



Università
degli Studi di
Messina

DIPARTIMENTO DI SCIENZE
MATEMATICHE E INFORMATICHE,
SCIENZE FISICHE E SCIENZE DELLA TERRA

II level international and inter-university Master course in *SEISMIC SAFETY AND SUSTAINABLE URBAN DEVELOPMENT* a.y. 2022/2023

THE DIRECTOR

HAVING REGARD TO:

- the Statute of the University of Messina, issued with D.R. no. 1244 of 14 May 2012, published in the Italian Official Gazette – General Series – no. 116 of 19 May 2012, subsequently amended with D.R. no. 3429 of 30 December 2014, published in the Italian Official Gazette – General Series – no. 8 of 12 January 2015;
- the Ministerial Decree 509/99 and the D.M. 270/04 and subsequent amendments and additions;
- the University Teaching Regulations currently in force updated with D.R. 1636 of 22 July 2015;
- the Regulations governing advanced training courses approved with D.R. no. 1463 of 7 June 2020;
- the resolution of the Council of the Department of Mathematical and Computer Sciences, Physical Sciences and Earth Sciences (MIFT) of 25/02/2022, prot. no. 27376 of 03.01.2022, which approves the establishment of the II level international and inter-university Master course in SEISMIC SAFETY AND SUSTAINABLE URBAN DEVELOPMENT and approves the training credits plan;
- the report of the Evaluation Committee which on 22/03/2022 (Prot. n. 46746 of 11/04/2022) gave a favorable opinion on the activation of the II level international and inter-university Master course in SEISMIC SAFETY AND SUSTAINABLE URBAN DEVELOPMENT;
- the resolutions of the Academic Senate and of the Board of Directors of the University of Messina of 20/05/2022 with which the II level international and inter-university Master course in SEISMIC SAFETY AND SUSTAINABLE URBAN DEVELOPMENT is activated;
- the Agreement signed on 09/05/2022 by HENSE SCHOOL, UNIVERSITY of Messina and CHAMBER OF COMMERCE of Messina for the promotion of the *Nineteen Project (Innovation ecosystem for territory safety and sustainable development)* of the HENSE SCHOOL; Project aimed at the **promotion and realization of the II level international and inter-university Master course in SEISMIC SAFETY AND SUSTAINABLE URBAN DEVELOPMENT**, as well as the planning and management of **different types of innovation ecosystem services for training, territory safety and the social planning of territorial systems** with high levels of territorial vulnerability, which fully characterize the role of Universities, Institutions and Companies in a social, productive and economic context;

- the Italian law of 12 April 2022 n. 33, containing "*Provisions concerning simultaneous enrollment in two higher education courses*"
- the directive of the Minister for Public Administration and simplification n. 14 prot. 0061547 of 22/12/2011 "*Urgent fulfilments for the application of the new provisions on the subject of certificates and substitutive declarations referred to in article 15 of the Italian law of 12 November 2011, n. 183*";

MAKES IT NOTICED

that the University of Messina - Department of Mathematical and Computer Sciences, Physical Sciences and Earth Sciences (MIFT), has activated for the academic year 2022/2023 **the II level international and inter-university Master Course in SEISMIC SAFETY AND SUSTAINABLE URBAN DEVELOPMENT** *with the issue of a joint qualification.*

PURPOSES:

The purposes and the adequacy of the entire training course to the specific need of the territory for professionals with targeted skills on territory safety, also having regard to the goals of the course itself which motivated its configuration, can be traced back to the implementation of innovative elements related to the system of strategic relations with the economic and social actors of the territory, which can be identified with:

