INFORMATION SYSTEMS ENGINEERING
DOUBLE MAJOR PROGRAM
FOR
INDUSTRIAL ENGINEERING STUDENTS

INFORMATION SYSTEMS ENGINEERING PROGRAM			COMPUTER ENGINEERING PROGRAM		

FRESHMAN 1ˢᵗ Term

Course Code	Course Name	ECTS	Equal Course	Course Name	ECTS
CMPE 109	**Fundamentals of Computing**	**2.5**			
CMPE 113	Computer Programming I	4	CMPE102	Computer Programming	3.5
MATH 151	Calculus I	7	MATH 151	Calculus 1	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	IE304	Information Management	6
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 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**			
SE 212	**Human Computer Interaction**	**8**			
MATH 276	Differential Equations	6	MATH 276	Differential Equations	6
IE 220	Probability and Statistics	5	IE 201	Probability and Statistics I	5
ENG 202	English for Academic Purposes IV	3	ENG 202	English for Academic Purposes IV	3
	Total credit	30			

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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	CMPE 301	Introduction to Database Management	7
ISE 399	Summer Practice I	6			
ENG 301	English For Occupational Purposes I	3	ENG 301	English For Occupational Purposes I	3
	Total credit	30			

JUNIOR 6th Term

Course Code	Course Name	ECTS	Equal Course	Course Name	ECTS
ISE 314	**Data Warehousing and Mining**	**5**			
ISE 332	**IT Infrastructure and Architecture**	**5**			
CMPE 338	**Computer Networks and Operating Systems**	**6**			
SE 346	**Software Engineering**	**6**			
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			

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SENIOR 7th Term

Course Code	Course Name	ECTS	Equal Course	Course Name	ECTS
ISE 493	**Project Orientation**	**5**			
AE-2	Area Elective (multi-disciplinary)	5	AE	Area Elective (multi-disciplinary)	5
AE-3	Area Elective	5	AE	Area Elective	
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			
	Total credit	40			

SENIOR 8th Term

Course Code	Course Name	ECTS	Equal Course	Course Name	ECTS
ISE 426	**Computer Security**	**5**			
ISE 494	**Senior Project**	**9**			
AE-5	Area Elective	5	ECON211	Fundamentals of Economics	4
AE-6	Area Elective	5	IE305	Engineering Economy	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:

* Double major department is "*Information Systems Engineering*"; Main major department is "*Industrial Engineering* "
* 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 must be taken from main program and be transferred to **double major program**.
* No more than two technical electives can be taken from the Industrial Engineering (IE) Department. The technical electives that are taken from the IE should be related with the Information Systems Engineering contents and should be approved by the advisor.
* **General Electives:** All the General Electives must be taken from the main major department and be transferred to **double major program**.
* **Summer Practice**: One summer practice should be taken from Information Systems Engineering (ISE499). The other summer practice should be taken from Industrial Engineering Department (IE399).