ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ
Α .Δ Ι .Π .
ΑΡΧΗ ΔΙΑΣΦΑΛΙΣΗΣ & ΠΙΣΤΟΠΟΙΗΣΗΣ
ΤΗΣ ΠΟΙΟΤΗΤΑΣ ΣΤΗΝ ΑΝΩΤΑΤΗ
ΕΚΠΑΙΔΕΥΣΗ

HELLENIC REPUBLIC
H .Q .A .
HELLENIC QUALITY ASSURANCE
AND ACCREDITATION AGENCY

ΤΕΧΝΟΛΟΓΙΚΟ ΕΚΠΑΙΔΕΥΤΙΚΟ ΙΔΡΥΜΑ ΑΝΑΤΟΛΙΚΗΣ ΜΑΚΕΔΟΝΙΑΣ ΚΑΙ ΘΡΑΚΗΣ
ΜΟΝΑΔΑ ΔΙΑΣΦΑΛΙΣΗΣ ΤΗΣ ΠΟΙΟΤΗΤΑΣ ΤΕΙ ΑΜΘ

Quality Assurance in Higher Education
Course Data Collection Form

ΤΕΧΝΟΛΟΓΙΚΟ ΕΚΠΑΙΔΕΥΤΙΚΟ ΙΔΡΥΜΑ
ΑΝΑΤΟΛΙΚΗΣ ΜΑΚΕΔΟΝΙΑΣ & ΘΡΑΚΗΣ
ΑΓΙΟΣ ΛΟΥΚΑΣ,
65404 ΚΑΒΑΛΑ

EASTERN MACEDONIA AND THRACE
INSTITUTE OF TECHNOLOGY
AGIOS LOUKAS
65404 KAVALA

COURSE OUTLINE

(1) GENERAL

SCHOOL	*SCHOOL OF SCIENCE*		
ACADEMIC UNIT	*COMPUTER SCIENCE*		
LEVEL OF STUDIES	*UNDERGRADUATE*		
COURSE CODE	**203YYK**	**SEMESTER**	**2th**
COURSE TITLE	*INTRODUCTION TO DATABASES*		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
Lectures	*2*	*5*
Tutorial Exercises	*1*	
Laboratory exercises	*2*	
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialized General Knowledge,
PREREQUISITE COURSES:	-
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	*Greek*
IS THE COURSE OFFERED TO ERASMUS STUDENTS	-
COURSE WEBSITE (URL)	-

(2) LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

Databases are an IT subject necessary in the vast majority of systems that a programmer is asked to implement.
The course aims to introduce the trainees to the basic concepts of Databases and to provide them with all the knowledge and skills necessary to be able to design, implement and manage simple databases.
Upon successful completion of the course the student will be able to:

- *Understand basic concepts of databases (DB).*
- *Recognize the architecture on which relational databases are based and the interdependence of knowledge with technology.*
- *Designs the Entity Relationship Model (ECM) following the Design Methodology (Conceptual/Logical/Physical).*
- *To extract the Schema of the DB from an MOS.*
- *It implements a DB schema using SQL queries.*
- *Understands representations written in relational algebra.*
- *Builds queries with relational algebra representations.*
- *Perform queries with SQL.*
- *Modify the structure of the database and tables with SQL queries.*
- *Understand the issues arising from the relationships between entities in a DB.*
- *Normalize a database.*

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*
	…….

- Search, analysis and synthesis of data and information, using the necessary technologies
- Autonomous Work
- Exercise of criticism and self-criticism
- Promotion of free, creative and deductive thinking

(3) SYLLABUS

- Database system (Hardware, Data, Users)
- Database systems architecture
- Database Management System (DBMS) . Comparison with traditional file management systems.
- Relational Data Management System (RDBMS).
- Relational model (Object structure - Data integrity - Data manipulation).
- Relational algebra (relational operators , query creation (queries) .)

- Database design (Model of Entity Relationships (MOS) , Design Methodology).
- SQL structured query language.

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	*Face-to-face (in class)*
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	*Supporting the learning process through the online platform e-class* *Delivery of the material with the help of slides* *Oracle SQL Server Express/ MySQL Server*
TEACHING METHODS *The manner and methods of teaching are described in detail.* *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.* The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS	***Activity*** — ***Semester workload*** *Lectures* — *13x2 =26 hours* Tutorial Exercises — *13x1 =13 hours* *Laboratory Exercises* — *13x2 =26 hours* *Independent study* — *58 hours* *Exams* — *2hours* *Course total* — ***125 hours***
STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	*Theory:* *Written final examination (100%) including:* • *Multiple choice questions* • *Open Questions* • *Problem-solving* • *Database design* *Labs:* • *Final examination (60%)* • *Individual assignment (40%)*

(5) ATTACHED BIBLIOGRAPHY

1. Βιβλίο [50656346]: ΒΑΣΕΙΣ ΔΕΔΟΜΕΝΩΝ ΚΑΙ SQL: ΜΙΑ ΠΡΑΚΤΙΚΗ ΠΡΟΣΕΓΓΙΣΗ, ΑΘΑΝΑΣΙΟΣ ΣΤΑΥΡΑΚΟΥΔΗΣ Λεπτομέρειες
2. Βιβλίο [94702113]: Συστήματα Βάσεων Δεδομένων - 2η Έκδοση, Απόστολος Ν. Παπαδόπουλος - Θεόδωρος Τζουραμάνης -
3. Αναστάσιος Γούναρης - Ιωάννης Μανωλόπουλος Λεπτομέρειες
4. Βιβλίο [50662846]: Θεμελιώδεις Αρχές Συστημάτων Βάσεων Δεδομένων, Elmasri Ramez, Navathe Shamkant B. Λεπτομέρειες

Additional Bibliography

1. C.J. Date, Εισαγωγή στα Συστήματα Βάσεων Δεδομένων, τ. Α.
2. Thomas M. Connolly, Carolyn E. Begg Συστήματα βάσεων δεδομένων Μια πρακτική προσέγγιση στο σχεδιασμό, την υλοποίηση και τη διαχείριση.
3. Βάσεις Δεδομένων: Σύγχρονη Διαχείριση, 11 Έκδοση, Συγγραφείς: Hoffer J., Ramesh V., Topi H. , Μιχαήλ Βαΐτης - Ευαγγελία Καβακλή (επιμέλεια), Εκδόσεις Α. ΤΖΙΟΛΑ & ΥΙΟΙ Α.Ε., 2017, ISBN: 978-960-418-502-3