

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet: Seminar za dispozicijo
Course title: Dissertation Proposal Seminar

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Informacijska družba, doktorski študijski program tretje stopnje	-	Prvi	Prvi
Information Society, third cycle Doctoral Study Programme	-	First	First

Vrsta predmeta / Course type

Obvezni/ Compulsory

Univerzitetna koda predmeta / University course code:

1-ID-DR-SDISP-2021-01-20

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje work	Druge oblike študija	Samost. delo Individ. work	ECTS
20	20	/	/	/	410	15

Nosilec predmeta / Lecturer: izr. prof. dr. Zoran Levnajič

Jeziki / Languages:

Predavanja / Lectures: Slovenski / Slovenian, Angleški / English

Vaje / Tutorial: Slovenski / Slovenian, Angleški / English

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

Vpis v prvi letnik študija.

Prerequisites:

Enrolment in the first year of studies.

Vsebina:

Končni cilj predmeta je osmišljena, napisana, javno predstavljena in uradno oddana dispozicija doktorske disertacije. Sicer je ta dokument (dispozicija) namenjen temu, da študent določi in predstavi raziskovalni plan svoje doktorske naloge, da bi le-ta bil lahko preverjen in potrjen s strani fakultete.

Doktorsko delo je izrazito ustvarjalen in inovativen projekt, saj mora prispevati samostojen doprinos k obstoječemu znanstvenemu znanju in ne biti le (re)kombinacija že obstoječih znanj. Iz tega razloga bo študent, preden se dejansko loti pisanja dispozicije, pridobil znanja,

Content (Syllabus outline):

The ultimate goal of this course is a well written publicly presented and officially submitted dissertation proposal. This document is intended for the student to determine and present the doctoral research plan to be confirmed by the faculty.

Doctoral work is highly creative and innovative project, and it must contribute as an independent contribution to the current scientific knowledge, and not be a mere (re)combination of existing knowledge. For this reason, before actually undertaking the writing of dissertation proposal, the student will acquire knowledge and skills needed for

potrebna za pisanje. To vključuje učenje znanstvenega pisanja, učenje iskanja in preučevanja znanstvene literature ter splošne osnove raziskovalno znanstvenega dela. Hkrati mora študent med potekom tega predmeta izbrati mentorja za svojo doktorsko nalogo ter z mentorjem jasno določiti temo doktorske naloge in doreči raziskovalni plan izvedbe te naloge.

Ob pisanju dispozicije lahko študentu pomaga izvajalec(ka) tega predmeta in mentor (ter morebitni somentor). Študent bo med pisanjem dobil možnosti vpogleda v prejšnje primere potrjenih dispozicij, še posebej dispozicij v znanstvenem področju njegove/njene doktorske naloge. Pri pisanju mora biti študent pozoren, da dispozicija vsebuje naslednje elemente:

- formulacija in utemeljitev relevantnosti raziskovalnega vprašanja in ciljev disertacije
- formulacija raziskovalnih hipotez oz raziskovalnih vprašanj
- izbira in utemeljitev raziskovalnih metod
- pregled dosedanje relevantne literature in drugih pomembnih virov
- načrtovanje dela na doktorski disertaciji
- strukturiranje doktorske disertacije
- realistična ocena, v katerih elementih bi lahko disertacija prinesla nova znanja

Predmet hkrati izvajata dva izvajalca. Prvi predstavi naravoslovno plat zgoraj omenjene vsebine, drugi pa družboslovno plat. Odvisno od specifičnosti svoje doktorske naloge, lahko študent več ali manj sodeluje z enim ali z drugim izvajalcem. Izvajanje predmeta temelji na kombinaciji predavanj (obeh izvajalcev) in individualnega študija ter individualnih konzultacij z mentorjem in z izvajalcema.

Ker priprava dispozicije sicer temelji predvsem na individualnem delu, premet tudi zahteva obsežno individualno zbiranje, urejanje in študij virov (literature). Doktorski študent mora uvodna znanja za pripravo zahtevnejših nalog sicer že imeti. V okviru tega predmeta se ta znanja nadgradijo s tistimi, ki bodo potrebna za pripravo

scientific writing. This also includes searching and reviewing the scientific literature, as a general basics of any scientific research work. At the same time, the student during this course chooses a mentor for his/her doctoral thesis, and in collaboration with him/her clearly defines the theme of the doctoral dissertation and establishes the research plan.

For writing the disposition, the student may be assisted by the mentor (and possible co-mentor). The student will get the possibility to review previously approved dissertation proposals, especially those in the scientific field of his/her doctoral thesis. The dissertation proposal is to include the following elements:

- formulation and justification of the relevance of research questions and objectives of the thesis
- formulation of research hypotheses and research questions
- choice and justification of research methods
- review of the existing relevant literature and other relevant sources
- planning of the work on his/her doctoral thesis
- expected structuring of doctoral thesis
- realistic assesment about the factors through which the thesis is expected to bring the new knowledge

The course is simultaneously executed by two lecturers. The first presents the natural science side of the above-mentioned content, and the other social sciences side. Depending on the specificity of his/her doctoral thesis, the student may be more or less involved with one or the other lecturer. The course is based on a combination of lectures with individual studies and individual consultations.

Since the preparation of dissertation proposal primarily involves the individual work, this will also require extensive collection and compilation of literature. Doctoral student must already possess the knowledge for the preparation of tasks of this sort. Among the aims of the course is also to upgrade the knowledge with those

dispozicije ter kasneje med potekom študija za izvedbo raziskovalnega dela.

