**SYLLABUS**

1. **GENERAL**

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| **SCHOOL** | Applied Economic and Social Sciences |
| **SECTION** | Regional and Economic Development |
| **LEVEL OF STUDIES**  | Undergraduate |
| **COURSE CODE** | 6503 | **SEMESTER OF STUDY** | 5 ο |
| **COURSE TITLE** | Geographic Information Systems (GIS) |
| **TEACHER** | Vlami Aimilia |
| **OFFICE HOURS** | Wednesday 12.00-15.00 |
| **email** | avlami@aua.gr |
| **INDEPENDENT TEACHING ACTIVITIES** *where credit is awarded for discrete parts of the course e.g. lectures, laboratory exercises, etc. If credit is awarded for the whole course, indicate the weekly teaching hours and the total number of credits* | **WEEKLY TEACHING HOURS** | **TEACHING/CREDIT UNITS** |
| Lectures | 4 | 5 |
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| *Add rows if necessary. The teaching organisation and the teaching methods used are described in detail in 4.* |  |  |
| **TYPE OF COURSE***Background , General Knowledge, Scientific Area, Skills Development* | Scientific Area |
| **PREREQUISITE COURSES:** |  |
| **LANGUAGE OF TEACHING AND EXAMINATION:** | Greek |
| **THE COURSE IS OFFERED TO ERASMUS STUDENTS** |  |
| **ELECTRONIC COURSE PAGE (URL)** | The course will be presented together with notes and other supporting material in the https://oeclass.aua.gr/eclass/ |

1. **LEARNING OUTCOMES**

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| **Learning Outcomes** |
| *The learning outcomes of the course are described as the specific knowledge, skills and competences of an appropriate level that students will acquire after successful completion of the course.**Consult Annex A* * *Description of the Level of Learning Outcomes for each cycle of study according to the Qualifications Framework of the European Higher Education Area*
* *Descriptive Indicators for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning*

*and Annex B** *Learning Outcomes Writing Comprehensive Guide*
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| Knowledge:* Know the fundamental concepts related to cartography and GIS
* Understand and apply fundamental principles of map design

Competencies:* Have the ability to manage and analyse geographical data.
* To be able to apply a spatial perspective to the development of economic activities, tourism activities, etc.
* To make appropriate decisions on issues of performance and basic processing of spatial information

Skills:* To use GIS as a tool in written and oral reports of spatial analyses on issues related to regional development, networks, sectoral spatial structure, tourism development, etc.
* Draw and interpret basic thematic maps using a GIS
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| **General skills** |
| *Taking into account the general competences that the graduate should have acquired (as listed in the Diploma Supplement and listed below), which one(s) does the course aim at?* |
| ***Search, analysis and synthesis of data and information, using the necessary technologies*** *Adapting to new situations* ***Decision-making*** *Autonomous work* *Teamwork* *Working in an international environment* *Working in an interdisciplinary environment* ***Generating new research ideas***  | *Project planning and management* *Respect for diversity and multiculturalism* ***Respect for the natural environment*** *Demonstrate social, professional and ethical responsibility and sensitivity to gender issues* *Exercise of criticism and self-criticism* ***Promoting free, creative and inductive thinking*** |
| Search, analysis and synthesis of data and information, using the necessary technologies Project planning and management Decision-making Generating new research ideasPromoting free, creative and deductive thinking |

1. **COURSE CONTENT**

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| * Introduction to the concept of geography and Geographical Information Systems
* The concepts of place, space and scale
* Methods and techniques of spatial analysis.
* Components of GIS.
* Descriptive - spatial dimension of geographical data.
* Nature and management of geographic data.
* Models - spatial data structures.
* Data collection.
* Introduction to GIS design, Organisation and storage of geographic data.
* Sources - data import - data maintenance.
* Data quality - errors.
* Spatial analysis of tourism data and Tourism multidisciplinary cartography.
* Production of tourist maps at different spatial scales.
* Use of GPS technology
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1. **TEACHING and LEARNING METHODS - EVALUATION**

