

# Software Engineering B. Sc. Curriculum

## FRESHMAN YEAR

First Year Fall Semester (17/17 Credits, 30/30 ECTS)					
Course Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
SEN1001	Introduction to Software Engineering	0(2,0)	2		-
SEN1003	Introduction to Computer Systems and Algorithms	3(2,2)	4		-
ENG1003	Communications Skills and Academic Reporting I	3(2,2)	4		-
MAT1033	Discrete Mathematics	3(3,0)	4		-
MAT1051	Calculus I	4(3,2)	7		-
PHY1001	Physics I	4(3,2)	7		-
TLL1003	Turkish Language and Literature I	0(2,0)	2		-

First Year Spring Semester (17/34 Credits, 30/60 ECTS)					
Course Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
SEN1002	Introduction to Programming	3(2,2)	6		SEN1003
ENG1004	Communication Skills and Academic Reporting II	3(2,2)	4		ENG1003
MAT1052	Calculus II	4(3,2)	7		MAT1051
PHY1002	Physics II	4(3,2)	7		PHY1001
TLL1004	Turkish Language and Literature II	0(2,0)	2		TLL1003
	GE-Elective	3(3,0)	4		-

## SOPHOMORE YEAR

Second Year Fall Semester (16/50 Credits, 30/90 ECTS)					
Course Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
SEN2001	Principles of Programming Languages	3(2,2)	6		SEN1002
SEN2003	Data Structures and Algorithms	4(3,2)	7		SEN1002
SEN2005	Object-Oriented Programming	3(2,2)	6		SEN1002
HST1001	Atatürk's Principles and History of Turkish Republic I	0(2,0)	2		-
MAT2061	Differential Equations	3(3,0)	5		MAT1052
	GE-Elective	3(3,0)	4		-

Second Year Spring Semester (15/65 Credits, 30/120 ECTS)					
Course Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
SEN2002	Software Engineering Analysis and Design	3(3,0)	7		SEN1002
SEN2004	Advanced Programming	3(2,2)	5		SEN2005
SEN2204	Introduction to Computer Networks	3(2,2)	5		SEN1003
HST1002	Atatürk's Principles and History of Turkish Republic II	0(2,0)	2		HST1001
MAT2026	Probability and Statistics	3(3,0)	6		MAT1051
MAT2042	Linear Algebra	3(3,0)	5		-

## JUNIOR YEAR

<b>Third Year Fall Semester (18/83 Credits, 30/150 ECTS)</b>					
<b>Course Code</b>	<b>Course Name</b>	<b>Credit</b>	<b>ECTS</b>	<b>Category</b>	<b>Prerequisite(s)</b>
SEN3003	Software Verification and Validation	3(3,0)	5		SEN2002
SEN3005	Analysis of Algorithms	4(3,2)	6		SEN2003
SEN3011	Formal Languages and Automata Theory	3(3,0)	6		MAT1033
SEN3013	Database Management Systems	4(3,2)	7		MAT1033
MAT3044	Numerical Methods for Engineers	4(3,2)	6		MAT2042

<b>Third Year Spring Semester (15/98 Credits, 30/180 ECTS)</b>					
<b>Course Code</b>	<b>Course Name</b>	<b>Credit</b>	<b>ECTS</b>	<b>Category</b>	<b>Prerequisite(s)</b>
SEN3002	Software Project Management	3(3,0)	6		SEN2002
SEN3004	Concepts of Computer Systems	3(2,2)	6		-
SEN3006	Software Security	3(3,0)	6		SEN1002
SEN3008	Human Computer Interaction	3(3,0)	6		SEN2005
SEN3012	Operating Systems	3(3,0)	6		SEN1002

## SENIOR YEAR

<b>Fourth Year Fall Semester (15/113 Credits, 30/210 ECTS)</b>					
<b>Course Code</b>	<b>Course Name</b>	<b>Credit</b>	<b>ECTS</b>	<b>Category</b>	<b>Prerequisite(s)</b>
SEN4995	Summer Training *	0(0,0)	2		-
SEN4997	Capstone Project I	3(3,0)	6		-
ENR4001	Engineering Economy	3(3,0)	4		-
	Departmental Elective	3(3,0)	6		-
	Departmental Elective	3(3,0)	6		-
	Departmental Elective	3(3,0)	6		-

<b>Fourth Year Spring Semester (15/128 Credits, 30/240 ECTS)</b>					
<b>Course Code</b>	<b>Course Name</b>	<b>Credit</b>	<b>ECTS</b>	<b>Category</b>	<b>Prerequisite(s)</b>
SEN4998	Capstone Project II	3(2,2)	8		SEN4997
ENR4004	Non-Technical Aspects of Engineering	3(2,0)	4		-
	Departmental Elective	3(3,0)	6		-
	Departmental Elective	3(3,0)	6		-
	Departmental Elective	3(3,0)	6		-

**\* SEN4995 (Summer Training):**

The summer training is 40 working days and students who complete at least nine of the seventeen departmental courses until the end of the sixth semester (third year spring semester) are eligible to take this course.