

ME-700

**Designing Testing Machines for Geomechanics**

Violay Marie

Cursus	Sem.	Type
Mechanics		Opt.

Language of teaching	English
Credits	1
Session	
Exam	Oral presentation
Workload	30h
<b>Hours</b>	<b>14</b>
Lecture	7
Project	7
<b>Number of positions</b>	<b>10</b>

**Frequency**

Every 2 years

**Remark**

Next time Spring 2025

**Summary**

Develop your own machines to meet your scientific needs. Learn how to build high-pressure, high-temperature machines, as well as low-to-high-speed friction machines for geomechanics experiments. Additionally, gain knowledge about commonly used sensors in geomechanics.

**Content**

- (1) Overview of testing machines in Geo-mechanics and Rock Physics
- (2) Seals
- (3) Pressure vessels
- (4) Pressure-generating systems
- (5) Strain gauges and force gauges
- (6) Loading systems
- (7) High-velocity testing machines
- (8) Other types of sensors.

**Keywords**

Design, Testing machines, Geo-mechanics

**Learning Prerequisites****Recommended courses**

Rock mechanics, Geo-mechanics, MMC

**Resources****Bibliography**

T. E. Tullis & J. Tullis, 1986, Experimental deformation techniques, AGU Monograph (The Paterson Volume).

**Moodle Link**

- <https://go.epfl.ch/ME-700>