UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Scienze della Terra e del Mare
ACADEMIC YEAR	2018/2019
MASTER'S DEGREE (MSC)	GEOLOGICAL SCIENCES AND TECHNOLOGIES
SUBJECT	VOLCANIC RISK
TYPE OF EDUCATIONAL ACTIVITY	B
AMBIT	50569-Discipline mineralogiche, petrografiche e geochimiche
CODE	10270
SCIENTIFIC SECTOR(S)	GEO/08
HEAD PROFESSOR(S)	AIUPPA ALESSANDRO Professore Ordinario Univ. di PALERMO
OTHER PROFESSOR(S)	
CREDITS	6
INDIVIDUAL STUDY (Hrs)	98
COURSE ACTIVITY (Hrs)	52
PROPAEDEUTICAL SUBJECTS	
MUTUALIZATION	
YEAR	2
TERM (SEMESTER)	1° semester
ATTENDANCE	Not mandatory
EVALUATION	Out of 30
TEACHER OFFICE HOURS	**AIUPPA ALESSANDRO** Wednesday 14:30 15:30 via archirafi 36 III piano

DOCENTE: Prof. ALESSANDRO AIUPPA

PREREQUISITES	Geochemistry and Volcanology
LEARNING OUTCOMES	The main expected results are: Knowledge of the scientific method of investigation, and of the techniques used in experimental data anlysis applied to the understanding geologic processes Comprehension of the behavior and working mechanisms of active volcanoes. Ability to use the specific language of the disciplines. Ability to apply the knowledge gained in the modeling of natural phenomena. Ability to identify strategies to mitigate geological and environmental risks, including the ability to predict the behavior of active volcanoes. Ability to expose the results of geochemical and volcanological studies to a nonexpert public. Ability to emphasize the possible scientific implications of geochemical and volcanological applications Ability to studying and understanding scientific texts in English. Capacity to follow, using the knowledge acquired in the course, specialized seminars in volcanology.
ASSESSMENT METHODS	oral test The test will ascertain : (i) the adoption of an appropriate technical language (ii) critical and independent reasoning (iii) ability to make connections between the various topics of the course . The minimum requirements for passing the test are: (i) knowledge of applicative issues and themes in volcanology (ii) ability in quantitative analysis of volcanic risk (iii) fluidity of interconnection between the different course topics
EDUCATIONAL OBJECTIVES	EDUCATIONAL GOALS Objective of the course are to provide a detailed preparation on applied problems and issues in volcanology . In particular , the course aims at: - The acquisition of an integrated view of applicative problems in volcanology - Understanding of the basic principles of volcanic risk assessment and mitigation - The development of an adequate knowledge on the geochemical analysis techniques used in volcanological context
TEACHING METHODS	frontal lessons; laboratory and field excursion on an active volcano
SUGGESTED BIBLIOGRAPHY	Haraldur Sigurdsson, Bruce Houghton, Steve McNutt, Hazel Rymer, John Stix (Eds) The Encyclopedia of Volcanoes, 2nd Edition

SYLLABUS

Hrs	Frontal teaching
4	Recall of volcanology
4	Volcanic hazard and statistical analysis
6	volcanic risk ; risk and hazard maps
6	Regional volcanology ; eruptive history and hazard maps of Italian volcanoes, I: Etna
4	Regional volcanology ; eruptive history and hazard maps of Italian volcanoes, II: Vesuvio
4	Regional volcanology ; eruptive history and hazard maps of Italian volcanoes, III: Campi Flegrei
3	Regional volcanology ; eruptive history and hazard maps of Italian volcanoes, IV: Isola di Vulcano
4	Regional volcanology ; eruptive history and hazard maps of Italian volcanoes, V: Stromboli
3	Geothermal fields ; geochemical exploration of geothermal areas
2	Volcanoes , climate and the environment : interactions between volcanoes , the atmosphere and the human activities ; environmental impact of volcanic eruptions and degassing

Hrs	Workshops
6	Laboratory on the use of volcano monitoring instrumentation
6	Field work (pending on availabily of resources): Excursion to Stromboli / Etna , with a demonstration of the use of geochemical instrumentations. In the absence of the required resources, the demonstration will be held in the DiSTeM laboratories