UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet:	**Načrtovanje stavb**
Course title:	**Building design**

Študijski program in stopnja **Study programme and level**	**Študijska smer** **Study field**	**Letnik** **Academic year**	**Semester** **Semester**
Pravo in management nepremičnin 3. stopnje		2	1
Law and Management of Real Estate 3rd Degree		2	1

Vrsta predmeta / Course type:	izbirni/elective
Koda predmeta /Course code:	

Predavanja **Lectures**	**Seminar** **Seminar**	**Vaje** **Tutorial**	**Druge oblike študija** **Other type study**	**Samost. delo** **Individual work**	**ECTS**
20	0	0	0	230	10

Nosilec predmeta / Lecturer:		prof. dr. Živa Kristl/Prof. Živa Kristl, PhD
Jeziki/Languages:	Predavanja / Lectures:	slovenski jezik/Slovenian
	Seminar / Seminar:	slovenski jezik/Slovenian

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

Zahteva se vsaj 80 % prisotnost na predavanjih in vajah.

Prerequisites:

At least 80% attendance at lectures and tutorials is required.

Vsebina:

Gradbeni sektor, s tem pa tudi načrtovanje in upravljanje stavb je trenutno podvržen velikim spremembam. Nove razmere in pravila, kot so podnebne spremembe, staranje prebivalstva, stroge energetske zahteve in informacijska revolucija terjajo hitro in učinkovito prilagoditev. Medtem ko so mednarodni okoljski cilji že določeni, gradbena regulativa in praksa sledita z zamikom. Ta vrzel se postopoma odpravlja. Pomembno je, da vlagatelji, regulatorji, drugi deležniki in uporabniki pričnejo delovati v smeri zmanjšanja porabe virov in posledično emisij toplogrednih plinov ter izboljševati kvaliteto izgrajenega. To pomeni, da je potrebno prilagoditi trenutne prakse.

Področje načrtovanja stavb igra pri tem ključno vlogo, saj predstavlja prvi korak v procesu graditve. Pristop k trajnosti za področje grajenega okolja temelji na treh splošno priznanih stebrih (okolje, gospodarstvo in družba), ki jih je treba obravnavati dolgoročno in na enakovreden način. Poleg tega so v grajenem okolju pomembni še tehnične zahteve, postopki za načrtovanje in izvedbo stavbe ter prilagojenost stavb značilnostim lokacije.

Ključni dejavnik je pospešitev integracije ESG (Environmental, Social and Governance) in podnebnih tveganj v naložbene odločitve, vključno s prenovami. Pomembna vzpodbuda so tudi vedno

Content (Syllabus outline):

The construction sector, and thus the planning and management of buildings, is currently undergoing major changes. New conditions and rules, such as climate change, an aging population, stringent energy requirements and the information revolution, require rapid and effective adaptation. While international environmental targets have already been set (COP 21), building regulations and practices are lagging behind. This gap is being gradually closed. It is important that investors, regulators, other stakeholders and users start working towards reducing resource consumption and consequently greenhouse gas emissions and improving the quality of construction. This means that current practices need to be adapted.

The field of building design plays a key role in this as it presents the first step in the process of construction. The approach to sustainability for the built environment is based on three generally recognized pillars (environment, economy and society), which need to be addressed in the long term and on an equal footing. In addition, the following are important in the built environment technical

