

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
Hours	14
Courses	7
Project	7
Number of positions	10

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>