- the **training of professionals** with high levels of interdisciplinary specialization as well as transversal skills in the territory seismic safety sector, acquired as a result of the research activity carried out in the field and in the context of drafting the Master course theses and internships expressly configured to highlight possible territory criticalities;
- the **creation of a pool of skills** and shared experiences at the service of the community, as a prerequisite for a process of improving literacy to seismic safety of the territory;
- a **full field trial** of procedures and protocols object of training and research activities, in the context of the promotion of innovative solutions and services, sustainable economic development models of territorial systems, and territory regeneration processes also based on exploitation of resources;
- **the induced effects of training and experimentation activities:**
 - *the adoption of shared resilience strategies* of the territorial system through the activation of suitable synergies with all the economic and social actors aimed at assessing and mitigating the different types of vulnerability of the territory;
 - *promotion of innovation*, and inclusion of the *knowledge economy in institutional and entrepreneurial practices*;
 - *scientific support* to the municipal administrations by the Universities Partner of the HENSE SCHOOL, including the training of municipal managers and technicians.
- the development of the **community's organizational capacity** and strengthening of its role in the definition and promotion of a territory government policy consistent with seismic safety needs;
- the **activation of strategic** partnerships between Universities adhering to the HENSE SCHOOL, public institutions and companies, aimed at creating **multidisciplinary task forces** of professionals who promote initiatives and investment projects in the field of territorial safety, as well as consultancy and assistance to the organizational and strategic development of public and private Entities.

SPECIFIC OBJECTIVES:

The creation of professionals with highly innovative technological potential in the field of territorial safety, to be included in seismic risk mitigation projects, capable of combining the acquisition of targeted technical and scientific knowledge with entrepreneurial strategies suitable for generating value, is focused on the development of:

- skills in the choice of strategic analysis tools of the territory, as well as in the evaluation of the damage susceptibility of elements of the territory itself;
- knowledge of the territorial, economic and social dynamics, as well as the legislative and regulatory constraints of the territorial system, for their transformation into strategic opportunities.

These activities will offer the actual possibility of enhancing the knowledge and skills acquired for entering the world of work, in the context of targeted initiatives of institutional and entrepreneurial structures Partners of the HENSE SCHOOL, which will motivate participatory dynamics in the territory management, **promoting a sense of responsibility and social cohesion.**

In particular, through specific *internship* activities at these structures, for which the preparation of a thesis relating to the analysis of *case studies* is foreseen as a final test, an opportunity will be offered to critically investigate the problems of territory safety, verifying the levels of learning.

The **trained professionals**, who will be **constantly updated** in accordance with subsequent and specific protocols prepared by HENSE SCHOOL and its Academic, Institutional and entrepreneurial Partners, will therefore be part of **Local/National/International Network of Territory Safety Professionals**, expression of an innovative *knowledge economy and social innovation*, which will provide the economic and social actors of the territory with the necessary interdisciplinary technical structure **for the implementation and management of specific programs aimed at civil protection, risk prevention and territorial regeneration, together to the scientific support of the HENSE SCHOOL partner Universities.** Entry to the Network may also be requested by those who have already obtained a Master course in seismic territory safety, with a training course similar to the one proposed, only following an upgrade of knowledge to be assessed individually.

EDUCATIONAL OBJECTIVES:

The training course is aimed at providing levels of interdisciplinary knowledge in the following **six thematic Areas**, expression of an innovative planning within the so-called third mission of the Universities: Seismic hazard, Territorial and structural diagnostics, Seismic vulnerability, Seismic monitoring of buildings and urban systems, Analysis of urban systems with high seismic risk, Motivational approaches and communication techniques.

This path is based on a specific integration of didactic and scientific approaches and contents necessary to develop targeted skills both in the choice of strategic analysis tools of urban systems, and in the evaluation of the damage susceptibility of territory elements, within the knowledge of the territorial, economic and social dynamics, as well as the criticalities of the territorial system for their transformation into strategic opportunities.

Learning and motivational paths will also be enhanced through careful planning of operational tools to address and solve technical and relational problems, strengthening personal skills and the proactivity level.

