

UNIVERSITY OF RIJEKA **G** FACULTY OF CIVIL ENGINEERING

PROFESSIONAL GRADUATE STUDY PLAN AND PROGRAMME

CIVIL ENGINEERING

F

Rijeka, May 2024

CURRICULUM

Professional Graduate Study CIVIL ENGINEERING

General information				
Name of the study programme	Professional Graduate Study in Civil Engineering			
Study programme leader	Faculty of Civil Engineering in Rijeka			
Study programme provider	Faculty of Civil Engineering in Rijeka			
Type of study program	Professional			
Level of the study program	Graduate			
Academic/professional title acquired upon completion of studies	Master of Science in Civil Engineering kratica: mag. ing. aedif.			

Information about the leader:

Faculty of Civil Engineering in Rijeka Radmile Matejčić 3, HR-51000 Rijeka Phone: + 385 51 265 900 Fax: + 385 51 265 995 e-mail: <u>info@gradri.uniri.hr</u> <u>http://www.gradri.uniri.hr/</u>

List of compulsory and elective courses with the number of hours of active teaching required for their performance and the number of ECTS credits

	LIST OF MODULES/COURSES						
	COURSE	PROFESSOR	L	Ε	S	ECTS	STATUS
Year:	1st						
	<u>GIS in infrastructure planning and</u> <u>maintenance</u>	Asst. Prof. Bojana Horvat	30	30	0	6	М
	Urban Planning and utility infrastructure Assoc. Prof. Koraljka Vahta Jurković		45	0	15	6	М
	Water phenomena in the coastal area	Asst. Prof. Ivana Sušanj Čule	30	0	30	6	М
L	Electi	ve courses				12	
emeste	English for engineers	Saša Čohar Mančić, Senior Lecturer	15	10	5	4	E
1st 9	German for engineers	Saša Čohar Mančić, Senior Lecturer	15	10	5	4	E
	Coastal structures	Assoc. Prof. Igor Ružić	30	30	0	4	E
	<u>Drinking water conditioning and</u> <u>wastewater treatment</u>	Asst. Prof. Elvis Žic	30	0	15	4	E
	Building construction design	Assoc. Prof. Iva Mrak	30	15	15	4	E
	Urban roads and intersections	Prof. Aleksandra Deluka-Tibljaš	30	30	0	6	М
	Environmental impact assessment	Assoc. Prof. Koraljka Vahtar- Jurković	20	0	10	3	М
	Urban area sociology	Assoc. Prof. Željko Boneta	20	0	10	3	М
emester	Project management	Assoc. Prof. Ivan Marović	30	15	15	6	М
nd sŧ	Elective courses				12		
21	Design methodology building structures	Prof. Adriana Bjelanović, Asst. Prof. Paulo Šćulac	30	5	10	4	E
	Development of urban areas	Bojan Bilić, Senior Lecturer	30	0	15	4	E
	Waste disposal	Assoc. Prof. Koraljka Vahtar- Jurković	20	0	10	3	E

	LIST OF MODULES/COURSES								
	COURSE PROFESSOR L E S								
Year	: 2nd					•			
	Construction in tourism	Assoc. Prof. Iva Mrak	30	0	15	6	М		
	Construction of marinas and coasts	Assoc. Prof. Igor Ružić	30	30	0	6	М		
	Public buildings and spaces	Bojan Bilić, Lecturer	30	15	15	6	М		
emester	Applied statistics	M.Sc. Ines Radošević Medvidović, acting president	15	30	0	4	М		
srd s	Elective courses					8			
(1)	Building maintenance	Rosanda Ivetić Salopek, Lecturer	30	15	0	4	E		
	Transport infrastructure	Marijana Cuculić, Senior Lecturer	30	0	15	4	E		
	Regulation and revitalization of watercourses	Prof. Nevenka Ožanić	20	10	10	4	E		
	Master's thesis	-	0	0	90	22	М		
	Elective courses					8			
ester	Road management	Marijana Cuculić, Senior Lecturer	30	5	10	4	E		
4th sem	Industrial architectural heritage	Assoc. Prof. Iva Mrak	30	0	15	4	E		
7	Inspections and testing of structures	Prof. Davor Grandić, Prof. Ivana Štimac Grandić	30	5	10	4	E		
	Road traffic safety	Assoc. Prof. Sanja Šurdonja	30	15	0	4	And		

General information				
Course leader	Asst. Prof. Bojana Horvat, PhD	Asst. Prof. Bojana Horvat, PhD		
Course	GIS IN INFRASTRUCTURE PLANNING	GIS IN INFRASTRUCTURE PLANNING AND MAINTENANCE		
Study program	Professional Graduate Study			
Course Status	Mandatory			
Year	1.			
Credit Value and Course	ECTS coefficient of student workload	6		
Delivery	Number of hours (L+E+S)	30+30+0		

1. DESCRIPTION OF THE	E COURSE				
1.1. Course objectives					
Introduction to the conce and planning; Training in infrastructure databases	Introduction to the concept of GIS and its application; Training to solve basic tasks in infrastructure maintenance and planning; Training in the application of basic visualization techniques; Training to solve basic tasks using infrastructure databases using GIS.				
1.2. Course Enrolment Requirements					
-	-				
1.3. Expected learning ou	tcomes for the course				
 Explain the concept and basic principles of GIS. List and describe the areas of application of GIS Solve basic tasks in urban infrastructure planning and maintenance using GIS 					
1.4. Course content					
 Geographic Information Systems (GIS): Definition, History, Components, Data Types GIS software Data in GIS: attributive, spatial; positioning in space. Sources and preparation of spatial data, databases Capabilities and Role of GIS in Infrastructure Maintenance and Planning Data Mining and Analysis Visualization 					
Image: Section of teachingImage: ClassImage: Section of teaching1.5. Types of teachingImage: Section of teaching					
1.6. Comments					
1.7. Student obligations	1				
Attendance and active pa final exam.	articipation in classes, preparation a	nd defense of a program assignment, passing the			

1.8. Monitoring st	udent	work					
Attending classes	1,0	Teaching activity	2,0	Seminar pape	- Ex	perimental work	
Written exam	1,5	Viva voce		Assay	Re	esearch	
Project		Continuous Knowledge Assessment		Report	Pr	actical work	
Portfolio		Program task	1,5				
1.9. Assessment a	nd eva	luation of students' work duri	ing clas	sses and at the	final exam		
According to the current Ordinance on Studies of the Faculty of Civil Engineering in Rijeka and the Ordinance on the Evaluation and Evaluation of the Work of Students at the Faculty of Civil Engineering in Rijeka. The total number of points that can be earned is 50% during classes and 50% on the final exam.							
1.10. Compulsory	literatı	ire					
Molenaar, M. An i	Molenaar, M. An introduction to the theory object modeling for GIS. Taylor & Francis, 1998.						
1.11. Supplemente	ary lite	rature					
Bohnam-Carter, G.F.: Geographic Information Systems For Geoscientists, Pergamon, 1994 Meijerink, A. M. J. et al: Introduction to the Use of Geographic Information Systems for Practical Hydrology: IHP- IV M 2.3, ITC, Enschede, 1994.							
1.12. Number of copies of compulsory literature in relation to the number of students currently attending classes in the course							
	Title Number of copies Number of students				students		
Molenaar, M. An introduction to the theory object modeling for GIS. Taylor & Francis, 1998.130							
1.13. Methods of quality assurance that ensure the acquisition of learning outcomes, skills, and competencies							
Quality monitoring procedures prescribed by the Faculty Quality Manual are carried out.							

General information				
Course leader	Assoc. Prof. Iva Mrak, PhD	ssoc. Prof. Iva Mrak, PhD		
Course	CONSTRUCTION IN TOURISM			
Study program	Professional Graduate Study			
Course Status	Mandatory			
Year	2.			
Credit Value and Course	ECTS coefficient of student workload	5		
Delivery	Number of hours (L+E+S)	30+0+15		

1. DESCRIPTION OF THE COURSE

1.1. Course objectives

To introduce students to the design methodology and to train them to read, use and recognize the quality of project documentation and the importance of controlled construction in the context of the specifics of the Croatian offer in tourism.

1.2. Course Enrolment Requirements

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1.3. Expected learning outcomes for the course

- 1. Explain the basics of function, construction and design of tourist facilities.
- 2. Explain what is the specificity of Croatian resources, how to valorize them and use them in the pyramid of tourist offer, what is sustainable development and apartment tourism, types and categorization of tourist accommodation capacities, hotels and hotel chains depending on the location.

- 1. Leisure Architecture, Historical Overview.
- 2. Sustainable development as the future of tourism development.
- 3. An autochthonous tourist product an imperative of the modern tourist offer.
- 4. From the spatial plan to the detailed design.
- 5. Rural tourism, handicrafts, restoration of architectural heritage.
- 6. Specifics of the site, sea coast, continental hinterland, winter sports.
- 7. Apartment tourism, apartment hotels.
- 8. Tourist hotels, tourist complexes, categorization.
- 9. Tourist hotel chains, norms.
- 10. Excursion tourism, accompanying facilities.
- 11. Field Study Tour of Landmark Locations

	🛛 Class	⊠ Independent tasks
	⊠ seminars and workshops	🛛 Multimedia & Network
1.5. Types of teaching	□ exercises	□ Laboratories
	□ Distance education	🗆 Mantor work
	🛛 Terrain Occurs	□ Other
1.6. Comments		

1.7. Student obligations

Attendance at classes, active classes, checks, making seminars, exams.

Creation and presentation of the seminar: the given topic from the domain of tourist construction should be covered according to the given model.

Passing the colloquium and final exam.

1.8. Monitoring student work

Attending classes	0,75	Teaching activity	0,5	Seminar paper	2,75	Experimental work	
Written exam	1	Viva voce		Assay		Research	
Project		Continuous Knowledge Assessment		Report		Practical work	
Portfolio							

1.9. Assessment and evaluation of students' work during classes and at the final exam

According to the current Ordinance on Studies of the Faculty of Civil Engineering in Rijeka and the Ordinance on the Evaluation and Evaluation of the Work of Students at the Faculty of Civil Engineering in Rijeka. The total number of points that can be earned is 70% during classes and 30% on the final exam.

1.10. Compulsory literature

Technical Encyclopedia, Miroslav Krleža Institute of Lexicography, Zagreb, 1963-1997 Gržinić, J., Introduction to Tourism - History, Development, Perspectives, Attribution-NoDerivatives 4.0 International, 2019, <u>https://urn.nsk.hr/urn:nbn:hr:137:904523</u>

1.11. Supplementary literature

Skorup Juračić, J., Atomized Hotel / A New Type of Hotel Architecture in the Revitalization of the City or Landscape. Zagreb, 2020, ArTresor Publishing

Kranjčević, J. & Kos, M., Czech Architects and the Beginnings of Tourism in the Croatian Adriatic. Zagreb - Rijeka, Institute for Tourism, Zagreb; State Archives, Rijeka; Embassy of the Czech Republic, Zagreb, 2015

Peršić, M., Lovran - Tourism and Construction: Tourist Architecture in Lovran at the Turn of the 19th and 20th Centuries, Adamić, 2002

Rabotić, B., Selective Forms of Tourism, revised and supplemented ed., Belgrade : College of Applied Studies in Tourism, 2013

Proceedings of the Faculty of Tourism and Hospitality Management, Opatija

E. Neufert: Elements of Architectural Design, IGH Zagreb 2002.

magazines: ORIS, Man and Space, Architecture, Architectural design, Domus, Detail and others

1.12. Number of copies of compulsory literature in relation to the number of students currently attending classes in the course

Title	Number of copies	Number of students
Technical Encyclopedia, Miroslav Krleža Institute of Lexicography, Zagreb, 1963-1997	1	
Gržinić, J., Introduction to Tourism - History, Development, Perspectives, Attribution-NoDerivatives 4.0 International, 2019, <u>https://urn.nsk.hr/urn:nbn:hr:137:904523</u>	online	30
1.13. Methods of quality assurance that ensure the acquisition of learning outcomes, skills, and competencies		

Quality monitoring procedures prescribed by the Faculty Quality Manual are carried out.

General information				
Course leader	Assoc. Prof. Igor Ružić, PhD	Assoc. Prof. Igor Ružić, PhD		
Course	CONSTRUCTION OF MARINAS AND COASTS			
Study program	Professional Graduate Study			
Course Status	Mandatory			
Year	2.			
Credit Value and Course	ECTS coefficient of student workload	6		
Delivery	Number of hours (L+E+S)	30+30+0		

1. DESCRIPTION OF THE COURSE

1.1. Course objectives

Developing students' knowledge and understanding of the issue of building marinas and ports of nautical tourism.

1.2. Course Enrolment Requirements

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1.3. Expected learning outcomes for the course

1. Describe the basic technologies of traffic in marinas, dimensioning of waters and waterways in marinas

- 2. Explain the process of propagation and methods of calming the wave in the waters of the marina
- 3. Describe and explain the nature and mechanisms of hydrodynamic processes of importance for water quality in marinas
- 4. Analyze the typology and loads acting on massive and lightweight coastal structures in marinas

5. Analyze the characteristics and loads of floating mooring structures in marinas and size the waters of the marina, breakwaters and shores, check the stability and impact on the foundation soil

6. Apply standard solutions for equipping marinas (mooring systems, boat retrieval, signaling, etc.)

1.4. Course content

1. Introduction, the place of marinas in legislation.

- 2. Basics of sizing the waters of the marina, organization of internal traffic and space, classes of vessels, determining the depth of the marina.
- 3. Wave dynamics and maritime wave standards in the marina.
- 4. Sea change in the waters of the marina, natural and forced circulation systems, sea quality in the marina.
- 5. Common features of the soil in the coastal area.
- 6. Dimensioning of protective structures, dimensioning of massive and light coasts.
- 7. Dimensioning of fixed and floating mooring structures.
- 8. Problems of the foundation of structures.
- 9. Shore equipment (mooring, anchoring, boat retrieval systems, signalling)
- 10. Marina infrastructure.
- 11. Soil characteristics and foundation of coastal structures

	🖾 Class	🖾 Independent tasks
1 C. Turnen of	seminars and workshops	🗆 Multimedia & Network
1.5. Types Oj teachina	🛛 exercises	□ Laboratories
teaching	□ Distance education	□ Mantor work
	🛛 Terrain Occurs	□ Other

1.6. Comments							
1.7. Student obliga	itions						
Attending classes,	creatin	g a program, passing colloquiu	ms and	final exams.			
1.8. Monitoring stu	udent w	ork					
Attending classes	1,0	Teaching activity		Seminar paper	Ex	perimental work	
Written exam	1,5	Viva voce	1,0	Assay	Re	esearch	
Project	2,0	Continuous Knowledge Assessment	0	Report	Pr	actical work	
Portfolio					Fie	eldwork	0,5
1.9. Assessment ar	nd evalu	ation of students' work during	classes	and at the final ex	ат		
According to the current Ordinance on Studies of the Faculty of Civil Engineering in Rijeka and the Ordinance on the Evaluation and Evaluation of the Work of Students at the Faculty of Civil Engineering in Rijeka. The total number of points that can be earned is 60% during classes and 40% on the final exam.							
1.10. Compulsory l	iteratur	е					
USACE Engineering manuals http://www.usace.army.mil/inet/usace-docs/eng-manuals/em.htm - web-stranica Carević, D. Pršić, M.: Maritime Structures – I, II and III Part: WEB Script of the Faculty of Civil Engineering in Zagreb, 2019.							
1.11. Supplemento	1.11. Supplementary literature						
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1.12. Number of copies of compulsory literature in relation to the number of students currently attending classes in the course							
TitleNumber of copiesNumber of students					Idents		
USACE Engineerin http://www.usace manuals/em.htm	ig manu e.army.r - web-s	als nil/inet/usace-docs/eng- tranica	ocs/eng- online 30				
Carević, D., Pršić, WEB Script of the	M.: Mai Faculty	ritime Structures – I, II and III P of Civil Engineering in Zagreb,	art: 2019.	online			
1.13. Methods of a	1.13. Methods of quality assurance that ensure the acquisition of learning outcomes, skills, and competencies						
Quality monitoring procedures prescribed by the Faculty Quality Manual are carried out.							

