Universitatea Babeş-Bolyai Cluj-Napoca
Facultatea de Matematică şi Informatică
Ciclul de studii: Masterat
Domeniul: Informatica
Programul de studii: Sisteme Inteligente - în limba engleză
Limba de predare: Engleză

SYLLABUS

I. General data

Code	Subject
MIA1000	Methodology of Scientific Research in Computer Science

Semester	Hours: C+S+L+P	Category	Status
3	2+1+0+1	complementary	compulsory

II. Full status faculty members

Name and surname	Scientific title	Didactic title	Chair	Type of activity		
				C	S	L
FRENTIU Militon	Ph.D.	Prof.	Computer Science	*	*	

Associated faculty members

Name and surname	Scientific title	Institution	Type of position	Type of activity		
				C	S	L

III. Course objectives

The graduate students should become accustomed with the fundamental concepts on thinking, writing, and presenting scientific research in computer science. Also, they must review a paper, a book, and characterize an expert of the field.

IV. Course contents

The fields of computer science. ACM classification.
Theoretical, experimental, and applied research in computer science.
Organizing the research activity.
Writing a research paper.
Reviewing a scientific paper.
Speaking at conferences and other presentations.
People and research program assesment.
Journals, publishers and conferences. Their assesment.
Ranking Research centers, and Universities.
Data Bases in Research activities. Internet in Scientific Research.
Financing the research activity. Grants.
Ethics of scientific research.

V. Bibliography

Bruno Buchberger, Thinking, ASpeaking, Writing, Springer-Verlag5/20/2013
Dodig-Crnkovic, G., Scientific Methods in Computer Science, http://www.mrtc.mdh.se/publications/0446.pdf
William J. Rapaport, Philosophy of Computer Science: An Introductory Course,

http://www.cse.buffalo.edu/~rapaport/Papers/philcs-complete.pdf
M.K.McCaskill, Grammar, Punctuation, Capitalization. A Handbook for Technical Writers and Editors, NASA SP-7084, 1998.
Michael S. Mahoney, Software as Science - Science as Software, http://www.princeton.edu/~mike/softsci.htm
The Virtual Museum of Computing, http://icom.museum/vlmp/computing.html
The ACM Computing Classification System, http://www.acm.org/class/1998/
Strategic Directions in Computing Research, http://www.acm.org/pubs/surveys/sdcr/
Consiliul National al Cercetarii Stiintifice din Invatamantul Superior, http://www.cncsis.ro/index.php
American Mathematical Society - Ethical Guidelines, http://www.ams.org/secretary/ethics.html
Computer Dictionary, http://whatis.techtarget.com/
J.Zobel, Writing for Computer Science. The Art of Effective Communication, Springer-Verlag, 1997.
Internet papers

VI. Thematic of didactic activities per weeks

1. The fields of computer science. ACM classification.
2. Theoretical, experimental, and applied research in computer science.
3. Research communication. Journals and Conferences
4. Organizing the research activity.
5. Writing a research paper.
6. Reviewing a scientific paper.
7. Speaking at conferences and other presentations.
8. People and research program assesment.
9. Journals and publishers. Their assesment.
10. Ranking Research centers, and Universities.
11. Data Bases in Research activities. Internet in Scientific Research.
12. Financing the research activity. Grants.
13. Ethics of scientific research.
14. Summing up.

VII. Didactic methods used

Exposition, conversation, discovery, case studies

VIII. Assessment

For the activities of the seminaries each student must write:
R1: A review of a scientific paper
R2: Presentation of a scientist working in the field of student'a disertation
R3: A scientific paper in the field of his/her disertation.
A mark is given for each of them, and their average, denoted by S, evaluates the seminar activity.
The evaluation the knowledge at the end of the term will do a second mark, denoted by C, is given at the end of term. The final mark F is computed by $F = (S+C)/2$.

IX. Additional references

Lecture Notes (Online)
Internet papers

Dean, **Chair head,**

Date, **Course responsible,**
Prof. FRENTIU Militon, Ph.D.