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| **METHOD OF DELIVERY***Face-to-face, Distance learning, etc.* | Lectures and meetings with students  |
| **USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES***Use of ICT in Teaching, Laboratory Training, Communication with students* | Computer and interactive whiteboard will be used in the teaching. Posting of course outlines, information, slides and other course material on the asynchronous e-learning platform.Extensive training of students in GIS and in particular ArcGIS Desktop softwareFamiliarization of students in the use of the aforementioned technologies, interactive presentations of selected objects by students using digital media. Communication with students will be done on a personal level, also using e-mail and telecommunication (e.g. Skype) |
| **ORGANISATION OF TEACHING***The way and methods of teaching are described in detail.**Lectures, Seminars, Laboratory Exercise, Field Exercise, Study & Analysis of Literature, Tutoring, Practical (Placement), Clinical Exercise, Artistic Workshop, Interactive teaching, Educational visits, Study visits, Project work, Writing work / assignments, Artistic creation, etc.**The student's study hours for each learning activity as well as the hours of unguided study are indicated so that the total workload at semester level corresponds to the ECTS standards.* |

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| ***Activity*** | ***Semester workload*** |
| Lectures | 52 hours |
| Study of course material (material taught) | 52 hours |
| Exercises and practice of in economic applications | 21 hours |
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| Course Total | 125 hours |

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| **STUDENT ASSESSMENT** *Description of the evaluation process**Language of Evaluation, Evaluation Methods, Formative or Inferential, Multiple Choice Test, Multiple Choice Test, Short Answer Questions, Test Development Questions, Problem Solving, Written Work, Report, Oral Examination, Oral Examination, Public Presentation, Laboratory Work, Clinical Examination of a Patient, Artistic Interpretation, Other**Explicitly identified assessment criteria are stated and if and where they are accessible to students.* | Written exam at the end of the course and Semester Assignment during the semester.Student performance is evaluated on the basis of thethe following:Written final examination: 60%Semester assignment : 40%.Successful completion of the course requires both the submission of the assignment and participation in the examination.The assessment is in Greek. Written assignments are also accepted in English.  |

1. **RECOMMENDED-BIBLIOGRAPHY**

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| **Basic textbooks:*** Koutsopoulos K. (2017). Geographic Information Systems and Spatial Analysis. Dissimilar
* Kimaris D. & Karanikolas N. (2014): Theoretical approach and laboratory exercises. Ziti.
* Longley P., Goodchild M., Maguire D. & Rhind D., (2010). Geographic Information Systems and Geographic Information Science (GIS). Kleidarithmos

**Foreign Language Bibliography*** Williams S. and Lew A.A. (2014) Tourism Geography Critical understandings of place, space and experience, Third edition, Routledge: London and New York
* Bahaire, T., & Elliott-White, M., (1999). The Application of Geographical Information Systems (GIS) in Sustainable Tourism Planning: A Review. Journal of Sustainable Tourism, 7(2), 159-174.
* McAdam, D. (1999), “The value and scope of Geographical Information Systems in tourism management”, Journal of Sustainable Tourism, 7: 77-92.
* Chang, G., & Caneday, L. (2011). Web-based GIS in tourism information search: Perceptions, tasks, and trip attributes. Tourism Management, 32(6), 1435–1437. http://dx.doi.org/10.1016/j.tourman.2011.01.006.
* Chen, R. J. C. (2007). Geographic information systems (GIS) applications in retail tourism and teaching curriculum. Journal of Retailing and Consumer Services, 14(4), 289–295. http://dx.doi.org/10.1016/j.jretconser.2006.07.004.
* Miller, F. L. (2008). Using a Gis in market analysis for a tourism-dependent retailer in the Pocono Mountains. Journal of Travel & Tourism Marketing, 25(3–4), 325–340. http://dx.doi.org/10.1080/10548400802508416

 *Related scientific journals** Journal of Geographical Systems
* Journal Cartography and Geographic Information Science
* Computers and Geosciences
* European Journal of Geography
* International Journal of Applied Geospatial Research
* International Journal of Remote Sensing
* Geographies
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