	General information				
Course leader	Prof. Aleksandra Deluka-Tibljaš, PhD	Prof. Aleksandra Deluka-Tibljaš, PhD			
Course	CITY ROADS AND INTERSECTIONS				
Study program	Professional Graduate Study				
Course Status	Mandatory				
Year	1.				
Credit Value and Course	ECTS coefficient of student workload	6			
Delivery	Number of hours (L+E+S)	30+30+0			

1. COURSE DESCRIPTION

1.1. Course objectives

The aim of the course is to train students to design roads and intersections in urban spaces, respecting the requirements related to the capacity and safety of traffic, as well as the environment and space.

1.2. Course Enrolment Requirements

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1.3. Expected learning outcomes for the course

- 1. Explain the basic elements of the urban transport system
- 2. Define and sketch city roads and their elements
- 3. Calculate the level of service of simpler intersections
- 4. Define the basic elements of non-motorized traffic
- 5. Solve parking of vehicles in an off-street parking space
- 6. Design the reconstruction of the city intersection with the wider zone

1.4. Course content

- 1. Introduction and basic features of the transport system in the city
- 2. Urban roads: function, division
- 3. Basic geometric elements of the horizontal and vertical flow of the route of urban roads
- 4. Specificity of city streets: communal installations, pedestrian areas, public lighting, drainage
- 5. Basic properties of city intersections
- 6. Capacity of city roads and intersections
- 7. Types and methods of parking, parking areas
- 8. Garage-parking facilities, types

1.5. Types of teaching	 Class seminars and workshops exercises Distance education Terrain Occurs 	 ☑ Independent tasks ☑ Multimedia & Network □ Laboratories □ Mantor work □ Other
1.6. Comments		
1.7. Student obligations		

Submission of the program (group work), seminar paper, written periodic examination of knowledge, final exam

1.8. Monitoring st	udent	work						
Attending classes	1	Teaching activity		Seminar paper	0	Experime	ntal work	
Written exam	1,5	Viva voce		Assay		Research		
Project	1,75	Continuous Knowledge Assessment	1,75	Report		Practical v	work	
Portfolio								
1.9. Assessment a	nd eva	luation of students' work du	iring ci	lasses and at t	he fina	l exam		
According to the o the Evaluation and The total number	curren [.] d Evalu of poi	t Ordinance on Studies of th Jation of the Work of Stude nts that can be earned is 70	ne Facu nts at 1 1% duri	ulty of Civil Eng the Faculty of ing classes and	gineerir Civil En I 30% o	ng in Rijeka gineering i n the final	a and the O in Rijeka. exam.	rdinance on
1.10. Compulsory	literat	ure						
Legac, I.: Intersections of Public Roads, University of Zagreb, Faculty of Transport and Traffic Sciences, Zagreb, 2008. Legac and co-authors: City Roads, University of Zagreb, Faculty of Transport and Traffic Sciences, Zagreb, 2011					s, Zagreb, greb 2011			
1.11. Supplement	ary lite	erature						
Cerovac, V.: Traffic Technology and Safety; University of Zagreb – Faculty of Transport and Traffic Sciences, Zagreb, 2001 Maletin, M.: Planning and Design of Roads in Cities, Orion Art, Belgrade, 2005.								
1.12. Number of copies of compulsory literature in relation to the number of students currently attending classes in the course								
	Title Number of copies Number of students					of students		
Legac, I.: City Roa and Traffic Scienc	Legac, I.: City Roads, University of Zagreb, Faculty of Transport and Traffic Sciences, Zagreb, 2011.					30		
Legac, I.: Intersect Faculty of Transpo	Legac, I.: Intersections of Public Roads, University of Zagreb, Faculty of Transport and Traffic Sciences, Zagreb, 2008.						30	
1.13. Methods of quality assurance that ensure the acquisition of learning outcomes, skills, and competencies								
Quality monitoring procedures prescribed by the Faculty Quality Manual are carried out.								

General information						
Course leader	Bojan Bilić, Senior Lecturer	3ojan Bilić, Senior Lecturer				
Course	PUBLIC BUILDINGS AND SPACES					
Study program	Professional Graduate Study					
Course Status	Mandatory					
Year	2.					
Credit Value and Course	ECTS coefficient of student workload	6				
Delivery	Number of hours (L+E+S)	30+15+15				

1. COURSE DESCRIPTION

1.1. Course objectives

To introduce students to the design methodology and to train them to read and partially prepare project documentation.

1.2. Course Enrolment Requirements

1.3. Expected learning outcomes for the course

- 1. Distinguish between public spaces and public buildings, their origin and changes throughout history.
- 2. List and describe the characteristics of public spaces.
- 3. List and describe the characteristics of public buildings.
- 4. Write a Seminar paper on the topic of public space
- 5. To develop a part of the preliminary and detailed design of public space and buildings for public purposes.

- 1. Landscaping of pedestrian areas in an urban environment, historical overview.
- 2. From the spatial plan to the detailed design.
- 3. Streets and squares, business and commercial pedestrian zones, shop windows, terraces, canopies. Traffic solution.
- 4. Arrangement of parking areas and public garages. Public transport stations.
- 5. Construction as a carrier of design, constructive systems.
- 6. Traffic buildings, bus and train stations, terminals.
- 7. Markets, shopping malls, public toilets.
- 8. Green areas and recreation areas, children's playgrounds, promenades and parks.
- 9. Sports fields and halls.
- 10. Gas stations in urban areas and beyond, info-centers.
- 11. Landscaping of public areas outside the urban environment, roads, bridges, tunnels and their accompanying facilities.
- 12. Acoustic insulation of road noise and traffic corridors.

	🖾 Class	🛛 Independent tasks
	⊠ seminars and workshops	🖾 Multimedia & Network
1.5. Types of teaching	🛛 exercises	□ Laboratories
	□ Distance education	🗆 Mantor work
	🛛 Terrain Occurs	□ Other

1.6. Comments

1.7. Student obligations

Attendance at classes, active classes, preparation of seminars and programs, checks, active participation in seminar presentations.

Creation and presentation of seminars related to the development of the project.

Development of a smaller project: Based on the conceptual design of a specific task in PGC, a part of the preliminary and detailed design of the arrangement of a public area and a smaller public building should be elaborated.

Passing the colloquium and final exam.

1.8. Monitoring student work

Attending classes	1	Teaching activity	0,25	Seminar paper	1,25	Experimental work	
Written exam	1	Viva voce		Assay		Research	
Project	1,75	Continuous Knowledge Assessment	0,75	Report		Practical work	
Portfolio							

1.9. Assessment and evaluation of students' work during classes and at the final exam

According to the current Ordinance on Studies of the Faculty of Civil Engineering in Rijeka and the Ordinance on the Evaluation and Evaluation of the Work of Students at the Faculty of Civil Engineering in Rijeka. The total number of points that can be earned is 70% during classes and 30% on the final exam.

1.10. Compulsory literature

Technical Encyclopedia, Miroslav Krleža Institute of Lexicography, Zagreb, 1963-1997 Knežević, G.; Kordiš, I.: Residential and Public Buildings, Tehnička knjiga, Zagreb, 1987. Neufert, E.: Architectural Design, IGH Zagreb 2002.

1.11. Supplementary literature

Ching, F.D.K.; Eckler, J.F. Introduction to Architecture, Wiley, 2012

Chattopadhyay, S., White, J., City Halls and Civic Materialism. Towards a Global History of Urban Public Space, Routledge, 2014.

Ching, F.D.K.; Eckler, J.F. Architecture: Form, Space, & Order, Wiley, 2014

Gehl, J., Life Between Buildings: Using Public Space, Island Press, 2011.

Carmona, M., Public Places Urban Spaces. The Dimensions of Urban Design, Routledge, 2021

Lynch, K., The Image of a City, Construction Book, 1974

Adjaye , D., David Adjaye: Making Public Buildings, Thames & Hudson, London, 2006

Alexander, C., Ishikawa, S., Silverstein, M., A Pattern Language: Towns, Buildings, Construction, Oxford University Press, USA, 1977.

National Association of City Transportation Officials, Urban Street Design Guide, Island Press, 2013.

Dovey, K., Becoming Places, Urbanism / Architecture / Identity / Power, Routledge, 2010

S.Kostof: The City Shaped, Thames and Hudson, 1991.

S.Kostof: The City Assembled, Thames and Hudson, 1992.

Gosling&Maitland: Concepts of Urban Design, Academy editions, London1984.

Encyclopaedia of 20th Century Architecture, Thames and Hudson 1989.

Pearman, H.: Contemporary world architecture, Phaidon 1998.

Milić, B.: The Development of the City Through the Centuries, I, II, III, Školska knjiga, Zagreb 90/04.

1.12. Number of copies of compulsory literature in relation to the number of students currently attending classes in the course

Title	Number of copies	Number of students
Technical Encyclopedia, Miroslav Krleža Institute of Lexicography, Zagreb, 1963-1997	1	
Knežević, G.; Kordiš, I.: Residential and Public Buildings, Tehnička knjiga, Zagreb, 1987.	6	30
Neufert, E.: Architectural Design, IGH Zagreb 2002.	13	

1.13. Methods of quality assurance that ensure the acquisition of learning outcomes, skills, and competencies

Quality monitoring procedures prescribed by the Faculty Quality Manual are carried out.

General information						
Course leader	Assoc. Prof. Koraljka Vahtar-Jurković, P	Assoc. Prof. Koraljka Vahtar-Jurković, PhD				
Course	URBAN PLANNING AND UTILITY INFRASTRUCTURE					
Study program	Professional Graduate Study					
Course Status	Mandatory					
Year	1.					
Credit Value and Course	ECTS coefficient of student workload	6				
Delivery	Number of hours (L+E+S)	45+0+15				

1. COURSE DESCRIPTION

1.1. Course objectives

To enable the student to participate in the understanding (partly in the drafting) and implementation of spatial planning documentation in an appropriate way, i.e. to manage or cooperate in solving spatial planning and similar problems in the administration and activities of communal services and related activities.

1.2. Course Enrolment Requirements

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1.3. Expected learning outcomes for the course

- 1. Distinguish between types and characteristics of spatial and urban plans, and define the leaders and procedures for their development and implementation.
- 2. Participate in the issuance of physical planning and construction acts.
- 3. To notice, analyze and present the peculiarities and problems in urban spaces and to find appropriate solutions while taking into account the possibilities and modalities of the implementation of the planning concept and other solutions.
- 4. Evaluate and present planning and project variants related to urban spaces, taking into account the principles of sustainable development.
- 5. To prepare implementing, design and operational materials in accordance with the adopted spatial planning documents and documents relating to communal infrastructure.

- 1. Historical-developmental aspects of cities and planning.
- 2. The process of developing spatial and urban plans: identification of space (analysis of the existing situation), development of the concept of the plan and the process of evaluation, development of the concept of the plan and the process of evaluation and public participation.
- 3. Implementation of spatial and urban plans, physical planning and construction acts, development of construction land.
- 4. Physical Planning Information System.
- 5. Strategic and communal infrastructure.
- 6. Strategic and communal infrastructure planning.
- 7. Communal economy.
- 8. Characteristics of communal activities, documents and procedures related to the planning, construction and maintenance of communal devices and equipment.
- 9. Environmental protection and nature protection in spatial planning and spatial planning, sustainable development in urban spaces.

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10. Analysis of example	mple	s of ready-made plans.						
1.5. Types of teachi	ng	☑ Class □ ☑ seminars and workshops ☑ □ exercises □ □ Distance education ☑ ☑ Terrain Occurs □			□ Indeper ☑ Multim □ Laborat ☑ Mantor □ Other_] Independent tasks ☑ Multimedia & Network] Laboratories ☑ Mantor work] Other		
1.6. Comments								
1.7. Obligations of s	stude	nts						
Participation in clas Creation and prese Passing the first and Passing the final ex	sses (ntatio d sec am.	attendance, questions, discuss on of one seminar paper – acco ond colloquium.	ions) ordin	g to tł	ne seminar	assi	gnment	
1.8. Monitoring stu	dent	work						
Attending classes	1	Teaching activity		Semi	nar paper	2	Experimental work	
Written exam	1	Viva voce		Assa	y		Research	
Project		Continuous Knowledge Assessment	2	Repo	ort		Practical work	
Portfolio								
1.9. Assessment and	d eva	luation of students' work durin	g cla	sses a	nd at the f	inal e	exam	
According to the cu the Evaluation and The total number o	irrent Evalu of poi	t Ordinance on Studies of the F Jation of the Work of Students nts that can be earned is 70% o	acult at th durin	ty of C ie Faci g class	ivil Engine ulty of Civil ses and 30 ⁰	ering Engi % on	; in Rijeka and the Ord ineering in Rijeka. the final exam.	inance on
1.10. Compulsory lit	terati	ure						
Marinović-Uzelac, A Marinović-Uzelac, A	۹.: "S ۹.: "S	patial Planning". – Zagreb: Hor ettlements, Cities and Spaces".	ne ar . Zagr	nd Wo reb: Te	rld, 2001 ehnička knj	jiga, 1	1986.	
1.11. Supplemental	ry lite	rature						
Documents, plans, strategies, laws and bylaws related to spatial planning and communal infrastructure. Zagreb: Official Gazette of the Republic of Croatia and Official Gazette of individual counties. Brozović, I.: «Traffic and Spatial Planning – Part I of the Script». – Rijeka: Polytechnic of Rijeka, 2009. Prinz, D.: "Staedtebau – Band 1: Staedtebauliches Gestalten". – Stuttgart: Kohlhammer, 1999. Marinović-Uzelac, A.: "Theory of Surface Use in Urbanism". – Zagreb: Tehnička knjiga, 1989.								
1.12. Number of copies of compulsory literature in relation to the number of students currently attending classes in the course								
Title Number of copies Number of students					tudents			
Marinović-Uzelac, A World, 2001	4.: "S	patial Planning". – Zagreb: Hor	ne ar	nd		8	20	
Marinović-Uzelac, A.: "Settlements, Cities and Spaces". Zagreb: Tehnička knjiga, 1986.				3	30			
1.13. Methods of q	uality	assurance that ensure the acc	quisit	ion of	learning o	utcor	mes, skills, and compe	tencies
Quality monitoring	proc	edures prescribed by the Facu	lty Qı	uality I	Manual are	e cari	ried out.	

