Software Engineering Department Course Curriculum

1st Semester Course Plan					
Course Code	**Course Name**	**T**	**P**	**NC**	**ECTS**
TD 113*	TURKISH LANGUAGE-I	2	0	2	2
Aİ 115*	ATATÜRK'S PRINCIPLES AND THE HISTORY OF TURKISH REVOLUTION-I	2	0	2	2
YD 117*	FOREIGN LANGUAGE-I	2	0	2	2
MAT 101	CALCULUS-I	4	0	6	6
PHYS 103	PHYSICS-I	3	1	6	6
YZ 101	INTRODUCTION TO COMPUTER SCIENCE	2	1	5	5
YZ 103	INTRODUCTION TO PROGRAMMING	2	1	5	5
YZ 105	OCCUPATIONAL HEALTH AND SAFETY-I	2	0	2	2
Total		19	3	30	30

2nd Semester Course Plan					
Course Code	**Course Name**	**T**	**P**	**NC**	**ECTS**
TD 114*	TURKISH LANGUAGE-II	2	0	2	2
Aİ 116*	ATATÜRK'S PRINCIPLES AND THE HISTORY OF TURKISH REVOLUTION-II	2	0	2	2
YD 118*	FOREIGN LANGUAGE-II	2	0	2	2
MAT 102	CALCULUS-II	4	0	6	6
PHYS 104	PHYSICS-II	3	1	6	6
YZ 102	OBJECT ORIENTED PROGRAMMING	2	1	4	4
YZ 104	DISCRETE STRUCTURES	3	0	3	3
YZ 106	CAREER PATH & PLANNING	1	0	2	2
YZ 108	LINEAR ALGEBRA	2	0	3	3
Total		21	2	30	30

3rd Semester Course Plan					
Course Code	**Course Name**	**T**	**P**	**NC**	**ECTS**
MAT 201	CALCULUS III	4	0	6	6
YZ 203	VISUAL PROGRAMMING	2	1	5	5
YZ 205	DATA STRUCTURES AND ALGORITHMS	3	0	5	5
YZ 207	SOFTWARE REQUIREMENTS ENGINEERING	3	0	5	5
YZ 209	NUMERICAL ANALYSIS & SCIENTIFIC PROGRAMMING	2	1	5	5
YZ 211	PROGRAMMING LABORATORY-I	0	2	4	4
Total		14	4	30	30

4th Semester Course Plan					
Course Code	**Course Name**	**T**	**P**	**NC**	**ECTS**
YZ 202	ADVANCED PROGRAMMING	2	1	5	5
YZ 204	ANALYSIS OF ALGORITHMS	2	1	5	5
YZ 206	SOFTWARE DESIGN & ARCHITECTURE	3	0	5	5
YZ 208	PROBABILITY THEORY AND STATISTICS	3	0	6	6
YZ 210	DIGITAL SYSTEMS & LOGIC	3	0	5	5
YZ 212	PROGRAMMING LABORATORY-II	0	2	4	4
Total		13	4	30	30

5th Semester Course Plan					
Course Code	**Course Name**	**T**	**P**	**NC**	**ECTS**
YZ 301	INTRODUCTION TO ARTIFICIAL INTELLIGENCE	3	0	5	5
YZ 303	OPERATING SYSTEMS	3	0	5	5
YZ 305	DATABASE MANAGEMENT SYSTEMS	3	0	5	5
YZ 307	BACK-END DEVELOPMENT	2	1	5	5
YZ 309	COMPUTER ARCHITECTURE	3	0	5	5
YZ 311	INTRODUCTION TO DATA SCIENCE	3	0	5	5
Total		17	1	30	30

6th Semester Course Plan					
Course Code	**Course Name**	**T**	**P**	**NC**	**ECTS**
YZ 302	FRONT-END DEVELOPMENT	2	1	5	5
YZ 304	SOFTWARE TEST & QUALITY ASSURANCE	3	0	5	5
YZ 306	INTRODUCTION TO MACHINE LEARNING	3	0	5	5
YZ 308	FORMAL LANGUAGES AND AUTOMATA THEORY	3	0	5	5
YZ 310	OCCUPATIONAL HEALTH AND SAFETY-II	2	0	2	2
YZ 312	SOFTWARE DESIGN APPLICATIONS	0	3	8	8
Total		13	4	30	30

