



## **Introduction to Volcanology - JU 330 (3 credits - 45 hours)**

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**Instructor:** Adriana Nave (geo.adriana@gmail.com)    **Office Hours:** AFTER CLASS

### **Course Description**

The course is an introduction to the volcanoes. It starts providing the basic knowledge of geology and Earth's formation to understand the Plate Tectonics Theory and then the geodynamic processes leading volcanic activity. Among the main topics, different kinds of volcanoes will be analyzed, examining how magma's chemical composition and rheology affect the volcanic eruptive styles. Furthermore, volcanic product and morphologies will be studied thanks to laboratory activities. Finally, secondary volcanism (geysers, hot springs, etc.) and volcanic risks will be analyzed, such as landslides in volcanic soils and related risks for peoples who live nearby volcanic areas around the world. Specific examples of the Campanian volcanoes will be examined to contextualize these topics in the Italian environment. In addition, a significant aim of this course is for students to gain a conscious relationship with the environment. The Campania region is an ideal place for experiential learning via site visits, with the opportunity for students to witness a wide range of geological and volcanological features.

### **Course Objectives / Learning Outcomes**

At the conclusion of this course, the student will be able to do the following:

1. Analyze the main features of eruptive dynamics and styles.
2. Get knowledge of the volcanic risk assessment.
3. Analyze the main secondary processes and dynamics related to volcanic activity (secondary volcanism).
4. Describe the main morphological features of the Mt. Somma-Vesuvius and Phlegrean Fields volcanoes.
5. Interpret volcanism within the geodynamic environments.
6. Identify and classify volcanic rocks.
7. Interpret volcanic shapes in landscapes.
8. Design qualitative topographic and geological sections

## Grading

25%: Mid Term Evaluation

20%: Presentations

25%: Attendance and Participation

30%: Final Exam

## Grading scale

A	95%-100%
A-	90%-94%
B+	87%-89%
B	83%-86%
B-	80%-82%
C+	77%-79%
C	73%-76%
C-	70%-72%
D+	67%-69%
D	63%-66%
D-	60%-62%
F	under 60

## Policies

- **Attendance:** Students are asked to sign an attendance sheet at the beginning of each class, although no formal penalty will be assessed for poor attendance.
- **Make-Up Exams:** Students who miss an assignment or exam for a valid reason must present documentation (from a medical doctor, a coach, a representative from student life, or other university official) to make it up.
- **Using Electronic Devices:** The use of laptop computers, tablets, cell phones, or any other electronic devices during class is prohibited unless explicitly authorized by the instructor. Students caught using such devices in class will be **penalized 5 points for each offense**.
- **Extra Credit:** In addition to the extra credit opportunities listed below on the schedule, the instructor may offer other extra credit opportunities, but students may earn no more than 15 extra credit points.
- **Academic Honesty:** Any act of academic misconduct in this course will result in an F for the assignment involved. To see examples of what counts as academic misconduct, as well as the university-level consequences for academic misconduct, look to JU's policy at [www.ju.edu/academicintegrity](http://www.ju.edu/academicintegrity).

## Schedule of Activities

Week 1	08//28 Introduction Entry Test (no points)
Week 2	Plate tectonic and Volcanism
Week 3	Types of Volcanoes
Week 4	Chemistry of Magma

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Week 5                    Campanian Volcanism  
M. Vesuvius: volcanological history of the most known volcano in the world

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Week 6                    09/30 field-trip: M. Vesuvius  
In-Class Writing Workshop (50points);  
Report on the field-trip (part of the mid-term test)

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Week 7                    Eruptive styles

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Week 8                    10/9 Mid-term Test (50 points)

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Week 9                    Fall Break

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Week 10                  Campanian Volcanism: Phlegrean Fields, Ischia Island

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Week11                  11/04 Fieldtrip: Underground Naples; the monitoring system of the Vesuvian  
Observatory; report on the field-trip

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Week 12                  Secondary Volcanism

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Week 13                  Positive feature of volcanism

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Week 14                  Extraterrestrial Volcanism

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Week 15                  12/09                  Final Exam  
12/11                  Project presentations