

**Course Syllabus****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
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Type of class ( <i>use only the types mentioned below</i> )	Number of teaching hours	Semester	ECTS Points
lecture	15	VI	3
tutorial			
classes			
laboratory classes	15	VI	
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
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**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
<b>KNOWLEDGE</b>		
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
<b>SKILLS</b>		
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
<b>SOCIAL COMPETENCIES</b>		
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)
<b>KNOWLEDGE</b>			
W_01	Conventional lecture	Exam	Protocol
W_02	Conventional lecture	Exam	Protocol
<b>SKILLS</b>			
U_01	Laboratory classes design thinking	Test	Protocol
U_02	Laboratory classes design thinking	Test	Protocol
U_03	Laboratory classes design thinking	Test	Protocol
<b>SOCIAL COMPETENCIES</b>			
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

<p>Basic literature</p> <ol style="list-style-type: none"> <li>1. Hetland, Magnus Lie, "Beginning Python From Novice to Professional", Berkeley, CA : Apress : Imprint: Apress, 2017.</li> <li>2. Hetland, Magnus Lie, "Python Algorithms Mastering Basic Algorithms in the Python Language", Berkeley, CA : Apress : Imprint: Apress, 2014.</li> <li>3. <a href="https://www.python.org/">https://www.python.org/</a></li> <li>4. <a href="https://en.wikibooks.org/wiki/Python_Programming">https://en.wikibooks.org/wiki/Python_Programming</a> (ebook)</li> </ol>
<p>Additional literature</p> <ol style="list-style-type: none"> <li>1. H. M. Deitel, P. J. Deitel, J. P. Liperi, B. A. Wiedermann, "Python. How to programm.", Prentice Hall, New Jersey, 2002.</li> <li>2. Hunt, John, "A Beginners Guide to Python 3 Programming", Cham : Springer International Publishing : Imprint: Springer, 2019.</li> </ol>