

UNDERGRADUATE STUDY PROGRAM COMPUTER SCIENCE
COMPUTER SCIENCE FACULTY
UGD – STIP, 4 YEARS STUDY PROGRAM (240 ECTS)

2012 / 2013

I SEMESTER				
Mandatory courses				
CODE	COURSE	ECTS	Classes	Semester workload
2FI100112	Mathematics I	8	3+2+2	216
2FI100212	Fundamentals of Computer Programming	8	3+2+2	216
2FI100312	Electrotechnics	6	2+2+1	156
	Faculty elective course *	4	2+1+1	120
	Faculty elective course	4	2+1+1	120
Total:		30	12+8+7	828

* One of the elective courses is chosen from the field of Mathematics

I SEMESTER				
Faculty elective courses				
CODE	COURSE	ECTS	Classes	Semester workload
2FI130112	Internet Technologies	4	2+1+1	120
2FI130212	Academic Writing	4	2+1+1	120
2FI130312	Linear Algebra *	4	2+1+1	120
2FI130412	Discrete Mathematics *	4	2+1+1	120

II SEMESTER				
Mandatory courses				
CODE	COURSE	ECTS	Classes	Semester workload
2FI100412	Mathematics II	8	3+2+2	216
2FI100512	Object-oriented Programming	6	2+2+1	156
2FI100612	Digital Logic	6	2+2+1	156
	Faculty elective course	4	2+1+1	120
	University elective course	6	2+2+1	156
UGD102712	Sport and Recreation **	/	0+0+2	30
Total:		30	11+9+8	834

** - Signature is required for enrollment in second year of the study program

II SEMESTER				
Faculty elective courses				
CODE	COURSE	ECTS	Classes	Semester workload
2FI130512	Electronics	4	2+1+1	120
2FI130612	Computer Electronic Elements	4	2+1+1	120

II SEMESTER				
University elective courses				
CODE	COURSE	ECTS	Classes	Semester workload
	Foreign Language	6	2+2+1	156

III SEMESTER				
Mandatory courses				
CODE	COURSE	ECTS	Classes	Semester workload
2FI100712	Data Structures and Algorithms	8	3+2+2	216
2FI100812	Visual Programming	8	3+2+2	216
2FI100912	Computer Architecture	6	2+2+1	156
	Faculty elective course *	4	2+1+1	120
	Faculty elective course	4	2+1+1	120
Вкупно:		30	12+8+7	828

* One of the elective courses is chosen from the field of Mathematics

III SEMESTER				
Faculty elective courses				
CODE	COURSE	ECTS	Classes	Semester workload
2FI130712	Probability and Statistics *	4	2+1+1	120
2FI130812	Theory of Probability *	4	2+1+1	120
2FI130912	Basics of Telecommunications	4	2+1+1	120
2FI131012	Computational Tools in Engineering	4	2+1+1	120

IV SEMESTER				
Mandatory courses				
CODE	COURSE	ECTS	Classes	Semester workload
2FI101012	Database Systems	8	3+2+2	216
2FI101112	Computer Networks	6	2+2+1	156
2FI101212	Software Engineering	6	2+2+1	156
	Faculty elective course	4	2+1+1	120
	University elective course	6	2+2+1	156
Total:		30	11+9+6	804

IV SEMESTER				
Faculty elective courses				
CODE	COURSE	ECTS	Classes	Semester workload
2FI131112	Geometric Transformations	4	2+1+1	120
2FI131212	Algebraic structures	4	2+1+1	120

V SEMESTER				
Mandatory courses				
CODE	COURSE	ECTS	Classes	Semester workload
2FI101312	Computer Graphics and Visualization	8	3+2+2	216
2FI101412	Internet Programming	8	3+2+2	216
2FI101512	Operating Systems	6	2+2+1	156
	Faculty elective course	4	2+1+1	120
	Faculty elective course	4	2+1+1	120
Total:		30	12+8+7	828

V SEMESTER				
Faculty elective courses				
CODE	COURSE	ECTS	Classes	Semester workload
2FI131412	Advanced Algorithms	4	2+1+1	120
2FI131512	Introduction to Cryptography	4	2+1+1	120
2FI131712	Modeling and Simulation	4	2+1+1	120
2FI131812	Software Architecture and Design	4	2+1+1	120

VI SEMESTER				
Mandatory courses				
CODE	COURSE	ECTS	Classes	Semester workload
2FI101912	Managing Software Projects	8	3+2+2	216
2FI101712	Numerical Methods	6	2+2+1	156
2FI102012	Information Systems	6	2+2+1	156
	Faculty elective course	4	2+1+1	120
	University elective course	6	2+2+1	156
Total:		30	11+9+6	804

VI SEMESTER				
Faculty elective courses				
CODE	COURSE	ECTS	Classes	Semester workload
2FI132012	Multimedia	4	2+1+1	120
2FI132112	Fundamentals of Data Mining and Warehousing	4	2+1+1	120

VII SEMESTER				
Mandatory courses				
CODE	COURSE	ECTS	Classes	Semester workload
2FI102112	Computer System Security	8	3+2+2	216
2FI102412	Cloud Computing	8	3+2+2	216
2FI102312	Artificial Intelligence	6	2+2+1	156
	Faculty elective course	4	2+1+1	120
	Faculty elective course	4	2+1+1	120

Вкупно:	30	12+8+7	828
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VII SEMESTER

Faculty elective courses

CODE	C O U R S E	ECTS	Classes	Semester workload
2FI132612	Development of Information Systems	4	2+1+1	120
2FI132712	Human-Computer Interaction	4	2+1+1	120
2FI132212	Real Time Programming	4	2+1+1	120
2FI132812	Advanced Programming in Java	4	2+1+1	120

VIII SEMESTER

Mandatory courses

CODE	C O U R S E	ECTS	Classes	Semester workload
	<i>Graduation Thesis</i>	8	0+0+8	192
2FI102712	Web Services and XML	6	2+2+1	156
2FI102812	Distributed Computer Systems	6	2+2+1	156
	Faculty elective course	4	2+1+1	120
	University elective course	6	2+2+1	156
Вкупно:		30	8+7+12	780

VIII SEMESTER

Faculty elective courses

CODE	C O U R S E	ECTS	Classes	Semester workload
2FI133112	E-Learning Systems	4	2+1+1	120
2FI133212	Introduction to Mobile Technologies	4	2+1+1	120
2FI133312	Bioinformatics	4	2+1+1	120