7th Semester Course Plan					
Course Code	**Course Name**	**T**	**P**	**NC**	**ECTS**
YZ 401	SOFTWARE DEVELOPMENT APPLICATIONS	0	3	12	12
YZ 403*	INTERNSHIP-I	0	2	3	3
ELEC-7	Elective Course I	2	0	3	3
	Elective Course II	2	0	3	3
	Elective Course III	2	0	3	3
	Elective Course IV	2	0	3	3
	Elective Course V	2	0	3	3
Total		10	5	30	30

7th Semester Elective Courses					
Course Code	**Course Name**	**T**	**P**	**NC**	**ECTS**
YS 411	COMMUNICATION AND PRESENTATION TECHNIQUES	2	0	3	3
YS 413	WEB PROGRAMMING	2	0	3	3
YS 415	MOBILE PROGRAMMING	2	0	3	3
YS 417	ENTREPRENEURSHIP-I	2	0	3	3
YS 419	DATA SCIENCE	2	0	3	3
YS 421	MANAGEMENT INFORMATION SYSTEMS	2	0	3	3
YS 423	COMPUTER NETWORKS	2	0	3	3
YS 425	DATA MINING	2	0	3	3
YS 427	MACHINE LEARNING	2	0	3	3
YS 429	ARTIFICIAL INTELLIGENCE	2	0	3	3
YS 431	INTRODUCTION TO DEEP LEARNING	2	0	3	3
YS 433	INTRODUCTION TO GENETICS	2	0	3	3
YS 435	INTERNET OF THINGS	2	0	3	3
YS 437	TRANSFORMERS AND LARGE LANGUAGE MODELS	2	0	3	3
YS 439	BLOCKCHAIN TECHNOLOGIES	2	0	3	3
YS 441	CLOUD COMPUTING	2	0	3	3
YS 443	INFORMATION SECURITY	2	0	3	3
YS 445	GAME DESIGN	2	0	3	3
YS 447	FOREIGN LANGUAGE FOR BUSINESS-I	2	0	3	3
YS 449	PROFESSIONAL LAW AND ETHICS	2	0	3	3
YS 451	OPTIMIZATION ALGORITHMS	2	0	3	3

8th Semester Course Plan					
Course Code	**Course Name**	**T**	**P**	**NC**	**ECTS**
YZ 402	FINAL PROJECT	0	4	12	12
YZ 404*	INTERNSHIP-II	0	2	3	3
ELEC-8	Elective Course I	2	0	3	3
	Elective Course II	2	0	3	3
	Elective Course III	2	0	3	3
	Elective Course IV	2	0	3	3
	Elective Course V	2	0	3	3
Total		10	6	30	30

8th Semester Elective Courses					
Course Code	**Course Name**	**T**	**P**	**NC**	**ECTS**
YS 412	DEEP LEARNING	2	0	3	3
YS 414	SECURITY OF SOFTWARE SYSTEMS	2	0	3	3
YS 416	ENTREPRENEURSHIP-II	2	0	3	3
YS 418	AGENTIC AI	2	0	3	3
YS 420	QUANTUM COMPUTING	2	0	3	3
YS 422	PROJECT MANAGEMENT	2	0	3	3
YS 424	COMPUTER VISION	2	0	3	3
YS 426	WIRELESS NETWORKS	2	0	3	3
YS 428	INTRODUCTION TO BIOINFORMATICS	2	0	3	3
YS 430	GENETIC APPLICATIONS IN ENGINEERING	2	0	3	3
YS 432	HUMAN-COMPUTER INTERACTION	2	0	3	3
YS 434	DIFFUSION AND LARGE VISION MODELS	2	0	3	3
YS 436	VIRTUAL REALITY AND APPLICATIONS	2	0	3	3
YS 438	CYBER SECURITY	2	0	3	3
YS 440	SYSTEM AND NETWORK SECURITY	2	0	3	3
YS 442	DEEP REINFORCEMENT LEARNING	2	0	3	3
YS 444	FOREIGN LANGUAGE FOR BUSINESS-II	2	0	3	3
YS 446	SCIENTIFIC RESEARCH TECHNIQUES	2	0	3	3
YS 448	ECONOMICS	2	0	3	3
YS 450	SYSTEM PROGRAMMING	2	0	3	3
YS 452	GAME PROGRAMMING	2	0	3	3

T: Theoretic **P:** Practical **NC:** National Credit **ECTS:** European Credit Trans. and Acc. Sys.

*: Courses not included in the GPA