Osnutke dispozicij študenti javno predstavijo svojim kolegom v okviru seminarja. Študenti dobijo priložnost da medsebojno kolegialno ocenjujejo drug drugega in prejmejo sugestije mentorja ter sugestije izvajalcev predmeta. Na podlagi navedenega, študent pripravi končno verzijo dispozicije ter jo uradno odda v referat fakultete.

required for preparation of the dissertation proposal, and those needed later during the course of doctoral study.

The draft dissertation proposal is to be presented in front of other students in a seminar. Students will have the chance to interact as peers and assess each other. Based on the above, the student prepares a final version of dissertation proposal and officially submits it to the faculty.

Temeljni literatura in viri / Readings:

- Primeri portjenih doktorskih disertacij in dispozicij
- »Scientific writing« prosto dostopen predmet s [coursera.org](https://www.coursera.org) (moodle)
- Murray, Rowena (2010): *How to Write a Thesis*, second edition, Open University Press & McGraw-Hill Education, Maidenhead & NY.
- Finn, John A. (2008): *Getting a PhD: An action plan to help manage your research, your supervisor and your project*, Routledge, London & NY.
- Brewer, Robert (2007): *Your PhD Thesis*, Studymates Ltd., Abergele.
- Dunleavy, Patrick (2003): *Authoring a PhD: How to plan, draft, write and finish a doctoral thesis or dissertation*, Palgrave MACMILLAN, Houndmills & NY.
- Anderson, Jonathan, Poole, Millicent (2001): *Assignment and Thesis Writing*, fourth edition, Wiley, Milton.
- Blaxter, Lorraine, Hughes, Christina, Tight, Malcolm (2009): *How to Research*, third edition, Open University Press & McGraw-Hill Education, Maidenhead & NY.

Cilji in kompetence:

Učna enota prispeva k razvoju naslednjih splošnih in predmetno-specifičnih kompetenc:

- sposobnost samostojnega raziskovalno-razvojnega dela in vodenje raziskovalne skupine
- poznavanje pomena kakovosti in prizadevanje za kakovost strokovnega dela skozi avtonomnost, (samo)kritičnost, (samo)refleksivnost in (samo)evalviranje
- zavezanost profesionalni etiki
- razvoj veščin in spretnosti v uporabi znanja na raziskovalnem področju doktorske disertacije
- sposobnost inovativne uporabe in kombiniranja raznih raziskovalnih metod
- sposobnost pridobivanja, selekcije, ocenjevanja in umeščanja novih znanj in zmožnost interpretacije v kontekstu družboslovja in ostalih ved

Objectives and competences:

Learning unit contributes to the development of the following general and subject-specific competences:

- ability of independent research and development work and management of research group
- mastery of scientific quality and effort towards the quality of professional work through independence, self-criticism, self-reflection and self-evaluation
- respect for scientific ethics
- development of skills and abilities in usage of knowledge in doctoral research
- ability of innovative combined usage of various research methodologies
- the ability to extract, select, evaluate and insert new knowledges and the competence of interpretation in the context of social and other sciences

- sposobnost oblikovanja in implementacije izvirnih znanstvenih rešitev danih družbenih problemov
- sposobnost predstavitve pridobljenih znanstvenih izsledkov v obliki publikacij v mednarodni znanstveni periodiki

- ability of designing and implementing novel scientific solutions for given social problems
- ability to present the obtained scientific findings in form of publications in international scientific journals

Predvideni študijski rezultati:

Znanje in razumevanje:

Študent/študentka:

- razume teorijo in prakso ustvarjalnega procesa v povezavi z doktorsko dispozicijo in disertacijo,
- pripravi osnutek in ustrezno končno verzijo dispozicije doktorske disertacije,
- pridobi jasnejšo sliko nadaljevanja svojega doktorskega študija.

Intended learning outcomes:

Knowledge and understanding:

The student:

- understands the theory and practice of the creative process in connection with the dissertation proposal,
- prepares the draft and ultimately the final version of the doctoral dissertation proposal,
- gets a clearer picture of continuing his/her doctoral studies.

Metode poučevanja in učenja:

- Predavanja z aktivno udeležbo študentov (razlaga, diskusija, vprašanja, primeri).
- Individualno in seminarsko delo (javna predstavitve).

Learning and teaching methods:

- Lectures with active participation of students (explanation, discussion, questions, examples).
- Individual and seminar work (public talk).

Načini ocenjevanja:

Način (pisni izpit, ustno izpraševanje, naloge, projekt):

- Dispozicija

Delež (v %) /
Weight (in %)

100

Assessment:

Type (examination, oral, coursework, project):

- Doctoral dissertation proposal

Reference nosilca / Lecturer's references:

- Crnkčić, J. Povh, V. Jaćimović, Z. Levnajić, Collective dynamics of phase-repulsive oscillators solves graph coloring problem, *Chaos* 30, 033128, 2020.
- Zorko, M. Frühwirth, N. Goswami, M. Moser, Z. Levnajić, Heart Rhythm Analyzed via Shapelets Distinguishes Sleep From Awake, *Frontiers in Physiology* 10, 1554, 2020.
- M. Faggian, F. Ginelli, F. Rosas, Z. Levnajić, Synchronization in time-varying random networks with vanishing connectivity, *Scientific Reports* 9, 10207, 2019.
- Guazzini, F. Stefanelli, E. Imbimbo, D. Vilone, F. Bagnoli, Z. Levnajić, Humans best judge how much to cooperate when facing hard problems in large groups, *Scientific Reports* 9, 5497, 2019.
- K. Ban, M. Perc, Z. Levnajić, Robust clustering of languages across Wikipedia growth, *Journal of the Royal Society Open Science* 4, 171217, 2017.
- M. Grau Leguia, R. G. Andrzejak, Z. Levnajić, Evolutionary optimization of network reconstruction from derivative-variable correlations, *Journal of Physics A: Mathematical and Theoretical* 50, 334001, 2017.