

EE-207

Measuring systems laboratory work

Kis Andras

Cursus	Sem.	Type
Electrical and Electronical Engineering	BA4	Obl.
HES - EL	E	Opt.

Language of teaching	English
Credits	2
Withdrawal Session	Unauthorized Summer
Semester Exam	Spring During the semester
Workload	60h
Weeks	14
Hours	2 weekly
TP	2 weekly

Number of positions

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

Summary

Students will acquire basic knowledge of computer-driven data acquisition using labview programming and DAQ hardware. This knowledge will be put into practice by acquiring analog and digital signals, characterizing AD/DA converters, displacement sensors and other simple measurement systems.

Content

TP1: Introduction to LabVIEW
 TP2: Acquisition system
 TP3: Measuring devices
 TP4: Time and frequency analysis
 TP5: Displacement sensor
 TP6: ECG monitoring

Learning Prerequisites**Required courses**

EE-206 Measuring systems

Learning Outcomes

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

- Design an appropriate measurement circuit
- Design the labview code adapted to a measurement problem
- Carry out the measurement
- Interpret measurement results

Teaching methods

Laboratory

Expected student activities

Attending laboratory exercises (obligatory)
 Preparing for lab exercises in the form of a written summary

Writing a laboratory notebook

Assessment methods

Preparation level at the start of each laboratory

Laboratory notebook

Written lab test at the end of the semester

Resources

Bibliography

- EE-206 Course notes and slides
- Acquisition de données : du capteur à l'ordinateur / Georges Asch ... [et al.]. Year:2003. ISBN:2-10-006310-3
- Systèmes de mesure / par Pierre-André Paratte et Philippe Robert". Year:1996. ISBN:2-88074-321-4
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Ressources en bibliothèque

- [Systèmes de mesure / Paratte](#)
- [Acquisition de données : du capteur à l'ordinateur / Asch](#)

Moodle Link

- <http://moodle.epfl.ch/course/view.php?id=231>