

Computer data acquisition and processing - course description

General information	
Course name	Computer data acquisition and processing
Course ID	13.2-WF-FizP-CDEP- 19
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 2022/2023

Course information	
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 their 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.	<ul style="list-style-type: none">K1A_W10	<ul style="list-style-type: none">an ongoing monitoring during classesan oral responsepraca przy stanowisku komputerowym, odpowiedź pismena	<ul style="list-style-type: none">Laboratory
the student is also able to prepare a document containing the report on scientific calculations and scientific experiments in Polish.	<ul style="list-style-type: none">K1A_W08K1A_W10K1A_U07K1A_U08K1A_U09	<ul style="list-style-type: none">an ongoing monitoring during classesan oral responsepraca przy stanowisku komputerowym, odpowiedź pisemna	<ul style="list-style-type: none">Laboratory
The student can conform to the rules of the computing laboratory.	<ul style="list-style-type: none">K1A_K02	<ul style="list-style-type: none">an ongoing monitoring during classesan oral responsepraca przy stanowisku komputerowym, odpowiedź pisemna	<ul style="list-style-type: none">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.	<ul style="list-style-type: none">K1A_W09K1A_U04	<ul style="list-style-type: none">an ongoing monitoring during classesan oral responsepraca przy stanowisku komputerowym, odpowiedź pismena	<ul style="list-style-type: none">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 Marcin Kośmider (last modification: 04-04-2022 20:44)

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