	General information				
Course leader	M.Sc. Ines Radošević Medvidović, Senior Le	ecturer			
Course	APPLIED STATISTICS	PPLIED STATISTICS			
Study program	Professional Graduate Study				
Course Status	Mandatory				
Year	2.				
Credit Value and Course	ECTS coefficient of student workload	4			
Delivery Number of hours (L+E+S) 15+30+0					
1. COURSE DESCRIPTION					

1.1. Course objectives				
Development of mathematical knowledge and describing and analyzing events and processes using mathematical methods.				
Training students to solve basic mathematical-statistical tasks in the domain of descriptive statistics and				
probabilistic analysis.				
1.2. Course Enrolment Requirements				
-				
1.3. Expected learning outcomes for the course				
 Apply appropriate methodological approaches of descriptive statistics, probabilistic analysis Apply methods for error evaluation, hypothesis testing, and the like in the domain of construction practice Use multiple standard commercial software packages in the implementation of tasks in the domain of statistical and probabilistic inference 				
1.4. Course content				
 Statistical datasets Measures of central tendency and dispersion Basic concepts of probability, random magnitude, and probability distribution Parameter changes, hypothesis testing, t-test, Smirnov-Kolmogorov test, Student's test Regression models, linear and curvilinear regression, multiple regression Time series analysis, trends, data series comparison 				
☑ Class ☑ Independent tasks				
1.5. Types of				
teaching 🛛 exercises				
□ Distance education				
U Terrain Occurs U Other				
1.6. Comments				
1.7. Student obligations				
Attending classes, solving assigned tasks, passing colloquiums and final exams.				

1.8. Monitoring st	udent	work					
Attending classes	0,75	Teaching activity	0,75	Seminar pa	aper	Experimental work	
Written exam	1,5	Viva voce		Assay		Research	
Project		Continuous Knowledge Assessment	1	Report		Practical work	
Portfolio							
1.9. Assessment o	and evo	aluation of students' work du	ring cla	asses and a	t the final e.	xam	
According to the current Ordinance on Studies of the Faculty of Civil Engineering in Rijeka and the Ordinance on the Evaluation and Evaluation of the Work of Students at the Faculty of Civil Engineering in Rijeka. The total number of points that can be earned is 70% during classes and 30% on the final exam.							
1.10. Compulsory	literat	ure					
Šošić, I.: Applied Statistics, Školska knjiga, Zagreb, 2004. Šošić, I.: Collection of Tasks in Statistics, Školska knjiga, Zagreb, 1998.							
1.11. Supplement	1.11. Supplementary literature						
Papić, M.: Applied Statistics in MS Excel. Zora, Zagreb, 2005							
1.12. Number of copies of compulsory literature in relation to the number of students currently attending classes in the course							
		Title		Νι	umber of cop	ies Number of s	tudents
Šošić, I.: Applied S	Šošić, I.: Applied Statistics, Školska knjiga, Zagreb, 2004. 1						
Šošić, I.: Collectior 1998.	Šošić, I.: Collection of Tasks in Statistics, Školska knjiga, Zagreb, 1 1998. 1						
1.13. Methods of quality assurance that ensure the acquisition of learning outcomes, skills, and competencies							
Quality monitoring procedures prescribed by the Faculty Quality Manual are carried out.							

General information					
Course leader	Assoc. Prof. Koraljka Vahtar-Jurković, PhD				
Course	ENVIRONMENTAL IMPACT ASSESSMENT				
Study program	Professional Graduate Study				
Course Status	Mandatory				
Year	1.				
Credit Value and Course	ECTS coefficient of student workload	3			
Delivery	Number of hours (L+E+S)	20+0+10			

1. COURSE DESCRIPTION

1.1. Course objectives

To train students for the application of basic environmental protection instruments, i.e. for participation in the implementation of environmental impact assessment procedures and strategic environmental impact assessment.

1.2. Course Enrolment Requirements

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1.3. Expected learning outcomes for the course

- 1. Explain the procedure for conducting environmental impact assessments and strategic environmental assessments and environmental impact assessments on nature and landscapes.
- 2. Participate in these procedures in various capacities: as a preparer of an environmental impact study (EIA) as an expert basis; in his capacity as a member of the advisory expert committee for the assessment of environmental impact assessment, as well as in the capacity of officials in the administrative bodies that conduct environmental impact assessment procedures.

- 1. Environmental instruments
- 2. Environmental Impact Assessment (EIA)
- 3. Strategic Environmental Assessment (SEA)
- 4. Assessment of the acceptability of the project and the strategy, plans and programs for the ecological network
- 5. Landscape Impact Assessment as part of EIA and SEA procedures
- 6. theoretical and legal framework for the implementation of these procedures/assessments, definitions, entities participating in these procedures, competence for the implementation and assessment of the need for the implementation of the procedure, expert bases for the implementation of the procedure, advisory expert committees, course of the procedure, public participation, adoption of an administrative decision, deadlines for the implementation of the procedure
- 7. Examples of EIA and SEA procedures carried out

1.5. Types of teaching	 Class seminars and workshops exercises Distance education 	 Independent tasks Multimedia & Network Laboratories Mantor work
	☐ Distance education ☐ Terrain Occurs	∐ Mantor work □ Other
		_ other

1.6. Comments							
1.7. Student obligations							
Attending classes,	writin	g a seminar paper, taking col	loquia	and final exam	s.		
1.8. Monitoring st	udent	work					
Attending classes	0,5	Teaching activity		Seminar pape	1,25	Experimental w	ork
Written exam	0,75	Viva voce		Assay		Research	
Project		Continuous Knowledge Assessment	0,5	Report		Practical work	
Portfolio							
1.9. Assessment a	nd eva	luation of students' work duri	ing clas	sses and at the	final ex	am	
According to the c the Evaluation and The total number	current d Evalu of poir	Ordinance on Studies of the ation of the Work of Student nts that can be earned is 70%	Facult s at th during	y of Civil Engin e Faculty of Ci g classes and 3	eering i vil Engin 0% on tl	n Rijeka and the eering in Rijeka. he final exam.	Ordinance on
1.10. Compulsory	literatı	Ire					
The Importance of Strategic Environmental Impact Assessment for Space Management and Development, Proceedings (ed. Mladen Črnjar), Rijeka, 2003; Guidelines on Strategic Environmental Impact Assessment, EU CARDS Programme for the Republic of Croatia, Zagreb, 2007 Official Gazette – website: Environmental Protection Act Decree on Environmental Impact Assessment Regulation on the Strategic Environmental Impact Assessment of the Plan and Programme Regulation on Information and Participation of the Public and Interested Public in Environmental Matters Ordinance on the Strategic Assessment Committee List of persons who may be appointed as members and deputies of the Commission in the procedures of strategic assessment, environmental impact assessment and determination of integrated environmental protection conditions							
1.11. Supplemente	ary lite	rature					
Črnjar, Mladen: Economics and Environmental Policy, Faculty of Economics, University of Rijeka and GLOSA, Rijeka, 2002. Črnjar, Mladen; Črnjar, Kristina: Management of Sustainable Development, GLOSA, Rijeka, 2009.							
in the course							
	Title Number of copies Number of students					per of students	
The Importance of Strategic Environmental Impact Assessment, Space Management and Development, Proceedings (ed. Mladen Črnjar), Rijeka, 2003; Guidelines on Strategic Environmental1Impact Assessment, EU CARDS Programme for the Republic of Croatia, Zagreb, 20073				30			
Official Gazette:	nttps://	narodne-novine.nn.hr/			online		
1.13. Methods of quality assurance that ensure the acquisition of learning outcomes, skills, and competencies							

Quality monitoring procedures prescribed by the Faculty Quality Manual are carried out.

General information					
Course leader	Assoc. Prof. Željko Boneta, PhD				
Course	URBAN AREA SOCIOLOGY				
Study program	Professional Graduate Study				
Course Status	Mandatory				
Year	1.				
Credit Value and Course	ECTS coefficient of student workload	3			
Delivery	Number of hours (L+E+S)	20+0+10			

1. DESCRIPTION OF THE COURSE

1.1. Course objectives

To introduce students to the categorical apparatus and the main theoretical directions within urban sociology as a special branch of sociology;

Pointing out the main problems of urbanization and life in the city, as well as the needs and ways of an interdisciplinary approach in solving them;

To point out the ways of approaching the city as a subject of study, and to present the results of research with special emphasis on the methodology of studying urban spaces;

1.2. Course Enrolment Requirements

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1.3. Expected learning outcomes for the course

- 1. Recognition and ability to analyze certain social problems related to construction practice;
- 2. Find appropriate solutions while respecting the possibilities of an interdisciplinary approach;
- 3. Use certain sociological knowledge and methodological techniques (surveys) to anticipate and/or timely solve possible problems related to construction practice;

- 1. The concept of urbanization types, causes; urbanization of modern societies;
- 2. The beginnings of sociology and sociology of the city Durkheim, Toennies, Simmel ...;
- 3. The Chicago School Early Urban Theory; urbanism;
- 4. The New Tories Lefebvre and the Theory of the Urban Revolution; Mumford; Castells;
- 5. New interests for urban and interdisciplinarity cultural and social geography, urban economics; Castells, Harvey...
- 6. Recent theoretical considerations: networking of society (Castells), global city (Sassen), spatiality, local-global; consideration of some phenomena in the contemporary city (gentrification; city-fortress; dual city);
- 7. Presentation of research in the field of urban sociology and studies from different theoretical perspectives with special emphasis on the methodology of studying urban spaces.

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FACULTY OF CIVIL ENGINEERING

1.5. Types of tead	ching	 ☑ Class ☑ seminars and workshops ☑ exercises ☑ Distance education ☑ Terrain Occurs 		 ☐ Independent tasks ☐ Multimedia & Network ☐ Laboratories ☐ Mantor work ☐ Other 				
1.6. Comments			·					
1.7. Student oblig	gations	;						
Attending classes,	writin	g a seminar paper, taking col	loquia	and fin	al exams.			
1.8. Monitoring s	tudent	t work						
Attending classes	0,5	Teaching activity		Semina	ar paper	1	Experimental work	
Written exam	0,75	Viva voce		Assay			Research	
Project		Continuous Knowledge Assessment	0,75	Report	t		Practical work	
Portfolio								
1.9. Assessment	and ev	aluation of students' work du	ring cl	asses ai	nd at the fi	nal e	xam	
According to the current Ordinance on Studies of the Faculty of Civil Engineering in Rijeka and the Ordinance on the Evaluation and Evaluation of the Work of Students at the Faculty of Civil Engineering in Rijeka. The total number of points that can be earned is 70% during classes and 30% on the final exam. 1.10. Compulsory literature								
Čaldarović, O.: Col	ntemp	orary Society and Urbanizatio	on, Ško	lska knj	jiga, Zagrel	o, 198	87.	
1.11. Supplemento	ary lite	rature						
Rogić, I.: Living and Being, Sociological Society of Croatia, Zagreb, 1990. Rogić, I.; Bagić, D.; Fire, M.; Vedriš, M.: Urban Challenges: Infrastructure as a Development Challenge in Major Croatian Cities, Siemens d.d. Zagreb, 2008.								
1.12. Number of c in the course	opies c ?	of compulsory literature in rel	ation t	o the ni	umber of s	tuder	nts currently attendin	g classes
		Title			Number o	f cop	ies Number of st	udents
Čaldarović, O.: Url Question. Globus,	oan So Zagrel	ciology. Social Theory and the	e Urba	n	2 (SON LAV	2 (SONS-in- LAW)		
Čaldarović, O.: Contemporary Society and Urbanization, Školska knjiga, Zagreb, 1987.			lska	9 (FFRI)				
1.13. Methods of quality assurance that ensure the acquisition of learning outcomes, skills, and competencies								
Quality monitoring procedures prescribed by the Faculty Quality Manual are carried out.								
L								

General information					
Course leader	Assoc. Prof. Ivan Marović, PhD				
Course	PROJECT MANAGEMENT				
Study program	Professional Graduate Study				
Course Status	Mandatory				
Year	1.				
Credit Value and Course	ECTS coefficient of student workload	6			
Delivery	Number of hours (L+E+S)	30+15+15			

1. DESCRIPTION OF THE COURSE

1.1. Course	objectives
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Acquisition of knowledge and skills in the field of project management, with an emphasis on construction projects.

1.2. Course Enrolment Requirements

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1.3. Expected learning outcomes for the course

- 1. Understand and explain project management processes and competencies
- 2. Plan and analyze the lifecycle with all phases of a construction project
- 3. Design a project management plan and apply appropriate tools, techniques and competencies in the management process, evaluate execution and apply corrective measures

- 1. Basic knowledge of project management
- 2. Basics of construction project management
- 3. Management in the preparatory stages
- 4. Management in the implementation phases
- 5. Construction Project Manager
- 6. Teamwork
- 7. Risk management in construction projects
- 8. Change management
- 9. Human Resource Management
- 10. Quality/Cost/Time Management
- 11. Information and communication management in construction projects
- 12. New trends and the future of project management

	🛛 Class	Independent tasks
	oxtimes seminars and workshops	🗆 Multimedia & Network
1.5. Types of teaching	🛛 exercises	□ Laboratories
	□ Distance education	Mantor work
	Terrain Occurs	□ Other
1.6. Comments		

1.7. Student obligations

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Attending classes, writing a seminar paper, taking colloquia and final exams.

1.8. Monitoring student work

Attending classes	1,0	Teaching activity		Seminar paper	1,5	Experimental work	
Written exam	2,0	Viva voce		Assay		Research	
Project		Continuous Knowledge Assessment	1,5	Report		Practical work	
Portfolio							

1.9. Assessment and evaluation of students' work during classes and at the final exam

According to the current Ordinance on Studies of the Faculty of Civil Engineering in Rijeka and the Ordinance on the Evaluation and Evaluation of the Work of Students at the Faculty of Civil Engineering in Rijeka. The total number of points that can be earned is 70% during classes and 30% on the final exam.

1.10. Compulsory literature

Radujković, M. et al.: Project Planning and Control, University of Zagreb, Faculty of Civil Engineering, Zagreb, 2012.

