OBJECT-ORIENTED DATABASES
Course Code: MI 303
Type of course: compulsory
Language of instruction: English tutoring available for Erasmus students
Name of lecturer: Adriana Birlutiu, PhD
Seminar tutor: Adriana Birlutiu, PhD
Full time studies

Form of instruction	Number of teaching hours per semester	Number of teaching hours per week	Semester	Form of receiving a credit for a course	Number of ECTS credits allocated
Class	56	4	Summer	Grade	8

COURSE AIMS:
- This course introduces fundamental concepts and implementation of object oriented database systems with focus on data distribution, query processing, transaction processing, concurrency control and recovery.

ENTRY REQUIREMENTS:
- Databases.

COURSE CONTENTS:
- Introduction, Concepts and Definitions
- Normalization Techniques
- Data Mining and Data warehouse
- Transaction Processing
- Concurrency Control
- Distributed Databases
- Database Security
- Temporal database
- Oracle system architecture
- Updating an Oracle database
- PL/SQL Language
- Oracle Utilities
- Oracle From Builder

TEACHING METHODS:
Lecture, conversation, exemplification.

LEARNING OUTCOMES:
- Apply normalization techniques.
- Understand how transactions are processed in a database.
- Discuss/explain the concepts of Distributed Databases and Data Warehousing.
- Discuss/explain some database security issues.
- Tune and Optimize some Database Applications.

LEARNING OUTCOMES VERIFICATION AND ASSESSMENT CRITERIA:
Written exam – 50%; continuous assessment – 50%.

RECOMMENDED READING:
- R. Ramakrishnan, J. Gehrke, *Database Management Systems*. McGraw-Hill Publisher, third Edition Pub date: 2002, ISBN: 0-07-246563-8.
- J.D. Ullman *Principles of Data and Knowledge Base Systems*, Volume 1, Computer Science Press.
- H.F. Korth and A. Silberschatz, *Database System Concepts*, 2nd Edition, McGraw-Hill.
- J. Widom and J. D. Ullman, *A First Course in Database Systems*, Prentice-Hall.

AUDIT OF INFORMATION SYSTEMS
Course Code: MI 208.1
Type of course: compulsory
Language of instruction: English tutoring available for Erasmus students
Name of lecturer: Elisabeta Mihaela Ciortea, PhD Eng.
Seminar tutor: Elisabeta Mihaela Ciortea, PhD Eng.
Full time studies

Form of instruction	Number of teaching hours per semester	Number of teaching hours per week	Semester	Form of receiving a credit for a course	Number of ECTS credits allocated
Class	56	4	Summer	Grade	7

COURSE AIMS:

- Evaluation stage of development, implementation and use of information technology infrastructure and specific instruments and communication in the framework of the e-tendering for the provision of electronic public procurement, for public institutions and businesses.
- Making recommendations to accelerate the extension of this electronic service.
- Defining and proposing measures for auditing information systems.

ENTRY REQUIREMENTS:

- Identifying and proposing solutions to ensure protection of information systems in the unit where they work. Ensuring full audit systems they evaluated.
  Defining concepts of security and protection systems.

COURSE CONTENTS:

Head. 1 The context of development of IT audit internally and internationally.
1.1 Socio-economic context. Strategies and policies for the information society.
1.2 IT Governance
1.3 Legislative and regulatory IT.
1.4 Current status on the auditing systems domestically and internationally.

Head. 2 Standards for IT audit
2.1 Institutions, standards and guidelines,
2.2 The INTOSAI auditing,
2.3 International Standards on Auditing ISA,
2.4 The document Sarbanes - Oxley.
2.5 IIA Standards
2.6 COSO.
2.7 Changes in vision IT audit standards EUROSAI - ITWG.
2.8 This framework COBIT.
2.9 Val IT Framework working.

2.10 Risk IT Framework Working
2.11 Standard IDO / IEC 27001 - Information security management systems.

Head. 3 IT Risks
3.1 Key components of risk governance domain.
3.2 Problems associated with the use of IT systems audit / IS.
3.3 Issues with significant impact on audit risk.
3.4 Model of IT risk management.
3.5 Risks arising from the existence of computerized environment.
3.6 Risks associated with IT service delivery.

Concrete analysis
I. Information Systems Audit
- Aplication domain
- Reference documents applicable to the audit IS / IT.
- General objectives and specific audit objectives IT / IS
- Evaluation Criteria generic
- Determining the nature and extent of audit procedures
- Review of IT controls in financial audits

II. Steps audit systems
- Planning the audit.
- Conduct audit.
- Develop audit report of findings and recorded.
- Review of audit systems.

III. Evaluation of financial and accounting information systems.
- Background information on system IT / IS the audited entity.
- General IT controls.
- Assessment of the application and risk assessment.

IV. The procedural framework for evaluating systems.
- Background information on the IT systems of the audited entity.
- Environmental assessment of IT controls - general IT controls.
- Analysis of application controls and risk assessment.

V. Checklists, models and questionnaires
VI. Legislation Information Society

TEACHING METHODS:
Lecture, conversation, exemplification.

LEARNING OUTCOMES:
After completing the course the student must possess:
- Basic audit systems;
- Know all aspects of management information systems;
- Properly define and full vulnerability of a system.

LEARNING OUTCOMES VERIFICATION AND ASSESSMENT CRITERIA:
Written paper – interpretative essay – 50%; continuous assessment – 50%.

RECOMMENDED READING:
- Champlain Jack J. - Auditing Information Systems, John Wiley & Sons, Inc., USA 2003.
- Whittington O. Ray, Kurt Pany, Walter B. Meigs, Robert F. Meigs- Principles of Auditing, Tenth Edition, IRWIN Boston.