

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet:	Načrtovanje zgradb
Course title:	Buildings Designing

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Pravo in management infrastrukture in nepremičnin - I. stopnja		2	2
Law and Management of Infrastructure and Real Estate - I. level		2	2

Vrsta predmeta / Course type Obvezni/Obligatory

Univerzitetna koda predmeta / University course code:

Predavanja Lectures	Seminar Seminar	Sem. vaje Tutorial	Lab. vaje Laboratory work	Teren. vaje Field work	Samost. delo Individ. work	ECTS
30	0	25	0	0	70	5

Nosilec predmeta / Lecturer: prof. dr. Živa Kristl

Jeziki / Languages:	Predavanja / Lectures:	Slovenski jezik / Slovenian
	Vaje / Tutorial:	Slovenski jezik / Slovenian

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

Prerequisites:

Pogoj za vključitev v delo je vpis v 2. letnik študija.

Vsaj 80% prisotnost na predavanjih in vajah.

Enrollment into 2nd year of study.

At least 80% attendance at lectures and tutorials.

Vsebina:

Content (Syllabus outline):

Predmet obravnava načrtovanje zgradb v kontekstu materialnega ovoja prostora (nosilna konstrukcija, regulacijske funkcije, kompozicija) in navezave na zdravje in počutje uporabnika.

Kontekstualno je snov razdeljena na osnovne pojme povezane z načrtovanjem zgradb, konceptualno opredeli razmerje bivalni prostor - posameznik ter oriše različne vidike fleksibilnosti stavb. Skozi predstavitev primerov se študent seznanja z različnimi možnostmi gradnje in kako je možno bivalni prostor tekom življenjske dobe stavbe na različne načine prilagajati posameznikovim potrebam.

Poudarki s področja tehnične komunikacije in izrazov, ki se uporabljajo v regulativi so koncipirani tako, da vzpostavijo osnovo za vzpostavitev konstruktivnega dialoga med različnimi deležniki pri graditvi stavb. Pri predmetu so predstavljene tudi posamezne faze načrtovanja in njihov pomen v postopku načrtovanja zgradb. Vsa izhodišča so prikazana s pomočjo širokega nabora primerov iz prakse. Na področju tehničnih zahtev za stavbe konceptualno osnovo predstavlja evropska Uredba o gradbenih proizvodih (CPR305/2011) s svojimi sedmimi osnovnimi zahtevami, ki zajemajo lastnosti nosilne konstrukcije, požarne zahteve, higieno-zdravje-okolje, varnost in dostopnost pri uporabi, zaščito pred hrupom, porabo energije in trajnostnost. V kontekstu trajnostnosti je pri predmetu predvsem zajeta snovna trajnostnost kot jo predpisuje CPR.

Pri predmetu se oris osnovnih zahtev nanaša na predstavitev bistvenih principov delovanja stavbe, razlago osnovnih zahtev in prikaz nekaterih značilnih tehničnih rešitev. Predmet obravnava tudi osnove vrednotenja oblikovne kvalitete stavb (kompozicijske kvalitete).

The course deals with the design of buildings in the context of the material envelope of the space (load-bearing structure, control functions, composition) and connections to the health and well-being of the user.

Contextually the course discusses the basic concepts related to building design, conceptually defines the living space - individual relationship and outlines various aspects of building flexibility. Through the presentation of examples, the student gets acquainted with different construction options and how the living space can be adapted to the individual's needs in different ways during the life of the building.

Emphasis in the field of technical communication and terms used in the regulations are designed to establish a basis for establishing a constructive dialogue between different stakeholders in the construction of buildings. The course also presents individual phases of planning and their importance in the process of building design. All starting points are presented with the help of a wide range of practical examples.

In the field of technical requirements for buildings, the conceptual basis is the European Regulation on Construction Products (CPR305 / 2011) with its seven basic requirements, which include the properties of the load-bearing structure, fire requirements, hygiene-health-environment, safety and accessibility in use, noise protection, energy consumption and sustainability. In the context of sustainability, the course mainly covers material sustainability as prescribed by the CPR.

In the course, the outline of the basic requirements refers to the presentation of the essential principles of the building, the explanation of the basic requirements and the presentation of some typical technical

Na področju poteka načrtovanja je poudarek na tehnični komunikaciji, opredelitvi temeljnih postopkov načrtovanja in osnovnih kriterijev za vrednotenje uspešnosti načrtovanja.

solutions. The course also discusses the basics of evaluating the design quality of buildings (compositional quality).

