SCUOLA DI SCIENZE AGRARIE, FORESTALI, ALIMENTARI ED AMBIENTALI

COURSE: Skills in computer science			
ACADEMIC YEAR:2017/2018			
TYPE OF EDUCATIONAL ACTIVITY: Affine			
TEACHER: Massimiliano Gallo, Phd			
e-mail: massimiliano.gallo@unibas.it		website:	
phone: +39 347 9164344		mobile (optional):	
Language: Italian			
ECTS: 3	n. of hours: 48	Campus: Potenza Dept./School: School of agriculture, forestry, food and environmental sciences Program: LM Scienze e tecnologie agrarie	Semester: I°

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

Students should be able to present the basic features of a programming language and use computer tools to analyze a real problem. Students should be able to deduce and motivate the phases of the logical-deductive process that can represent a problem through a computer model. In general, the course objective is to provide the student with those computing skills that enable him to manipulate data according to the application area.

- *Knowledge and understanding skills*
  - ✓ Ability to understand at a general level the key concepts of information and communication technologies (ICT)
  - ✓ Ability to understand the operating principles of the various parts of a computer and how to use different peripherals (scanners, optical devices, printers, ...)
  - ✓ Ability to understand the tools for individual productivity (word processing, calculation, presentation)
  - ✓ Ability to understand the basic instructions in the statistical environment R
  - ✓ Ability to understand the basic instructions for writing documents in Latex
  - ✓ Ability to understand the capabilities of a web browser for searching and retrieving information from the internet
- *Ability to apply knowledge and understanding*
  - ✓ Ability to use a programming language for elementary data processing functions
  - ✓ Ability to use a programming language for basic document processing functions
  - ✓ Ability to use a programming language for elementary presentation functions
- *Autonomy of judgment*
  - ✓ Ability to evaluate the advantages and disadvantages of learned languages in order to be able to choose the most appropriate way to deal with problems in different operating situations
- *Communicative Skills*
  - ✓ Ability to expose the effects of using computer tools for analysis of real problems.
- *Learning Skills*
  - ✓ Ability to enable the logical-deductive process to address and solve problems of computing, document writing, and presentation of results

PRE-REQUIREMENTS

Not any

SYLLABUS

- *Introduction Basic IT elements (4 hours)*
  - ✓ Elements of Information and Communication Technologies (ICT)
  - ✓ Using Your Computer and File Management
  - ✓ Find information on the Internet
- *Editing Latex documents (24 hours)*
  - ✓ Compiling a document with the source file
  - ✓ Command syntax

- ✓ The source structure
- ✓ Document Structure (Text wrapping, bulleted and numbered lists, pagination)
- ✓ Cross References
- ✓ Basic typographical standards (Highlight text, fonts, "dimension" text
- ✓ Floating objects
- ✓ Tables (typographical standards for tables, tabs, environments)
- ✓ Mathematical formulas (basics, math formulas, environments)
- ✓ Bibliographical references
- ✓ Figures and Images (The graphicx, boundingbox, environment, picture environment)
- ✓ Video projections (Guidelines for video projections, basic syntax)

- *Statistical environment R (20 hours)*
  - ✓ Introduction to R language
  - ✓ Data structures R: vectors, arrays, lists, data frames
  - ✓ Flow control instructions
  - ✓ Functions and scripts
  - ✓ I / O Operations
  - ✓ Graphic

TEACHING METHODS
Laboratory tutorials

EVALUATION METHODS
Practical test, Oral examination

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL
Slides and didactic material of each lesson
Links to R manuals and LATEX manuals

INTERACTION WITH STUDENTS
At the beginning of the course, after describing objectives, program and verification methods, the teacher collects the list of students and creates a group on WhatsUP for any communications.
Presumable reception time: Monday-9am to 1pm. These schedules may vary depending on any lessons or commitments that will be communicated in a special bulletin board.
In addition to the weekly reception time, the teacher is available at any time for contact with the students, through their email or by phone contact on the mobile

EXAMINATION SESSIONS (FORECAST)[1]
25/1/2018, 22/02/2018, 29/3/2018, 19/4/2018, 24/5/2018, 7/6/2018, 19/7/2018, 25/10/2018, 22/11/2018, 20/12/2018, 24/1/2019/, 7/3/2019

SEMINARS BY EXTERNAL EXPERTS YES □ NO X

FURTHER INFORMATION
Examination Board: Dr. Massimiliano Gallo (President) and Dr. Raffaele Pace (component)

[1] Subject to possible changes: check the web site of the Teacher or the Department/School for updates.