

OD IDEJE DO GRADBENEGA OBJEKTA

UČNI NAČRT PREDMETA/COURSE SYLLABUS

Predmet:	Od ideje do gradbenega objekta
Course title:	From idea to building structure
Članica nosilka/UL Member:	UL FGG

Študijski programi in stopnja	Študijska smer	Letnik	Semestri	Izbirnost
Gradbeništvo, prva stopnja, univerzitetni	Ni členitve (študijski program)		1. semester, 2. semester	izbirni

Univerzitetna koda predmeta/University course code:	0038730
Koda učne enote na članici/UL Member course code:	1630

Predavanja /Lectures	Seminar /Seminar	Vaje /Tutorials	Klinične vaje /Clinical tutorials	Druge oblike študija /Other forms of study	Samostojno delo /Individual student work	ECTS
60	0	15	0	0	75	5

Nosilec predmeta/Lecturer:

Vrsta predmeta/Course type:

Jeziki/Languages:	Predavanja/Lectures:	Slovenščina
	Vaje/Tutorial:	Slovenščina

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:

Predmet je namenjen študentom drugih študijskih programov, predvsem s področja družboslovja, zanje ni pogojev pristopa, ne more pa ga izbrati študent kateregakoli študijskega programa s področja gradbeništva.

Prerequisites:

The course is intended to students of other study programs, mainly those from social sciences; no Prerequisites are foreseen, but it cannot be selected by students of civil engineering.

Vsebina:

Predavanja
- Zgodovina in pomen gradbeništva za družbeni in gospodarski razvoj, vpliv gradbenih posegov na naravno in urbano okolje
- Osnovni pojmi v gradbeništvu, klasifikacija dejavnosti, klasifikacija gradbenih objektov
- Gradbeništvo kot interdisciplinarna gospodarska panoga (sodelovanje drugih strok pri investicijskih projektih), vloga in organizacija inženirske zbornice
- Zakonodajni okviri umeščanja v prostor in graditve
- Potek in vodenje investicijskega projekta (definiranje ciljev projekta, faze, udeleženci)

Content (Syllabus outline):

Lectures:
- History and importance of civil engineering for social and economic development, influence of construction activities on natural and urban environment
- Basic concepts in civil engineering, classification of activity, classification of building structures
- Civil engineering as interdisciplinary industry (cooperation of other professions in investment projects), role and organisation of the chamber of engineers
- Legal frameworks of urban planning and of construction

- Posebnost gradbene industrije: projektiranje in izvedba unikatnih produktov – prototipov - Umeščanje v prostor - Vplivi lokacije (vsak projekt je unikatni z vidika namembnosti, tal, hidroloških, prostorskih in klimatskih pogojev, prometnih povezav, lokalne zakonodaje ...) - Načini dela za zagotavljanje kakovosti in obvladovanje tveganj v investicijskem projektu (predstavitev zakonsko predpisanih zahtev in zahtev stroke, ki zagotavljajo varnost in kakovost gradbenega objekta, predstavitev vrst tveganj, njihovih posledic ter možnih ukrepov za mitigacijo – revidiranje, nadzor, kontrola kakovosti materialov ...) - Pomen odločitev (gospodarskih, prostorskih) v začetnih fazah investicijskega projekta, vpliv teh odločitev na nadaljevanje / izvedbo investicijskega projekta - Gradbeni materiali: pregled, proizvodnja, kontrola kakovosti, certificiranje - Energetska bilanca stavb, skrb za zdravo bivalno okolje, gradbeništvo in ekologija (življenjski cikel stavb, ogljični odtis ...) - Osnove načrtovanja in gradnje prometne in komunalne infrastrukture: umeščanje v prostor in gradnja, interakcije objekt – infrastruktura – prostor – človek - Pregled tehnologije gradnje stavb in inženirskih objektov - Gradbeništvo in naravne nesreče (Varstvo pred poplavami in urejanje vodotokov, potresi, plazenje tal) - Informacijske tehnologije v gradbeništvu, inženirska komunikacija (baze prostorskih podatkov, GIS, geodetske podlage, gradbeni načrti) - Gospodarjenje z nepremičninami in njihovo vrednotenje Vaje: - Razumevanje prostorskih aktov: Državni prostorski načrt, Občinski podrobni prostorski načrt - Baze prostorskih podatkov: kataster, GIS ... - Sestavni deli projektne dokumentacije - Razumevanje gradbenih načrtov - Analiza tveganj	- Procedure and management of investment project (definition of project goals, phases, participants) - Specifics of construction industry: design and implementation of unique products – prototypes - Urban planning - Influences of location (each project is unique from the aspect of purpose, ground, hydrological, spatial and climatic conditions, traffic connections, local legislation, etc.) - Principles of profession that provide quality and management of risks in investment project (presentation of legally prescribed demands and demands of the profession that provide safety and quality of a building structure, presentation of risk types, their consequences and possible mitigation measures – revision, supervision, quality control of materials, etc.) - Importance of decisions (economic, spatial) in initial phases of investment project, influence of these decisions on continuation / implementation of investment project - Building materials: overview, manufacturing, quality control, certification - Energy balance of buildings, taking care of healthy dwelling environment, civil engineering and ecology (life cycle of buildings, carbon footprint, etc.) - Basics of design and construction of traffic and municipal infrastructure: planning and construction, interactions structure – environment – human - Overview of technology for the construction of buildings and civil engineering structures - Civil engineering and natural disasters (protection against floods and torrent control, earthquakes, landslides) - Information technologies in civil engineering, engineering communication (spatial data bases, GIS, geodetic bases, construction design drawings) - Real estate management and valuation Tutorials: - Understanding spatial acts: National spatial plan, Municipal detailed spatial plan - Spatial data bases: cadastre, GIS ... - Integral parts of project documentation - Understanding construction designs - Risk analysis
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Temeljna literatura in viri/Readings:

