

## COURSE OUTLINE Urban fabric and water from the antiquity to present times

EDUCATION LEVEL	7		
CODE	WBCC-532op	SEMESTER	2 <sup>nd</sup>
TITLE	Urban fabric and water from the antiquity to present times		
TEACHING ACTIVITIES	HOURS/WEEK	ECTS	
Lectures,	3	6	
TYPE OF COURSE	Elective course (in both specializations)		
PREREQUISITE KNOWLEDGE			
LANGUAGE OF INSTRUCTION AND ASSESSMENT	Greek		
AVAILABILITY TO ERASMUS STUDENTS			
WEBSITE (URL)	<a href="https://eclass.uoa.gr/courses/GEOL584/">https://eclass.uoa.gr/courses/GEOL584/</a>		

### LEARNING OUTCOMES

#### Learning Outcomes/Subject Specific Competences

The course aims to highlight the importance of water in the development of cities and follows the temporal evolution of both urban planning and technical infrastructures related to the water element to arrive at an understanding of the management techniques and solutions to Urban Hydrology issues in today's cities.

Through this timeless evolution and the monitoring of the urban transformations of cities, the contribution of water to the development process of cities, to the improvement of the standard of living and the need for its protection and integrated management is perceived.

Upon completion of the course, students will be able to:

- ⇒ Realize the size and importance of constructions, as well as the techniques used in ancient times for the use of water resources in inhabited areas and their contribution to the process of urban development.
- ⇒ Realize the importance of the rational management of water resources in urban environments in today's cities.
- ⇒ To be able to propose in basic and general lines solutions that in their opinion contribute to the optimal management of water resources in urban environments and especially through innovative approaches and practices.

#### Generic Competences

- Search, analysis, and synthesis of data and information
  - Development of critical thinking
  - Comparison and search for bibliographic sources
  - Cultivation of teamwork through discussion circles and group work
  - Promotion of originality in work
  - Respect for diversity and multiculturalism
  - Respect for the natural environment
- Promotion of free, creative, and inductive thinking

### COURSE CONTENT

The purpose of this course is to present to the students in the form of an analytical description, but also to delve into the technical details of all the projects from classical times to the beginning of the Industrial Revolution, which were connected to the various uses of water, in urban areas. Aqueducts, bridges, water purification and distribution devices, canals, embankments, wells, fountains, drainage systems, tunnels, trenches, siphons, cisterns, and baths are part of the multitude of technical works, which with excellent technique for their time and precision but also durability, they were manufactured from Classical times and the Roman era up to the Byzantine period. In addition, the aim of this course is to study issues related to Urban Hydrology and concern the past and the current century, as well as the presentation of solutions used by experts to deal with these issues in large or even smaller cities and settlements. Finally, the aim is to highlight the modern issues of integrated water management that concern cities and are related to climate change, to the utilization for tourism purposes, etc.

<p>Educational objectives:  Introduction – Research methods – Basic characteristics of water – Human effects and needs  History of cities (quotes)  Historical review of city-water relationship  I. Integrating water into spatial planning  Ia. Urban planning &amp; Urban composition  Ib. Technical Networks  Ic. Cities-Ports  Id. Cities &amp; Rivers  Ie. Port Infrastructures  Ig. Architecture &amp; Water  II. Water &amp; Cultural Heritage  IIa. Architectural &amp; Industrial Heritage  IIb. Intangible Heritage  III. Water as a means of development: Ecotourism &amp; Water Element  IV. Climate change &amp; water management in modern cities</p>
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LEARNING ACTIVITIES - TEACHING and ASSESSMENTS METHODS

