Course title: History of Computer Science
Lecturer: Mirjana Ivanović
Status: elective
ECTS: 15
Requirements:

Learning objectives

Introduction of students to the most important moments of the development of computers, mathematical bases, wide spectrum of software and hardware successfully used during the short, but turbulent history of computer science, as with the work of the most influential scientists in this area.

Learning outcomes

By the end of the course, it is expected that the successful student demonstrates ability to understand relationship between various actors in the development of computer science and informatics, ability to outline key concepts reached over time and to illustrate them through the most representative examples for a given issue.

Syllabus

Theoretical instruction

Theoretical and technological circumstances in which computer science appeared. Basic, elementary theories. Mathematical bases of computer science. Formation and different periods of the development of computer science (characteristic phases). History of the development of computers, particularly appearance and development of PC computers. Initial aids in calculations. Calculators. Automatic machines. Electro-mechanical computers. Electronic digital computers. Computer generations – technological innovations (vacuum tubes, transistors, integrated circuits, microprocessors), the most successful producers and models – typical representatives of various periods. Different hardware components of computer systems and their development. Development of software. Operating systems, system and applicative software. The most important theories and crossroads of the further developments of computer science. The most influential persons for the development of computer science and informatics. Contemporary computer science and technological development. Development of computer science in Serbia.

Student research

Exercises follow lectures as topics are presented. They cover analysis of presented concepts, but also creation and presentation of seminar papers for selected fields.

Suggested literature:

Literature is based on articles from international and national journals, selected book chapters, specifically prepared texts for this purposes, and materials from international and national conferences.
1. Computer: A History of the Information Machine, M.Campbell-Kelly, W.Aspray, N.Ensmenger, J.R.Yost
The Sloan Technology Series, ISBN-10: 0813345901, 2013
2. A History of Modern Computing, Paul Ceruzzi, The MIT Press, ISBN-10: 0262532034, 2003
3. Computing: A Concise History, Paul Ceruzzi, MIT Press Essential Knowledge, ISBN-10: 0262517671, 2012

Weekly teaching load	**Lectures**: 5	**Student research**: 5

Teaching methodology

During lectures, classical methods of teaching that includes video-beams are used. Key concepts and information are presented connected to the development of hardware and software. The most important principles reached over time are explained and illustrated with the appropriate examples.
Students' knowledge is tested by writing seminar papers. During the oral part of the exam, student should present complete knowledge of presented principles and illustrate them with the appropriate concrete solutions.

Grading (maximal number of points 100)			
Pre-exam requirements	points	**Final exam**	points

Practical teaching	10	Oral exam	60
Colloquia	10		
Seminar papers	20		