A Guide to the Project Management Body of Knowledge (PMBOK Guide) Fifth Edition, 2013.

A Guide to the Project Management Body of Knowledge (PMBOK Guide) Seventh Edition, 2021.

Croatian National Guide to Core Project Management Skills (NCB) – e-textbook on the CAPM website, 2008 IPMA: Basic Individual Competencies for Project Management, Book 1, Croatian Project Management Association, Zagreb, - textbook on the IPMA website, 2018.

1.11. Supplementary literature

Vukmir, B.: Contracts on Construction and Services of Consulting Engineers, RRIF-Plus, Zagreb, 2009. Burtonshaw-Gunn, S.A.: Risk and Financial Management in Construction, S.A. Gower, 2009.

Vukomanović, M.; Radujković, M.: Business Excellence in Civil Engineering of the Republic of Croatia, University of Zagreb, Faculty of Civil Engineering and Croatian Association for Construction Organization, 2011.

IPMA: Basic Individual Competencies for Program Management, Book 2, Croatian Project Management Association, Zagreb, - textbook on IPMA website, 2018.

IPMA: Basic Individual Competencies for Portfolio Management, Book 3, Croatian Project Management Association, Zagreb, - textbook on the IPMA website, 2018.

1.12. Number of copies of compulsory literature in relation to the number of students currently attending classes in the course

Title	Number of copies	Number of students
Radujković, M. et al.: Project Planning and Control, University of Zagreb, Faculty of Civil Engineering, Zagreb, 2012.	12	
A Guide to the Project Management Body of Knowledge (PMBOK Guide) Fifth Edition, 2013	2	30
Croatian National Guide to Core Project Management Skills (NCB) – e-textbook on the CAPM website	online	
IPMA: Basic Individual Competencies for Project Management, Book 1, Croatian Project Management Association, Zagreb, - textbook on the IPMA website, 2018.	online	

1.13. Methods of quality assurance that ensure the acquisition of learning outcomes, skills, and competencies

Quality monitoring procedures prescribed by the Faculty Quality Manual are carried out.

General information						
Course leader	Asst. Prof. Ivana Sušanj Čule, PhD					
Course	WATER PHENOMENA IN THE COASTAL AREA					
Study program	Professional Graduate Study					
Course Status	Mandatory					
Year	1.					
Credit Value and Course	ECTS coefficient of student workload	6				
Delivery	Number of hours (L+E+S)	30+0+30				

1. COURSE DESCRIPTION

1.1. Course objectives

Development of knowledge about the multidisciplinarity of various methodological approaches in the analysis of water phenomena in the coastal area

Introduction to the characteristics, specifics and problems of the occurrence of waters in the coastal area in the context of the implementation of construction projects

Introduction to the legal framework and spatial planning in the context of management and protection of water phenomena in the coastal area

Development of knowledge about the impact of climate change on the occurrence of water and the possibilities of their protection during the implementation of construction projects

Training for solving engineering problems in the field of hydrological analysis: spatial-temporal distribution of precipitation, analysis of physical properties of catchment areas, analysis of water phenomena characteristics (statistical and probabilistic analyses), parametric analytics.

1.2. Course Enrolment Requirements

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1.3. Expected learning outcomes for the subject

- 1. Develop and apply appropriate methodological approaches in the analysis of water phenomena in the context of water management problems
- 2. Solve basic statistical, probabilistic and parametric treatments of different occurrences of water
- 3. To assess the possible impact of construction projects on water resources in the coastal area
- 4. Assess the level of impact of the construction project on the existing water management system in the context of urban planning and the legal framework

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1.4	. Content of the a	course							
1.	Description of the basic dependencies of natural features (geographical, geological, biological, climatic factors) and anthropological factors on the occurrence of coastal waters								
2. 3.	Legislation of the Planning and de	ie Rep efining	oublic of Croatia and Spatial Pl g the problems of constructior	annir 1 pro	ig in the Context jects within the v	t of the water i	e Water Management management system	: System or in the	
	area of the sam	е							
4.	Basics and practical application of statistical methods in general: statistical characteristics of data sets, time series analysis, spatial analysis, probabilities of occurrence of characteristic variables and correlations								
5.	Basics of meteorology and data processing – precipitation, temperatures, winds, climate diagrams								
6.	Geological and hydrogeological characteristics of coastal environments, specifics of karst environments								
/. o	Pedology, land	cover,	erosion and urbanization	occir	va watar lavala	flows	high and small waters		
0.	environmentally	y frier	idly flows, hydrological calcula	ations	s of water collect	tion po	pints – cisterns, reserv	, oirs and	
	retention								
9. 10	Basics of applie	d hydi auality	raulics: hydrostatics, open-flov /: natural systems, water supr	w hyo	draulics and pres	ssurize	d systems	of the	
10.	Republic of Cro	atia	y. Hatulai systems, water supp	лу зу	sterns, pressure:	s, prop			
11.	Basics of ocean	ology,	sea level, sea currents.						
12.	Climate change	and it	ts impact on water manageme	ent sy	/stems				
			🛛 Class		⊠ Independ	dent ta	asks		
1 Г	Tupos of togobi		Seminars and workshops		Multimedia & Network				
1.5	. Types of teachin	ıy			L Laborato				
			Distance education Terrain Occurs	⊠ Mantor v □ Other	Other				
1.6	. Comments								
1.7	. Student obligati	ions							
Att	ending classes, w	vriting	a seminar paper, taking collo	quia	and final exams.				
1.8	. Monitoring stud	dent w	vork						
Att	ending classes	1	Teaching activity		Seminar paper	1,5	Experimental work		
Wr	tten exam	2	Viva voce		Assay		Research	0,5	
Pro	ject		Continuous Knowledge Assessment	1	Report		Practical work		
Por	tfolio								
1.9. Assessment and evaluation of students' work during classes and at the final exam									
According to the current Ordinance on Studies of the Faculty of Civil Engineering in Rijeka and the Ordinance on the Evaluation and Evaluation of the Work of Students at the Faculty of Civil Engineering in Rijeka. The total number of points that can be earned is 50% during classes and 50% on the final exam.									
1.1	0. Compulsory lit	eratu	re						
Vul Teo	Vuković, Ž.: Basics of Hydraulic Engineering (Part Two, Book Two). Aquamarine, Zagreb, 1996 Tedeschi, S. Zaštita voda, HDGI, 1997.								

Bonacci, O.; Roje-Bonacci, T: Peculiarities of Karst Aquifers: Construction Yearbook 03/04. Croatian Association of Civil Engineers, Zagreb, 2004

1.11. Supplementary literature

Chin, D.A.: Water – Resources Engineering. Prentice Hall, New Jersey, 2000.

PAP: Planning and designing of Urban Waste water Treatment Project sin Mediteranean Coastal Towns, Split, 1992.

XXX: Technical Encyclopedia. JLZ Zagreb.

Margeta, J: Rainwater and Wastewater: Burden of Pollution, Protection Measures, University of Split GAF, 2007.

1.12. Number of copies of compulsory literature in relation to the number of students currently attending classes in the course

Title	Number of copies	Number of students
Vuković, Ž.: Basics of Hydraulic Engineering (Part Two, Book Two). Aquamarine, Zagreb, 1996	8	
Tedeschi, S. Zaštita voda, HDGI, 1997.	10	30
Bonacci, O.; Roje-Bonacci, T: Peculiarities of Karst Aquifers: Construction Yearbook 03/04. Croatian Association of Civil Engineers, Zagreb, 2004	1	

1.13. Methods of quality assurance that ensure the acquisition of learning outcomes, skills, and competencies

Quality monitoring procedures prescribed by the Faculty Quality Manual are carried out.

General information							
Course leader Saša Čohar Mančić, Senior Lecturer							
Course ENGLISH FOR ENGINEERS.							
Study program	Study program Professional Graduate Study						
Course Status Electoral							
Year 1.							
Credit Value and Course	ECTS coefficient of student workload	4					
Delivery	Number of hours (L+E+S)	15+10+5					
1. DESCRIPTION OF THE COU	JRSE						
1.1. Course objectives							
To enable students to understand the meaning of professional texts in English, to be able to express themselves correctly in a foreign language, to be able to translate, with the help of dictionaries, abstracts of professional papers into English and vice versa, to be able to independently present and present an article, paper, project, etc. in the correct English language.							
1.2. Course Enrolment Requirements							
-							

1.3. Expected learning outcomes for the course

1.	Proper use of professional expressions, proper expression, clear presentation of the goals of a project,
	independence in conversation in English, independence in presentation and accurate transmission of
	information.

1.4. Course content

1.	Processing	of professional	texts related	to a specific	field of work
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- 2. Translation from and into English
- 3. Presentation of short content in English.

	🛛 Class	🗵 Independent tasks
	seminars and workshops	🗵 Multimedia & Network
1.5. Types of teaching	🛛 exercises	□ Laboratories
	□ Distance education	□ Mantor work
	Terrain Occurs	□ Other
1.6. Comments		

1.7. Student obligations

Attending classes, writing a seminar paper, taking colloquia and final exams.

1.8. Monitoring student work

Attending classes	0,6	Teaching activity	0,5	Seminar paper	0,2	Experimental work	
Written exam	1,0	Viva voce	1,2	Assay		Research	
Project		Continuous Knowledge Assessment	0,5	Report		Practical work	

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Portfolio								
1.9. Assessment and evaluation of students' work during classes and at the final exam								
According to the current Ordinance on Studies of the Faculty of Civil Engineering in Rijeka and the Ordinance on the Evaluation and Evaluation of the Work of Students at the Faculty of Civil Engineering in Rijeka. The total number of points that can be earned is 70% during classes and 30% on the final exam.								
1.10. Compulsory	litera	iture						
Professional texts English Dictionary	Professional texts brought by the lecturer. English Dictionary.							
1.11. Supplementary literature								
Grammar of Englis	sh by	any author, monolingual d	ictiona	ry.				
1.12. Number of copies of compulsory literature in relation to the number of students currently attending classes in the course								
		Title		Nur	nber of	copies	Number oj	fstudents
English Dictionary 8 30					C			
1.13. Methods of quality assurance that ensure the acquisition of learning outcomes, skills, and competencies								
Quality monitoring procedures prescribed by the Faculty Quality Manual are carried out.								

General information						
Course leader	Marijana Cuculić, Senior Lecturer					
Course	ROAD MANAGEMENT					
Study program	Professional Graduate Study					
Course Status						
Year	2.					
Credit Value and Course	ECTS coefficient of student workload	4				
Delivery	Number of hours (L+E+S)	30+5+10				

1. DESCRIPTION OF THE COURSE

1.1. Course objectives

This course aims to help students understand the key components and elements of modern pavement management, which, as a system, is expected to be helpful in the challenges of road use and maintenance of the 21st century. Properly designed, designed and implemented, a modern maintenance management system will help road administrations and concessionaires achieve the following: /1/ improve service to road users; /2/ increase maintenance efficiency; /3/ to keep roads as an asset at the lowest level of total costs for their lifetime.

1.2. Course Enrolment Requirements

-

- 1.3. Expected learning outcomes for the course
- 1. To define and solve problems in the management of road pavements, especially the pavements of communal roads and port manoeuvring areas as part of construction in the coastal area.
- 2. Participate in the planning and maintenance of roads as construction facilities and communal systems of transport infrastructure, and the management of these systems.
- 3. Manage and operationally work in cadastral and other spatial databases in the domain of road systems.

- 1. Introduction.
- 2. Principles and essential features of pavement management, tasks and levels of pavement management.
- 3. Database.
- 4. Degradation of the pavement structure, diagnosing damage and monitoring.
- 5. Maintenance and rehabilitation of pavements.
- 6. Communal transport infrastructure.
- 7. Analysis of maintenance needs and forecasting of priorities at the level of the road network.
- 8. The relationship between structural pavement design and management at the project level.
- 9. Management of communal road pavements /RoSy system/.
- 10. Pavements of port traffic-manoeuvring areas.
- 11. Implementation of the pavement management system.
- 12. Examples of management systems in application /HDM-4 and others/.
- 13. Economic aspects of long-life pavement.
- 14. Sustainability in the rehabilitation and maintenance of road infrastructure.

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		🖾 Class		🛛 Indep	🛛 Independent tasks		
		oxtimes seminars and workshops		🗆 Multir	🗆 Multimedia & Network		
1.5. Types of teach	ning	🛛 exercises		🗆 Labora	atories		
		□ Distance education		🛛 Manto	or worl	<	
		🛛 Terrain Occurs		□ Other			
1.6. Comments							
1.7. Student oblige	ations						
Attending lectures and exercises. Preparation of a seminar paper Creating a program task Passing the final exam.							
1.8. Monitoring st	udent	work					
Attending classes	0,75	Teaching activity		Seminar paper	1,25	Experimental work	
Written exam	1,25	Viva voce		Assay		Research	
Project	0,75	Continuous Knowledge Assessment		Report		Practical work	
Portfolio							
1.9. Assessment a	nd eva	luation of students' work duri	ng cl	asses and at the	final e	exam	
According to the current Ordinance on Studies of the Faculty of Civil Engineering in Rijeka and the Ordinance on the Evaluation and Evaluation of the Work of Students at the Faculty of Civil Engineering in Rijeka. The total number of points that can be earned is 60% during classes and 40% on the final exam.							
1.10. Compulsory	literatı	Ire					
Roberts, F.L., P.S. Kandhal, E.R. Brown, D-Y. Lee, T.W.Kennedy: VRUĆE ASFALTNE MJEŠAVINE, materijali, projektiranje i ugradnja. HSGI i IGH, 2003. Hrvatsko izdanje originala Hot Mix Asphalt Materials, Mixture Design and Construction, Second Edition 1996. NAPA Education, Maryland, USA Sršen, M.: Road Maintenance. Construction Yearbook, HSGI, Zagreb, 2000 Sršen, M.: Introduction of Modern Measuring Devices in Road Condition Assessment – Croatian and International Experiences. Construction Yearbook, HSGI, Zagreb, 1999 Sršen, M.: Terminological Fourlingual Dictionary of Road Engineering with a Glossary; Zagreb 2011; AspeCta							
1.11. Supplemente	ary lite	rature					
Straube, E. and Beckedahl, H.: Strassenbau und Strassenerhaltung, 4th revised edition, Erich Schmidt Verlag							

GmbH & Co, Berlin, 1997

Swiss Standard, Supplement, SN 640 925, Catalogue of Claims, VSS, Zurich, 1991

Croney, D. and Croney P.: The Design and Performance of Road Pavements, Third Edition, McGraw-Hill, New York, USA, 1998

Atkins, H.N.: Highway Materials, Soils and Concretes, Third Edition, London, 1997

Pavement Design and Management Guide. Transportation Association of Canada /TAC/, Ottawa, 1997 Haas, R., W.R. Hudson and J. Zaniewski: Modern Pavement Management. Krieger Publ. Inc., Malabar Florida, USA, 1994 1.12. Number of copies of compulsory literature in relation to the number of students currently attending classes in the course

Title	Number of copies	Number of students			
Roberts, F.L., P.S. Kandhal, E.R. Brown, D-Y. Lee, T.W.Kennedy: VRUĆE ASFALTNE MJEŠAVINE, materijali, projektiranje i ugradnja. HSGI i IGH, 2003. Hrvatsko izdanje originala Hot Mix Asphalt Materials, Mixture Design and Construction, Second Edition 1996. NAPA Education, Maryland, USA	6				
Sršen, M.: Terminological Fourlingual Dictionary of Road Engineering with a Glossary; Zagreb 2011; AspeCta	6	30			
Sršen, M.: Road Maintenance. Construction Yearbook, HSGI, Zagreb, 2000	2				
Sršen, M.: Introduction of Modern Measuring Devices in Road Condition Assessment – Croatian and International Experiences. Construction Yearbook, HSGI, Zagreb, 1999	2				
1.13. Methods of quality assurance that ensure the acquisition of learning outcomes, skills, and competencies					
Quality monitoring procedures prescribed by the Faculty Quality Manual are carried out.					

