

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

1. Semester

MATHEMATICS PROGRAM				EQUIVALENT COURSE IN SOFTWARE ENGINEERING PROGRAM			
Course code	Course name	Credit	ECTS	Course code	Course name	Credit	ECTS
ENG101	English For Academic Purposes I	(4-0)	3.5	ENG101	English For Academic Purposes I	(4-0)	3.5
MATH111	Basic Logic and Algebra	(3-0)	6.0				
MATH121	Analytic Geometry I	(2-1)	4.0				
MATH135(*)	Mathematical Analysis I	(4-2)	8.5	MATH151	Calculus I	(4-2)	7.0
CMPE101	Introduction to Computers and Programming	(2-2)	3.0				
HIST111	Principles of Atatürk and History of Turkish Revolution I (in English)	(2-0)	2.0	HIST111	Principles of Atatürk and History of Turkish Revolution I (in English)	(2-0)	2.0
HIST221	History of Civilization	(3-0)	3.0	HIST221	History of Civilization	(3-0)	3.0
KRY 111	Career Planning	(1-0)	1.0	KRY 111	Career Planning	(1-0)	1.0
Total Credit							

2. Semester

MATHEMATICS PROGRAM				EQUIVALENT COURSE IN SOFTWARE ENGINEERING PROGRAM			
Course code	Course name	Credit	ECTS	Course code	Course name	Credit	ECTS
ENG102	English for Academic Purposes II	(2-2)	3.5	ENG102	English for Academic Purposes II	(4-0)	3.5
MATH112(*)	Discrete Mathematics and Combinatorics	(3-0)	6.0	CMPE 251	Discrete Computational Structures	(3-0)	7.0
MATH122	Analytic Geometry II	(3-0)	6.0				
MATH136 (*)	Mathematical Analysis II	(4-2)	8.5	MATH152	Calculus II	(4-2)	7.0
CMPE102	Computer Programming	(2-2)	4.0	CMPE 113	Computer Programming I	(2-2)	4.0
HIST112	Principles of Atatürk and History of Turkish Revolution II (in English)	(2-2)	2.0	HIST112	Principles of Atatürk and History of Turkish Revolution II (in English)	(2-2)	2.0
Total Credit			30				

3. Semester

MATHEMATICS PROGRAM				EQUIVALENT COURSE IN SOFTWARE ENGINEERING PROGRAM			
Course code	Course name	Credit	ECTS	Course code	Course name	Credit	ECTS
ENG201	English for Academic Purposes III	(3-0)	3.0	ENG201	English for Academic Purposes III	(3-0)	3.0
MATH231(*)	Linear Algebra I	(4-0)	7.0	MATH275	Linear Algebra	(4-0)	6.0
MATH251	Advanced Calculus I	(3-2)	8.0				
CMPE221	Introduction to Object Oriented Programming	(2-2)	6.0	CMPE 225 (*)	Object Oriented Programming	(3-2)	8.0

PHYS101	General Physics I	(3-2)	6.0	PHYS101	General Physics I	(3-2)	6.0
Total Credit			30				

4. Semester

MATHEMATICS PROGRAM				EQUIVALENT COURSE IN SOFTWARE ENGINEERING PROGRAM			
Course code	Course name	Credit	ECTS	Course code	Course name	Credit	ECTS
ENG202	English for Academic Purposes IV	(3-0)	3.0	ENG202	English for Academic Purposes IV	(3-0)	3.0
MATH232	Linear Algebra II	(4-0)	7.0				
MATH252	Advanced Calculus II	(3-2)	8.0				
MATH262(*)	Ordinary Differential Equations	(4-0)	6.0	MATH276	Differential Equations	(4-0)	6.0
PHYS102	General Physics II	(3-2)	6.0	PHYS102	General Physics II	(3-2)	6.0
Total Credit			30				

5. Semester

MATHEMATICS PROGRAM				EQUIVALENT COURSE IN SOFTWARE ENGINEERING PROGRAM			
Course code	Course name	Credit	ECTS	Course code	Course name	Credit	ECTS
MATH331	Abstract Algebra	(4-0)	7.0				
MATH351	Introduction to Real Analysis	(4-0)	7.0				
MATH392(*)	Probability Theory and Statistics	(4-0)	7.0	IE 220	Probability and Statistics	(3-0)	5.0
ENG301	English for Occupational Purposes I	(3-0)	3.0	ENG301	English for Occupational Purposes I	(3-0)	3.0
	Area Elective (1)	(3-0)	6.0				
Total Credit			30				

6. Semester

MATHEMATICS PROGRAM				EQUIVALENT COURSE IN SOFTWARE ENGINEERING PROGRAM			
Course code	Course name	Credit	ECTS	Course code	Course name	Credit	ECTS
MATH346	Complex Analysis	(4-0)	7.0				
MATH374	Differential Geometry	(3-0)	6.0				
CMPE321	Introduction to Data Structures	(2-2)	5.0	CMPE 226(*)	Data Structures	(3-0)	8.0
ENG302	English for Occupational Purposes II	(3-0)	3.0	ENG302	English for Occupational Purposes II	(3-0)	3.0
	Area Elective	(3-0)	5.0		Area Elective	(3-0)	5.0
	General Elective	(3-0)	4.0		General Elective	(3-0)	4.0
Total Credit			30				

7. Semester

MATHEMATICS PROGRAM				EQUIVALENT COURSE IN SOFTWARE ENGINEERING PROGRAM			
Course code	Course name	Credit	ECTS	Course code	Course name	Credit	ECTS
TURK401	Turkish Language I	(2-0)	2.0	TURK401	Turkish Language I	(2-0)	2.0
	Area Elective (2)	(3-0)	5.0		Area Elective	(3-0)	5.0
	Area Elective (4)	(3-0)	6.0				
	Area Elective (5)	(3-0)	6.0				
	Area Elective (6)	(3-0)	6.0				
	General Elective	(3-0)	4.0		General Elective	(3-0)	4.0
Total Credit			30				

8. Semester

MATHEMATICS PROGRAM				EQUIVALENT COURSE IN SOFTWARE ENGINEERING PROGRAM			
Course code	Course name	Credit	ECTS	Course code	Course name	Credit	ECTS
TURK402	Turkish Language II	(2-0)	2.0	TURK402	Turkish Language II	(2-0)	2.0
MATH411	Seminar Studies	(1-2)	7.0				
	Area Elective (7)	(3-0)	6.0				
	General Elective	(3-0)	4.0		General Elective	(3-0)	4.0
	Area Elective (8)	(3-0)	6.0				
	General Elective	(3-0)	5.0		General Elective	(3-0)	5.0
Total Credit			30				

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 Software Engineering**. The Area Elective Courses that are taken from **Software Engineering** should be related with Department of Mathematics content and should be approved by the related advisor.

General Elective Courses: General Elective Courses are the same for both departments.