MODULE OUTLINE BNP55

1. GENERAL INFORMATION

SCHOOL	SCIENCE AND TECHNOLOGY
PROGRAM COURSE	COMPUTER SCIENCE
LEVEL OF STUDY	POSTGRADUATE
MODULE CODE	BNP55 **YEAR** 2nd
MODULE TITLE	Biological Databases Design and Programming Languages

INDEPENDENT TEACHING ACTIVITIES *in case the credits are granted in separate parts of the course module e.g. Lectures, Laboratory Exercises, etc. If credits are granted uniformly for the entire course, list the weekly work hours and total number of credits*	**HOURS**	**CREDITS**
Weekly workload hours: 21-22 hours x 13 weeks	280	10

MODULE TYPE *Compulsory/Optional/Compulsory by choice*	Compulsory
PREREQUISITE MODULES	There are no prerequisites for this module
LANGUAGE	Greek
THE MODULE IS OFFERED TO ERASMUS STUDENTS	NO
MODULE WEBSITE (URL)	https://www.eap.gr/en/bioinformatics-and-neuroinformatics/topics/#b55 Each module has its own space in the Learning Management System of EAP (https://courses.eap.gr/login/index.php), with controlled access (use of code) for students and teaching staff.

2. LEARNING OUTCOMES

Learning Outcomes

Description of the learning outcomes of this module, the knowledge, skills and abilities that students will acquire after the successful completion of this course module.
Consult Appendix A
- *Description of the Level of Learning Outcomes for each study cycle according to the Qualifications Framework of the European Higher Education Area*
- *Descriptive Indicators for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Comprehensive Guide to writing learning outcomes*

Upon completion of this module, students will be able to:

- design biological databases
- execute SQL queries
- describe data structures
- explain OODs
- implement OODs

General Competences

Taking into account the general abilities that the graduate must have acquired (as they are listed in the Diploma Annex and listed below) which of them does the course module aim at?.
Search, analysis and synthesis of data and information,   Project planning and management

Search, analysis and synthesis of data and information, using necessary technologies
Adaptation to new situations
Decision making
Work in an interdisciplinary environment

3. MODULE CONTENT

The content of this module is related to issues of data structures, design, analysis and mapping of biological databases, Python or Antha with applications to specific topics. The basic academic subjects of the module are:

- Database Design
- Programming languages for biological data

4. TEACHING METHODS--ASSESSMENT

MODES OF DELIVERY *face to face, distance learning e.t.c.*	*Distance learning*
USE OF INFORMATION AND COMMUNICATION TECHNOLOGY *Use of I.C.Ts in Education, in Laboratory training, for communicating with students*	- Remote meetings tools (webex), - Presentation software (e.g., power point)

| **MODULE DESIGN**
 Detailed description of educational methods. Lectures, Seminars, Laboratory Exercise, Field Exercise, Study & Analysis, Tutorial, Internship (Placement), Clinical Exercise, Art Workshop, Interactive learning, Educational visits, Study preparation (Project), Paper writing/ Assignments, Artistic Creation, e.t.c.

 Student study hours for each educational activity as well as homework study hours are listed so that the total semester workload corresponds to ECTS standards. |

ACTIVITY	SEMESTER WORKLOAD
3 Group Counseling Meetings (x 4 ώρες)	12
13 educational activities	65
3 semester projects	30
Exams	3
Homework	150-170
Total workload in hours	260-280

STUDENT PERFORMANCE EVALUATION/ ASSESSMENT METHODS *Assessment procedure descriptions, Assessment language, Assessment Methods, Formative or Deductive, Multiple Choice Test, Short Answer Questions, Problem Solving, Written Assignment, Report / Report, Oral Examination, Public Presentation, Laboratory Work, Clinical Patient Examination, Artistic*	Preparation of written assignments in Greek during the academic semester, Written exams in Greek at the end of the semester. There are all the criteria posted, both in each written assignment (in the study) and in the general regulation: https://www.eap.gr/wp-

Interpretation, Other. *Explicitly defined evaluation criteria are mentioned and if and where they are accessible by students.*	content/uploads/2022/03/kanonismos-spoudwn-isxys-apo-to-didaktiko-etos-2022-2023.pdf

5. SUGGESTED BIBLIOGRAPHY

- Μπάγκος, Π. (2015). *Βιοπληροφορική*, Αθήνα. ΣΕΑΒ/Κάλλιπος
- Rocha, M. & Ferreira, P.G. (2018). *Bioinformatics Algorithms: Design and Implementation in Python*, Cambridge: Academic Press- Elsevier