Course name: Electronic Circuits and Measurements

Entry requirements:
Knowledge of digital electronic components, logic gates and digital circuits made in TTL and CMOS technologies. Understanding the principles of operation: semiconductor memories RAM and ROM, and the construction of programmable logic devices. Knowledge of the AD and DA converters.

Course objectives:
Lecture:

Laboratory exercises:
1. Static and dynamic parameters of gates and flip-flops
2. Combinational blocks: multiplexers, demultiplexers and decoders
3. Arithmetic and logic blocks
4. Sequential blocks: registers and counters

Assessment method:
Instructive lecture, lecture problem, laboratory exercises.

Methods of assessing the learning outcomes:

- LO1: two tests
- LO2: two tests
- LO3: short test allowing attendance at laboratories
- LO4: observation of students during measurement operations
- LO5: report

Student workload (in hours):

1. Attendance at lectures - 15x1h
2. Attendance at laboratories - 15x1h
3. Preparation for laboratories
4. Participation in student-teacher sessions
5. Preparation of reports

TOTAL: 150 hours

Quantitative indicators:

- Student workload - activities that require direct teacher participation: 35 hours = 1.4 ECTS credits
- Student workload - practical activities: 130 hours = 5.2 ECTS credits

Basic references:

Supplementary references:
1. All about circuits; http://www.allaboutcircuits.com/, accessible on Internet (access in September 2013).

Organisational unit conducting the course:
Department of Digital Media and Computer Graphics

Author of the programme:
dr inż. Wiktor Jakowluk

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L - lecture, C - classes, LC - laboratory classes, P - project, SW - specialization workshop, FW - field work, S - seminar