General information						
Course leader	Assoc. Prof. Iva Mrak, PhD					
Course	INDUSTRIAL ARCHITECTURAL HERITAGE					
Study program Professional Graduate Study						
Course Status	Electoral					
Year 2.						
Credit Value and Course	ECTS coefficient of student workload	4				
Delivery	Number of hours (L+E+S)	30+0+15				

1. DESCRIPTION OF THE COURSE

1.1. Course objectives

To introduce students to industrial archaeology, the history of industry and industrial heritage, the issues of heritage of industrial areas and buildings, their evaluation and preservation in the context of contemporary spatial and social planning.

1.2. Course Enrolment Requirements

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1.3. Expected learning outcomes for the course

- 1. List and describe the development phases of industrialization
- 2. Distinguish the basic methods of revitalization of industrial heritage
- 3. Distinguish the characteristics of well-known historical (and contemporary) industrial buildings and their constructions.
- 4. To list and describe buildings important for the history of structures in Rijeka and Croatia

- 1. The concept of industrial archaeology and industrial heritage (from the aspect of different disciplines)
- 2. Historical Overview of Industrial Development: (Prehistory of Industrialization, 1st Industrial Age, 2nd Industrial Age, 3rd Industrial Age, Post-Industrial Age)
- 3. Historical overview of industrial development in Croatia
- 4. Historical overview of the development of industry in Rijeka
- 5. Revitalization of Industrial Heritage Historical Overview
- 6. Revitalization of industrial heritage methodology
- 7. Rehabilitation and revitalization of industrial areas
- 8. Adaptation and reconstruction of industrial buildings
- 9. Examples of revitalization and reconstruction of areas and buildings
- 10. Field work a tour of famous locations of industrial heritage

	☑ Class☑ seminars and workshops	☑ Independent tasks □ Multimedia & Network
1.5. Types of teaching	□ exercises	□ Laboratories
	□ Distance education	□ Mantor work
	🛛 Terrain Occurs	□ Other
1.6. Comments		

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1.7. Obligations of students Attending classes, active classes, writing a seminar paper, taking the final exam. 1.8. Monitoring student work Attending classes 0,75 Teaching activity 0,25 Seminar paper 2 Experimental work 1 Written exam Viva voce Assay Research Continuous Knowledge Project Report Practical work Assessment Portfolio 1.9. Assessment and evaluation of students' work during classes and at the final exam According to the current Ordinance on Studies of the Faculty of Civil Engineering in Rijeka and the Ordinance on the Evaluation and Evaluation of the Work of Students at the Faculty of Civil Engineering in Rijeka. The total number of points that can be earned is 70% during classes and 30% on the final exam. 1.10. Compulsory literature Proceedings of the Pro Torpedo Industrial Heritage Conferences 1.11. Supplementary literature Čakširan, V.: What is Industrial Heritage?, Sisak City Museum, 2020. Aničić, E., Rijeka's Industrial Story, Rijeka City Museum, 2014 Douet, J. (ed.), Industrial Heritage Re-tooled: The TICCIH Guide to Industrial Heritage Conservation 1st Edition, Routledge, 2013 City for the 21st Century, Proceedings of the First Croatian Symposium on Industrial Heritage, DAGGK, Karlovac, 2000. Magaš, O. Urban Development of Rijeka and Sušak at the Turn of the Century. In Architecture of Art Nouveau in Rijeka: Architecture and Urbanism of the Beginning of the 20th Century 1900-1925; Valušek, B., Ed.; Museum of Modern and Contemporary Art, Rijeka: Rijeka, Croatia, 1998; Pp. 50–79. Matejčić, R. How to Read the City: Rijeka Yesterday, Today; Rijeka Publishing Centre: Rijeka, Croatia, 1988; Pp. 0– 1. Berkes, J. Construction of the Port of Rijeka from 1868 to 1918. In Port of Rijeka: History, Construction, Traffic (in Croatian); Dubrović, E., Ed.; Rijeka City Museum: Rijeka, Croatia, 2001; Pp. pp. 133-164. Kraljić, J.P. Rijeka as an Emigrant Port. In the Port of Rijeka: history, construction, traffic; Dubrović, E., Ed.; Rijeka City Museum: Rijeka, Croatia, 2001; Pp. pp. 233-239. Stražičić, N. From a small emporium at the mouth of the Rječina River to the port system on the banks of Kvarner. In Port of Rijeka: History, Construction, Traffic (in Croatian); Dubrović, E., Ed.; Rijeka City Museum: Rijeka, Croatia, 2001; Pp. 3-61. Špirid, A., Spatial Criteria in the Urban Renewal of Industrial Braunfield Locations, Građevinar, 9/2015 Nadilo, B., Regan, K., Industrial Heritage of Rijeka – Centre: The Beginnings of Croatian Industrial Heritage, Građevinar, 4/2015 Nadilo, B., Regan, K., Eastern Industrial Zone in Rijeka: Huge and Mostly Abandoned Industrial Plants, Građevinar, 06/2015 Nadilo, B., Regan, K., The Development of the Port of Rijeka and Its Contents: Buildings Representing World Value, Građevinar, 07/2015 Nadilo, B., Regan, K., The Emergence of Sušak and a Final Review of Rijeka's Heritage: How to Save and Preserve the Rich Heritage?, Građevinar, 09/2015 Nadilo, B., Regan, K., Industrial Construction Northwest of the Railway in Zagreb: The Place of the Beginning and Flourishing of Industrial Development, Građevinar, 01/2016 1.12. Number of copies of compulsory literature in relation to the number of students currently attending classes in the course



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Title	Number of copies	Number of students					
Proceedings of the Pro Torpedo Industrial Heritage Conferences	10	30					
1.13. Methods of quality assurance that ensure the acquisition of learning outcomes, skills, and competencies							
Quality monitoring procedures prescribed by the Faculty Quality Manual	Quality monitoring procedures prescribed by the Faculty Quality Manual are carried out.						

General information				
Course leader	Asst. Prof. Elvis Žic, PhD			
Course	DRINKING WATER CONDITIONING AND WASTEWATER TREATMENT			
Study program	Professional Graduate Study			
Course Status	Electoral			
Year	1.			
Credit Value and Course	ECTS coefficient of student workload	4		
Delivery	Number of hours (L+E+S) 30+0+15			

1. DESCRIPTION OF THE COURSE

1.1. Course objectives

Introducing students to the procedures of conditioning raw and drinking water, and wastewater treatment, as well as the application of legal regulations in the field.

1.2. Course Enrolment Requirements

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1.3. Expected learning outcomes for the course

- 1. Enumerate, describe, sketch and explain the procedures/phases of conditioning drinking water.
- 2. Based on the quality of the water at the source, choose the appropriate water treatment procedure.
- 3. Enumerate, describe, sketch and explain wastewater treatment procedures (sanitary, industrial and rainwater).
- 4. According to the characteristics of the receiver and the sewage system, choose the appropriate wastewater treatment process.

- 1. Drinking water quality (organoleptic, physical, chemical and bacteriological properties of the water)
- 2. Drinking water conditioning procedures: settling, coagulation and flocculation, filtration, disinfection, special methods, sludge treatment
- 3. Drinking Water Conditioning and Plant Management Equipment
- 4. Sources of pollution
- 5. Features of the wastewater receiver
- 6. Wastewater treatment processes: upstream, primary (first), secondary (second) biological processes, activated sludge, biological tanks, drip irrigation, swivel biological carriers, lagoons and stabilization ponds, anaerobic digestion, tertiary (third) stage of wastewater treatment physical processes, chemical procedures, biological processes
- 7. Alternative wastewater treatment processes (soil, aquaculture, deep tanks)
- 8. Reuse of water after purification

1.5. Types of teaching	🗵 Class	Independent tasks
	☑ seminars and workshops	🗆 Multimedia & Network
	□ exercises	□ Laboratories
	\Box Distance education	□ Mantor work
	🛛 Terrain Occurs	□ Other

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1.6. Comments As part of the classes, a visit to the water intake and/or JCE will be organized.							
1.7. Student obliga	ations						
Attending classes,	writin	g a seminar paper, taking col	loquia	and final exams			
1.8. Monitoring st	udent	work					
Attending classes	0,7	Teaching activity		Seminar paper	1,0	Experimental wo	rk
Written exam	1,0	Viva voce		Assay		Research	
Project		Continuous Knowledge Assessment	1,0	Report		Practical work	
Portfolio		Field Teaching	0,3				
1.9. Assessment a	nd eva	luation of students' work dur	ing cla	sses and at the j	final ex	am	
the Evaluation and The total number 1.10. Compulsory	d Evalu of poir <i>literati</i>	nation of the Work of Student nts that can be earned is 70% ure	s at th durin	e Faculty of Civi g classes and 3C	l Engin % on tl	eering in Rijeka. ne final exam.	
Gulić, I.: Water Co Tedeschi, S.: Wate	onditio er Prot	ning, HSGI, Zagreb, 2003. ection, HDGI, Zagreb, 1997.					
1.11. Supplemente	ary lite	rature					
Margeta, J: Rainwater and Wastewater: Pollution Burden, Protection Measures; University of Split, Faculty of Civil Engineering and Architecture, Matice hrvatske 15, Split. Vuković, Ž.: Basics of Hydraulic Engineering (Part One, Book Two), Aquamarine, Zagreb, 1996. 1.12. Number of copies of compulsory literature in relation to the number of students currently attending classes							
		Title		Num	ber of c	opies Numb	er of students
Gulić, I.: Water Co	onditio	ning, HSGI, Zagreb, 2003.			5		30
Tedeschi, S.: Water Protection, HDGI, Zagreb, 1997.10						50	
1.13. Methods of	quality	assurance that ensure the ac	cquisiti	ion of learning c	utcom	es, skills, and con	npetencies
Quality monitoring	g proc	edures prescribed by the Fac	ulty Qı	uality Manual ar	e carrie	ed out.	

General information					
Course leader	Prof. Adriana Bjelanović, PhD; Asst. Prof. Pa	Prof. Adriana Bjelanović, PhD; Asst. Prof. Paulo Šćulac, PhD			
Course	DESIGN METHODOLOGY BUILDING STRUCTURES				
Study program	Professional Graduate Study				
Course Status	Electoral				
Year	1.				
Credit Value and Course	ECTS coefficient of student workload	4			
Delivery	Number of hours (L+E+S)	30+5+10			

COURSE DESCRIPTION

1.1. Course objectives

Insight into the legislative and technical framework governing the field of design of building structures. Understanding the importance and methodology of meeting the basic requirements for a building.

Understanding the area of responsibility of constructors in construction and forms of cooperation with other participants in construction.

Insight into the methodology of designing building structures, engineering analysis criteria and calculations with the purpose of meeting reliability requirements.

An overview of the specifics of the design of building structures with regard to material, typology of construction and construction systems.

1.2. Course Enrolment Requirements

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1.3. Expected learning outcomes for the course

- 1. Understanding the methodology of designing building structures in the context of meeting the basic requirements for buildings within the legislative (technical-legal) and standardization framework (structural Eurocodes).
- 2. Application of the acquired theoretical knowledge and expert knowledge about the material and the structural system (planar and spatial concepts of buildings and bridges) in the process of structural design, including: types and models of action on structures, the role of elements and parts connected in the structure in accepting action, the importance of the choice of material and structural system
- 3. Understanding the procedures for conducting engineering analyses (distinguish assumptions, arguments and solutions, criteria for making engineering decisions taking into account the parameters of other stakeleaders in construction)
- 4. Application of the criteria for the evaluation of engineering solutions in the field of design of building structures

1.4. Course conte	1.4. Course content							
 Introductory i development construction s development, Areas of activi requirements 	 Introductory introduction to construction activities with a focus on the design of load-bearing structures, the development of load-bearing structures (natural models, developments in the field of materials, construction systems, construction typologies, calculation tools) and modern requirements (sustainable development, building management) Areas of activity of constructors in construction, cooperation with other participants in construction, requirements for technical properties of the building and respect for the parameters of other professions – 							
design as a pro 3. Legislative (te legislative fran basic requiren meeting the b	 design as a process, assumptions, methodology, criteria for analysis and evaluation of solutions Legislative (technical-legal) framework for the design of building structures (basic concepts, structure of the legislative framework, the role of the constructor and cooperation with other participants in construction, basic requirements for building structures and significance in the modern environment, methodology for meeting the basic requirements). 							
 Standardization application. do 	on fram evelopr	ework (Eurocode system) f nent. reliability of structure	for the es	design of	buildin	g stru	ctures – structure, sigr	nificance,
 Basics of struct The significant acceptance of Materials and Overview in th 	ctural d ce and action product ne field	esign and basics of actions function of elements and p cts and impact on the const of load-bearing structures	on stru parts of tructio with re	uctures f the struct n system a egard to m	cure an and cor	d the nstruc , cons	structure as a whole ir tion truction typology and	n the
construction s	system	field of load bearing struc	turos	-				
1.5. Types of teaching Independent tasks Image: Distance education Independent tasks Image: Distance education Independent tasks								
1.6. Comments		The final exam is not so	chedu	led		<u> </u>		
1.7. Student oblig	ations	1						
Active attendance defense of semina	at clas ar pape	ses, periodic examination or rs.	of knov	vledge, inc	lepend	lent a	ssignments, preparatio	n and
1.8. Monitoring s	tudent	work						
Attending classes	0,75	Teaching activity		Seminar p	aper	1,5	Experimental work	
Written exam		Viva voce		Assay			Research	
Project	1	Continuous Knowledge Assessment	0,5	Report			Practical work	
Portfolio		Independent tasks	0,25					
1.9. Assessment o	1.9. Assessment and evaluation of students' work during classes and at the final exam							
According to the current Ordinance on Studies of the Faculty of Civil Engineering in Rijeka and the Ordinance on the Evaluation and Evaluation of the Work of Students at the Faculty of Civil Engineering in Rijeka. The total number of points that can be earned is 100% during classes.								
1.10. Compulsory	literatu	ire						

Separats with teaching materials – website (MudRi)

1.11. Supplementary literature

Handbook_1:_Basis_of_structural_design: Guide to Interpretative Documents for Essential Requireents to EN 1990 and to application and use of Eurocodes (Leonardo da Vinci Pilot project CZ/02/B/F/PP-134007) Handbook 2: Implementation of Eurocodes / Reliability backgrounds: Guides to the basis of structural reliability and risk engineering related to Eurocodes, suplemented by practical examples (Leonardo da Vinci Pilot project CZ/02/B/F/PP-134007)

H. Gulvanessian; P. Formichi and J.-A. Calgaro: Designers' guide to Eurocode 1: Actions on buildings (EN 1991-1-1 AND -1-3 TO -1-7), ed. Thomas Telford, London 2009.