DIDACTIC STRUCTURE OF THE MASTER COURSE:

The training process is characterized by didactic activities delivered in *synchronous blended e-learning* mode, interactive, assisted and laboratory teaching with exercises, the use of software for drawing up maps, as well as the **analysis of case studies** and the **drafting of technical reports.**

The Technical-Scientific Committee will be able to make all the changes deemed necessary to the training process to achieve the objectives of the Master course.

The training process cannot be suspended for any reason, otherwise the qualification will not be awarded.

The programs of the individual teaching subjects of the Master course will be approved by the Scientific Technical Committee of the Master course and will be carried out at each location of the Partner Universities of the HENSE SCHOOL, with the same basic elements, providing for the dissemination of the same teaching material, with the contribution of Italian and foreign experts.

Internships are envisaged, **even in working groups, in public structures** (research centres, regional civil protection centres, municipalities that fall within the regional territory in which the partner universities of the HENSE SCHOOL are located) and **private** ones (companies and of research operating in the sector of territory transformations, territorial and structural diagnostics and civil protection). The activities during the internship period must involve the analysis of specific *case studies* which will characterize the drafting of the final thesis.

COURSE AND TRAINING CREDITS:

The *training course*, configured on an interdisciplinary approach, is structured on the following teaching modules, divided into six thematic areas, for which the hours of teaching are highlighted, including assisted teaching, delivered in *synchronous blended e-learning* mode (including lessons, exercises, individual study), and the recognized **ECTS** (*European Credit Transfer and Accumulation System*) university credits:

THEMATIC AREAS – TEACHING MODULES	HOURS	ECTS
Seismic Hazard		
1 Elements of Seismology and Geophysics	32	2
2 Seismic Hazard maps	17	1
Territorial and structural diagnostics		
3 Elements of Geology and Technical Geology	34	2
4 Construction techniques and pathologies of reinforced concrete buildings.	17	1
5 Measuring tools	17	1
6 Diagnostic surveys on territory elements.	60	4
7 <i>Non-destructive testing</i> on reinforced concrete constructions	34	2
Seismic Vulnerability		
8 <i>Elements</i> of structural dynamics and seismic engineering	30	2
9 Seismic vulnerability of reinforced concrete buildings, infrastructures and urban systems	79	5
10 Seismic Geotechnics. Seismic microzonation	34	2
11 Seismic damage scenarios	32	2
Seismic monitoring of buildings and urban systems		
12 Sensors and sensor networks	32	2
13 Post-earthquake quick usability checks of reinforced buildings	34	2
14 Systemic vulnerability of roads	32	2
Resilience of urban systems with high seismic risk		
15 Urban planning and seismic safety	34	2
16 Territory relationship systems, BIG DATA and seismic vulnerability	34	2
17 GIS technologies for the analysis of territorial data	32	2
18 Elements of sustainable economy, territorial marketing and safety policies	32	2
Motivational approaches and communication techniques		
19 <i>Motivational Counseling</i>	17	1
20 Communication techniques: from prevention to seismic emergency.	17	1
INTERNISHIP	150	6
INDIVIDUAL STUDY – OTHER ACTIVITIES	450	2
FINAL TEST	250	12
TOTAL HOURS / ECTS	1500	60

Duration: 12 months

Expected Absence Tolerance: 25%

Languages: Italian, English - with simultaneous translation

RECIPIENTS

Engineers, Architects, Geologists, Graduates in Natural and Environmental Sciences, Physicists, Mathematicians;

MASTER'S WEBSITES:

<https://www.unime.it/it/corsi-di-alta-educazione>

<https://www.henseschool.eu>

COURSE BODIES

Director of the Master course:

Name and surname	Qualification	SSD	Department
Salvatore Magazù	FP	FIS/01	MIFT

Technical-scientific committee:

Academic Components

Name and surname	Qualification	SSD	Department
Salvatore Magazù	FP	FIS/01	MIFT
Luigia Puccio	AP	MAT/08	MIFT
Massimo Villari	FP	INF/01	MIFT

