# Computer data ecquisition and processin - course description

## General information

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| Course name | Computer data ecquisition and processin |
| Course ID | 13.2-WF-FizP-CDEP-S18 |
| Faculty | Faculty of Physics and Astronomy |
| Field of study | Physics |
| Education profile | academic |
| Level of studies | First-cycle studies leading to Bachelor's degree |
| Beginning semester | winter term 2018/2019 |

## Course information

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|---|---|
| Semester | 2 |
| ECTS credits to win | 2 |
| Course type | obligatory |
| Teaching language | english |
| Author of syllabus | |

## Classes forms

| The class form | Hours per semester (full-time) | Hours per week (full-time) | Hours per semester (part-time) | Hours per week (part-time) | Form of assignment |
|---|---|---|---|---|---|
| Laboratory | 30 | 2 | - | - | Credit with grade |

## Aim of the course

To teach the students the use of computer based tools necessary for further study.

## Prerequisites

The knowledge of the Windows or Linux operating system, the knowledge of the basics of LaTeX, the ability to program in any computer language.

## Scope

- The Matplotlib graphical library, basic types of graphs, types of graphical objects and their usage.

- Basic graphical formats and electronic documents formats.

- Embedding graphics in dvi, ps and pdf documents.

- Using numerical libraries for basic scientific computing problems.

- Preparing reports on the results of calculations and scientific experiments.

## Teaching methods

Computer laboratory

## Learning outcomes and methods of theirs verification

| Outcome description | Outcome symbols | Methods of verification | The class form |
|---|---|---|---|
| He or she is able to understand a report on scientific calculations and scientific experiments, including those prepared in English. | | • an ongoing monitoring during classes <br> • an oral response <br> • praca przy stanowisku komputerowym, odpowiedź pismena | • Laboratory |
| the student is also able to prepare a document containing the report on scientific calculations and scientific experiments in Polish. | | • an ongoing monitoring during classes <br> • an oral response <br> • praca przy stanowisku komputerowym, odpowiedź pismena | • Laboratory |
| The student can conform to the rules of the computing laboratory. | | • an ongoing monitoring during classes <br> • an oral response <br> • praca przy stanowisku komputerowym, odpowiedź pismena | • Laboratory |
| The student is able to make basic scientific graphics, is able to name the most important graphical formats and describe their properties as well as transforming between those formats. | | • an ongoing monitoring during classes <br> • an oral response <br> • praca przy stanowisku komputerowym, odpowiedź pismena | • Laboratory |

## Assignment conditions

Passing the final test.

## Recommended reading

[1] Mark Lutz, *Python - Wprowadzenie*, Helion 2007.

[2] Antoni Diller**,** *LaTeX. Wiersz po wierszu*, Helion 2004.

## Further reading

[1] Beginning Gimp, *From Novice to Professional*, Akkana Peck, Apress; 2 edition (December 17, 2008).

## Notes

Modified by dr hab. Piotr Lubiński, prof. UZ (last modification: 01-08-2018 14:27)