Pech, A., Kolbitsch, A., Zach, F., Pauser, A., Zeininger, J.: Tragwerke, Springer-Verlag, Wien, 2007.

Philip Garrison: Basic structures for engineers and arhitects, Blackwell Publishing Ltd, UK, 2005.

J. Radić: Introduction to Construction, Školska knjiga, Zagreb, 2012.

1.12. Number of copies of compulsory literature in relation to the number of students currently attending classes in the course

Title	Number of copies	Number of students
Separats with teaching materials – website (MudRi)	online	30

1.13. Methods of quality assurance that ensure the acquisition of learning outcomes, skills, and competencies

Quality monitoring procedures prescribed by the Faculty Quality Manual are carried out.

	General information					
Course leader	Saša Čohar Mančić, Senior Lecturer	Saša Čohar Mančić, Senior Lecturer				
Course	GERMAN FOR ENGINEERS	GERMAN FOR ENGINEERS				
Study program	Professional Graduate Study					
Course Status	Electoral					
Year	1.					
Credit Value and Course	ECTS coefficient of student workload	4				
Delivery	Number of hours (L+E+S)	15+10+5				
-						
1. DESCRIPTION OF THE COU	JRSE					
1.1. Course objectives						
To enable students to unders correctly in a foreign languag papers into German and vice etc. in the correct German la	tand the meaning of professional texts in Ge e, to be able to translate, with the help of did versa, to be able to independently present a nguage.	rman, to be able to express themselves ctionaries, summaries of professional nd present an article, paper, project,				
1.2. Course Enrolment Require	ements					
-						
1.3. Expected learning outcon	nes for the course					
 Proper use of professiona independence in convers information. 	al expressions, proper expression, clear prese ation in German, independence in presentat	entation of the goals of a project, ion and accurate transmission of				

1.4. Course content

1. Processing of professional texts related to a specific field of work

2. Translation from and into German

3. Presentation of professional content in German

1.5. Types of teaching	🛛 Class	🗵 Independent tasks
	seminars and workshops	🗵 Multimedia & Network
	🖾 exercises	□ Laboratories
	□ Distance education	□ Mantor work
	Terrain Occurs	□ Other

1.6. Comments

1.7. Student obligations

Attending classes, writing a seminar paper, taking colloquia and final exams.

1.8. Monitoring student work

Attending classes	0,6	Teaching activity	0,5	Seminar paper	0,2	Experimental work	
Written exam	1,0	Viva voce	1,2	Assay		Research	
Project		Continuous Knowledge Assessment	0,5	Report		Practical work	

Portfolio									
1.9. Assessment and evaluation of students' work during classes and at the final exam									
According to the current Ordinance on Studies of the Faculty of Civil Engineering in Rijeka and the Ordinance on the Evaluation and Evaluation of the Work of Students at the Faculty of Civil Engineering in Rijeka. The total number of points that can be earned is 70% during classes and 30% on the final exam.									
1.10. Compulsory	literatı	ıre							
Dictionary of the (Germa	n language.							
1.11. Supplemente	ary lite	rature							
Grammar of the G	iermar	n language by any author, mo	noling	ual dictio	onary.				
1.12. Number of co the course	1.12. Number of copies of compulsory literature in relation to the number of students currently attending classes in the course					classes in			
		Title			Numbe	r of cop	oies	Number of s	tudents
Dictionary of the German Language 4 30									
1.13. Methods of quality assurance that ensure the acquisition of learning outcomes, skills, and competencies									
Quality monitoring procedures prescribed by the Faculty Quality Manual are carried out.									

General information					
Course leader	Assoc. Prof. Igor Ružić, PhD				
Course	COASTAL STRUCTURES				
Study program	Professional Graduate Study				
Course Status	Electoral				
Year	1.				
Credit Value and Course	ECTS coefficient of student workload	4			
Delivery	Number of hours (L+E+S)	30+30+0			

1. DESCRIPTION OF THE COURSE

1.1. Course objectives

Developing general competencies (knowledge and skills) of students on the issue of construction in the coastal and underwater world. the interaction of the sea with coastal/protective structures, the typology of protective breakwater and coastal fortifications, the basics of dimensioning and equipping the coasts.

1.2. Course Enrolment Requirements

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1.3. Expected learning outcomes for the course

- 1. Explain the basics of physical oceanography, marine hydrography and the mechanisms of generating sea currents and waves
- 2. Apply different methods of calculation of basic wave parameters
- 3. Explain the nature and mechanism of coastal processes on natural and artificial coasts
- 4. Size the breakwater and the bank, check the stability and impact on the foundation soil
- 5. Explain the methods of determining the banks, analyze the buffer system on the banks and describe their construction equipment

- 1. Introduction, types of coastal structures, specifics of construction in the coastal area
- 2. Coastal processes, winds and sea currents
- 3. Waves, design conditions, wave transformation in shallow water
- 4. Breakwaters general characteristics
- 5. Calculation and sizing of inundated breakwaters
- 6. Combined breakwaters, vertical massive breakwaters, calculation and sizing
- 7. Embankments, types and sizing
- 8. Lightweight shore fortification systems
- 9. Mooring systems and equipment of the shores

	🛛 Class	Independent tasks
	\square seminars and workshops	Multimedia & Network
1.5. Types of teaching	🖾 exercises	🛛 Laboratories
	□ Distance education	□ Mantor work
	Terrain Occurs	□ Other
1.6. Comments		

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1.7. Student oblige	ations							
Attending classes,	Attending classes, taking the final exam.							
1.8. Monitoring st	udent	work						
Attending classes	1,0	Teaching activity		Seminar pape	er E	Experime	ntal work	1
Written exam	1,5	Viva voce	0,5	Assay	F	Research		
Project	0	Continuous Knowledge Assessment	0	Report	F	Practical v	work	
Portfolio								
1.9. Assessment a	nd eva	luation of students' work duri	ing cla	sses and at th	e final exa	ım		
According to the o the Evaluation and The total number	current d Evalu of poi	t Ordinance on Studies of the Jation of the Work of Student nts that can be earned is 60%	Facult s at th durin	y of Civil Engi e Faculty of C g classes and 4	neering in ivil Engine 40% on th	Rijeka a ering in e final ex	nd the Ordi Rijeka. kam.	nance on
1.10. Compulsory	literati	ure						
USACE Engineerin Carević, D. Pršić, N Zagreb, 2019.	ıg man M.: Ma	uals <u>http://www.usace.army.mil/i</u> ritime Structures – I, II and III	<u>net/usa</u> Part: '	<u>ce-docs/eng-ma</u> WEB Script of	nuals/em.ht the Facult	<u>tml</u> weł ty of Civi	o-stranica I Engineerir	ng in
1.11. Supplement	ary lite	prature						
-								
1.12. Number of co the course	opies c	f compulsory literature in rela	ation to	o the number of	of student.	s current	tly attendin	g classes in
		Title			Number of	copies	Number o	f students
USACE Engineering manuals http://www.usace.army.mil/inet/usace- docs/eng-manuals/em.htm - web-stranica				et/usace-	onlin	ie	2	0
Carević, D., Pršić, M.: Maritime Structures – I, II and III Part: WEB Script of the Faculty of Civil Engineering in Zagreb, 2019.				WEB	online		0	
1.13. Methods of	quality	assurance that ensure the ac	cquisiti	ion of learning	outcome.	s, skills, d	and compet	tencies
Quality monitorin	g proc	edures prescribed by the Fac	ulty Qı	uality Manual	are carried	d out.		

	General information				
Course leader	Rosanda Ivetić Salopek, Lecturer	Rosanda Ivetić Salopek, Lecturer			
Course	BUILDING MAINTENANCE				
Study program	rofessional Graduate Study				
Course Status	Electoral	Electoral			
Year	2.				
Credit Value and Course	ECTS coefficient of student workload	4			
Delivery	Number of hours (L+E+S)	30+15+0			
1. DESCRIPTION OF THE C	OURSE				

1.1. Course objectives	1.1. Course objectives					
Acquiring the knowledge	Acquiring the knowledge necessary to manage and manage building maintenance projects.					
1.2. Course Enrolment Red	quirements					
-						
1.3. Expected learning out	tcomes for the course					
1. Develop a building m	1. Develop a building maintenance plan and an analysis of the costs of building maintenance.					
1.4. Course content						
 Introduction and general terms State of regulation in the field of maintenance of buildings Regular maintenance, reconstructions, repairs and emergency interventions Maintenance cost structure Maintenance of buildings in the context of the entire construction process Building Maintenance Management Maintenance Project Planning and organization of maintenance works Maintenance of old and legally protected buildings Models for prioritizing building maintenance 						
Image: Second state of teaching Image: Class Image: Image: Image: Image: Second state of teaching 1.5. Types of teaching Image: Second state of teaching Image: Image: Second state of teaching 1.5. Types of teaching Image: Second state of teaching Image: Second state of teaching 1.5. Types of teaching Image: Second state of teaching Image: Second state of teaching Image: Image: Second state of teaching Image: Second state of teaching Image: Second state of teaching Image: Image: Second state of teaching Image: Second state of teaching Image: Second state of teaching Image: Image: Second state of teaching Image: Second state of teaching Image: Second state of teaching Image: Image: Second state of teaching Image: Second state of teaching Image: Second state of teaching Image: Image: Second state of teaching Image: Second state of teaching Image: Second state of teaching Image: Image: Second state of teaching Image: Second state of teaching Image: Second state of teaching Image: Image: Second state of teaching Image: Second state of teaching Image: Second state of teaching Image: Image: Second state of teaching Image: Second state of teaching Image: Second state of teaching Image: Image: Second state of teaching Ima						
1.6. Comments						
1.7. Student obligations	1					
Attending classes, making a detailed plan and program for the maintenance of the building, passing the final exam.						

1.8. Monitoring st	1.8. Monitoring student work							
Attending classes	0,75	Teaching activity	0,5	Seminar paper	Exp	erimental work		
Written exam	2	Viva voce		Assay	Res	earch		
Project		Continuous Knowledge Assessment		Report	Prac	ctical work		
Portfolio		Program task	0,75					
1.9. Assessment a	nd eva	luation of students' work dur	ing cla	sses and at the f	inal exam			
According to the o the Evaluation and The total number	current d Evalu of poir	t Ordinance on Studies of the lation of the Work of Student nts that can be earned is 70%	Facult s at th during	y of Civil Engine e Faculty of Civi g classes and 30	ering in Rije Engineerin % on the fin	ka and the Ordinance on g in Rijeka. al exam.		
1.10. Compulsory	literati	ıre						
2021. Ordinance on Mai Regulation on the Construction Act (1.11. Supplement)	2021. Ordinance on Maintenance of Buildings, Official Gazette 122/2014-2343, 98/19 Regulation on the maintenance of buildings, OG 64/1997 Construction Act OG 153/13, 20/17, 39/19, 125/19							
Wood Ry Ruilding	a main	tananca Riackwall Dubliching	. 2000					
 Wood, B.: Building maintenance, Blackwell Publishing, 2009. Spedding A.: ClOB Handbook of Facilities Management, Longman Scientific & Technical, 1994. Aničić, D.: Planning of the Useful Life of a Building, Construction Yearbook 03/04, Zagreb, 2004. The Royal Academy of Engineering: The long term costs of owning and using buildings, The Royal Academy of Engineering, London, 1998. 1.12 Number of conject of compulsory literature in relation to the number of students currently attending classes. 								
in the course	2							
		Title		Numb	er of copies	Number of students		
Marenjak, S.; Krstić, H.: Maintenance of Public Buildings, Faculty of Civil Engineering and Architecture Osijek, 2021.				culty	4 30			
Official Gazette: <u>https://narodne-novine.nn.hr/</u> online								
1.13. Methods of	quality	assurance that ensure the ac	cquisiti	on of learning o	utcomes, sk	ills, and competencies		
Quality monitoring procedures prescribed by the Faculty Quality Manual are carried out.								

