

## COMPUTER PROGRAMMING SHORT COURSE CONTENTS

### 1. Semester

Course Code	Course Name	(T+P)	ECTS	Course Type
BIL101	Fundamentals of Programming I (Python)	3+1	5	Compulsory

**Content:** Programming logic, software development basics will be taught using Python programming language. Variables, expressions, functions, parameters, recursion topics will be covered.

**Precondition:** None.

Course Code	Course Name	(T+P)	ECTS	Course Type
BIL103	Data Structures and Algorithms I	3+1	5	Compulsory

**Content:** Arrays, stacks, queues, trees will be explained. Search, sorting algorithms will be processed and the relationship between algorithm and programming will be taught.

**Precondition:** None.

Course Code	Course Name	(T+P)	ECTS	Course Type
BIL105	Unix Programming I	3+1	5	Compulsory

**Content:** Basic components of programming practice as well as the Unix operating system basics will be taught.

**Precondition:** None.

Course Code	Course Name	(T+P)	ECTS	Course Type
ATA101	Ataturk's Principles and History of Turkish Revolution I	2+0	2	Compulsory

**İçerik:** The Disintegration of the Ottoman Empire, Tanzimat and Reform Edict, I. and II. Constitutional Era, Tripoli and Balkan Wars, World War I, Mondros Armistice Treaty, War of Independence; Amasya Circular, National Congresses, Establishment of the Turkish Grand National Assembly, Announcement of the Republic.

**Precondition:** None.

Course Code	Course Name	(T+P)	ECTS	Course Type
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TRK101	Turkish Language I	2+0	2	Compulsory
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**Content:** Language-thought relationship, language-culture relationship, the importance of language in social life, world languages and the place and properties of Turkish among these languages; state and problems of contemporary Turkish; Turkish spelling rules; effective reading and listening; general rules of written and oral expression; intellectual order, paragraph and expression forms; official correspondence.

**Precondition:** None.

Course Code	Course Name	(T+P)	ECTS	Course Type
DIL101	General English I	2+0	2	Compulsory

**Content:** To be able to use basic daily expressions; introducing themselves, second and third person; to be able to ask questions about personal information and to answer such questions.

**Precondition:** None.

Course Code	Course Name	(T+P)	ECTS	Course Type
SEG001	Manifest of Istinye I	0+1	1	Compulsory

**Content:** Getting used to and adapting to university life.

**Precondition:** None.

## 2. Semester

Course Code	Course Name	(T+P)	ECTS	Course Type
BIL102	Fundamentals of Programming II (C)	3+1	5	Compulsory

**Contents:** Loops, advanced functions, recursion topics will be covered in detail on the first course of the first semester and practices will be made in C programming language.

**Precondition:** BIL101.

Course Code	Course Name	(T+P)	ECTS	Course Type
BIL104	Data	3+1	5	Compulsory

	<b>Structures and Algorithms II</b>			
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**Content:** Complex data structures and advanced algorithms on simple data structures will be examined and explained. Basic algorithm techniques such as brute-force algorithms, split-manage approaches will be taught.

**Precondition:** BIL103.

Course Code	Course Name	(T+P)	ECTS	Course Type
<b>BIL106</b>	<b>Unix Programming II</b>	<b>3+1</b>	<b>5</b>	<b>Compulsory</b>

**Content:** As the continuation of the first semester, unix programming advanced topics will be covered.

**Precondition:** BIL105.

Course Code	Course Name	(T+P)	ECTS	Course Type
<b>ATA102</b>	<b>Ataturk's Principles and History of Turkish Revolution II</b>	<b>2+0</b>	<b>2</b>	<b>Compulsory</b>

**Content:** Revolutions in the political field, political parties and attempts to transition to multi-party political life, revolutions in the field of law, regulation of social life, innovations in the economic field, Turkish foreign policy in the period of 1923-1938, Turkish foreign policy after Atatürk

**Precondition:** None.

Course Code	Course Name	(T+P)	ECTS	Course Type
<b>TRK102</b>	<b>Turkish Language II</b>	<b>2+0</b>	<b>2</b>	<b>Compulsory</b>

**Content:** Written expression types, types of oral expression, scientific research methods, types of oral presentation.

**Precondition:** None.

Course Code	Course Name	(T+P)	ECTS	Course Type
<b>DIL102</b>	<b>General English II</b>	<b>2+0</b>	<b>2</b>	<b>Compulsory</b>

**Content:** In this course, students are expected to learn basic expressions about personal information, family information, shopping, residence, business information, asking and describing, public transportation vehicles in daily life.

