Freie Universität Bozen
Libera Università di Bolzano
Università Liedia de Bulsan

Corso di Laurea Magistrale in Linguistica Applicata (LM-39)

Course title:	Computer Science
Course year:	1st year
Semester:	1st semester
Course code:	54102
Scientific sector:	INF/01
Lecturer:	Gennari Rosella gennari@inf.unibz.it
Module:	NO
Lecturer other module:	/
Credit Points:	8
Total lecturing hours:	60 hours of lecture + 30 hours of laboratory
Total Hours of availability for students and tutoring:	18 + 6
Office hours:	Mondays, between breaks, by taking appointment
Attendance:	according to regulation
Teaching language:	English
Propaedeutic course:	nessuno
Course description:	The course is for students of the humanities area. It offers an introduction to the fundamentals of computer science. The course uses the Python programming language. It requires collaborative work and adopts a learning-by-doing approach, with continuous in-presence feedback (not via email or other electronic means).
Specific educational objectives:	The aim is to provide students with an adequate knowledge of general computer science concepts, and the acquisition of specific knowledge and mastery of the basics of Python programming. For specific disciplinary objectives, students are referred to list of topics.
List of topics covered:	This course covers the basics of fundamentals of computer science and Python programming: (1) what computer science is; (2) how a computing device/computer interacts; (3) how to write basic Python programs; (4) how to interpret Python programs; (5) how to test Python programs; (6) how to manage atomic and compound data structures; (7) how to manage conditional-statements; (8) how to manage iteration; (9) how to manage functions and recursivity; (10) how to manage text-files; (11) how to manage regular expressions; (12) optionally, how to retrieve web files, e.g., via urllib; (13) optionally, how to manage simple graphical user interfaces (GUI) for text data.
Teaching format:	In practice, the course is divided into short lectures with numerous exercises. During lecture and lab classes, each student must have their own computer with Python 3 pre-installed in order to tackle the exercises.

	The exercises can be solved individually or in small groups of a maximum of 2 or 3 students. The feedback is given by the teacher in presence, in person, during the class hours (e.g., not via e-mail).
Learning outcomes:	Knowledge and understanding: 1. understanding of the fundamentals of computer science, 2. understanding of a simple Python program. Analysis and application of knowledge: 3. analyzing problems and writing simple resolution algorithms; 4. writing short Python programs for algorithms. Making judgments; 5. acquiring critical thinking and making judgments related to the use of IT tools to tackle computational problems. Learning and communicating: 6. ability to learn and work independently, 7. ability to learn and work collaboratively, 8. knowing how to reflect and communicate one's thoughts on a problem and how to solve it computationally.
Assessment:	For those who attend regularly the course, the exam consists of (1) progressive short laboratory exercises (referred to as "challenges"), (2) and a short final exam. For those who do not attend regularly, the final exam is written and on paper.
Evaluation criteria and criteria for awarding markings:	The assessment of the resolutions of the final exam considers the correctness of the resolutions, their quality and the displayed analytical and reflective skills. For those who regulary attend, the vote will also take into account their commitment and the quality of their resolutions of the laboratory exercises.
Required readings:	Downey, Think Python, 2nd Edition.
Supplementary readings:	Shaw. Learn Python the Hard Way.
Software:	Python 3 and possibly the mu-editor, pre-installed on the students' computers, before the course starts.