FUNDAMENTALS OF COMPUTER PROGRAMMING

1	Course Title:	FUNDAMENTALS OF COMPUTER PROGRAMMING
2	Course Code:	END1030
3	Type of Course:	Compulsory
4	Level of Course:	First Cycle
5	Year of Study:	1
6	Semester:	2
7	ECTS Credits Allocated:	3.00
8	Theoretical (hour/week):	2.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	1
11	Prerequisites:	-
12	Language:	English
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Dr. Ögr. Üyesi BESİM TÜRKER ÖZALP
15	Course Lecturers:	-
16	Contact information of the Course Coordinator:	tozalp@uludag.edu.tr, 0-224-2942090, Endüstri Müh. Bölümü Oda No:302 Görükle Bursa
17	Website:	
18	Objective of the Course:	Introduction to computer programming with the impacts of computers on society and engineering. Emphasis will be placed on algorithms and logical problem solving methods.
19	Contribution of the Course to Professional Development:	To be able to use basic computer applications. To be able to comprehend algorithm logic for solving basic mathematical problems. Ability to categorize computational problems and offer potential solutions. Being able to design algorithms and software within computer skills. To be able to follow the literature about programming and use international resources.
20	Learning Outcomes:	
	1	To be able to use basic computer applications.
	2	To be able to comprehend the logic of the algorithms for the solution of basic mathematical problems.
	3	To be able to categorize computational problems and offer potential solutions to them.
	4	To be able to design algorithms and software within computer skills.
	5	To be able to follow the literature on programming and use international resources.
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21	Course Content:	
	Course Content:	

Week	Theoretical	Practice
1	Computers and Introduction to Python.	Anaconda and installation of modules.
2	Introduction to Python Programming and JupyterLab. Arithmetic, equality and relation operators.	Jupyterlab and Jupyter Notebook introduction.
3	Introduction to Control Statements. Algorithms, flow charts, pseudocode preparation.	Jupyter Notebook applications regarding the theoretical lecture topic.
4	Decision Making: The if Statement and Comparison Operators.	Jupyter Notebook applications regarding the theoretical lecture topic.
5	While statement. Compound assignment operators.	Jupyter Notebook applications regarding the theoretical lecture topic.
6	For loop statement. Augmented Assignments.	Jupyter Notebook applications regarding the theoretical lecture topic.
7	Counter-controlled loops, sentinel-controlled loops.	Jupyter Notebook applications regarding the theoretical lecture topic.
8	Nested control statements, nested loop statements.	Jupyter Notebook applications regarding the theoretical lecture topic.
9	break and continue Statements. Logical Operators.	Jupyter Notebook applications regarding the theoretical lecture topic.
10	Introduction to Functions. Random-Number Generation. Scope Rules.	Jupyter Notebook applications regarding the theoretical lecture topic.
11	Sequences: Lists and Tuples. Sequence Slicing. Sorting and searching sequences.	Jupyter Notebook applications regarding the theoretical lecture topic.
12	List Comprehensions. Generator	Jupyter Notebook applications regarding the theoretical
13	Sets.	Jupyter Notebook applications regarding the theoretical lecture topic.
14	Text Book and Required Reference Materials	P. Deitel, H. Deitel - Intro to Python for Computer Science and Data Science, Global Edition, Pearson, 2021
15	Assesment	

TERM LEARNING ACTIVITIES	NUMBER	WEIGHT
Midterm Exams	1	20
Final Exams	1	20
Homeworks	3	10
Total work load/ 30 hr		100.00

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	2.00	28.00
Practicals/Labs	14	1.00	14.00
Self study and preparation	14	3.00	42.00
Homeworks	2	2.00	4.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm Exams	1	1.00	1.00
Others	0	0.00	0.00
Final Exams	1	1.00	1.00
Total Work Load			90.00
ECTS Credit of the Course			3.00

Success Grade	
Contribution of Final Exam to Success Grade	60.00
Total	100.00
Measurement and Evaluation Techniques Used in the Course	The proficiency of the students is measured and evaluated by homework, midterm and final exams.

24 ECTS / WORK LOAD TABLE

25 CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS

	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ10	PQ11	PQ12	PQ13	PQ14	PQ15	PQ16
ÖK1	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0

ÖK2	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK3	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0
ÖK4	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
ÖK5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5

LO: Learning Objectives PQ: Program Qualifications

Contribution Level:	**1 very low**	**2 low**	**3 Medium**	**4 High**	**5 Very High**