COURSE OUTLINE

1. GENERAL

SCHOOL	APPLIED ECONOMIC AND SOCIAL SCIENCES		
ACADEMIC UNIT	AGRIBUSINESS AND SUPPLY CHAIN MANAGEMENT		
LEVEL OF STUDIES	*Undergraduate*		
COURSE CODE	**5703**	**SEMESTER**	7th
COURSE TITLE	SUPPLY CHAIN INFORMATION SYSTEMS		

INDEPENDENT TEACHING ACTIVITIES	**WEEKLY TEACHING HOURS**	**CREDITS**
Lectures	3	5
Laboratory exercises	2	

COURSE TYPE	Special Background-Skills Development
PREREQUISITE COURSES	NO
LANGUAGE OF INSTRUCTION and EXAMINATIONS	Greek
IS THE COURSE OFFERED for ERASMUS STUDENTS?	YES (in English)
COURSE WEBSITE (URL)	https://oeclass.aua.gr/eclass/

2. LEARNING OUTCOMES

Learning Outcomes

The aim of the course is:

- to help students to become familiarized with concepts from the two fields: logistics and information systems and understand their interaction
- to help students to understand the utilization of advanced technologies and information systems for supply chain management
- to help students to acquire the skills of using information systems to manage the supply chain

Upon successful completion of the course, the student will be able to:

- describe the type of data coming from each supply chain node, their interconnections, the flow of information between the nodes, the simulation of business processes in an information system

- implement techniques for the analysis, design and implementation of information systems
- explain the operation of the main information systems used in supply chain management
- explain the operation of advanced technologies and advanced information systems used in supply chain management
- use information systems to manage the supply chain

General Competences

- Adapting to new situations
- Decision-making
- Working independently
- Teamwork
- Working in an international environment
- Working in an interdisciplinary environment
- Production of new research ideas Teamwork
- Project planning and management
- Respect for difference and multiculturalism
- Respect for the natural environment
- Showing social, professional, and ethical responsibility and sensitivity to gender issues
- Criticism and self-criticism
- Production of free, creative and inductive thinking

3. SYLLABUS

1. Fundamental concepts of Information Systems and Supply Chain Management
2. Data interconnectivity among supply chain nodes, information flow across nodes, and business process simulation within the information system
3. Techniques for the analysis, design, and implementation of information systems in alignment with supply chain management requirements
4. Modeling and simulation of business processes in Supply Chain Management
5. Decision Support Systems (DSS) in Supply Chain Management
6. Decision Support Systems (DSS) based on Dynamic Systems and Fuzzy Cognitive Mapping (FCM)
7. Business Intelligence and analytics systems in Supply Chain Management
8. Enterprise Resource Planning (ERP) systems and Customer Relationship Management (CRM) systems
9. Warehouse Management Systems (WMS): implementation, advantages, limitations, and case studies
10. Intelligent Supply Chain Management: Digital Supply Chains, Digital Twins, and blockchain technologies
11. Intelligent transportation systems: vehicle routing for distribution, telematics systems, autonomous vehicles and drones, and Geographic Information Systems (GIS)
12. Intelligent Warehouse Management: IoT and RFID technologies, automated storage systems, robotic systems, and Augmented Reality
13. Intelligent Supply Chain Management: applications of Artificial Intelligence and Machine Learning

The laboratory part of the course covers the following topics:

- Use of advanced information systems and technologies in Logistics (e.g. ERP, DSS, WMS, CRM, etc)

A combination of teaching and learning methods will be used, aiming at the active participation of the students and the practical application of the thematic units under examination; there will also be lectures using audiovisual media, discussions, and analyses of case studies on real business issues, experiential (group) activities, as well as projections of relevant videos. The students will also undertake an individual or group project. Furthermore, articles, audiovisual lecture materials, web links/addresses, useful information, case studies and exercises for further practice are posted in digital form on the AUA Open e-Class platform.

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY	Face -to-face, Distance learning
USE OF INFORMATION and COMMUNICATIONS TECHNOLOGY	• Support of the learning process through the University's AUA Open eClass platform (integrated e-Course Management System) • Support of lectures using presentation software • Use of audiovisual material • Use of web applications **Communication with students**: face-to-face at office hours, email, eclass platform
TEACHING METHODS	
STUDENT PERFORMANCE EVALUATION	The evaluation process is in the language that the course is taught (Greek or English) and consists of: i. Compulsory written final examination at the end of the semester (weighting factor **70**% at least) which may includes:

Activity	*Workload*
Lectures (direct)	39
Laboratory Practice	26
Essay Writing	20
Autonomous study	36
Advisory Support	0,5
Examination	2
Laboratory Examination	2
Total (About 25 hours of study per ECTS)	***125,5***

	● Multiple choice questionnaires ● Open-ended questions ● Problem solving ● Oral examination **Evaluation criteria:** correctness, completeness, clarity ii. Optional written exam or essay during the semester (weighting factor 30%) which may includes: ● Multiple choice questionnaires ● Open-ended questions ● Problem solving ● Essay/report ● Oral examination **Evaluation criteria:** correctness, completeness, clarity **Special learning difficulties:** Students with **special learning difficulties** in writing and reading (as they are certified and characterized by a competent body) are examined based on the procedure provided by the Department. **Specifically-Defined Criteria:** The evaluation criteria are made known during the first lesson and are clearly stated on the course website and the AUA Open e-class platform. The answers to the exam questions are posted on the AUA Open e-Class platform after the exam. The students are allowed to see their exam paper after its grading (during the announced office hours) and receive explanations about the grade they received.

