COURSE OUTLINE

(1) GENERAL

SCHOOL	SCHOOL OF ENGINEERING			
ACADEMIC UNIT	PLANNING AND REGIONAL DEVELOPMENT			
	CIVIL ENGINEERING			
LEVEL OF STUDIES	POSTGRADUATE			
COURSE CODE	MCC104	SEMESTER Winter		
COURSE TITLE	SPATIAL PLANNING AND DIGITAL TRANSITION			
INDEPENDENT TEACHING ACTIVITIES if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits		WEEKLY TEACHING HOURS	CREDITS	
		Lectures	3	7,5
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).				
COURSE TYPE general background, special background, specialised general knowledge, skills development PREREQUISITE COURSES:	Special back Specialised g Skills develo	ground eneral knowled oment	ge	
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek			
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes			
COURSE WEBSITE (URL)				

(2) LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area
- Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B
- Guidelines for writing Learning Outcomes

General objectives - General learning outcomes

The main purpose of the course is to enhance understanding of the interconnection between spatial planning and the digital transition of cities and wider urban areas. Given the intensifying urbanization, spatial planning is called upon to enable the adaptation to the challenges arising from technological developments, climate change and evolving societal needs. The course introduces students to the key concepts, methods, and technologies that are reshaping the way we analyze, design, and manage space in the digital age. The course covers the evolution of spatial planning from traditional, top-down, conventional methods to modern, data-driven and participatory approaches, supported by digital tools and technologies.

Knowledge

The course provides students with a comprehensive understanding of how digital technologies (e.g. Big Data, Artificial Intelligence, Virtual Reality, Internet of Things, etc.) and new media, such as Social Networks, are integrated into spatial planning processes to enhance urban resilience, sustainability, and governance.

In relation to the above, the course focuses on the broader framework of the evolution of spatial

planning and governance methods in the digital age. The course approaches planning and governance as dynamic and interdependent processes, where technology is not just a tool but a transformative factor in the way we perceive and organize space. It provides theoretical training on concepts such as multi-level planning culture, participatory governance, smart cities, sustainable and resilient growth, as well as digital innovation in the public sector, and contributes to the understanding of institutional frameworks and e-government models, with a focus on the role of data, transparency and citizen participation. It also includes examples of practical application, and highlights ethical and legal issues in digital spatial planning.

The course also offers in-depth theoretical and applied knowledge of the field of transport digitalization with a view to sustainable urban mobility. In particular, students acquire the necessary theoretical background to understand the characteristics of the digital transition in the field of urban mobility and to comprehend the contemporary policy framework in the European Union. Detailed examples from the application of technological innovation in urban transport modes and services (e.g. autonomous driving, shared mobility and Mobility as a Service) and their impact on sustainable mobility and sustainable urban development in general are presented. The processes of strategic planning of urban mobility are described through the framework of Sustainable Urban Mobility Plans (SUMPs) with emphasis on the integration of approaches and digital tools of public participation. In addition, the digital transition in other sectors, such as teleworking, is correlated with the transport and urban mobility sector.

Skills

At the end of the course, students are expected to be able to:

- Understand key concepts of spatial planning and digital transition
- Analyze the impact of emerging digital technologies on spatial planning
- Recognize the challenges and opportunities of integrating digital tools into planning practice with focus on Sustainable Urban Mobility Plans
- Acquire a critical view of the impacts of digital transition on urban sustainability and governance
- Develop skills in the application of digital and conventional participatory planning tools
- Contribute to planning, management and policy projects, both in the public and private sectors, in an ever-changing technological and social environment

Abilities

Upon successful completion of the course, students will be able to understand the scientific literature related to spatial planning in the digital age and will have the opportunity to collaborate in interdisciplinary teams and in studies and research projects that include the political, strategic and technical dimensions of the digital transition in spatial planning.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information,	Project planning and management
with the use of the necessary technology	Respect for difference and multiculturalism
Adapting to new situations	Respect for the natural environment
Decision-making	Showing social, professional and ethical responsibility and
Working independently	sensitivity to gender issues
Team work	Criticism and self-criticism
Working in an international environment	Production of free, creative and inductive thinking
Working in an interdisciplinary environment	
Production of new research ideas	Others
	······

The general competencies that the student should have acquired and to which the course aims are:

Search, analyze and synthesize data and information.

