
COURSE: INFORMATIC SKILLS

ACADEMIC YEAR: 2017-2018

TYPE OF EDUCATIONAL ACTIVITY: Other Activities

TEACHER: VENAFRA SARA

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website:

phone:

mobile (optional):

Language: **ITALIANO**

ECTS: 3(3 lessons e 0
tutorials/practice)n. of hours: **24**(24 lessons e 0
tutorials/practice)Campus: **Potenza**Dept./School: **Dipartimento di****Scienze**Program: **BIOTECNOLOGIE (L2)**Semester: **II**(date: from
05/03/2018 to 15-
30/06/2018)

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

This course introduces the students to Informatics, exploiting tools and methodologies useful to improve individual productivity in the context of information society. The main aim of this course is to provide the basis to study biological information by means of on-line resources and software to represent and analyze the data.

- *The student has to demonstrate to know and understand the issues relative to data acquisition, storage and distribution, exploiting biological databases and applicative software.*
- *The student has to demonstrate to be able in querying biological databases, searching biological sequences and using applicative software to analyze, elaborate and illustrate the retrieved results.*
- *The student has to demonstrate to be capable in evaluating the retrieved results independently, showing the best methodologies for a better data analysis in order to improve the basis knowledge and to reach new purposes.*
- *The student has to be able in explaining the tools and the approaches used in a very simple way, using the appropriate scientific language. The student has to be capable to represent the results through graphics and multimedia presentations to show the obtained results.*
- *The student has to be always updated, consulting texts and scientific publications and exploiting on-line resources relative to biological and bioinformatics fields.*

PRE-REQUIREMENTS*Basic concept of informatics and statistics;**Basic concepts of biology and genetic.*

SYLLABUS

- *Acquisition of data from scientific literature (2 hours);*
- *Storage and distribution of data through internet and World Wide Web (2 hours);*
- *Query of biological database by means of Entrez and SRS systems (2 hours);*
- *Research in database with single sequence (2 hours);*
- *Usage of heuristic software FASTA and BLAST to search similarity in database sequences (3 hours);*
- *Microsoft Office: Word, Excel, Power Point (2 hours);*
- *Electronic sheet: to insert, organize and analyze data (2 hours);*
- *Data presentation: graphs and tables; media and standard deviation; statistic inference (3 hours);*
- *Statistics: chi-square criterion, F test and t of Student (3 hours);*
- *Usage of OpenOffice.org package (2 hours).*

TEACHING METHODS*24 hour of theoretical lessons and laboratory tutorials*

EVALUATION METHODS*Quiz and practical test with Excel and Power Point.*

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL*Textbook: Pascarella S., Paiardini A. – Bioinformatica – eds. Zanichelli*

INTERACTION WITH STUDENTS*Office hours: all days after contact via email at room 26 on the fifth floor of Engineering Department*

EXAMINATION SESSIONS (FORECAST)¹

21/06/2018, 12/07/2018, 20/09/2018, 04/10/2018, 29/11/2018, 05/12/2018.

SEMINARS BY EXTERNAL EXPERTS YES NO

FURTHER INFORMATION

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