General information					
Course leader	Prof. Ivana Štimac Grandić, PhD; Prof. Davo	Prof. Ivana Štimac Grandić, PhD; Prof. Davor Grandić, PhD			
Course	INSPECTIONS AND TESTING OF STRUCTURES				
Study program	Professional Graduate Study				
Course Status	Electoral				
Year	2.				
Credit Value and Course	ECTS coefficient of student workload 4				
Delivery	Number of hours (L+E+S)	30+5+10			

1. DESCRIPTION OF THE COURSE

1.1. Course objectives

Introduction to the legislative and technical framework governing the field of inspection and testing of building structures

Training in inspection, measurement and measurement technology

Application of acquired knowledge in the field of inspection and testing of building structures

1.2. Course Enrolment Requirements

-

1.3. Expected learning outcomes for the course

1. Define which structures should be tested by test load

- 2. Develop a plan for the inspection and maintenance of building structures
- 3. Develop a structural testing program
- 4. Select and apply appropriate test methods
- 5. Select instruments for testing and inspecting structures
- 6. Assess the condition of the structure based on the inspections and tests carried out

- 1. Legislative and technical framework governing the field of inspection and testing of building structures
- 2. Methodology of Inspection of Structures, with Special Reference to Structures Exposed to the Influence of Corrosion from the Sea (Coast)
- 3. Historical development and the task of testing structures
- 4. Division of structural testing
- 5. Overview of Instruments and Measuring Equipment for Static and Dynamic Tests
- 6. Overview of Structural Testing Methods in the Laboratory and in the Field
- 7. Ways of excitation of structures and elements
- 8. Evaluation of the collected data and assessment of the condition of the structure

1.5. Types of teaching	 Class seminars and workshops exercises Distance education Terrain Occurs 	 □ Independent tasks □ Multimedia & Network ⊠ Laboratories □ Mantor work □ Other
1.6. Comments	The final exam is not scheduled	

1.7. Student oblig	gations	;						
An active presenc Periodic examinat Laboratory exerci Preparation of a s	e in th tion of ses emina	e classroom knowledge r paper						
1.8. Monitoring s	tudent	t work						
Attending classes	0,75	Teaching activity		Seminar pape	r 2,0	Experimer	ntal work	
Written exam		Viva voce		Assay		Research		
Project		Continuous Knowledge Assessment	1,25	Report		Practical v	vork	
Portfolio		Independent tasks						
1.9. Assessment	and ev	aluation of students' work du	ring cl	asses and at th	e final	exam		
According to the o the Evaluation an The total number	According to the current Ordinance on Studies of the Faculty of Civil Engineering in Rijeka and the Ordinance on the Evaluation and Evaluation of the Work of Students at the Faculty of Civil Engineering in Rijeka. The total number of points that can be earned is 100% during classes.							
1.10. Compulsor	y litera	ture						
Aničić, Dražen: St	ructura	al Testing, Faculty of Civil Eng	ineerir	ng, Osijek, 200	2.			
1.11. Supplemen	tary lit	erature						
Dan Frangopol, Yiannis Tsompanakis: Maintenance and Safety of Aging Infrastructure: Structures and Infrastructures Book Series, Vol. 10, CRC Press, 2014 Xilin Lu: Retrofitting Design of Building Structures, CRC Press, 2010. J. Radić et al.: Concrete Structures - Rehabilitation, Croatian University Press, University of Zagreb - Faculty of Civil Engineering, SECON HDGK, Andris, Zagreb, 2008. J. Radić: Durability of Structures I, Croatian University Press, Jadring, University of Zagreb - Faculty of Civil Engineering, Zagreb, 2010:								
1.12. Number of in the cours	copies se	of compulsory literature in re	elation	to the numbe	r of stu	dents curre	ently atten	ding classes
		Title		Nu	mber of	copies	Number o	of students
Aničić, Dražen: S Osijek, 2002.	Structu	ral Testing, Faculty of Civi	l Engir	neering,	7		3	30
1.13. Methods of	quality	assurance that ensure the a	cquisiti	ion of learning	outcor	nes, skills,	and compe	etencies
Quality monitorin	g proc	edures prescribed by the Fac	ulty Qı	uality Manual a	are cari	ried out.		

General information				
Course leader	Assoc. Prof. Iva Mrak, PhD			
Course	BUILDING CONSTRUCTION DESIGN			
Study program	Professional Graduate Study			
Course Status	Electoral			
Year	1.			
Credit Value and Course Delivery	ECTS coefficient of student workload	4		
	Number of hours (L+E+S) 30+15+15			

1. DESCRIPTION OF THE COURSE

1.1. Course objectives

To introduce students to the principles of design in building construction, to train them to independently create parts of project documentation and to work in an interdisciplinary team.

1.2. Course Enrolment Requirements

-

1.3. Expected learning outcomes for the course

- 1. Enumerate and recognize the types of buildings and their basic characteristics important for design.
- 2. Explain the general principles of building design and current trends in architecture.
- 3. Describe the working process of preparing technical documentation.
- 4. To make an architectural survey and the most important parts of the main project based on the conceptual one.

- 1. Basic concepts of space, spatial compositions, elements of space design
- 2. Architectural typologies and styles
- 3. Construction for people with disabilities
- 4. Interieur (historical development, contemporary principles)
- 5. Residential buildings: function, typology
- 6. Public buildings: function, typology
- 7. Municipal, administrative and congress buildings
- 8. Buildings for education, education and social welfare
- 9. Buildings for Worship and Culture
- 10. Work and commercial buildings, multi-purpose centres
- 11. Health Care Buildings, Military Buildings
- 12. Buildings for tourism and hospitality
- 13. Buildings for sports, buildings for transport
- 14. Special purpose buildings: zoos, aquariums, circuses, amusement parks

	🖾 Class	🗵 Independent tasks
	☑ seminars and workshops	🗆 Multimedia & Network
1.5. Types of teaching	🛛 exercises	□ Laboratories
	□ Distance education	🗆 Mantor work
	🛛 Terrain Occurs	□ Other

1.6. Comments

1.7. Student obligations

Attendance at classes, active classes, preparation of seminars and programs, passing colloquiums and final exams.

1.8. Monitoring student work

Attending classes	1	Teaching activity	0,25	Seminar paper	1,25	Experimental work	
Written exam	0,75	Viva voce		Assay		Research	
Project		Continuous Knowledge Assessment	0,75	Report		Practical work	
Portfolio				Program	1		

1.9. Assessment and evaluation of students' work during classes and at the final exam

According to the current Ordinance on Studies of the Faculty of Civil Engineering in Rijeka and the Ordinance on the Evaluation and Evaluation of the Work of Students at the Faculty of Civil Engineering in Rijeka. The total number of points that can be earned is 70% during classes and 30% on the final exam.

1.10. Compulsory literature

Biondić, Lj., Introduction to the Design of Residential Buildings, Golden Marketing - Technical Book, 2011 Knežević, G.; Kordiš, I.: Residential and Public Buildings, Tehnička knjiga, Zagreb, 1987.

Knežević, G.: Residential Buildings, Tehnička knjiga, Zagreb, 1984.

Technical Encyclopedia, Miroslav Krleža Institute of Lexicography, Zagreb, 1963-1997

Pleština, L., Traditional Elements in Croatian Architecture of Family Houses during the 20th Century, 4(1996), No. 2(12) SPACE

1.11. Supplementary literature

Ching, F.D.K.; Eckler, J.F. Architecture: Form, Space, & Order, Wiley, 2014

Gehl, J., Life Between Buildings: Using Public Space, Island Press, 2011.

Carmona, M., Public Places Urban Spaces. The Dimensions of Urban Design, Routledge, 2021.

National Association of City Transportation Officials, Urban Street Design Guide, Island Press, 2013.

Norberg-Schulz, C: Existence, Space and Architecture, Construction Book, Belgrade, 1975.

Norberg-Schulz, C.: Housing: Habitat, Urban Space, House, Construction Book, Belgrade, 1990.

1.12. Number of copies of compulsory literature in relation to the number of students currently attending classes in the course

Title	Number of copies	Number of students		
Biondić, Lj., Introduction to the design of residential buildings, Golden marketing - Technical book, 2011.	2			
Knežević, G.; Kordiš, I.: Residential and Public Buildings, Tehnička knjiga, Zagreb, 1987.	6	30		
Knežević, G.: Residential Buildings, Tehnička knjiga, Zagreb, 1984.	5			
Technical Encyclopedia, Miroslav Krleža Institute of Lexicography, Zagreb, 1963-1997	1			
1.13. Methods of quality assurance that ensure the acquisition of learning outcomes, skills, and competencies				

Quality monitoring procedures prescribed by the Faculty Quality Manual are carried out.

General information				
Course leader	Marijana Cuculić, Senior Lecturer			
Course	TRANSPORT INFRASTRUCTURE			
Study program	Professional Graduate Study			
Course Status	Electoral			
Year	2.			
Credit Value and Course	ECTS coefficient of student workload	4		
Delivery	Number of hours (L+E+S)	30+0+15		

1. DESCRIPTION OF THE COURSE

1.1. Course objectives

By successfully mastering the course material, the student acquires the ability to understand and participate in the process of planning, building and maintaining transport infrastructure (road, airport and rail).

1.2. Conditions for enrolment in courses

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1 1 4 4	nectea	iparnina	nutromps	TOR	THP COURSP	
L . L . L ^	pullu	icui i i i i i i g	outcomes	101		

ROADS:

- 1. define the basic elements of transport infrastructure
- 2. define public roads and their ranking criteria
- 3. define the basic characteristics of road pavements
- 4. calculate the pavement structure

AERODROME:

- 1. define the basic aerodrome traffic areas and their characteristics
- 2. calculate the airport pavement structure

RAILWAYS:

1. Define the basic elements.

- 1. Elements of transport infrastructure
- 2. Division of roads by categories and competencies
- 3. Road pavements: calculation methods, materials for construction
- 4. Maneuvering areas of the airport
- 5. Airport pavements
- 6. Calculation of Rigid Airport Pavement Structure
- 7. Basic elements of the rail system
- 8. Elements of the upper and lower structure of the railway line

1.3. Types of teaching	🛛 Class	□ Independent tasks
	seminars and workshops	🗆 Multimedia & Network
	🛛 exercises	□ Laboratories
	□ Distance education	🗆 Mantor work
	Terrain Occurs	□ Other
1.4. Comments		

1.5. Student oblige	ations							
Attendance Conti Creation of projec Passing the final e	nues ct tasks exam.	5						
1.6. Monitoring st	udent	work						
Attending classes	0,75	Teaching activity		Seminar paper	0,75	Experime	ental work	
Written exam	1,5	Viva voce		Assay		Research	1	
Project	1	Continuous Knowledge Assessment		Report		Practical	work	
Portfolio								
1.7. Assessment a	nd eva	luation of students' work during	g cla	sses and at the	final e	exam		
According to the o the Evaluation and The total number	current d Evalu of poir	t Ordinance on Studies of the Fa lation of the Work of Students a nts that can be earned is 50% d	acult at th uring	ty of Civil Engin le Faculty of Civ g classes and 5	eering /il Engi 0% on	in Rijeka neering ir the final (and the Or n Rijeka. exam.	dinance on
1.8. Compulsory li	teratui	re						
Legac, I.: Roads; Zagreb Roberts, F.: Hot Asphalt Mixes - Materials, Design and Installation; Zagreb 2003 Babić, B: Design of pavement structures, University of Zagreb, Faculty of Civil Engineering, Zagreb, 1997. Pavlin S., Aerodromi I, University of Zagreb, Faculty of Transport and Traffic Sciences, Zagreb, 2002. Marušić, D: Design and construction of railway lines, Faculty of Civil Engineering, University of Split, Split, 1994. Relevantni propisi – HRN EN Relevant regulations - http://www.icao.int/								
1.9. Supplementary literature								
Asphalt in paveme	ent pre	eservationa and maintenance; 4	l.th e	edition; Asphali	t Instit	ute 2009		
1.10. Number of control the course	opies c	of compulsory literature in relati	ion t	to the number (of stua	lents curre	ently attend	ding classes in
		Title		Numl	ber of c	opies	Number o	of students
Legac, I.: Roads; Z	agreb				7			
Roberts, F.: Hot A Installation; Zagre	Roberts, F.: Hot Asphalt Mixes - Materials, Design and6Installation; Zagreb 20036							
HRN EN 1								
Relevant regulations – http://www.icao.int online								
Relevant Regulations – http://www.faa.gov online 20					30			
Babić, B: Design of pavement structures, University of Zagreb, Faculty of Civil Engineering, Zagreb, 1997.								
Pavlin S., Aerodromi I, University of Zagreb, Faculty of Transport and Traffic Sciences, Zagreb, 2002.								
Marušić, D: Desigi Civil Engineering,	Marušić, D: Design and construction of railway lines, Faculty of Civil Engineering, University of Split, Split, 1994.							
1.11. Methods of quality assurance that ensure the acquisition of learning outcomes, skills, and competencies								

Quality monitoring procedures prescribed by the Faculty Quality Manual are carried out.

General information				
Course leader	Bojan Bilić, Senior Lecturer			
Course	DEVELOPMENT OF URBAN AREAS			
Study program	Professional Graduate Study			
Course Status	Electoral			
Year	1.			
Credit Value and Course	ECTS coefficient of student workload 4			
Delivery	Number of hours (L+E+S)	30+0+15		

1. DESCRIPTION OF THE COURSE

1.1. Course objectives

The aim of the course is to explain the historical development of public spaces throughout history. On the basis of the diversity of urban spaces, we also want to explore the interaction of man and his environment, models of their coexistence throughout history and modernity.

On the example of significant historical as well as cultural events, it is necessary to analyze the inseparable connection between man and his space, events and the wider social context, history; and, of course, architecture and urbanism.

1.2. Course Enrolment Requirements

-

1.3. Expected learning outcomes for the course

- 1. Distinguish between different periods in urban development and their characteristics
- 2. Explain the way humans interact with the environment
- 3. Analyze the links between man and space

- 1. Historical development of urban spaces (primarily the city and public space) by epochs: prehistory, the Old Ages, Egypt and Mesopotamia, Antiquity-Greece and Rome, Christianity and the Middle Ages, Romanesque and Gothic, Renaissance and Mannerism, Baroque and Rococo, Classicism and Art Nouveau, Modern and 20th century and contemporary aspirations
- 2. Historical development of urban spaces (primarily the city and public space) by purpose, typology and programs
- 3. Explore the links between public spaces and social movements using several paradigmatic examples; as well as the influence of public spaces on other creative activities: music, film, painting, literature, and finally history and politics

1.5.	Types of teaching	 Class seminars and workshops exercises Distance education Terrain Occurs 	 Independent tasks Multimedia & Network Laboratories Mantor work Other
1.6.	Comments		

1.7. Student obligations

G

Attendance at classes, active classes, preparation of seminar papers, passing colloquiums and final exams.

1.8. Monitoring student work

Attending classes	0,75	Teaching activity		Seminar paper	1,5	Experimental work	
Written exam	1	Viva voce		Assay		Research	
Project		Continuous Knowledge Assessment	0,75	Report		Practical work	
Portfolio							

1.9. Assessment and evaluation of students' work during classes and at the final exam

According to the current Ordinance on Studies of the Faculty of Civil Engineering in Rijeka and the Ordinance on the Evaluation and Evaluation of the Work of Students at the Faculty of Civil Engineering in Rijeka. The total number of points that can be earned is 70% during classes and 30% on the final exam.

1.10. Compulsory literature

Lewis Mumford, 'The City in History', Forward, Zagreb 1988. Colin Rowe-Fred Koetter, 'Grad kolaž', Građevinska knjiga, Beograd 1988. Ante Marinović-Uzelac, 'Spatial Planning', Dom i Svijet, Zagreb 2001.

1.11. Supplementary literature

Le Corbisieur, 'A Way of Thinking about Urbanism', Stavebna knjiga, Belgrade 1974

Reem Koolhaas, 'Delirious New York', Monacelli Press, New York 1994.

Bogdan Bogdanović, 'Urbanističke mitologeme', Vuk Karadžić, Beograd 1966.

Nikolaus Pevsner, 'Pioneers of Modern Design', Croatian Institute of Graphic Arts, Zagreb 1990.

Andrija Mutnjaković, 'Biourbanism', Rijeka Publishing Centre, Rijeka 1982

Saša Randić-Idis Turato', In Between', K. Lj. B., Rijeka 2006.

Predrag Matvejević, 'Mediterranean Breviary', Croatian Institute of Graphic Arts, Zagreb 1990.