- Collaborate and take initiative in decision-making, dealing with specific subjects from the real world in the form of a case study.
- Individual work with distinct, autonomous roles for successfully addressing each topic of analysis.
- Analysis and utilization of the international literature.
- Utilization of the knowledge they have received so far and combined use of skills they have developed.
- Promoting free, creative and inductive thinking in the context of work and classroom discussions.
- Self-assessment and participation in the evaluation of the work of their fellow students, which will be presented publicly during the course.

(3) SYLLABUS

The course content is structured as follows:

- Introduction to spatial planning
- Spatial organization and the digital age
- Smart cities and urban planning
- Public participation and digital governance
- Ethical and legal issues in digital spatial planning
- The future of spatial planning and digital transition
- Urban sustainability and resilience through technological innovation
- Planning traditions/culture and digital transition
- New Mobility Services Impact of the digital transition on sustainable urban mobility
- Autonomous Road Vehicles: Challenges-opportunities for urban transport planning
- Teleworking: Challenges-opportunities for urban transport planning
- Participatory design methods and digital tools in Sustainable Urban Mobility Plans
- Assignment, corrections, presentation of individual project and discussion in class

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY	Distance Learning - Lectures		
	Material, instructions and announcements on distance education		
	applications of the University of Thessaly (asynchronous and		
	synchronous)		
	Assign and track tasks		
USE OF INFORMATION AND	Use of text editor software, spread	sheets, design, presentation, data	
COMMUNICATIONS TECHNOLOGY	processing, spatial analysis (if app	licable), internet, e-mail, e learning platform	
Use of ICT in teaching, laboratory education,	asynchronous and modern distance	e tearning platform.	
communication with students			
TEACHING METHODS	Activity	Semester workload	
The manner and methods of teaching are	Lectures	39	
described in detail.	Literature study and analysis	30	
Lectures, seminars, laboratory practice,	Preparation of a study (project)	15	
tutorials placements clinical practice art	Essay Writing	16	
workshop interactive teaching educational	Course Total	100	
visits, project, essay writing, artistic creativity.			
etc.			
The student's study hours for each learning			
activity are given as well as the hours of non-			
directed study according to the principles of the			
	Evaluation Drococc	ΝΑΙζΟΥΙ	
STUDENT PERFORMANCE	Evaluation Process	NAI/ UXI	
	I an an an af an altration	Creat	
EVALUATION	Language of evaluation	Greek	
EVALUATION Description of the evaluation procedure	Language of evaluation Evaluation Methods, Formative or Inferential	Greek	
EVALUATION Description of the evaluation procedure	Language of evaluation Evaluation Methods, Formative or Inferential Multiple Choice	Greek	
EVALUATION Description of the evaluation procedure Language of evaluation, methods of evaluation, summative or conclusive. multiple choice	Language of evaluation Evaluation Methods, Formative or Inferential Multiple Choice Short Answer Questions	Greek Yes Yes	
EVALUATION Description of the evaluation procedure Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-	Language of evaluation Evaluation Methods, Formative or Inferential Multiple Choice Short Answer Questions Open-Ended Questions	Greek Yes Yes	
EVALUATION Description of the evaluation procedure Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open- ended questions, problem solving, written work,	Language of evaluation Evaluation Methods, Formative or Inferential Multiple Choice Short Answer Questions Open-Ended Questions Problem solving	Greek Yes Yes	
EVALUATION Description of the evaluation procedure Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open- ended questions, problem solving, written work, essay/report, oral examination, public	Language of evaluation Evaluation Methods, Formative or Inferential Multiple Choice Short Answer Questions Open-Ended Questions Problem solving Written Work	Greek Yes Yes Yes	
EVALUATION Description of the evaluation procedure Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open- ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical	Language of evaluation Evaluation Methods, Formative or Inferential Multiple Choice Short Answer Questions Open-Ended Questions Problem solving Written Work Essay / Report	Greek Yes Yes Yes Yes Yes	
EVALUATION Description of the evaluation procedure Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open- ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other	Language of evaluation Evaluation Methods, Formative or Inferential Multiple Choice Short Answer Questions Open-Ended Questions Problem solving Written Work Essay / Report Oral Exam	Greek Yes Yes Yes Yes Yes	
EVALUATION Description of the evaluation procedure Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open- ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other	Language of evaluation Evaluation Methods, Formative or Inferential Multiple Choice Short Answer Questions Open-Ended Questions Problem solving Written Work Essay / Report Oral Exam Public Presentation	Greek Yes Yes Yes Yes Yes Yes	