HENSE SCHOOL Components: **Antonio Teramo** (President), **Claudio Rafanelli** (Vice President)

Institutional Components: **Lorenzo Benedetto** (President of the Study Center Foundation of the National Council of Geologists); **Paola Sabella** (Dir. Gen. Chamber of Commerce of Messina), **Manuel Casalboni** (Vice Pres. Order of Engineers- Rome);

Entrepreneurial Components: **Mario Rosati** (E4 ANALYTICS); **Massimo Perotti** (Personal Soft Service sas /EURODONE); **Giuseppe Latte Bovio** (BOVIAR srl)

ADMINISTRATIVE SECRETARIAT OFFICE:

Structure: Department of Mathematical and Computer Sciences, Physical Sciences and Earth Sciences (MIFT)

Contact person: the Secretary, **Girolamo Barbera**

REQUIREMENTS FOR ADMISSION

Access titles

Master's degree in: Engineering, Architecture, Geology, Geophysics, Environmental Sciences, Mathematics, Physics, or equivalent degrees, also Old Study Regulation, obtained from Italian and foreign universities.

Possible zeroing courses are foreseen to be evaluated on a case-by-case basis.

Those who are candidates to obtain the qualification required for access can also participate in the selection and be admitted to attendance of the Master course with reserve. In the event of a positive outcome of the selection, these candidates will be able to complete their enrollment in the Master course, provided that they obtain the required qualification in the 2021/2022 academic year.

MODALITIES OF PARTICIPATION

The application for participation in the selection must be completed electronically, using only the link: <https://unime.esse3.cineca.it>. Please note that to have access to the online procedure it will be necessary to use SPID (Public Digital Identity System).

There is a participation fee of € 50.00 to be paid at the end of the procedure, via the PagoPa system.

The enrollment fee will be refunded only in case of non-activation of the course.

The procedure for participating in the selection will be active from the day following the publication of this announcement on the website www.unime.it and until 28-10-2022. After this period, the connection will be deactivated and it will no longer be possible to fill in the application for participation.

Applications received after this deadline or produced and/or received in a different form or which are incomplete will be excluded.

In no case will additions to the documentation be allowed after the deadline of the announcement.

Candidates must attach the required documents only in PDF format to the application form as specified:

- *Curriculum vitae* in European format, certifying personal data, professional and educational

qualifications, duties held and experience gained (scientific publications, professional and training experiences relevant to the topics of the Master course, etc.), rendered in the form of self-certification and signed on each page. This curriculum vitae must indicate the final degree mark and the date of graduation (in the format dd/mm/yyyy). The curriculum must contain the formula referred to in Articles 38-46 of the Italian D.P.R. decree 445/2000, with express indication of the declarant's awareness of the sanctions pursuant to art. 76 for false declarations and that all the data contained in the curriculum as well as the activities, experiences and duties carried out correspond to the truth;

- Self-certification, made pursuant to the Italian D.P.R. decree 445/2000, certifying the degree earned with indication of the final mark;
- Documentation that the candidate deems useful for the purposes of the assessment (e.g. any publications and/or other qualifications, activities carried out, etc.) to be produced in compliance with the criteria referred to by the recent regulatory changes to the Italian D.P.R. Decree 445/2000;
- Front/back photocopy of valid identification document;

Candidates who hold a foreign academic qualification must submit, by the deadline set for enrollment, in compliance with current regulations on the admission of foreign students, the documentation indicated in the following point "REGISTRATION/ENROLLMENT PROCEDURES".

The information sent by the candidates will be subject to in-depth checks by the competent offices for the purpose of verifying the correspondence true.

Candidates are admitted to the selection procedure subject to verification of the aforementioned requirements.

Disabled candidates will have to specify in the application form, in accordance with current legislation, the necessary aid as well as the possible need for additional time to complete the exams, attaching the relative certification.

