COURSE OUTLINE [DECISION SUPPORT SYSTEMS]

1. GENERAL

SCHOOL	Business Administration		
DEPARTMENT	Business Administration		
LEVEL OF STUDIES	Postgraduate		
COURSE CODE	**DE0205**	**SEMESTER**	**B**
COURSE TITLE	DECISION SUPPORT SYSTEMS		
INDEPENDENT TEACHING ACTIVITIES		**WEEKLY TEACHING HOURS**	**CREDITS**
Lectures, Essay, Presentation		**3**	**6**
COURSE TYPE	Elective course, special background		
PREREQUISITE COURSES:	---		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	No		
COURSE WEBSITE (URL)	In the e-Class system		

2. LEARNING OUTCOMES

Learning outcomes
The aim of the course is the presentation of various types of information systems and techniques that help to make decisions in the complex business environment. Examples of various types of Decision Support Systems will be presented to solve problems at a strategic, tactical or day-to-day business level. Also, special software for familiarization with methods of multi-criteria decision analysis and their applications to real world cases from the field of international business, the stock market, marketing, market research, etc. Finally, there will be an introduction to expert systems and logical programming with Prolog.
General Competences
• Search for, analysis and synthesis of data and information, with the use of the necessary technology • Adapting to new situations • Decision-making • Working independently • Team work • Production of new research ideas

3. SYLLABUS

1. Introduction to Decision Support Systems and Business Intelligence Systems
2. Enterprise Resource Planning Systems
3. Geographic Information Systems, Group Decision Support Systems, Database and Model Management Systems
4. Intelligent Decision Support Systems
5. Knowledge Management
6. Introduction to Neural Networks
7. Introduction to Expert Systems and Prolog (I)
8. Programming with Prolog (II)
9. Programming with Prolog (III)
10. Introduction to multi-criteria decision-making methodology – applications of TOPSIS methodology with MS Excel.
11. Multi-criteria AHP methodology – applications with MS Excel and Expert Choice
12. Multi-criteria PROMETHEE methodology – applications with MS Excel and Visual PROMETHEE

4. TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY</td><td>Face to face and distance learning</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</td><td>The course is fully delivered in a lab.</td></tr>
<tr><td>TEACHING METHODS</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>laboratory practice</td><td>150</td></tr>
<tr><td>essay writing</td><td>40</td></tr>
<tr><td>study and analysis of bibliography</td><td>10</td></tr>
<tr><td>Course total</td><td>200</td></tr>
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<tr><td>STUDENT PERFORMANCE EVALUATION</td><td>The evaluation of the course takes place at the end of the semester, in the laboratory. Students are asked to develop exercises in MS Excel and/or Visual PROMETHEE, Expert Choice, PROLOG and deliver at the end of the exam a folder containing the files with their answers. Students are informed during the course of their evaluation process and are free to see the files they submitted after the exam, after consultation with the teacher. Their performance in the work they undertake during the semester is also taken into account in the final grade.</td></tr>
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5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

- Yannis Siskos, "Decision Models", New Technologies Publications, Athens, 2008.
- Nikolaos Matsatsinis, "Decision Support Systems", New Technologies Publications, Athens, 2010.Max Bramer, “Logic Programming with Prolog”, Springer, US, 2005.
- W.F. Clocksin, C.S.Mellish, “Programming in Prolog”, Springer-Verlag, Berlin Heidelberg, 2003. (5th ed.)
- F. Burstein, C. Holsapple, (Eds.), “Handbook on Decision Support Systems 1: Basic Themes”, Springer-Verlag, Berlin Heidelberg, 2008.
- F. Burstein, C. Holsapple, (Eds.), “Handbook on Decision Support Systems 2: Variations”, Springer-Verlag, Berlin Heidelberg, 2008
- Jason Papathanasiou and Nikolaos Ploskas. “Multiple Criteria Decision Aid. Methods, Examples and Python Implementations”. Series: Springer Optimization and Its Applications, Volume 136, hardcover ISBN: 978-3-319-91646-0, 190 pages, Springer 2018.

- Related academic journals:

- European Journal of Operational Research (Elsevier)
- Decision Support Systems (Elsevier)
- International Journal of Multicriteria Decision Making (Inderscience)
- Operational Research (Springer)