1.12. Number of copies of compulsory literature in relation to the number of students currently attending classes in the course

Title	Number of copies	Number of students
Lewis Mumford, 'The City in History', Forward, Zagreb 1988.	1	
Colin Rowe-Fred Koetter,'Grad kolaž', Građevinska knjiga, Beograd 1988.	1	30
Ante Marinović-Uzelac, 'Spatial Planning', Dom i Svijet, Zagreb 2001.	8	

1.13. Methods of quality assurance that ensure the acquisition of learning outcomes, skills, and competencies

Quality monitoring procedures prescribed by the Faculty Quality Manual are carried out.

General information				
Course leader	Prof. Nevenka Ožanić, PhD			
Course	REGULATION AND REVITALIZATION OF WATERCOURSES			
Study program	Professional Graduate Study			
Course Status	Electoral			
Year	2.			
Credit Value and Course	ECTS coefficient of student workload	4		
Delivery	Number of hours (L+E+S)	20+10+10		

1. DESCRIPTION OF THE COURSE

1.1. Course objectives

Development of knowledge related to the need to regulate watercourses and aquatic spaces on the principles of ecoremediation,

Training for solving tasks in the field of valorization of space along watercourses and their revitalization.

1.2. Course Enrolment Requirements

Water phenomena in the coastal area

1.3. Expected learning outcomes for the course

- 1. Analyze the characteristics of watercourses and aquatic spaces
- 2. Assess the need for the regulation of watercourses and aquatic spaces on the principles of ecoremediation
- 3. Solve tasks in the field of valorization of space along watercourses, their regulation and revitalization.

- 1. Spatial and hydrotechnical aspects of surface water phenomena.
- 2. Valorization of space and water phenomena in the conditions of the new economic and socio-economic environment.
- 3. Basic hydrological characteristics of watercourses and other water resources.
- 4. Morphology and hydraulics of natural and built riverbeds and torrents.
- 5. Ecoremediation approaches in the regulation of watercourses and aquatic systems.
- 6. Revitalization of watercourses procedures and implementation.
- 7. Buildings in the watercourse bed.
- 8. Protection of watersheds and soil from erosion. Arrangement of torrential watercourses using natural materials.
- 9. Aquatic systems as recreational facilities. Landscaping of lake shores and reservoirs.
- 10. Buildings of cultural heritage along the riverbeds mills, driving carts. Restoration and revitalization.
- 11. Traffic communications in the zone of natural and watercourses route management and arrangement of crossings.
- 12. Protection of water spaces and water phenomena.

	🛛 Class	🛛 Independent tasks
	☑ seminars and workshops	🗆 Multimedia & Network
1.5. Types of teaching	🖾 exercises	□ Laboratories
	□ Distance education	🗆 Mantor work
	🛛 Terrain Occurs	□ Other

1.6. Comments

1.7. Student obligations

Attending classes, creating a program, passing colloquiums and final exams.

1.8. Monitoring student work

Attending classes	0,7	Teaching activity		Seminar paper	1	Experimental work	
Written exam	0,5	Viva voce		Assay		Research	
Project		Continuous Knowledge Assessment	1	Report		Practical work	
Portfolio		Program	0,8				

1.9. Assessment and evaluation of students' work during classes and at the final exam

According to the current Ordinance on Studies of the Faculty of Civil Engineering in Rijeka and the Ordinance on the Evaluation and Evaluation of the Work of Students at the Faculty of Civil Engineering in Rijeka. The total number of points that can be earned is 70% during classes and 30% on the final exam.

1.10. Compulsory literature

Bonacci, O.: Ecohydrology of Water Resources and Open Watercourses, GA Split and IGI, Zagreb, 2003. Gereš,D.(ed.): River Restoration 2004 - Principles, Process, Practices. Procc. 3rd ECRR International Conference on River Restoration in Europe. Hrvatske vode, Zagreb, 2004.

1.11. Supplementary literature

Chadwick, A., Morfett, J.: Hydraulic in Civil and Environmental Engineering. E&FN SPON, London and New York, 1999.

Newson, M.: Hydrology and the River Environment. Clarendon Press, Oxford, 2002.

1.12. Number of copies of compulsory literature in relation to the number of students currently attending classes in the course

Title	Number of copies	Number of students
Bonacci, O.: Ecohydrology of Water Resources and Open Watercourses, GA Split and IGI, Zagreb, 2003.	2	
Gereš,D.(ed.): River Restoration 2004 - Principles, Process, Practices. Procc. 3rd ECRR International Conference on River Restoration in Europe. Hrvatske vode, Zagreb, 2004.	1	30

1.13. Methods of quality assurance that ensure the acquisition of learning outcomes, skills, and competencies

Quality monitoring procedures prescribed by the Faculty Quality Manual are carried out.

General information						
Course leader	Assoc. Prof. Sanja Šurdonja, PhD					
Course	ROAD TRAFFIC SAFETY					
Study program	Professional Graduate Study					
Course Status	Electoral					
Year	2.					
Credit Value and Course	ECTS coefficient of student workload	4				
Delivery	Number of hours (L+E+S)	30+15+0				

1. DESCRIPTION OF THE COURSE

1.1. Course objectives

The aim of the course is to train students to understand and analyze the parameters that affect traffic safety as well as the design of traffic infrastructure.

1.2. Course Enrolment Requirements

Urban roads and hubs

1.3. Expected learning outcomes for the course

- 1. Explain the primacy of ensuring traffic safety in the design, construction and subsequent use of traffic infrastructure.
- 2. Incorporate safety elements into the project, in order to avoid the need for subsequent traffic restrictions and correction of uncertainty elements.

- 1. The state of road traffic safety in the EU and the Republic of Croatia.
- 2. Trends in the number of traffic accidents.
- 3. Traffic accidents causative agents and incident factor.
- 4. Safety of transport demand.
- 5. Degree of motorization, population and mobility.
- 6. Safety of freight transport and security of transport offer.
- 7. Road Traffic Safety and Safety Act according to legal regulations.
- 8. Safety elements in the construction design of roads and intersections.
- 9. Standard, light and dynamic traffic signals and equipment.
- 10. Opportunities to improve the state of safety, education and prevention.
- 11. Necessary amendments to legislation, accompanying regulations and standardization.
- 12. Recognition of dangerous places by the driver.
- 13. Non-standard signage, equipment and marking of possible dangerous places on the roads.

	☑ Class □ seminars and workshops	⊠ Independent tasks □ Multimedia & Network
1.5. Types of teaching	🛛 exercises	□ Laboratories
	□ Distance education	🖾 Mantor work
	Terrain Occurs	□ Other

1.6. Comments		Through the course, students will master the knowledge of how to achieve a smaller number of traffic accidents and the negative consequences they bring with them, as well as how to repair existing dangerous places on the traffic infrastructure.								
1.7. Student obligations:										
Preparation and s	submis	sion of program tasks, writter	n per	riodic examir	nation of k	nowledge, and fina	l exam			
1.8. Monitoring st	udent v	work								
Attending classes	0,75	Teaching activity	Feaching activity Seminar paper Experimental work							
Written exam	1,5	Viva voce		Assay		Research				
Project	1,75	Continuous Knowledge Assessment		Report		Practical work				
Portfolio										
1.9. Assessment a	nd eva	luation of students' work durir	ng cl	lasses and at	the final e	exam				
According to the o the Evaluation an The total number	current d Evalu of poir	Ordinance on Studies of the l ation of the Work of Students nts that can be earned is 50%	Facu s at t duri	Ilty of Civil Er the Faculty o ng classes ar	ngineering f Civil Engi nd 50% on	in Rijeka and the C neering in Rijeka. the final exam.)rdinance on			
1.10. Compulsory	literatı	Ire								
Cerovac,V.: Traffic 2001. Maletin, M.: Planr	c Techr ning an	ology and Safety, University c d Design of Traffic in Cities, O	of Za rion	greb, Faculty Art, Belgrade	∕ of Transp e 2005.	port and Traffic Scie	ences, Zagreb			
1.11. Supplement	ary lite	rature								
CROW- Road Safe PIARC – Road Safe	ty Man ety Mar	ual 2009 – dostupno on-line nual, 2019 – dostupno on-line	9							
1.12.Number of c the course	opies o	f compulsory literature in rela	ation	to the numb	ber of stud	lents currently atte	nding classes in			
	Title Number of Number of students									
Cerovac,V.: Traffic Technology and Safety, University of Zagreb, Faculty of Transport and Traffic Sciences, Zagreb 2001.					8					
Maletin, M.: Planning and Design of Traffic in Cities, Orion Art, Belgrade 2005.						50				
1.13. Methods of quality assurance that ensure the acquisition of learning outcomes, skills, and competencies										
Quality monitoring procedures prescribed by the Faculty Quality Manual are carried out.										

General information						
Course leader	Assoc. Prof. Koraljka Vahtar-Jurković, PhD					
Course	WASTE DISPOSAL					
Study program	Professional Graduate Study					
Course Status	Electoral					
Year	Year 1.					
Credit Value and Course	ECTS coefficient of student workload	3				
Delivery	Number of hours (L+E+S)	20+0+10				

1. DESCRIPTION OF THE COURSE						
1.1. Course objectives						
Introduction to various as Training for solving tasks	spects of waste management. related to operational activities in the	e field of waste management.				
1.2. Course Enrolment Red	quirements					
-						
1.3. Expected learning ou	tcomes for the subject					
 Introduction to the Training for planni 	e role and function of the municipal v ng simpler tasks in the field of munic	vaste disposal system, ipal waste disposal				
1.4. Content of the course	2					
 Types of waste. Waste manageme Waste manageme Competencies in v Waste Manageme Waste Manageme Waste manageme Organization, man Laws and bylaws in Aspects of waste r 	 Types of waste. Waste management procedures. Waste management buildings. Competencies in waste management. Waste Management Permits. Waste management on islands. Organization, management and financing of waste management activities. Laws and bylaws in the field of waste management. Aspects of waste management in spatial planning and spatial planning 					
1.5. Types of teaching	 Class seminars and workshops exercises Distance education Terrain Occurs 	 ☑ Independent tasks ☑ Multimedia & Network □ Laboratories □ Mantor work □ Other 				
1.6. Comments						
1.7. Student obligations						

Attending classes, writing a seminar paper, taking colloquia and final exams.

1.8. Monitoring st	tuden	t work						
Attending classes	0,5	Teaching activity		Seminar paper	1,25	Experimental work		
Written exam	0,5	Viva voce		Assay		Research		
Project		Continuous Knowledge 0 Assessment),75	Report		Practical work		
Portfolio								
1.9. Assessment a	ind ev	valuation of students' work durir	ng cla	asses and at the	final e	xam		
According to the the Evaluation an The total number	curre d Eva	nt Ordinance on Studies of the I luation of the Work of Students pints that can be earned is 70%	Facul s at tł durin	lty of Civil Engin he Faculty of Civ ng classes and 3	eering /il Engi 0% on	in Rijeka and the Or neering in Rijeka. the final exam.	dinance on	
1.10. Compulsory	litera	iture						
Jahić, M.: Urban S Jahić, M.: Sanitar	Syster y Land	ns and Solid Waste Managemer dfills. Faculty of Engineering, Bił	nt. Fa hać, 2	aculty of Engine 2006	ering, l	3ihać, 2005.		
1.11. Supplement	ary li	terature						
Milanović, Z.: Lan	dfill –	- Permanent Waste Disposal. PG	GI, Za	greb, 1992.				
1.12. Number of the course	^f copie	es of compulsory literature in rel	lation	to the number	of stud	lents currently atten	ding classes in	
		Title		Num	ber of c	opies Number	of students	
Jahić, M.: Urban Systems and Solid Waste Management. Faculty of Engineering, Bihać, 2005. 1								
Jahić, M.: Sanitary Landfills. Faculty of Engineering, Bihać, 2006 1								
1.13. Methods of quality assurance that ensure the acquisition of learning outcomes, skills, and competencies								
Quality monitoring procedures prescribed by the Faculty Quality Manual are carried out.								

General information						
Course leader						
Course	Master's Thesis					
Study program	Professional Graduate Study					
Course Status	Mandatory					
Year	2.					
Credit Value and Course	ECTS coefficient of student workload	22				
Delivery	Number of hours (L+E+S)	0+0+90				

1. DESCRIPTION OF THE COURSE

1.1. Course objectives

Successfully prepare and defend a diploma thesis on a topic related to the planning or design of a communal system or building, or the management of a communal system or building.

1.2. Course Enrolment Requirements

Achieved 60 ECTS in the study.

1.3. Expected learning outcomes for the course

- 1. Independently cover a topic related to the planning or design of a communal system or building, or the management of a communal system or building.
- 2. Apply the principles of environmental protection, take into account the characteristics of construction in the coastal area and the valorization of architectural heritage, etc.
- 3. To present the solution to the professional and general (non-professional) public.

1.4. Course content

The student writes the diploma thesis through a total engagement of 660 hours of work (22 ECTS credits).

The student can write a thesis on a professional topic that is close to the existing courses. The student chooses the topic of the diploma thesis, and the committee approves the assignment of the diploma thesis at least 30 days before the start of the work. The graduate thesis can take the form of, for example: development of infrastructural solutions in spatial plans of urban areas, conceptual design for the reconstruction of a part of the traffic or water supply or other communal system, constructional-urban and/or economic analysis of urban problems of the coastal area, elaboration of project documentation for the solution of buildings with an emphasis on the evaluation of ambient and historical heritage.

In the preparation of the diploma thesis, the student actively cooperates with the mentor and co-mentor if the content of the thesis requires it.

1.5. Types of teaching	 Class seminars and workshops exercises Distance education 	 Independent work Multimedia & Network Laboratories Mantor work
	🛛 Terrain Occurs	consultation
1.6. Comments		

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1.7. Student obligations								
The student is obliged to submit the working version of the diploma thesis for review to the mentor within the prescribed deadline. The student is obliged to submit the final version of the diploma thesis in accordance with the Ordinance on Studies of the Faculty of Civil Engineering in Rijeka.								
1.8. Monitoring stu	udent wo	ork						
Attending classes	Attending classesTeaching activitySeminar paperExperimental work0 to 12							
Written exam		Viva voce	Assay	Research		0 to 12		
Project	Project 0 to 12 Continuous Knowledge Assessment Report Practical work 0 to 1							
Portfolio				Written wor	·k	10		
1.9. Assessment ar	nd evalu	ation of students' work durin	g classes and at t	he final exam				
According to the c the Evaluation and	urrent C d Evaluat	Ordinance on Studies of the F tion of the Work of Students	aculty of Civil Eng at the Faculty of	gineering in Rijeka and Civil Engineering in Ri	d the Ord jeka.	inance on		
1.10. Compulsory l	literatur	e						
depending on the	topic							
1.11. Supplemento	ary litera	iture						
depending on the	topic							
1.12. Number of copies of compulsory literature in relation to the number of students currently attending classes in the course								
Title Number of copies Number of students								
depending on the topic								
1.13. Methods of a	1.13. Methods of quality assurance that ensure the acquisition of learning outcomes, skills, and competencies							
Quality monitoring procedures prescribed by the Faculty Quality Manual are carried out.								