The inclusion of untruthful data in the application form will result in exclusion from the list of suitable candidates and the automatic forfeiture of any registration, without prejudice to the penalties provided for by the penal code and special laws on the matter.

Of the self-certifications, according to what expressly provided for in the articles 46 and 47 of the Italian D.P.R. Decree n. 445/2000 (self-certification) and subsequent amendments, may also use:

- EU citizens;
- citizens of countries not belonging to the European Union, legally residing in Italy, limited to the status, personal qualities and facts certifiable or attestable by Italian public bodies (specifically: qualification obtained from an Italian university).

SELECTION MODE

The Master course requires a minimum number of 80 enrolled students.

A selection process is envisaged whose objective is attributable to the need to acquire a preliminary integrated assessment of the professional and motivational characteristics of the students, having regard to the creation of the estimated Network of safety professionals, which characterizes one of the specific priority objectives of the Master, in accordance with the needs of safety and sustainable development of the territory.

This selection process, which will be managed by the Master course Technical-Scientific Committee, which will be able to coopt experts from the academic, institutional and business world, is based on the examination of the candidates' profiles on the basis of the elements set out below, together to the corresponding weights:

- curriculum vitae;
- references;
- motivational letter;
- aptitude test, with cognitive-motivational purposes, which will be taken online **between 1-11-2022 and 15-11-2022** (100 points), using the e-learning platform of the University of Messina;

Candidates who have passed the aptitude test with a score of no less than 60 will be admitted to the Master.

The list of suitable candidates will be made public by publication on the websites www.unime.it and www.henseschool.eu **by 20-11-2022**.

Within **three days** from the date of publication of this list, unsuitable candidates will be able to propose a reasoned complaint to be forwarded by certified email (PEC) to the Director of the Master course at the MIFT Department of the University of Messina (dipartimento.mift@pec.unime.it).

REGISTRATION/ENROLLMENT PROCEDURE

Candidates admitted to the Master course must enroll from the date of publication of the list of admissions until 05-12-2022.

The candidate who has participated in several selections and has placed in a useful position in several rankings, will be able to proceed with the registration until 30-11-2022. Failure to complete the enrollment in the chosen courses will result in the forfeiture of admission to all the courses in which the candidate was admitted.

Candidates must use the registration procedure enabled by the Administration, available on the website <https://unime.esse3.cineca.it>, including the declarations required by the Call and by the Regulation on self-certification and accompanied by the attachments. The registration procedure must be completed within the prescribed terms, under penalty of exclusion.

Candidates holding a foreign academic qualification obtained in EU countries must attach to the application form:

- certificate(s) of the qualification(s) held with attached a translation, in Italian or English, declared compliant with the text by the competent diplomatic or consular missions abroad.

Candidates holding a foreign academic qualification obtained in NON-EU countries must attach to the application form:

1. certificate(s) of the qualification(s) held with attached a translation, in Italian or English, declared to conform to the text by the competent diplomatic or consular missions abroad;
2. declaration of local value issued by the competent diplomatic or consular missions abroad, certifying the duration of the study course together with the list of exams taken with the relative grades and the academic value of the qualification in the country that issued it.

Candidates holding a qualification obtained abroad who fail to produce the required documentation at the time of enrollment, will be enrolled with reservations and will be excluded from the Master course if they fail to deliver such documentation within 10 days from the Master Course starts and/or following verification, if the title produced does not comply with the requirements of this Call.

Non-EU citizens must also deliver a copy of a regular residence permit within 10 days following the start of the activities.

The inclusion of untruthful data in the application form will result in exclusion from the list of suitable candidates and forfeiture of office. In this case, the University Administration has the right to recover any benefits granted and not to refund the fees paid. The false declaration, in addition to the penal sanctions envisaged, may result in actions for the person involved, due to damage compensation by the other parties.

