

## COURSE OUTLINE

### (1) GENERAL INFORMATION

<b>SCHOOL</b>	Management Sciences		
<b>DEPARTMENT</b>	Business Administration		
<b>STUDY LEVEL</b>	Undergraduate Program		
<b>COURSE CODE</b>	TA0044	<b>SEMESTER</b>	Spring
<b>COURSE TITLE</b>	Management information systems II		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>WEEKLY TEACHING HOURS</b>	<b>CREDITS (ECTS)</b>
Lectures		2	3
Team-Based Learning		1	2
<b>COURSE TYPE</b>	Advanced Course		
<b>PREREQUISITES</b>	None		
<b>LANGUAGE OF INSTRUCTION AND ASSESSMENT</b>	Greek		
<b>AVAILABLE TO ERASMUS STUDENTS</b>	No		
<b>COURSE WEBSITE (URL)</b>	<a href="https://eclass.aegean.gr/courses/TDE-PPS358">https://eclass.aegean.gr/courses/TDE-PPS358</a>		

### (2) LEARNING OUTCOMES

<b>Learning Outcomes</b>
The course is intended for undergraduate students of the Department of Business Administration. Its aim is to familiarize students with specialized concepts of management information systems as they are applied in practice in the professional landscape of businesses and industry, as well as with the technologies developed within Smart Cities, in the context of the new model of habitation shaped by the technological achievements of the 4 <sup>th</sup> Industrial Revolution. By the end of the course, students will be able to deeply understand the operating parameters of a modern management information system and how it communicates with its environment through appropriate interfaces. They will be able to identify the main components of management information systems within the context of green and sustainable ecosystems in today's human activity and social life. They will acquire in-depth knowledge of a wide range of technological applications of modern information systems in key dimensions of Smart Cities. Students will be able to propose, devise, and support administratively sound and innovative business ideas, and effectively describe human-centered business models in the framework of the 4 <sup>th</sup> Industrial Revolution.
<b>General Skills</b>
The course aims to develop the following skills, research, analysis, and synthesis of data using appropriate technologies. Adaptation to new situations. Decision-making. Autonomous and team-based work. Cross-disciplinary and international collaboration. Development of new research ideas. Project design and management. Respect for diversity and multiculturalism. Environmental awareness. Critical and self-critical thinking. Encouragement of free, creative, and inductive thinking. Understanding patent registration processes in Greece and abroad. Recognizing ethical dilemmas between adopting new technologies and the human factor.

### (3) COURSE CONTENT

**Course Topics:****1<sup>st</sup> Lesson:**

- The Basics of Systems Analysis.
- Systems, Roles, and Development Methodologies.
- The Need for Systems Analysis and Design.
- Roles of the Systems Analyst.
- System Development Life Cycle.

**2<sup>nd</sup> Lesson:**

- Understanding and Modeling Business Systems.
- Organizations as Systems.
- Graphically Representing Systems.
- Use Case Modeling.
- Levels of Management.

**3<sup>rd</sup> Lesson:**

- Project Management.
- Initiating a Project.
- Determining Project Feasibility.
- Identifying Hardware and Software Requirements.
- Estimating, Forecasting, and Comparing Costs and Benefits.

**4<sup>th</sup> Lesson:**

- Requirements Analysis for Information.
- Information Gathering: Interactive Methods.
- Interviews.
- Listening to Stories.
- Joint Application Design (JAD).

**5<sup>th</sup> Lesson:**

- Information Gathering: Unobtrusive Methods.
- Sampling.
- Quantitative Document Analysis.
- Qualitative Document Analysis.
- Using Text Analytics.

**6<sup>th</sup> Lesson:**

- Intelligent Modeling, Prototyping, and Scrum.
- Prototype Development.
- Intelligent Modeling.
- Scrum.
- DevOps: A Philosophical Shift in Application Development.

**7<sup>th</sup> Lesson:**

- The Analysis Process.
- Using Data Flow Diagrams.
- Data Flow Approach to Identifying Human Requirements.
- Developing Data Flow Diagrams.
- Logical and Physical Data Flow Diagrams.

**8<sup>th</sup> Lesson:**

- Systems Analysis Using Data Dictionaries.
- The Data Dictionary.
- Data Repository.

- Creating a Data Dictionary.
- Using a Data Dictionary.

**9<sup>th</sup> Lesson:**

- Process Specifications and Structured Decisions.
- Overview of Process Specifications.
- Structured English.
- Decision Tables.
- Decision Trees.

