

Course Description

This course will present the students with the basic computer science concepts which they will encounter upon research. They will be presented with electronic communication and its use for science and research. Ways of data storage and processing will be presented, and also business models and computer science concepts for resources, services and waiting queues. Data security, their protection and ethics concepts upon their use and processing will be addressed. Means for international cooperation through bilateral and international cooperation will also be addressed.

Student obligations

- regular attendance,
- class activity,
- homework completion,
- behavior according to university rules and procedures,
- regular visits to the Moodle portal,
- regular lectures download,
- creation of papers, according to the material presented in class,
- papers presentation.

Exam structure

- 10% - class attendance and activity
- 80% - creation and presentation of papers
- +5% - extra credit for exceptionally good work

Grading

Percentage table and corresponding grades:

	B+ 87-89	C+ 77-79	D+ 67-69	F 0-59
A 96-100	B 83-86	C 73-76	D 63-66	
A- 90-95	B- 80-82	C- 70-72	D- 60-62	

Course contents

Lecture	Title
1	Computer communication basics: satellite networks, mobile networks, Internet
2	Research methodology
3	Resource finding and referencing on the Internet
4	Data sharing and publishing: the Internet and journals
5	Information systems. Databases. Data mining
6	Business models: resources, services, queuing theory
7	Multivariable regression analysis
8	Machine learning methods
9	Security and privacy: data, program and document protection
10	Basics of cryptography
11	Research communication and networking
12	International opportunities and collaboration

Approved by: Marjan Petreski, November 2016