In the field of planning, the emphasis is on technical communication, the definition of basic planning procedures and basic criteria for evaluating the success of planning.

Temeljna literatura in viri / Study Literature:

Obvezna:

1. Živa Kristl, Trajnostni vidiki stanovanjske gradnje. 1. natis. Nova Gorica: Nova univerza, Evropska pravna fakulteta, 2019. 263 str., ilustr. ISBN 978-961-6731-30-0. [COBISS.SI-ID 301510656] (izbrana poglavja)
2. Deplazes, Andrea (Ed.), 2013: Constructing Architecture, Materials, Processes, Structures A Handbook, ISBN: 3-7643-7189-7, A Birkhäuser book, Basel. Izbrana poglavja
3. Ching Francis D.K., Architecture: Form, Space and Order, New York: Van Nostrand Reinhold, 1979. Izbrana poglavja
4. Dieter George E., Engineering Design: A Materials and Processing Approach, McGraw Hill, 2000
5. Neufert, Projektiranje v stavbarstvu, Tehniška založba Slovenije, 2002. Izbrana poglavja
6. Rapoport, A., 1969: House form and culture, Prentice hall, Englewood Cliffs. Izbrana poglavja

Priporočena:

1. Asimow Morris, Introduction to Design, Prentice-Hall, 1962. Izbrana poglavja
2. Ching Francis D. K., ARCHITECTURAL GRAPHICS, JOHN WILEY & SONS, 2003. Izbrana poglavja
3. Hegger M., Construction materials manual. Basel: Birkhäuser, Munich : Edition Detail, cop. 2006.
4. Roth Leland M., Roth Amanda C. Clark, Understanding Architecture its Elements, History, and Meaning, Westview press, 1993. Izbrana poglavja
5. Schneider, Friederike, 1994: Grundrißatlas : wohnungsbau = Floor plan atlas : housing, ISBN: 3-7643-2625-5, Birkhäuser, Basel. Izbrana poglavja
6. Szokolay Steven V., Introduction to Architectural Science, Architectural press 2004. Izbrana poglavja
7. Van Gameren Dick, Ibelings Hans, 2006: Revisions of Space - An Architectural Manual, ISBN: 9056624210, Nai publishers, Amstredam. Izbrana poglavja

Regulatorni in strateški dokumenti s področja, npr.:

1. Evropski zeleni dogovor, 2020; https://ec.europa.eu/info/publications/communication-european-green-deal_en
2. COM 433, 2012. Strategija za trajnostno konkurenčnost gradbenega sektorja in gradbenih podjetij. Sporočilo Evropske komisije Evropskemu parlamentu in Svetu. [online] Dostopno

na: <https://eur-lex.europa.eu/legalcontent/SL/TXT/PDF/?uri=CELEX:52012DC0433&from=en> [20.10.2018].

3. CPR 305, 2011. Uredba o gradbenih proizvodih. Official Journal of the European Union.
4. Veljavna področna zakonodaja EU in RS

Periodična literatura (priporočeni strokovni članki s področja)

Študijska gradiva dostopna v spletni učilnici

Cilji in kompetence:

Cilj predmeta je pridobivanje vpogleda v potrebe posameznika v bivalnem prostoru (kako jih prepoznati in kako se nanje pravilno odzvati), ter posledično kako preko projektne naloge ciljno usmeriti arhitekturno naročilo. Na področju poteka načrtovanja je poudarek na tehnični komunikaciji, opredelitvi temeljnih postopkov načrtovanja in osnovnih kriterijev za vrednotenje uspešnosti načrtovanja. Ob tem so pomembni poudarki s področja področne regulative in postopka načrtovanja, ki vzpostavijo osnovo za konstruktiven dialog med različnimi deležniki pri graditvi stavb in s tem tudi višjo učinkovitost in kvaliteto projektov. Namen predmeta je tudi dvigniti kvaliteto načrtovanja zgradb v kontekstu materialnega ovoja prostora (nosilna konstrukcija, regulacijske funkcije, kompozicija) in navezave na zdravje in počutje uporabnika.

