

DEPARTMENT OF SOFTWARE ENGINEERING
DOUBLE MAJOR PROGRAM IN SOFTWARE ENGINEERING FOR STUDENTS FROM MATHEMATICS DEPARTMENT UNDERGRADUATE CURRICULUM

1. Semester

SOFTWARE ENGINEERING PROGRAM				EQUIVALENT COURSE FROM MATHEMATICS PROGRAM			
Course code	Course name	Credit	ECTS	Course code	Course name	Credit	ECTS
CMPE109	Fundamentals of computing	(1-1)	2.5				
CHE 105	General Chemistry	(3-2)	5.0				
CMPE 113	Computer Programming I	(2-2)	4.0	COMPE 102 (*)	Computer Programming	(2-2)	4.0
ENG 101	English for Academic Purposes I	(4-0)	3.5	ENG 101	English for Academic Purposes I	(4-0)	3.5
MATH 151	Calculus I	(4-2)	7.0	MATH 135 (*)	Mathematical Analysis I	(4-2)	8.5
PHYS 101	General Physics I	(3-2)	6.0	PHYS 101	General Physics I	(3-2)	6.0
HIST111	Principles of Ataturk and History of Turkish Revolution I	(2-0)	2.0	HIST111	Principles of Ataturk and History of Turkish Revolution I	(2-0)	2.0
KRY111	Career Planning	(1-0)	1.0	KRY111	Career Planning	(1-0)	1.0
Total Credit			30	Total Credit			24.0

2. Semester

SOFTWARE ENGINEERING PROGRAM				EQUIVALENT COURSE FROM MATHEMATICS PROGRAM			
Course code	Course name	Credit	ECTS	Course code	Course name	Credit	ECTS
SE 112	Introduction to Software Engineering	(3-0)	3.5				
CMPE 114	Computer Programming II	(3-2)	5.0				
ENG 102	English for Academic Purposes II	(2-2)	3.5	ENG 102	English for Academic Purposes II	(2-2)	3.5
MATH 152	Calculus II	(4-2)	7.0	MATH 136 (*)	Mathematical Analysis II	(4-2)	8.5
HIST 221	History of Civilization	(3-0)	3.0	HIST 221	History of Civilization	(3-0)	3.0
HIST112	Principles of Ataturk and History of Turkish Revolution II	(2-0)	2.0	HIST112	Principles of Ataturk and History of Turkish Revolution II	(2-0)	2.0
PHYS 102	General Physics II	(3-2)	6.0	PHYS 102	General Physics II	(3-2)	6.0
Total Credit			30	Total Credit			23.0

3. Semester

SOFTWARE ENGINEERING PROGRAM				EQUIVALENT COURSE FROM MATHEMATICS PROGRAM			
Course code	Course name	Credit	ECTS	Course code	Course name	Credit	ECTS
SE 221	Software Requirements Engineering	(3-0)	6.0				
CMPE 225 (*)	Object Oriented Programming	(3-2)	8.0	CMPE221	Introduction to Object Oriented Programming	(2-2)	6.0
CMPE 251	Discrete Computational Structures	(3-0)	7.0	MATH 112 (*)	Discrete Mathematics and Combinatorics	(3-0)	6.0
ENG 201	English for Academic Purposes III	(3-0)	3.0	ENG 201	English for Academic Purposes III	(3-0)	3.0
MATH 275	Linear Algebra	(4-0)	6.0	MATH 231 (*)	Linear Algebra I	(4-0)	7.0
Total Credit			30	Total Credit			22.0

4. Semester

SOFTWARE ENGINEERING PROGRAM				EQUIVALENT COURSE FROM MATHEMATICS PROGRAM			
Course code	Course name	Credit	ECTS	Course code	Course name	Credit	ECTS
SE 212	Human Computer Interaction	(3-0)	8.0				
CMPE 226 (*)	Data Structures	(3-0)	8.0	CMPE321	Introduction to Data Structures	(2-2)	5.0
ENG202	English for Academic Purposes IV	(3-0)	3.0	ENG202	English for Academic Purposes IV	(3-0)	3.0
IE 220	Probability and Statistics	(3-0)	5.0	MATH 392 (*)	Probability Theory and Statistics	(4-0)	7.0
MATH 276	Differential Equations	(4-0)	6.0	MATH 262 (*)	Ordinary Differential Equations	(4-0)	6.0
Total Credit			30	Total Credit			21.0