ostrejše zahteve regulative in standardizacija. Področje trajnostne gradnje je izredno široko, zato so pri predmetu obravnavana le nekatera ključna področja, ki zajamejo bistvo novih pristopov k načrtovanju stavb: - Bistveni dejavniki, ki vplivajo na načrtovanje stavb (npr. lokacija) in bioklimatski pristop v luči podnebnih sprememb - Pogoji v notranjem okolju - Kriteriji vrednotenja uspešnosti načrtovanja in inovativni pristopi ocenjevanja kompleksnosti vplivnih parametrov (topota, svetloba, zrak, hrup) s poudarkom na dvigu kvalitete notranjega okolja - Inovativne strategije in regulatorni instrumenti za dvig kvalitete okolja in stavb (CPR, EED, RED, EPBD) ter implikacije v praksi - Napredek na področju standardizacije posameznih področij (poraba energije, dnevna svetloba, kvaliteta zraka) in vplivi na postopek načrtovanja stavb - Primeri iz prakse	requirements, • procedures for the design and construction of the building, and adaptation of buildings to the characteristics of the location. A key factor is to accelerate the integration of ESG (Environmental, Social and Governance) and climate risks into investment decisions, including renovations. Increasingly stringent regulatory requirements and standardization are also important incentives. The field of sustainable construction is extremely broad, so the course addresses only some key areas that capture the essence of new approaches to building design: - Essential factors influencing building design (eg location) and bioclimatic approach in the light of climate change - Conditions in the indoor environment - Criteria for evaluating the success of planning and innovative approaches to assessing the complexity of influential parameters (heat, light, air, noise) with an emphasis on raising the quality of the internal environment - Innovative strategies and regulatory instruments for raising the quality of the environment and buildings (CPR, EED, RED, EPBD) and implications in practice - Progress in the field of standardization of individual areas (energy consumption, daylight, air quality) and impacts on the building design process - Examples from practice

Temeljna literatura in viri / Readings:

Obvezna literatura:

- 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]
- Philomena M. Bluyssen, THE INDOOR ENVIRONMENT HANDBOOK, Earthscan and RIBA publishing 2009 (http://file.zums.ac.ir/ebook/461-The%20Indoor%20Environment%20Handbook%20-%20How%20to%20Make%20Buildings%20Healthy%20and%20Comfortable-Philomena%20Blu.pdf)
- Steven Szokolay, Introduction to Architectural Science: The Basis of Sustainable Design, 3rd edition, Routledge, 2014.
- Emina K. Petrovic, Brenda Vale, Maibritt Pedersen Zari, Materials for a Healthy, Ecological and Sustainable Built Environment, Principles for Evaluation, Woodhead Publishing, 2017.

Ostalo (izbrana poglavja):

- CLIMATE CHANGE THE INDOOR ENVIRONMENT AND HEALTH, The national academies, Washington, DC 2011.
- ISIAQ-CIB Task Group TG 42, PERFORMANCE CRITERIA OF BUILDINGS FOR HEALTH AND COMFORT, CIB number 292, 2004.
- Gunnar Grün, Susanne Urlaub, White Paper, Towards an identification of European indoor environments' impact on health and performance - homes and schools, Fraunhofer-Institut für Bauphysik IBP, Holzkirchen, Stuttgart, 2014.
- EE 03, 2014. Energy strategies and solutions for deep renovation of historic buildings. Dostopno na: http//cordis.europa.eu/programme/rcn/664681_en.html.
- Level(s), 2017. A common EU framework of core sustainability indicators for office and residential buildings, Parts 1 and 2: Introduction to Levels. and how it works Draft Beta v1.0. [online] Dostopno na: http://susproc.jrc.ec.europa.eu/Efficient_Buildings/docs/170816_Levels_EU_framework_of_building_indicators_Parts.pdf [20.10.2018].

- Smernica za trajnostno gradnjo, Prevod nemške smernice: Leitfaden Nachhaltiges Bauen, Ljubljana: Inženirska zbornica Slovenije. [online] Dostopno na: http://www.izs.si/fileadmin/dokumenti/publikacije-IZS/Smernice_IZS/Smernica-TG-final-smal.pdf [25. 04. 2018].

