COURSE DESCRIPTION CARD - SYLLABUS

Course name
Tools of Computer Science [S1Inf1>NINF]

Course

Field of study
Computing

Year/Semester
1/1

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
16

Laboratory classes
24

Other
0

Tutorials
0

Projects/seminars
0

Number of credit points

3,00

Coordinators

dr inż. Bartłomiej Prędki
bartlomiej.predki@put.poznan.pl

Lecturers

mgr inż. Luiza Budzyńska
luiza.budzynska@put.poznan.pl

dr inż. Bartłomiej Prędki
bartlomiej.predki@put.poznan.pl

dr hab. inż. Izabela Szczęch
izabela.szczech@put.poznan.pl

mgr inż. Konrad Miazga
konrad.miazga@put.poznan.pl

Prerequisites

With accordance with government teaching programme available at: http://bip.men.gov.pl/men bip/
akty_prawne/rozporzadzenie_20081223_zal_4.pdf it is assumed, that student has basic knowledge of: - in
computer science: IVth degree of education, basic level. Besides, student should have basic social
competence like honesty, responsibility, persistence, curiosity and creativity, respect for others.

Course objective

The goal of this course is to present students with basic system and application software that will be useful for them during the entire studies. We present an advanced approach to common office applications. Students are encouraged to find new use for the familiar software. We also try to support students in group work.

Course-related learning outcomes

Knowledge:
1. Student has organized, well founded general knowledge in computer architecture, operating system, network technologies, computer programming languages and computer graphics.
2. Student has knowledge of current trends in computing and associated sciences.
3. Student has knowledge of ethical matters concernig the use of computers and computer software; understands dangers of electronic crime.
4. Student has basic knowledge of patent law, intellectual rights and personal data protection.

Skills:
1. Student can use information-communication technologies used in computer science projects.
2. Student can notice social, economic and legal ascpects while solving computer science problems.

Social competences:
1. Student knows, that skills and knowledge can quickly become obsolete.
2.Student is aware of social responsibilities of technical university graduate, especially understand the need to formulate and pass on information regasrding his/her engineering work, technologies and computer science engineer responsibilities and tradition.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

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Learning outcomes are verified as follows:
a) on lectures - based on the answers concerning material presented on previous lectures.
b) on laboratories - based on the fullfilment of current tasks.
- verification of skills associated with solving of laboratory tasks,
- verification of knowledge obtained in laboratory in form of tests,
Additional points for activity during classes, including:
- presentation of additional information about presented subjects,
- efficaty of application of knowledge while solving tasks,
- ability to cooperate within a group of students,
- valuable remarks considering teachin materials,
In justified cases, the grade for the laboratories can be transcribed to lectures. This information will be provided by the teacher at one of the first lectures. This may also be the case if the remote teaching will be enforced.

Programme content

The course presents the historical background of the currently used tools of computer science, as well as systems useful in the course of study.

Course topics

Lecture agenda:
1. Computer system - history and basics of operation.
2. Basics of computer networks and the history of Internet.
3. Basic typography.
4. LaTeX as a tool for scientific typesetting.
5. Elements of computer graphics.
6. Legal and ethical aspects considering computer software.
Laboratories agenda:
1-4. The use of Microsoft Excel to solve computer science problems. Ends with the practical test.

5-8. Practical us of SciLab system. Ends with the test.
9-12. Using LaTeX to set scientific documents and presentations. Ends with the practical test.

Teaching methods

1. Lecture: multimedia presentaton, demonstration.
2. Laboratories: practical tasks, group work, multimedia prsentation, case study, demonstration.

Bibliography

Basic
1. Podstawy budowy i działania komputerów, P. Skorupski, WKŁ, 1997
2. W sercu PC, P.Norton, Helion, 1995
3. Tajniki typografii dla każdego, J. Jarzina, Mikom, 2003
4. Nie za krótkie wprowadzenie do systemu LATEX, T. Oetiker, H. Partl, 2007
5. Matlab 7 dla naukowców i inżynierów, M. Korbecki, PWN, 2010
6. Excel 2010 PL. Biblia, J. Walkenbach, Helion 2011
7. Sieci komputerowe. Kompendium, K. Krysiak, Helion 2005
Additional
1. Excel w nauce i technice, D. Bourg, Helion, 2006
2. Elementarz stylu w typografii, Design Plus, 2007

Breakdown of average student's workload

	Hours	ECTS
Total workload	75	3,00
Classes requiring direct contact with the teacher	40	2,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	35	1,00