5. Semester

SOFTWARE ENGINEERING PROGRAM				EQUIVALENT COURSE FROM MATHEMATICS PROGRAM			
Course code	Course name	Credit	ECTS	Course code	Course name	Credit	ECTS
SE 321	Object-Oriented Analysis and Design	(3-0)	7.0				
SE 399	Summer Practice I	(0-0)	6.0				
ENG301	English For Occupational Purposes I	(3-0)	3.0	ENG301	English For Occupational Purposes I	(3-0)	3.0
CMPE 325	Study of Programming Languages	(3-0)	6.0				
SE 345	Software Quality Assurance	(3-0)	7.0				
CMPE 341	Database Design and Management	(3-2)	7.0				
Total Credit			30	Total Credit			3.0

6. Semester

SOFTWARE ENGINEERING PROGRAM				EQUIVALENT COURSE FROM MATHEMATICS PROGRAM			
Course code	Course name	Credit	ECTS	Course code	Course name	Credit	ECTS
SE 324	Software Project Management and Economics	(3-0)	5.0				
SE 328	Algorithms and Optimization Methods	(3-0)	5.0				
SE 322	Software Architecture	(3-0)	5.0				
SE 344	Systems Software Validation & Testing	(2-2)	6.0				
CMPE 338	Computer Networks and Operating Systems	(3-2)	6.0				
ENG302	English For Occupational Purposes II	(3-0)	3.0	ENG302	English For Occupational Purposes II	(3-0)	3.0
Total Credit			30	Total Credit			3.0

7. Semester

SOFTWARE ENGINEERING PROGRAM				EQUIVALENT COURSE FROM MATHEMATICS PROGRAM			
Course code	Course name	Credit	ECTS	Course code	Course name	Credit	ECTS
SE 493	Project Orientation	(2-0)	5.0				
SE 499	Summer Practice II	(0-0)	10.0				
TURK 401	Turkish Language I	(2-0)	2.0	TURK 401	Turkish Language I	(2-0)	2.0
	Area Elective Course	(3-0)	5.0	(*)	Area Elective Course	(3-0)	5.0
	Area Elective Course	(3-0)	5.0	(*)	Area Elective Course	(3-0)	5.0
	Area Elective Course (*)	(3-0)	5.0		Area Elective Course	(3-0)	5.0
	General Elective (Entrp.)	(2-0)	4.0		General Elective Course	(3-0)	4.0
	General Elective Course	(3-0)	4.0		General Elective Course	(3-0)	4.0
Total Credit			30	Total Credit			25.0

8. Semester

SOFTWARE ENGINEERING PROGRAM				EQUIVALENT COURSE FROM MATHEMATICS PROGRAM			
Course code	Course name	Credit	ECTS	Course code	Course name	Credit	ECTS
SE 494	Senior Project	(4-0)	9.0				
TURK 402	Turkish Language II	(2-0)	2.0	TURK 402	Turkish Language II	(2-0)	2.0
	Area Elective Course (*)	(3-0)	5.0		Area Elective Course	(3-0)	5.0
	Area Elective Course (Multidisciplinary Courses)	(3-0)	5.0				
	Area Elective Course	(3-0)	5.0				

	General Elective Course	(3-0)	4.0		General Elective Course	(3-0)	4.0
Total Credit			30		Total Credit		11.0

Note: The courses marked with (*) are the ones that should be taken.

Area Elective Courses:

No more than **two Area Elective Courses can be taken from the mathematics department**. The Area Elective Courses that are taken from mathematics Department should be related with the software engineering contents and should be approved by the advisor.

General Elective Courses:

General Elective Courses are the same for both departments.