

**INFORMATION SYSTEMS ENGINEERING
DOUBLE MAJOR PROGRAM
FOR
SOFTWARE ENGINEERING STUDENTS**

INFORMATION SYSTEMS ENGINEERING PROGRAM	SOFTWARE ENGINEERING PROGRAM
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FRESHMAN 1st Term

Course Code	Course Name	ECTS	Equal Course	Course Name	ECTS
CMPE 109	Fundamentals of Computing	2.5	CMPE 109	Fundamentals of Computing	2.5
CMPE 113	Computer Programming I	4	CMPE 113	Computer Programming I	4
MATH 151	Calculus I	7	MATH 151	Calculus I	7
PHYS 101	General Physics I	6	PHYS 101	General Physics I	6
CEAC 105	General Chemistry	5	CEAC 105	General Chemistry	5
ENG 101	English for Academic Purposes I	3.5	ENG 101	English for Academic Purposes I	3.5
HIST 111	Principles of Atatürk and History of Turkish Revolution I	2	HIST 111	Principles of Atatürk and History of Turkish Revolution I	2
KRY111	Career Planning	1	KRY111	Career Planning	1
Total credit		31			

FRESHMAN 2nd Term

Course Code	Course Name	ECTS	Equal Course	Course Name	ECTS
ISE 102	Introduction to MIS	3.5			
CMPE 114	Computer Programming II	5	CMPE 114	Computer Programming II	5
MATH 152	Calculus II	7	MATH 152	Calculus II	7
PHYS 102	General Physics II	6	PHYS 102	General Physics II	6
ENG 102	English for Academic Purposes II	3.5	ENG 102	English for Academic Purposes II	3.5
HIST 112	Principles of Atatürk and History of Turkish Revolution II	2	HIST 112	Principles of Atatürk and History of Turkish Revolution II	2
HIST 221	History of Civilization	3	HIST 221	History of Civilization	3
Total credit		30			

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SOPHOMORE 3rd Term

Course Code	Course Name	ECTS	Equal Course	Course Name	ECTS
ISE 261	Business and e-Commerce	6			
CMPE 225	Object-Oriented Programming	8	CMPE 225	Object-Oriented Programming	8
CMPE 251	Discrete Computational Structures	7	CMPE 251	Discrete Computational Structures	7
MATH 275	Linear Algebra	6	MATH 275	Linear Algebra	6
ENG 201	English for Academic Purposes III	3	ENG 201	English for Academic Purposes III	3
Total credit		30			

SOPHOMORE 4th Term

Course Code	Course Name	ECTS	Equal Course	Course Name	ECTS
CMPE 226	Data Structures	8	CMPE 226	Data Structures	8
SE 212	Human Computer Interaction	8	SE 212	Human Computer Interaction	8
MATH 276	Differential Equations	6	MATH 276	Differential Equations	6
IE 220	Probability and Statistics	5	IE 220	Probability and Statistics	5
ENG 202	English for Academic Purposes IV	3	ENG 202	English for Academic Purposes IV	3
Total credit		30			

JUNIOR 5th Term

Course Code	Course Name	ECTS	Equal Course	Course Name	ECTS
ISE 353	Information Systems Development	10			
ISE 311	Internet Programming	5			
AE-1	Area Elective	5			
CMPE 341	Database Design and Management	7	COMPE 341	Database Design and Management	7
ISE 399	Summer Practice I	6	SE 399	Summer Practice I	6
ENG 301	English For Occupational Purposes I	3	ENG 301	English For Occupational Purposes I	3
Total credit		30			

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JUNIOR 6th Term

Course Code	Course Name	ECTS	Equal Course	Course Name	ECTS
ISE 314	Data Warehousing and Mining	5			
ISE332	IT Infrastructure and Architecture	5			
CMPE 338	Computer Networks and Operating Systems	6	CMPE 338	Computer Networks and Operating Systems	6
SE 346	Software Engineering	6	SE 112	Introduction to Software Engineering	3.5
SE 328	Algorithms and Optimization Methods	5	SE 328	Algorithms and Optimization Methods	5
ENG 302	English For Occupational Purposes II	3	ENG 302	English For Occupational Purposes II	3
Total credit		30			

SENIOR 7th Term

Course Code	Course Name	ECTS	Equal Course	Course Name	ECTS
ISE 493	Project Orientation	5	SE 493	Project Orientation	5
AE-2	Area Elective (multi-diciplinary)	5			
AE-3	Area Elective	5			
AE-4	Area Elective	5			
GE-1	General Elective	4	GE-1	General Elective	4
GE-2	General Elective	4	GE-2	General Elective	4
TURK 401	Turkish Language I	2	TURK 401	Turkish Language I	2
ISE 499	Summer Practice II	10	SE 499	Summer Practice II	
Total credit		40			

SENIOR 8th Term

Course Code	Course Name	ECTS	Equal Course	Course Name	ECTS
ISE 426	Computer Security	5			5
ISE 494	Senior Project	9	SE 494	Senior Project	9
AE-5	Area Elective	5			5
AE-6	Area Elective	5	AE	Area Elective	5
GE-3	General Elective	4	GE-3	General Elective	4
TURK 402	Turkish Language II	2	TURK 402	Turkish Language II	2
Total credit		30			

Notes:

The courses written in **bold** must be taken from double major department.

Only the courses on the same row are assumed to be equivalent and should be taken from main (major) program and transferred to double major program.

Area Electives: 5 area elective courses need to be taken from Information Systems Engineering curriculum. None of these five area elective courses can be considered to be equivalent in the Software Engineering curriculum. Only one area elective course can be considered to be equivalent in both departments.

General Electives: All the General Electives must be taken from the main major department.

Summer Practice: Both summer practice must be taken from the main major department.

Senior Project and Project Orientation courses must be taken from the main major department.