COURSE OYTLINE

(1) GENERAL

SCHOOL	ENVIRONMENT, GEOGRAPHY AND APPLIED ECONOMICS
DEPARTMENT	GEOGRAPHY
LEVEL OF COURSE	UNDERGRADUATE

COURSE CODE	ΓΦ0520	**SEMESTER**	5

COURSE TITLE	**SPATIAL ANALYSIS**

INDEPENDENT TEACHING ACTIVITIES	WEEKLY TEACHING HOURS	CREDITS
Lectures and Laboratory Classes	3	5

COURSE TYPE	Compulsory
PREREQUISITE COURSES:	-
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	GREEK
IS THE COURSE OFFERED TO ERASMUS STUDENTS	YES (in English if required)
COURSE WEBSITE (URL)	https://eclass.hua.gr/courses/GEO295/

(2) LEARNING OUTCOMES

Learning outcomes
Spatial analysis is a module in the scientific fields of quantitative geography and geoinformatics. The module aims to introduce the exploratory and interpretive analysis of geographic data using quantitative methods. The module provides the necessary technical tools and skills to study the spatial dimension of various phenomena from a geographic perspective, using open-source or/and commercial software.   At the end of the module students should have understood what spatial analysis is, what methods can be used to perform spatial analysis and how these methods should be applied using special software, be able to select the appropriate data and appropriate methods of analysis in order to study a phenomenon with a spatial dimension, and have an overview of modern methods of spatial analysis used in the industry and in research projects.

General Competences
• Search for, analysis and synthesis of data and information, with the use of the necessary technologies   • Working independently   • Team work   • Technical skills development   • Production of free, creative and inductive thinking.

(3) SYLLABUS

Some of the key topics covered in the course include (indicative list):

- Introduction to spatial analysis

- The role of GIS in spatial analysis

- The visualization of geographic data as an analysis method

- Spatial inequalities

- Human development, poverty, deprivation and income inequalities indicators

- Spatial point pattern analysis

- Correlation analysis

- Regression analysis

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY	In class lectures, practical training in ICT laboratory.
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY	ICT use in teaching and laboratory education, internet use and e-class.
TEACHING METHODS	<table><tr><td>*Activity*</td><td>*Semester workload*</td></tr><tr><td>Lectures</td><td>26</td></tr><tr><td>Laboratory practice</td><td>13</td></tr><tr><td>Projects</td><td>30</td></tr><tr><td>Studying – personal work</td><td>60</td></tr><tr><td>**Course total**</td><td>**129**</td></tr></table>
STUDENT PERFORMANCE EVALUATION	Evaluation language: Greek Evaluation methods: 1. Projects (30%) 2. Final written exams (70%) Evaluation criteria are announced at the start of the semester and they are accessible to students in the e-class of the course.

(5) ATTACHED BIBLIOGRAPHY

- Rogerson PA., 2010. Statistical Methods for Geography, 3rd ed. London: SAGE Publications.

- Iliopoulou P., 2015. Geographic Analysis [ebook]. Kallipos, Open Academic Editions. (In Greek)

  Available Online at: https://repository.kallipos.gr/handle/11419/2059

- Kavroudakis D., 2020. Spatial Analysis. Thessaloniki: Disigma Publications. (In Greek)

- Kalogirou S., 2015. Spatial Analysis [ebook]. Kallipos, Open Academic Editions. (In Greek)

  Available Online at: https://repository.kallipos.gr/handle/11419/5029

- Koutras M., Evagelaras C., 2010. Regression Analysis: Theory and Applications. Athens: Stamoulis publications. (In Greek)