COURSE OUTLINE

1. GENERAL INFORMATION

FACULTY	ECONOMY AND MANAGEMENT		
DEPARTMENT	ORGANIZATIONS MANAGEMENT, MARKETING AND TOURISM		
LEVEL OF STUDY	UNDERGRADUATE		
COURSE CODE	**1605-230808**	**SEMESTER**	**8th (dir. Tourism)**
TITLE	**Special Methods of Data Analysis**		

Autonomous Teaching Activities	**WEEKLY TEACHING HOURS**	**CREDITS**
Lectures	3	5
Laboratory		
TOTAL		

COURSE TYPE	SPECIAL BACKGROUND
PREREQUISITE COURSES	NONE
TEACHING LANGUAGE	GREEK AND ENGLISH
COURSE OFFERED TO ERASMUS STUDENTS	YES
COURSE WEBPAGE (URL)	https://exams-sod.the.ihu.gr/

2. LEARNING OUTCOMES

Learning outcomes
1. KNOWLEDGE: Students will understand the concepts of multidimensional statistical data analysis, with an emphasis on research data, and will be able to describe and identify it. 2. UNDERSTANDING: They will also be able to distinguish specific methods of multidimensional non-parametric analysis in research data in order to study phenomena and to evaluate and explain findings such as trends, correlations, and categorizations. 3. APPLICATION: the student will be able to examine and apply the skills of special methods of multidimensional statistical analysis in research data in order to study multivariate problems and extract findings such as factors, trends, correlations, and segmentations. 4. ANALYSIS: The student will be able to develop and encode on PC primary research data, analyze the data using special multidimensional data analysis software, and differentiate complex phenomena. 5. SYNTHESIS: the student composes and organizes data analysis methods of the family of multidimensional factor analysis, which have as main characteristics that they work exploratory following the data without relying on predetermined models and their philosophy is holistic, i.e., they look for the complex relationships that govern the overall phenomenon under study. 6. EVALUATION: the student evaluates highly effective methods in management and marketing to study trends, discover behavioral profiles and find the most important factors that define a phenomenon. The application of the methods is carried out using the

specialized data analysis software M.A.D.
General Skills
• Search, analysis and synthesis of data and information, using the necessary technologies • Adaptation to new situations •Decision making • Autonomous work •Teamwork • Work in an international environment • Work in an interdisciplinary environment • Production of new research ideas

3. COURSE CONTENT

The course teaches:

1. Handling of multidimensional data and understanding the concept of information
2. The concepts of factor analysis and cluster analysis applied on multidimensional data
3. The design of questionnaires for the collection of data suitable for multidimensional methods
4. Data coding and organizing in tables
5. Processing of multidimensional data
6. Interpretation of data using descriptive statistics
7. Creating and interpreting a Burt table
8. The method of Multiple Correspondence Analysis
9. Interpretation of factors and factorial planes
10. The method of Hierarchical Clustering
11. Applications and examples of factor analysis
12. Combining factor and clustering methods
13. Laboratory exercises using the Factominer analysis package in R environment

4. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Theory lectures face to face or through modern distance learning. Laboratory exercises in a computer room. Elaboration of work through asynchronous distance learning.
ICT USE	Electronic presentations (e.g., PowerPoint). Use of statistical analysis software. Distance learning platform in the sharing of educational material and asynchronous learning

TEACHING ORGANIZATION	*Activities*	*Working Load per Semester*
	Lectures	26
	Laboratory	13
	Assignment	41
	Study	70
	TOTAL	150
ASSESSMENT	Written examination (60%) Work (40%) The test material is posted on Moodle and time is spent before the test on answering questions about the test material. A file of students' examination documents is kept until they receive their degree. After the exam, time is available to each student to clarify his / her mistakes and explain his / her grade.	

5. REFERENCES

-Suggested bibliography:

- MULTI-DIMENSIONAL STATISTICAL ANALYSIS, Karapistolis N. Dimitrios., Altintzi Publications, 2011, Eudoxus Code [12866215]
- Data analysis, Papadimitriou Giannis, Typothito Publications, 2007, Code. Eudoxus [31439].
- Methods of Data Processing and Analysis, Karapistolis N. Dimitrios, Altintzi Publications, 2011.