MODE OF DELIVERY	Distance learning	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGY	Use of ICT in teaching, applications, and communication with students. Use of the e-class platform and presentations with multimedia content (images, animation, video).	
PLANNED LEARNING ACTIVITIES	Activity	Semester Workload
	Lectures- interactive teaching	3 hrs x 13 weeks
	Study & analysis of literature	60 h
	Individual Project	60 h
	Total	159 h
ASSESSMENT METHODS AND CRITERIA	<p>The evaluation process includes:  Individual Semester Project:  ⇒ It involves a verbal presentation of the project to the entire class and instructors (15 minutes duration in a ppt presentation)  ⇒ The submission of a project document. The project document should be approximately 3000-4000 words in length and may include supplementary images, figures, diagrams, maps, or any other materials deemed necessary by the students.</p> <p>This individual semester project constitutes: 100%.  Oral Presentation: 30%  Project Document: 70%</p>	

TEXTBOOKS - BIBLIOGRAPHY

<p>⇒ Ζαβράκα, Δ., Σαμουρκασίδου, Ε και Εμμανουλούδης, Δ. (2019) «Υδρομυλοι της Δράμας: Διεργασίες από το αγροτικό στο αστικό τοπίο». Σέρρες 5/12-6/12/2019, (σελ. 89-99). (In Greek)  ⇒ Ζαφειροπούλου, Ν. (2000) Περί υδάτων: Το νερό στο Βυζάντιο. Αθήνα: Ταμείο Αρχαιολογικών Πόρων και Απαλλοτριώσεων (In Greek)  ⇒ Μουρατίδου, Γ. και Δουδούμη, Κ. (2008) Το νερό στην αρχιτεκτονική του αστικού τοπίου. Θεσσαλονίκη: Ζήτη (In Greek)  ⇒ Πετρονώτης, Α. (2019) Η μνήμη του νερού. Οι ροοκρήνες της Αρκαδίας. Αθήνα: Θίνες (In Greek)  ⇒ Σαμουρκασίδου, Ε. και Εμμανουλούδης, Δ. (2023) «Αστικές πλημμύρες και ανθεκτικότητα: Μετριασμός επιπτώσεων μέσω χωρικού σχεδιασμού, εκπαίδευσης και έργων πρόληψης» στο Λαλένης Κ. και Σαμουρκασίδου, Ε. (επ.) Χωρική Ανθεκτικότητα. Εννοιολογικές Προσεγγίσεις, Πολιτικές, Εφαρμογές, Αθήνα: Εκδόσεις Κλειδάριθμος (In Greek)  ⇒ Σκάγιανης, Π. (2015) “Τα αστικά υδραυλικά συστήματα και η μεταμόρφωση των πόλεων: Διαχρονική προσέγγιση μιας στενής σχέσης», Αειχώρος, 22, σελ. 69- 104. (In Greek)  ⇒ Ashenfelter, O., Levine P. and Zimmerman D. (2005) Statistics and Econometrics: Methods and Applications. Michigan: Wiley  ⇒ Babbie, E. (2011) Εισαγωγή στην κοινωνική έρευνα. Αθήνα: Εκδόσεις Κριτική  ⇒ Donahue, J. and Johnston, B. (1998) Water, Culture &amp; Power: Local Struggles in a Global Context, Washington: Island Press  ⇒ Javeau, C. (1996) Η Έρευνα με ερωτηματολόγιο: το εγχειρίδιο του καλού ερευνητή .Αθήνα: Εκδόσεις ΤΥΠΩΘΗΤΩ</p>
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- ⇒ Johnson, J. H., James H., 1971. Urban Geology—An Introductory Analysis. Oxford, England: Pergamon Press.
- ⇒ Leopold, L. B. (1968) Hydrology for urban land planning—a guidebook on the hydrologic effects of urban land use, U.S. Geol. Survey Circ.
- ⇒ Levi, E. (2001) Η Επιστήμη του νερού. Αθήνα: Τεχνικό Επιμελητήριο Ελλάδος (In Greek)
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- ⇒ Veal, A.J. (2006) Research Methods for Leisure and Tourism: a practical guide. Edinburg: Pearson Education Limited