Course Syllabus

Course from study programme for the cycle: 2022/2023

I. General Information

Course name	Python language programming
Programme	Informatics
Level of studies (BA, BSc, MA, MSc, long-cycle MA)	BA
Form of studies (full-time, part-time)	full-time
Discipline	Informatics
Language of instruction	English

Course coordinator	dr Armen Grigoryan

Type of class *(use only the types mentioned below)*	Number of teaching hours	Semester	ECTS Points
lecture	15	V	3
tutorial			
classes			
laboratory classes	15	V	
workshops			
seminar			
introductory seminar			
foreign language classes			
practical placement			
field work			
diploma laboratory			
translation classes			
study visit			

Course pre-requisites	Fundamentals of algorithms and programming Object-oriented programming

II. Course Objectives

1. Getting acquainted with the Python programming language.
2. Presentation of programming techniques in Python

III. Course learning outcomes with reference to programme learning outcomes

Symbol	Description of course learning outcome	Reference to programme learning outcome
KNOWLEDGE		
W_01	The student knows the syntax and semantics of the Python language.	K_W01, K_W06
W_02	The student knows techniques of programming in Python.	K_W01, K_W06
SKILLS		
U_01	The student is able to analyse scripts written in Python.	K_U04
U_02	The student is able to design scripts written in Python.	K_U08, K_U11, K_U17
U_03	The student is able to apply the techniques of object-oriented programming in Python.	K_U08, K_U11, K_U17
SOCIAL COMPETENCIES		
K_01	The student is aware of his knowledge and skills and understands the need for lifelong learning.	K_K01, K_K02, K_K05, K_K06
K_02	The student is able to create effective projects using the Python language.	K_K01, K_K02, K_K05, K_K06

IV. Course Content

Built-in basic data types. Lists, tuples, dictionaries, sets. Strings and their formatting. Control statements. Functions. Modules. Selected built-in and imported modules. File handling. Elements of object-oriented programming in Python (classes, inheritance, encapsulation).

V. Didactic methods used and forms of assessment of learning outcomes

Symbol	Didactic methods *(choose from the list)*	Forms of assessment *(choose from the list)*	Documentation type *(choose from the list)*
KNOWLEDGE			
W_01	Conventional lecture	Exam	Protocol
W_02	Conventional lecture	Exam	Protocol
SKILLS			
U_01	Laboratory classes design thinking	Test	Protocol
U_02	Laboratory classes design thinking	Test	Protocol
U_03	Laboratory classes design thinking	Test	Protocol
SOCIAL COMPETENCIES			
K_01	Laboratory classes design thinking	Test	Protocol
K_02	Laboratory classes design thinking	Test	Protocol

VI. **Grading criteria, weighting factors.....**

Graded pass of the classes based on a test result:
91 – 100% - 5,
81 – 90% - 4.5,
71 – 80% - 4.0,
61 – 70% - 3.5,
50 – 60% - 3.0,
0 - 49% -2.0

Examination (a test for those who have completed the classes):
91 – 100% - 5,
81 – 90% - 4.5,
71 – 80% - 4.0,
61 – 70% - 3.5,
51 – 60% - 3.0,
0 - 50% -2.0

Detailed assessment rules are given to students with each subject edition.

VII. **Student workload**

Form of activity	Number of hours
Number of contact hours (with the teacher)	Lecture 15 Laboratory 15 Consultations 15
Number of hours of individual student work	30

VIII. **Literature**

Basic literature
1. Hetland, Magnus Lie, “Beginning Python From Novice to Professional”, Berkeley, CA : Apress : Imprint: Apress, 2017. 2. Hetland, Magnus Lie, “Python Algorithms Mastering Basic Algorithms in the Python Language”, Berkeley, CA : Apress : Imprint: Apress, 2014. 3.https://www.python.org/ 4. https://en.wikibooks.org/wiki/Python_Programming (ebook)
Additional literature
1. H. M. Deitel, P. J. Deitel, J. P. Liperi, B. A. Wiedermann, “Python. How to programm.”, Prentice Hall, New Jersey, 2002. 2. Hunt, John, “A Beginners Guide to Python 3 Programming”, Cham : Springer International Publishing : Imprint: Springer, 2019.