Posamezna poglavja iz:

Gosar, L. 2013. Steinman, F.: Osnove gradbeništva, Univerza v Ljubljani, 101 str.

Humar, G. 2000. Slovenski mostovi 1. del, Pontis Ljubljana, 112 str.

Humar, G. 2002. Slovenski mostovi 2. del, Pontis Ljubljana, 112 str.

Humar, G. 2004. Predori: iskanje svetlobe, Pontis Ljubljana, 136 str.

70 wonders of the modern world. 1998. Readers digest, 160 str

Cilji in kompetence:

Cilj

Objectives and competences:

Objectives

- Študent spozna osnovne pojme gradbeništva, zakonodajne okvire umeščanja objektov v prostor in graditve objektov in značilnosti gradbenega projektiranja in same gradnje v kontekstu realizacije investicijskega projekta. Kompetence - Sposobnost komuniciranja s strokovnjaki tehničnih strok pri investicijskih projektih. - Poznavanje značilnosti in razumevanje procesa načrtovanja in graditve objektov ter naravnih, okoljskih in družbenih omejitev, ki nastopajo pri načrtovanju in izvedbi.	- Student learns about the basic concepts of civil engineering, legislative context of urban planning and of construction, characteristics of building design and construction in the context of implementing an investment project. Competences - Ability to communicate with experts of technical professions within investment projects. - Understanding characteristics and processes of building design and building construction as well as natural, environmental and social limitations appearing in the design and implementation.
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Predvideni študijski rezultati:

- Študent razume posebnosti gradbeništva kot tehnične gospodarske panoge in pozna potek razvoja gradbenega projekta od ideje preko realizacije do vzdrževanja.
- Spozna zakonodajne okvire gradbeništva.
- Razume, da pravočasno in utemeljeno sprejete odločitve vodijo k racionalni investiciji gledano v celotni življenjski dobi objekta.

Intended learning outcomes:

- Student understands the specifics of civil engineering as economic sector and knows the course of building projects from their concepts through realisation to maintenance.
- They know the legislative context of civil engineering.
- They understand that timely and reasoned decisions lead to rational investment as regards the total life cycle of a structure.

Metode poučevanja in učenja:

Predavanja, vaje. V sklopu predmeta je predvidena strokovna ekskurzija.

Learning and teaching methods:

Lectures, tutorials.
The course foresees field trip.

Načini ocenjevanja:

Delež/Weight

Assessment:

Način (pisni izpit, ustno izpraševanje, naloge, projekt) pisni izpit	80,00 %	Type (examination, oral, coursework, project): written exam
ocena oddanih vaj in seminarske naloge	20,00 %	evaluation of tutorials and seminar work

Ocenjevalna lestvica:

Grading system:

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Reference nosilca/Lecturer's references:

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