Regulatorni in strateški dokumenti s področja okolja, npr.:
- Evropski zeleni dogovor, 2020; https://ec.europa.eu/info/publications/communication-european-green-deal_en
- Strategija za trajnostno konkurenčnost gradbenega sektorja in gradbenih podjetij. Sporočilo Evropske komisije Evropskemu parlamentu in Svetu. [online] Dostopno na: https://eur-lex.europa.eu/legal-content/SL/TXT/PDF/?uri=CELEX:52012DC0433&from=en [20.10.2018].
- Uredba o gradbenih proizvodih. Official Journal of the European Union.
- Energy efficiency directive. Official Journal of the European Union.
- Directive on the energy performance of buildings recast. Official Journal of the European Union.
- Direktiva o ocenjevanju in upravljanju okoljskega hrupa. Evropska komisija.
- Direktiva o zmanjšanju nacionalnih emisij za nekatera onesnaževala zraka. Official Journal of the European Union.
- Direktiva o kakovosti zunanjega zraka in čistejšem zraku za Evropo. Official Journal of the European Union.

Uporaba izbora standardov s področja, npr.:
- EN 15251, 2007. Criteria for the Indoor Environment Including Thermal, Indoor Air Quality, Light and Noise. European Committee for Standardization.
- SIST EN 17037, 2019. Dnevna svetloba v stavbah. European Committee for Standardization.
- KRISTL, Živa. Priporočila za načrtovanje dnevne osvetljenosti. 2018. https://velcdn.azureedge.net/~/media/marketing/si/datoteke/priporocila.pdf

Periodična literatura (priporočeni znanstveni članki s področja)

Študijska gradiva (VIS)

Cilji in kompetence:

Študentje bodo razvili **splošne kompetence**:

- Sposobnost holistične obravnave problemov, sintezno povezovanje komplementarnih področij na osnovi principov multi in transdisciplinarnosti.
- Sposobnost uporabe razpoložljivega instrumentarija pri eksperimentalno-metodološkem delu za samostojno razvijanje novega znanja.
- Uporaba primerne metodologije pri prepoznavanju in vrednotenju kvalitetnih primerov v praksi
- Usposobljenost za prenašanje znanja z uporabo v znanstveno-raziskovalnem delu in v praksi ter predstavitev doma in v tujini.

Študentje bodo razvili **predmetno-specifične kompetence**:

- Globlje poznavanje in razumevanje pojmov, principov in zahtev na področju načrtovanja, gradnje in upravljanja stavb

Objectives and competences:

Students will develop the following **general competences**:

- Managing the complexity of the interactions of various environmental factors and decisions related to building tissue and the operation of building systems.
- Knowledge and use of key regulatory documents and their impact on building design
- Ability to holistically address problems, synthetic integration of complementary areas based on the principles of multi and transdisciplinarity.
- Ability to use the available tools in experimental-methodological work for independent development of new knowledge.
- Use of appropriate methodology in identifying and evaluating quality cases in practice
- Ability to transfer knowledge through use in scientific research and practice, and presentation at home and abroad.

Students will develop the following **course-specific competences:**

- Deeper knowledge and understanding of concepts, principles and requirements in the field of design, construction and management of buildings

- Sposobnost učinkovite identifikacije problemov povezanih z načrtovanjem stavb. - Obvladovanje kompleksnosti medsebojnih vplivov različnih dejavnikov okolja in odločitev povezanih s stavbnim tkivom in delovanjem stavbnih sistemov. - Poznavanje in uporaba ključnih regulatornih dokumentov in njihovega vpliva na načrtovanje stavb		- Ability to effectively identify problems related to building design. - Managing the complexity of the interactions of various environmental factors and decisions related to building tissue and the operation of building systems. - Knowledge and use of key regulatory documents and their impact on building design

Predvideni študijski rezultati:
Znanje in razumevanje:

Intended learning outcomes:
Knowledge and understanding:

