

EE-490(e)

Lab in microwaves

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

Language of teaching	English
Credits	4
Withdrawal Session	Unauthorized Winter
Semester	Fall
Exam	During the semester

Workload	120h
Weeks	14
Hours	4 weekly
TP	4 weekly

Number of positions

It is not allowed to withdraw from this subject after the registration deadline.

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

- <http://lema.epfl.ch/index.php/teaching/laboratories/microwave-laboratories>