EVALUATION Description of the evaluation procedure Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open- ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other Specifically-defined evaluation criteria are given, and if and where they are accessible to students	Language of evaluation Evaluation Methods, Formative or Inferential Multiple Choice Short Answer Questions Open-Ended Questions Problem solving Written Work Essay / Report Oral Exam Public Presentation Laboratory Work	Greek Yes Yes Yes Yes Yes Yes	
EVALUATION Description of the evaluation procedure Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open- ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other Specifically-defined evaluation criteria are given, and if and where they are accessible to students.	Language of evaluation Evaluation Methods, Formative or Inferential Multiple Choice Short Answer Questions Open-Ended Questions Problem solving Written Work Essay / Report Oral Exam Public Presentation Laboratory Work Other / Other	Greek Yes Yes Yes Yes Yes Yes	
EVALUATION Description of the evaluation procedure Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open- ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other Specifically-defined evaluation criteria are given, and if and where they are accessible to students.	Language of evaluation Evaluation Methods, Formative or Inferential Multiple Choice Short Answer Questions Open-Ended Questions Problem solving Written Work Essay / Report Oral Exam Public Presentation Laboratory Work Other / Other Defined evaluation criteria	Greek Ves Ves Ves Ves Ves Ves Ves	
EVALUATION Description of the evaluation procedure Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open- ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other Specifically-defined evaluation criteria are given, and if and where they are accessible to students.	Language of evaluation Evaluation Methods, Formative or Inferential Multiple Choice Short Answer Questions Open-Ended Questions Problem solving Written Work Essay / Report Oral Exam Public Presentation Laboratory Work Other / Other Defined evaluation criteria Evaluation criteria	Greek Ves Ves Ves Ves Ves Ves Ves Determination of gravity	
EVALUATION Description of the evaluation procedure Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open- ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other Specifically-defined evaluation criteria are given, and if and where they are accessible to students.	Language of evaluation Evaluation Methods, Formative or Inferential Multiple Choice Short Answer Questions Open-Ended Questions Problem solving Written Work Essay / Report Oral Exam Public Presentation Laboratory Work Other / Other Defined evaluation criteria Evaluation criteria Individual project	Greek Yes Yes Yes Yes Yes Yes Determination of gravity 30%	
EVALUATION Description of the evaluation procedure Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open- ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other Specifically-defined evaluation criteria are given, and if and where they are accessible to students.	Language of evaluation Evaluation Methods, Formative or Inferential Multiple Choice Short Answer Questions Open-Ended Questions Problem solving Written Work Essay / Report Oral Exam Public Presentation Laboratory Work Other / Other Defined evaluation criteria Evaluation criteria Individual project Written exam	Greek Yes Yes Yes Yes Yes Determination of gravity 30% 70%	
EVALUATION Description of the evaluation procedure Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open- ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other Specifically-defined evaluation criteria are given, and if and where they are accessible to students.	Language of evaluation Evaluation Methods, Formative or Inferential Multiple Choice Short Answer Questions Open-Ended Questions Problem solving Written Work Essay / Report Oral Exam Public Presentation Laboratory Work Other / Other Defined evaluation criteria Evaluation criteria Individual project Written exam The evaluation criteria used are lin since the students' ability to extern acquired and the depth of understa course are assessed. The evaluation system and criteria are judged as sufficient to capture the course and in depth of knowled	Greek Yes Yes <td< td=""></td<>	

(5) ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

 Γαβανάς Ν., Γιαννακού Α., Πανώρη Α., Σδουκόπουλος Α. (επ.), 2022, Χωρικός σχεδιασμός στην ψηφιακή εποχή. Αθήνα: Εκδόσεις Κριτική - Κωδικός στον Εύδοξο: 112691218

- Ανθόπουλος Λ., 2022, Έξυπνες πόλεις και ευφυής διακυβέρνηση, Αθήνα: Εκδόσεις Κριτική -Κωδικός στον Εύδοξο: 112691439
- 3. DEMo4PPL Erasmus+ project training modules

- Related academic journals: Αειχώρος-Κείμενα Χωροταξίας, Πολεοδομίας και Ανάπτυξης **Urban Studies Planning Practice and Research** Cities Smart Cities **Urban Review** Journal of Urban Technology Sustainable Cities and Society **European Spatial Research and Policy Governance Transport Reviews Transportation Research Part A: Policy and Practice Transportation Research Part C: Emerging Technologies Transport Policy** Journal of Urban Mobility Transportation