

EE-421

Analog circuits design II

Koukab Adil

Cursus	Sem.	Type
Electrical Engineering		Obl.
Electrical and Electronical Engineering	MA2, MA4	Obl.
Energy Management and Sustainability	MA2, MA4	Opt.
Microtechnics	MA2, MA4	Opt.

Language of teaching	English
Credits	2
Session	Summer
Semester	Spring
Exam	During the semester
Workload	60h
Weeks	14
Hours	2 weekly
Courses	2 weekly
Number of positions	

Summary

The course extends and completes the topics of the "Analog circuits design I". The using of computer aided design tools becomes systematic in order to validate the studied concepts. System level design is added with a complete design project of electronic mixed-mode system.

Content**Analog comparators.****Differential Amplifiers and CMFB.**

Voltage references : available voltage sources and circuits to extract them. **Current references** : circuits based on various principles; voltage to current converters.

Linear regulators : voltage regulators and LDO.

Case studies of analog systems: Project to be done in the laboratory

Keywords

Analog design, stability, LDO, linear regulator, low offset amplifiers.

Learning Prerequisites**Required courses**

Analog circuits design I

Learning Outcomes

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

- Design of comparators, differential amplifiers, LDO and low offset low noise amplifiers
- Analyze stability of linear regulators
- Design Using CAD environment of mixed-mode integrated circuits & systems

Transversal skills

- Plan and carry out activities in a way which makes optimal use of available time and other resources.
- Set objectives and design an action plan to reach those objectives.

Teaching methods

Ex cathedra, lab exercises and projects

Assessment methods

Continuous control

Supervision

Office hours	No
Assistants	Yes
Forum	No

Resources

Bibliography

Duplicated lecture notes, slide copies, hands-on for lab

Prerequisite for

Master thesis project