Študenti/ke bodo pridobili naslednje predmetno specifične kompetence:

- Poznavanje metodoloških osnov za projektiranje zgradb in faz načrtovanja
- Poznavanje osnovne strukture področne regulative
- Osnovno razumevanje odnosa med kvaliteto bivalnega prostora in posameznikom, njegovimi zahtevami in potrebami in zavedanje o vplivu na njegovo zdravje in počutje
- Razumevanje vloge fleksibilnosti bivalnega

Objectives and competences:

The aim of the course is to gain insight into the needs of the individual in the living space (how to recognize them and how to respond to them correctly) and consequently how to target the architectural order with the project task. In the field of planning, the emphasis is on technical communication, the definition of basic planning procedures and basic criteria for assessing the quality of design. At the same time, there are important emphases in the field of sectoral regulations and the planning process, which lay the foundation for a constructive dialogue between the various stakeholders in the construction of buildings and thus also greater efficiency and quality of projects. The purpose of the course is also to raise the quality of building design within the material envelope of the space (load-bearing structures, control functions, composition) and connections to the health and well-being of the user.

Students will gain the following subject specific competencies:

- Knowledge of methodological bases for the planning and planning phases of buildings
- Knowledge of the basic structure of sectoral regulations
- Basic understanding the relationship between the quality of living space and the individual, his needs and desires, and awareness of the impact on his health

prostora v življenjskem ciklusu stavbe

- Podrobnejše poznavanje osnovnih zahtev za stavbe
- Seznanjenost z osnovnimi principi urejanja kompozicije
- Pridobivanje sposobnosti kritičnega vrednotenja kvalitete projektov
- Sposobnost komuniciranja z različnimi deležniki v procesu načrtovanja, gradnje in delovanja stavbe

Študenti/ke bodo pridobili naslednje splošne kompetence:

- Sposobnost samostojnega in avtonomnega študijskega dela;
- Sposobnost strokovne razprave o temeljnih pojmi načrtovanja;
- Sposobnost skupinskega dela in pripravljenosti za sodelovanja pri reševanju konkretnih primerov s področja;
- Razvoj komunikacijskih sposobnosti in veščin pri obravnavi in analizi nepremičnin;
- Razvoj ustvarjalnosti in sposobnosti premagovanja problemov pri ravnanju z nepremičninami;
- Razvoj veščin in spretnosti v uporabi pridobljenega znanja ter uporaba informacijsko komunikacijske tehnologije in sistemov;

and well-being

- Understanding the role of living space flexibility in the building life cycle
- Detailed knowledge of the basic requirements for buildings
- Knowledge of the basic principles of compositional arrangement
- Acquiring the ability to critically assess the quality of projects
- Ability to communicate with various stakeholders in the process of planning, construction and operation of the building

Students will gain the following general competencies:

- Ability to study independently and independently;
- Ability to professionally discuss basic planning concepts;
- Ability to work in groups and be willing to cooperate in solving concrete cases in the field;
- Development of communication skills and abilities in the treatment and analysis of real estate;
- Developing creativity and the ability to overcome problems in real estate management;
- Development of skills in the use of acquired knowledge and the use of information and communication technology and systems;

Predvideni študijski rezultati:

Študent/študentka:

- Pozna in uporablja pomembne pojme in izrazoslovje na področju
- Razume osnovno strukturo področne regulative
- Pozna različne faze v procesu načrtovanja gradenj
- Razume razmerje med grajenim okoljem in človekom ter njegov pomen v kontekstu

Intended learning outcomes:

Student:

- Knows and uses important concepts and terminology in the field
- Understands the basic structure of sectoral regulations
- Knows the different stages in the construction planning process
- Understands the relationship between the built environment and man and its

zdravega in ugodnega bivalnega okolja

- Pozna različne načine prilagajanja in posledice fleksibilnosti na različne vidike načrtovanja zgradb
- Pozna in razume osnovne zahteve za zgradbe
- Razume temeljna načela načrtovanja stavb
- Zaveda se pomena kvalitete projekta za izvedbo in delovanje stavbe
- Pozna akterje in osnovne procese načrtovanja vključno s kriteriji za vrednotenje uspešnosti projektov

importance in the context of a healthy and favorable living environment

- Knows various ways to adapt and the consequences of flexibility on different aspects of building design
- Knows and understands the basic requirements for buildings
- Understands the basic principles of building design
- Is aware of the importance of project quality for the implementation and operation of the building
- Knows the actors and basic planning processes including criteria for evaluating project performance

Metode poučevanja in učenja:

Oblike dela:

- Frontalna oblika poučevanja
- Delo v manjših skupinah oz. v dvojicah
- Samostojno delo študentov
- e-učenje
- drugo (vpišite): seminarske vaje

Metode (načini) dela:

- Razlaga
- Razgovor/ diskusija/debata
- Delo z besedilom
- Proučevanje primera
- Igra vlog
- Druge vrste nastopov študentov
- Reševanje nalog
- Terensko delo (npr. ogled stavb)
- Vključevanje gostov iz prakse
- Udeležba na okrogli mizi, na konferenci

