



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Electronics [S1Lot1>Elekton]

### Course

Field of study

Aviation

Year/Semester

1/2

Area of study (specialization)

–

Profile of study

general academic

Level of study

first-cycle

Course offered in

Polish

Form of study

full-time

Requirements

compulsory

### Number of hours

Lecture

15

Laboratory classes

15

Other (e.g. online)

0

Tutorials

0

Projects/seminars

0

### Number of credit points

2,00

### Coordinators

dr hab. inż. Michał Gwóźdź prof. PP  
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### Lecturers

### Prerequisites

none

### Course objective

none

### Course-related learning outcomes

none

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

none

### Programme content

The module includes the following program content:

- 1/ p-n junction,
- 2/ semiconductor diodes,
- 3/ transistors,
- 4/passive elements,
- 5/ signal amplifiers.

### Course topics

The lecture covers the following topics:

- 1/ principle of operation and parameters of the p-n junction,
- 2/ basic types of semiconductor diodes,
- 3/ rectifier systems and power supplies,
- 4/ transistors: bilar, JFET, MOSFET - parameters and operating systems,
- 5/ applications of transistors,
- 6/ passive elements: resistors, capacitors, inductive elements - basic parameters and applications in electronic systems,
- 7/ operational amplifier: structure, parameters and applications as a signal amplifiers.

The laboratory includes tests of the following semiconductor elements and electronic circuits:

- 1/ semiconductor diode and 1-phase rectifier systems,
- 2/ Zener diode and voltage stabilization systems,
- 3/ LED diode,
- 3/ bipolar transistors and MOSFETs and their operating circuits, including: Darlington circuit and differential amplifier,
- 4/ operational amplifier and signal amplifiers using it.

### Teaching methods

none

### Bibliography

none

### Breakdown of average student's workload

	Hours	ECTS
Total workload	0	0,00
Classes requiring direct contact with the teacher	0	0,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	0	0,00