**Precondition:** None.

Course Code	Course Name	(T+P)	ECTS	Course Type
SEG002	Manifest of İstinye II	0+1	1	Compulsory

**Content:** Getting used to and adapting to university life.

**Precondition:** None.

### 3. Semester

Course Code	Course Name	(T+P)	ECTS	Course Type
BIL201	Web Programming I (PHP)	2+2	5	Compulsory

**Content:** Creating websites using the PHP programming language will be handled practically. Web programming logic will be explained on applications.

**Precondition:** None.

Course Code	Course Name	(T+P)	ECTS	Course Type
BIL203	Object Oriented Programming (C++)	3+1	5	Compulsory

**Content:** Object oriented programming approach will be covered. Concepts such as class structure, objects, inheritance and polymorphism will be discussed. C ++ programming language will be used in applications.

**Precondition:** None.

Course Code	Course Name	(T+P)	ECTS	Course Type
BIL205	Database Systems I	2+2	5	Compulsory

**Content:** Database systems, queries, relational database modeling topics will be covered.

**Precondition:** Yok.

Course Code	Course Name	(T+P)	ECTS	Course Type
BIL291	Graduation Project I	0+5	5	Compulsory

**Content:** The project determined by the student about the field he/she wants to specialize will be studied.

**Precondition:** If the student can graduate next semester.

Course Code	Course Name	(T+P)	ECTS	Course Type
BIL281	Vocational Study	0+10	1	Compulsory

**Content:** 10 working days compulsory internship or professional work project in summer term.

**Precondition:** To complete the first year in the program.

#### 4. Semester

Course Code	Course Name	(T+P)	ECTS	Course Type
BIL202	Web Programming II (JavaScript)	2+2	5	Compulsory

**Content:** Web programming script-based coding topics will be covered.

**Precondition:** BIL201.

Course Code	Course Name	(T+P)	ECTS	Course Type
BIL204	Mobil Programming (Android/iOS)	2+2	5	Compulsory

**Content:** Applications will be developed using mobile application platforms. Mobile application requirements and basics will be explained.

**Precondition:** Yok.

Course Code	Course Name	(T+P)	ECTS	Course Type
BIL206	Database Systems II	2+2	5	Compulsory

**Content:** Advanced topics in database systems will be explained with examples. Data models will be covered.

**Precondition:** BIL205.

Course Code	Course Name	(T+P)	ECTS	Course Type
BIL208	Programming Platforms	3+0	5	Compulsory

**Content:** Actual, popular, frequently used software development platforms will be introduced and reinforced with examples.

**Precondition:** None.

Course Code	Course Name	(T+P)	ECTS	Course Type
BIL292	Graduation Project II	0+5	5	Compulsory

**Content:** The project of the first term can be continued. If it is over, a new project can be made.

**Precondition:** BIL291.

#### PROGRAM ELECTIVE COURSE CONTENTS

Course Code	Course Name	(T+P)	ECTS	Course Type
BIL001	Mathematics and Linear Algebra	3+0	4	Elective

**Content:** Analytical geometry, functions and their science-engineering applications, as well as linear equation systems, matrix algebra, determinants will be covered.

**Precondition:** None.

Course Code	Course Name	(T+P)	ECTS	Course Type
BIL002	Digital Electronics	3+0	4	Elective

**Content:** Number systems, logic operations, basic circuit elements will be covered.

**Precondition:** None.

Course Code	Course Name	(T+P)	ECTS	Course Type
BIL003	Computer Hardware	3+0	4	Elective

**Content:** Topics such as computer architectures, computer components, processors will be covered.

**Precondition:** None.

Course Code	Course Name	(T+P)	ECTS	Course Type
BIL004	Discrete Mathematics	3+0	4	Elective

**Content:** A conceptual perspective will be given to mathematical logic, set theory, number theory and algorithm.

**Precondition:** None.

Course Code	Course Name	(T+P)	ECTS	Course Type
BIL005	Computer Networks	3+1	5	Elective

**Content:** The methods and tools used in network programming will be covered. Network protocols will be explained. Network security issues will be discussed.

**Precondition:** None.

Course Code	Course Name	(T+P)	ECTS	Course Type
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<b>BIL006</b>	<b>Artificial Intelligence Basics</b>	<b>3+0</b>	<b>4</b>	<b>Elective</b>
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**Content:** Theoretical foundations of artificial intelligence will be covered. The difference between concepts such as artificial intelligence, machine learning, deep learning will be explained. Basic algorithms and approaches will be discussed.

**Precondition:** None.

<b>Course Code</b>	<b>Course Name</b>	<b>(T+P)</b>	<b>ECTS</b>	<b>Course Type</b>
<b>BIL007</b>	<b>Graphic Design</b>	<b>3+1</b>	<b>5</b>	<b>Elective</b>

**Content:** Software development oriented graphic design fundamentals, visual programming issues will be discussed. The student will be given a basis for graphic design.

**Precondition:** None.