Študent: • ima celosten uvid v kompleksnost načrtovalskih odločitev, ki so povezane s kvaliteto načrtovanja stavb. • razume in upošteva vpliv specifičnih dejavnikov stavb in spreminjajočega se zunanjega okolja na delovanje stavbe in uporabnike. • pri znanstveno-raziskovalnem delu upošteva sodobna znanja in metode za ugotavljanje uspešnosti specifičnih vidikov načrtovanja stavb. • uporablja relevantne in aktualne znanstvene, tehnične in zakonodajne dokumente s področja pri znanstveno-raziskovalnem delu in pripravi publikacij. • razume povezave in medsebojne vplive z drugimi komplementarnimi področji in je sposoben sodelovalnega in holističnega pristopa.	**Students:** • has a comprehensive insight into the complexity of planning decisions related to the quality of building design. • understands the impact of specific building factors and the changing external environment on the operation of the building and users. • takes into account modern knowledge and methods for determining the success of specific aspects of building design. • uses relevant and current scientific, technical and legislative documents in the field of scientific research and preparation of publications. • understands connections and interactions with other complementary areas and is capable of a collaborative and holistic approach.

Metode poučevanja in učenja:

Learning and teaching methods:

Oblike dela: ☒ Frontalna oblika poučevanja ☒ Delo v manjših skupinah oz. individualno ☒ Samostojno delo študentov ☒ študij s pomočjo IKT tehnologije ☐ drugo (vpišite) _____ **Metode (načini) dela:** ☒ Razlaga ☒ Razgovor/ diskusija/debata ☒ Delo z besedilom ☒ Proučevanje primerov raziskav ☒ Igra vlog ☒ Druge vrste nastopov študentov ☒ Reševanje nalog/vaje ☒ Študijski obiski podjetij ipd.) ☒ Vključevanje gostov iz prakse ☒ Udeležba na okrogli mizi, na konferenci	**Types of learning/teaching:** ☒ Frontal teaching ☒ Work in smaller groups or individual work ☒ Independent students work ☒ studies using ICT technology ☐ other _____ **Teaching methods:** ☒ Explanation ☒ Conversation/discussion/debate ☒ Work with texts ☒ Research case studies ☒ Role-play ☒ Different presentation ☒ Solving exercises/study exercises ☒ Field work (e.g. company visits) ☒ Inviting guests from companies ☒ Attending round table and conference

Načini ocenjevanja: **Način (pisni izpit, ustno izpraševanje, naloge, projekt)**	**Teža (v %) /** **Weight (in %)**	**Assessment:** **Type (examination, oral, coursework, project)**
Sprotno ustno (aktivno sodelovanje pri kontaktnih urah in pri raziskavah)		Oral verification and assessment of knowledge

Sprotno pisno preverjanje znanja (krajši pisni izdelki)		Written verification and assessment of knowledge (short written casework)
Daljši pisni izdelki (seminarska naloga, projektna naloga, raziskovalna poročila)	**100**	Longer written casework
Javni nastop in predstavitev lastnega raziskovalnega dela		Public presentation of one's research
Končni ustni izpit		Final examination (oral)
Končni pisni izpit		Final examination (written)
Drugo (vpišite)		Other:

Reference nosilca / Lecture'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. 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]
3. KRISTL, Živa. Sustainability aspects of housing = Trajnostni vidiki nepremičnin. Dignitas : revija za človekove pravice. 2023, [št.] 97, str. 59-77. ISSN 1408-9653. [COBISS.SI-ID 168997123]
4. KOPRIVEC, Ljudmila, ZBAŠNIK-SENEGAČNIK, Martina, KRISTL, Živa. A study of restorative potential in window views adopting Kaplan's attention restoration theory and urban visual preferences defined by Lynch. Journal of architecture and urbanism. 2022, vol. 46, iss. 2, str. 148-159, ilustr. ISSN 2029-7947. https://journals.vilniustech.lt/index.php/JAU/article/view/16158, DOI: 10.3846/jau.2022.16158. [COBISS.SI-ID 131471875]
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. KRISTL, Živa, TEMELJOTOV SALAJ, Alenka, ROUMBOUTSOS, Athena. Sustainability and universal design aspects in heritage building refurbishment. Facilities, ISSN 0263-2772, 2019, vol. , iss. , str. [1-24], ilustr., doi: 10.1108/F-07-2018-0081. [COBISS.SI-ID 2048069860], [SNIP, WoS do 18. 1. 2020: št.