Learning and teaching methods:

Types of learning/teaching:

- Frontal teaching
- Work in smaller groups or pair work
- Independent students work
- e-learning
- other: tutorial

Teaching methods:

- Explanation
- Conversation/discussion/debate
- Work with texts
- Case studies
- Role-play
- Different presentation
- Solving exercises
- Field work (e.g. building survey)
- Inviting guests from companies
- Attending round table and conference

Načini ocenjevanja:

Delež (v %) /
Weight (in %)

Assessment:

<p>Način (pisni izpit, ustno izpraševanje, naloge, projekt):</p> <ul style="list-style-type: none"> - pisni izpit - seminarske vaje 	<p>75%</p> <p>25%</p>	<p>Type (examination, oral, coursework, project):</p> <ul style="list-style-type: none"> - Written examination - Tutorial
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Reference nosilca / Lecturer's references:

1. KRISTL, Živa. Trajnostni vidiki stanovanjske gradnje. 1. natis. Nova Gorica: Nova univerza, Evropska pravna fakulteta, 2019. 263 str. ilustr. ISBN 978-961-6731-30-0. [COBISS.SI-ID 301510656]
2. Senior, C., Temeljotov-Salaj, A., Vukmirović, M., Kristl, Ž. 2021. The Spirit of Time—The Art of Self-Renovation to Improve Indoor Environment in Cultural Heritage Buildings, *Energies* 14 (13), 4056; <https://doi.org/10.3390/en14134056>
3. KRISTL, Živa. Ranljivost nepremičnin v okviru intenziviranja podnebnih sprememb. V: GRUM, Bojan (ur.). Znanstvene razprave s področja nepremičnin. 1. natis. Nova Gorica: Nova univerza, Evropska pravna fakulteta. 2019, str. 153-177, ilustr. [COBISS.SI-ID 2048047076]
4. KRISTL, Živa, TEMELJOTOV SALAJ, Alenka, ROUMBOUTSOS, Athena. Sustainability and universal design aspects in heritage building refurbishment. *Facilities*, ISSN 0263-2772, 2019, iss. , str. [1-24], ilustr., doi: 10.1108/F-07-2018-0081. [COBISS.SI-ID 2048069860], [SNIP, WoS do 18. 1. 2020: št.
5. DROBNE, Samo, ZBAŠNIK-SENEGAČNIK, Martina, KRISTL, Živa, KOPRIVEC, Ljudmila, FIKFAK, Alenka. Analysis of the window views of the nearby façades. *Sustainability*. 2022, vol. 14, iss. 1 (art. 269), 16 str., ilustr. ISSN 2071-1050. <https://www.mdpi.com/2071-1050/14/1/269/htm>, DOI: 10.3390/su14010269. [COBISS.SI-ID 92344579], [JCR, SNIP, WoS, Scopus]
6. KOŠIR, Mitja, GOSTIŠA, Tamara, KRISTL, Živa. Influence of architectural building envelope characteristics on energy performance in Central European climatic conditions. *Journal of building engineering*, ISSN 2352-7102, jan. 2018, letn. 15, str. 278-288, ilustr. https://ac.els-cdn.com/S2352710217304941/1-s2.0-S2352710217304941-main.pdf?tid=f3f8f724-df1f-11e7-8bc0-00000aab0f6c&acdnat=1513071579_3bff529e341779ec28b9f1bafbacf7bc, doi: [10.1016/j.jobe.2017.11.023](https://doi.org/10.1016/j.jobe.2017.11.023). [COBISS.SI-ID [8237409](#)]
7. BLECICH, Paolo, FRANKOVIĆ, Marko, KRISTL, Živa. Energy retrofit of the Krsan Castle: from sustainable to responsible design: a case study. *Energy and buildings*, ISSN 0378-7788. [Print ed.], 15. Jun. 2016, vol. 122, str. 23-33, graf. prikazi. <http://www.sciencedirect.com/science/article/pii/S0378778816302456>. [COBISS.SI-ID [1024717681](#)]
8. KOŠIR, Mitja, CAPELUTO, Isaac Guedi, KRAINER, Aleš, KRISTL, Živa. Solar potential in existing urban layouts: critical overview of the existing building stock in Slovenian context. *Energy policy*, ISSN 0301-4215. [Print ed.], jun. 2014, letn. 69, št. X, str. 443-456.