5. ATTACHED BIBLIOGRAPHY

Suggested Bibliography in Greek Language:

- Φωλίνας Δ., Παπαδοπούλου Ε.Μ. (2013). Διαχείριση διαδικασιών αποθήκης με τη χρήση πληροφοριακού συστήματος, Ιδιωτική έκδοση, Θεσσαλονίκη.

- Πολλάλης Ι., Βοζίκης Α (2015). Πληροφοριακά Συστήματα Διαχείρισης Επιχειρησιακών Πόρων, εκδ. Utopia.
- Στεφάνου Κ., Μπιάλας Χ,, (2014). Σύγχρονα Επιχειρησιακά Συστήματα, Πληροφοριακά Συστήματα Διοίκησης και Συστήματα Επιχειρησιακών Πόρων (ERP), εκδότης Κ. Στεφάνου.
- Στεφάνου Κ., Μπιάλας Χ,, (2017). Συστήματα Επιχειρησιακών Πόρων και Εφαρμογές με το σύστημα SAP, Εκδότης Αλτιντζής Α.
- Φιτσιλής, Π. (2015). Σύγχρονα πληροφοριακά συστήματα επιχειρήσεων, ERP-CRM-BPR, [ηλεκτρ. βιβλ.] Αθήνα: Σύνδεσμος Ελληνικών Ακαδημαϊκών Βιβλιοθηκών, Κάλλιπος, Διαθέσιμο στο: http://hdl.handle.net/11419/2256
- Κρούσκα, Α., Τρούσσας, Χ., Μυλωνάς, Φ.Α., Σγουροπούλου Κ. (2024). Τεχνητή Νοημοσύνη και Εφαρμογές. Εκδόσεις Τσότρας ΕΕ.
- Μητρόπουλος, Σ., & Δουληγέρης, Χ. (2023). Υπολογιστική Νέφους, Blockchain και Σύγχρονη Κινητή Υπολογιστική [Κεφάλαιο]. Στο Μητρόπουλος, Σ., & Δουληγέρης, Χ. 2023. Κατανεμημένα Πληροφοριακά Συστήματα και Διαχείρισή τους [Προπτυχιακό εγχειρίδιο]. Κάλλιπος, Ανοικτές Ακαδημαϊκές Εκδόσεις. https://hdl.handle.net/11419/11094
- Μαυρίδης, Α., & Φωλίνας, Δ. (2026). Ειδικά Θέματα Εφαρμογών Γεωγραφικών Συστημάτων Πληροφοριών στην Εφοδιαστική Αλυσίδα (Logistics) [Προπτυχιακό εγχειρίδιο]. Κάλλιπος, Ανοικτές Ακαδημαϊκές Εκδόσεις. https://doi.org/10.57713/kallipos-1110 {Περιέχει το Κεφάλαιο: Προχωρημένα θέματα GIS και Logistics - Γλώσσα R, Μηχανική Μάθηση και Τεχνητή Νοημοσύνη στη Διοίκηση Εφοδιαστικής Αλυσίδας https://hdl.handle.net/11419/15373 }
- Alpaydin Ethem (2022). Εισαγωγή στη Μηχανική Μάθηση. Εκδόσεις Broken Hill Publishers Ltd

Suggested Bibliography in English Language:

- Baumann, F., Ceniza, G., Massicette, S., Medepalli, A., Thomas, K. (2017). Digital Supply Chain For Dummies, JDA Software Group.
- Kurbel, K., (2013). Enterprise Resource Planning and Supply Chain Management, Springer.
- Martin, M. (2014). Discover Logistics with SAP (SAP ERP and SAP SCM), 2nd updated edition, SAP Press.
- Monk, E., Wagner, B. (2012). Concepts in Enterprise Resource Planning, Course Technology
- Olson D., (2012). Supply Chain Information Technology, Business Expert Press.
- Temponi, C., Vandaele, N. (eds) (2018). Information Systems, Logistics, and Supply Chain, Lecture Notes in Business Information Processing, Springer.
- Sousa, M.J., Cruz, R., Caracol, C. Dias, I. (2017). Handbook of Research on Information Management for Effective Logistics and Supply Chains, IGI Global.
- Wang, J. (2009). Innovations in Supply Chain Management for Information Systems: Novel Approaches, 1st edition Business Science Reference.

Related academic Journals:

- International Journal of Information Systems and Supply Chain Management (IJISSCM)
- Operations and Supply Chain Management: An International Journal (OSCM)
- Journal of Information Technology Impact (JITI)
- International Journal of Intelligent Enterprise (IJIE)
- International Journal of Logistics Systems and Management

- Journal of Enterprise Information Management
- Journal of Enterprise Resource Planning Studies
- International Journal of Enterprise Information Systems (IJEIS)

Instructor's Notes