Once the terms for submitting any complaints have expired, the Course's teaching secretariat will proceed to send each candidate admitted to the Course a specific communication by e-mail and at the same time the candidate will communicate the acceptance to participate in the Master course as well as the commitment to attendance full-time to Master course activities. Those admitted who do not complete their registration within the deadline set by this announcement will be considered to have withdrawn.

REGISTRATION FEE

The total sum for enrollment is € 3,000.00 (three thousand/00) and will also include the 15% due to the University as a general contribution.

This sum must be paid, under penalty of exclusion from the Master course, in n. 2 installments according to the following deadlines:

- the first installment of € 500.00, including the 15% due to the University as a general contribution, by the last day for enrollment;
- the second installment of € 2,500.00 (*the remaining part of the total amount for enrollment*) **by 30-12-2022**;
- the penalty surcharge for the late payment of the second installment is € 28.00.

Failure to pay the fees will result in exclusion from the Master course.
There is no refund of fees paid in case of withdrawal.

ATTENDANCE AND FINAL TEST

Attendance at the course is mandatory for a minimum of 75% of the total duration of the course and its assessment will take place by checking attendance. Absences are allowed up to a maximum of 25% of the total duration of the course. Students who exceed the percentage of absences indicated above or fail to fulfill their obligations will forfeit all rights and will not be admitted to the final exam.

The calendar will be communicated by the Course Director before the start of the course.

The main locations for carrying out the teaching activities are located in the Departments of the Partner Universities of the project.

The provisions of the law and regulations concerning university students apply to the students of the Course, without prejudice to any changes and legislative innovations on the matter.

The final test to ascertain the overall skills acquired for obtaining the **II level international and inter-university Master Course in *Seismic Safety and Sustainable Urban Development*** will be conducted by an examining Commission made up of members of the CTS or by a special commission identified by the Director of the Course in agreement with the Directors of the Departments of the Universities involved in the activities of the Master course. The student who abandons the course will in any case be recognized the specific university credits accrued during the course completed and on the basis of periodic checks to ascertain the acquired skills.

QUALIFICATION OBTAINED

At the end of the Master course, those enrolled who have carried out the activities and fulfilled their obligations will be issued a joint title issued by the Universities Partner of the HENSE SCHOOL, according to current legislation, of a diploma of an “**International and inter-university II level Master course in SEISMIC SAFETY AND SUSTAINABLE URBAN DEVELOPMENT**”, activated by the University of Messina. The release of the parchment will take place following a request IN stamp duty from the interested party and the payment of the relative fee.

FURTHER INFORMATION

The formal teaching site of reference for the Master Course is at the Department of Mathematical and Computer Sciences, Physical Sciences and Earth Sciences (MIFT) – Papardo University Pole – Messina.

Since the Master course is international and inter-university, with teaching activities provided in *synchronous blended e-learning* mode, other operational teaching sites are located in the Departments of the Partner Universities of HENSE SCHOOL involved in the realization of the Master course.

The administrative contact is Dr. Girolamo Barbera of the MIFT Department of the University of Messina, tel. 0906768548 – e-mail: gbarbera@unime.it .

PROCESSING OF PERSONAL DATA

The processing of candidates' personal data will be carried out in accordance to the European Regulation on the protection of personal data 679/2016 and the related information which can be consulted when the application is presented, and in any case available in the privacy section of the University which can be reached at the link <http://www.unime.it/it/ateneo/privacy>.

FINAL RULES

The University reserves the right to modify, extend, suspend, revoke this notice, in relation to new legal provisions or for proven reasons of public interest, without any claim or right arising for the applicants. Any communication to those entitled will be the responsibility of the Coordinator of the Master course.

For anything not covered by this notice, please refer to the Regulations and internal provisions of the University of Messina as well as current provisions on the subject.

THIS NOTICE HAS THE VALUE OF AN OFFICIAL CALL.

Messina, 21-07-2022

The Department Director
Prof. Domenico Majolino

The Master Course Director
Prof. Salvatore Magazù

r.p.a. Dr.ssa Silvana Interdonato

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