**10<sup>th</sup> Lesson:**

- Object-Oriented Systems Analysis and Design Using UML\*.
- Object-Oriented Concepts.
- CRC Cards and Object Think.
- UML Concepts and Diagrams.
- Use Case Modeling.

**11<sup>th</sup> Lesson:**

- Essentials of Design.
- Designing Effective Output.
- Output Design Objectives.
- Matching Output Content with Output Method.
- Understanding User Bias Toward Output.

**12<sup>th</sup> Lesson:**

- Designing Effective Input.
- Good Form Design.
- Good Screen and Web Form Design.
- Website Design.

**13<sup>th</sup> Lesson:**

- Database Design.
- Databases.
- Data Concepts.
- Normalization.
- Guidelines for Designing Master File/Database Relationships.
- Using Databases.

**14<sup>th</sup> Lesson:**

- Human–Computer Interaction and User Experience Design.
- Understanding Human–Computer Interaction.
- Usability.
- User Experience Design.
- Designing for Smartphones and Tablets.

**15<sup>th</sup> Lesson:**

- Ensuring and Implementing Quality.
- Designing Effective Data Entry Procedures.
- Effective Coding.
- Efficient and Accurate Data Collection.
- Ensuring Data Quality Through Input Validation.
- Benefits of Accuracy in E-Commerce Environments.

**16<sup>th</sup> Lesson:**

- Quality Assurance and Implementation.

- The Total Quality Management Approach.
- Documentation Approaches.
- Testing, Maintenance, and Formal Review.
- Implementing Distributed Systems.

**17<sup>th</sup> Lesson:**

- Review.
- Q&A section.
- Exam preparation.
- Course evaluation.

**(4) TEACHING & LEARNING METHODS - ASSESSMENT**

<b>DELIVERY METHOD</b>	Face-to-face lectures and Team-Based Learning	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Digital slides and video presentations. Critical analysis of course content. Communication via e-learning platforms (eclass) and digital communication tools (institutional email, MS Teams). Digital lecture materials for review and further study. Digital student presentations.	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester Workload</b>
	Lectures	44 Hours
	Discussions	32 Hours
	Team-Based Learning	28 Hours
	Independent Study	21 Hours
	<b>Total</b>	<b>125 Hours</b>
<b>STUDENT ASSESSMENT</b>	Intermediate formative assessment of team-based projects. Final written exam at the end of the semester. Assessment language is Greek.	

**(5) RECOMMENDED BIBLIOGRAPHY**

- An extensive variety of scientific articles, on-site videos, technical news, and reports, as well as other very recent sources, are provided as references to students in each lecture (for further information and study). The selection and presentation of these sources are dynamically adjusted throughout the course and tailored to the specific needs of the lesson and the students in the class.
- Lecture notes from the instructor, which are also uploaded on the asynchronous e-learning platform (eclass).
- **Three (3) academic books are recommended for further study:**
  - **1<sup>st</sup> Book:**  
 Τίτλος: Ανάλυση και Σχεδίαση Συστημάτων  
 Κωδικός Βιβλίου στον Εύδοξο: 122075093  
 Έκδοση: 10η/2023  
 Συγγραφείς: Kenneth E. Kendall ,Julie E.Kendall  
 ISBN: 9789605127480  
 Τύπος: Σύγγραμμα  
 Διαθέτης (Εκδότης): Χ. Γκιούρδα & Σια ΕΕ
  - **2<sup>nd</sup> Book:**  
 Τίτλος: Ανάλυση, Σχεδίαση και Μοντελοποίηση Πληροφοριακών Συστημάτων

Κωδικός Βιβλίου στον Εύδοξο: 133041959

Έκδοση: 1η/2024

Συγγραφείς: Νικήτας Καρανικόλας

ISBN: 9786182170748

Τύπος: Σύγγραμμα

Διαθέτης (Εκδότης): Εκδόσεις Τσιότρας Αθανάσιος ΕΕ

○ **3<sup>rd</sup> Book:**

Τίτλος: Πληροφοριακά Συστήματα για Επιχειρήσεις – Εμπειρική Προσέγγιση

Κωδικός Βιβλίου στον Εύδοξο: 102070244

Έκδοση: 1η/2025

Συγγραφείς: Belanger France, Van Slyke Craig, Crossler Robert E

ISBN: 9789925588565

Τύπος: Σύγγραμμα

Διαθέτης (Εκδότης): Broken Hill Publishers Ltd