

EE-490(e)

**Lab in microwaves**

Skrivervik Anja

Cursus	Sem.	Type
Electrical and Electronical Engineering	MA1, MA3	Opt.

Language of teaching	English
Credits	4
Withdrawal Session	Unauthorized Winter
Semester Exam	Fall During the semester
Workload	120h
Weeks	14
Hours	<b>4 weekly</b>
Practical work	4 weekly
Number of positions	

**Summary**

This lab teaches the major measurement techniques used in microwaves

**Content**

- the slotted line
- microwave couplers
- time domain reflectometry
- antenna measurement
- spectrum analyser
- network analyser
- noise measurement

**Keywords**

microwaves, SA, VNA, slotted line, antennas

**Learning Prerequisites****Required courses**

electromagnetism

**Recommended courses**

microwaves (in parallel)

**Learning Outcomes**

By the end of the course, the student must be able to:

- Use the major measurement techniques in microwaves
- Analyze results
- Estimate measurement precision
- Synthesize results in a report

**Transversal skills**

- Write a scientific or technical report.
- Collect data.
- Make an oral presentation.

### **Teaching methods**

labs, discussions and presentations

### **Expected student activities**

- do the experiments
- synthesize the results
- present and discuss the results
- do a report

### **Assessment methods**

Both the work in the lab and the reports will be assessed

### **Resources**

#### **Websites**

- <https://www.epfl.ch/labs/mag/page-141487-en-html/>

#### **Moodle Link**

- [https://go.epfl.ch/EE-490\\_e](https://go.epfl.ch/EE-490_e)