: The Master's program will be activated subject to reaching a minimum of 8 admitted students. The maximum number of students will be 30.

RESERVED POSITIONS FOR MOBILITY SCHOLARSHIPS

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Although the evaluation ranking will be unique, the positions for mobility scholarships will be subdivided based on nationality or country of study as follows:

- 1) **Italy:** 4 scholarships reserved for Italian students or international students currently enrolled at the University of Tuscia.
- 2) **Slovenia:** 4 scholarships reserved for Slovenian students or international students currently enrolled at the University of Ljubljana.
- 3) **Spain:** 4 scholarships reserved for Spanish students or international students currently enrolled at the University of Extremadura.
- 4) **Turkey:** 4 scholarships reserved for Turkish students or international students currently enrolled at the University of Adiyaman.

The distribution of scholarships across countries may be adjusted based on student availability. Any additional grants will be assigned after the evaluation process is complete.

The mobility grant will be paid by the student's home university using the methods the university considers most appropriate.

IL DIRETTORE
Prof. Simone Severini

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