SYLLABUS

History of computer science

University year 2025-2026

1. Information regarding the programme

1.1. Higher education institution	Babeș-Bolyai University
1.2. Faculty	Faculty of Mathematics and Computer Science
1.3. Department	Department of Computer Science
1.4. Field of study	Computer Science
1.5. Study cycle	Bachelor
1.6. Study programme/Qualification	Computer Science
1.7. Form of education	Full time

2. Information regarding the discipline

2.1. Name of the discipline	History of computer science					Discipline code	**MLE7007**
2.2. Course coordinator	Lect.phd. Gabriel Mircea						
2.3. Seminar coordinator	Lect.phd. Gabriel Mircea						
2.4. Year of study	2	2.5. Semester	4	2.6. Type of evaluation	E	2.7. Discipline regime	Mandatory

3. Total estimated time (hours/semester of didactic activities)

3.1. Hours per week	**4**	of which: 3.2 course	**2**	3.3 seminar/laboratory/project	**2**
3.4. Total hours in the curriculum	48	of which: 3.5 course	24	3.6 seminar/laboratory/project	**24**
Time allotment for individual study (ID) and self-study activities (SA)					**hours**
Learning using manual, course support, bibliography, course notes (SA)					10
Additional documentation (in libraries, on electronic platforms, field documentation)					10
Preparation for seminars/labs, homework, papers, portfolios and essays					0
Tutorship					3
Evaluations					4
Other activities:					0
3.7. Total individual study hours	27				
3.8. Total hours per semester	75				
3.9. Number of ECTS credits	3				

4. Prerequisites (if necessary)

4.1. curriculum	
4.2. competencies	

5. Conditions (if necessary)

5.1. for the course	Class room with a video projector device
5.2. for the seminar /lab activities	

6.1. Specific competencies acquired [1]

[1] One can choose either competences or learning outcomes, or both. If only one option is chosen, the row related to the other option will be deleted, and the kept one will be numbered 6.

Professional/essential competencies	• use of software tools in an interdisciplinary context
Transversal competencies	• Applying rules for an organized and efficient work, responsible attitude towards the didactic-scientific field for creative capitalization of one's own potential, complying to the principles and professional ethics norms. • efficient development of organized activities in an interdisciplinary group and the development of empathetic abilities for interpersonal communications, to relate to and cooperate with various groups • Utilizing efficient methods and techniques for learning, knowing, research and development of knowledge capitalization capacities, adapting to the requirements of a dynamic society and the communication in Romanian or an international language.

6.2. Learning outcomes

Knowledge	• The graduate knows the basic aspects of software management. • The graduate has the knowledge to select and use appropriate instructional procedures to facilitate the process of knowledge assimilation.
Skills	• The graduate is able to carry out instructional-educational approaches aimed at the cognitive development of the learner, using strategies and methods specific to computer education. • The graduate has the ability to understand and communicate information effectively.
Responsibility and autonomy:	• The graduate has the ability to observe and obtain information from various sources. • The graduate has the necessary knowledge to process and verify data and information.

7. Objectives of the discipline (outcome of the acquired competencies)

7.1 General objective of the discipline	• To obtain a global view of Computer Science and to understand and know its evolution.
7.2 Specific objective of the discipline	• To get students accustomed with historical evolution of the main Computing Systems and Operating Systems types existent in today Computer Science and in perspective. • To discover the most important people in Computer Science.

8. Content

8.1 Course	Teaching methods	Remarks
1. Algorithmics in ancient times and Middle	Exposure:description,	

Age; Euclid's algorithm. First Computing Systems and first programming elements: Blaise Pascal, Charles Babage and Ada Byron, forerunners of classical Computer Science.	explanation,examples	
2. Mathematical models in Computer Science: the Turing machine, normal algorithms and formal languages. The emergence of the electronic computer(1943-45); John von Neumann's and Alan Turing's contributions.	Exposure:description, explanation,examples	
3. Crucial moments in hardware development: the input-output channel, the transistor, integrated circuits (microchip), the microprocessor, multiprocessor systems, real time systems, microcomputers and supercomputers. Generations of computers.	Exposure:description, explanation,examples	
4. Operating systems, from resident monitors to distributed operating systems; from the monolithic internal structure to stratified structures and microkernel.	Exposure:description, explanation,examples	
5. Short history of programming languages.	Exposure:description, explanation,examples	
6. History of computer communication and the Internet.	Exposure:description, explanation,examples	
7. History of the open source movement vs. closed source	Exposure:description, explanation,examples	
8. History of the WWW	Exposure:description, explanation,examples	
9. History of mobile devices	Exposure:description, explanation,examples	
10. Important figures in Computer Science	Exposure:description, explanation,examples	
11. History of Computer Science in Romania	Exposure:description, explanation,examples	
12. Old computer exhibition	Exposure:description, explanation,examples	

Bibliografie

1. A. Sterca, Istoria Informaticii, https://www.cs.ubbcluj.ro/~forest/hcs/courses/HCS-course-notes.pdf
2. Wikipedia
3. http://cs-exhibitions.uni-klu.ac.at/index.php?id=320
4. http://cs-exhibitions.uni-klu.ac.at/index.php?id=321
5. http://cs-exhibitions.uni-klu.ac.at/index.php?id=323
6. History of Unix. http://perso.club-internet.fr/unix/history.html
7. http://www.cs.uwaterloo.ca/~shallit/Courses/134/history.html
8. http://www.computerhistory.org/

8.2 Seminar / laboratory	Teaching methods	Remarks

9. Corroborating the content of the discipline with the expectations of the epistemic community, professional associations and representative employers within the field of the program

- The course respects the IEEE and ACM Curriculla Recommendations for Computer Science studies;
- The course exists in the studying programs of major universities in Romania and abroad;

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of final grade
10.4 Course	Knowing the theoretical issues discussed during the course.	Exam	100%
10.5 Seminar/laboratory			
10.6 Minimum standard of performance			
• In order to successfully pass this course, the student must get at least the grade 5.			

11. Labels ODD (Sustainable Development Goals)[2]

Not applicable.

[2] Keep only the labels that, according to the *Procedure for applying ODD labels in the academic process*, suit the discipline and delete the others, including the general one for *Sustainable Development* – if not applicable. If no label describes the discipline, delete them all and write „*Not applicable*.".

Date:
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Signature of course coordinator

Lect.phd. Gabriel MIRCEA

Signature of seminar coordinator

Lect.phd. Gabriel MIRCEA

Date of approval:
...

Signature of the head of department

Assoc.prof.phd. Adrian STERCA