PROJEKTNI PRAKTIKUM - MAG

UČNI NAČRT PREDMETA/COURSE SYLLABUS

Predmet:	Projektni praktikum - MAG
Course title:	PROJECT PRACTICUM - MAG
Članica nosilka/UL Member:	UL FS

Študijski programi in stopnja	**Študijska smer**	**Letnik**	**Semestri**	**Izbirnost**
Strojništvo - Razvojno raziskovalni program, druga stopnja, magistrski	Energetsko strojništvo (smer)	2. letnik	2. semester	obvezni
Strojništvo - Razvojno raziskovalni program, druga stopnja, magistrski	Konstruiranje (smer)	2. letnik	2. semester	obvezni
Strojništvo - Razvojno raziskovalni program, druga stopnja, magistrski	Mehanika (smer)	2. letnik	2. semester	obvezni
Strojništvo - Razvojno raziskovalni program, druga stopnja, magistrski	Mehatronika in laserska tehnika (smer)	2. letnik	2. semester	obvezni
Strojništvo - Razvojno raziskovalni program, druga stopnja, magistrski	Procesno strojništvo (smer)	2. letnik	2. semester	obvezni

Univerzitetna koda predmeta/University course code:	0562803
Koda učne enote na članici/UL Member course code:	6012-M

Predavanja /Lectures	**Seminar /Seminar**	**Vaje /Tutorials**	**Klinične vaje /Clinical tutorials**	**Druge oblike študija /Other forms of study**	**Samostojno delo /Individual student work**	**ECTS**
	15			80	30	5

Nosilec predmeta/Lecturer:	Vsi nosilci v programu

Izvajalci predavanj:	
Izvajalci seminarjev:	
Izvajalci vaj:	
Izvajalci kliničnih vaj:	
Izvajalci drugih oblik:	
Izvajalci praktičnega usposabljanja:	

Vrsta predmeta/Course type:	Obvezni splošni predmet /Compulsory general course

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

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	**Prerequisites:**
Projektni praktikum pomembno prispeva k usmerjanju in študiju specifičnih vsebin dela, ki so pomembna za samo magistrsko nalogo. Zato, da lahko študent začne intenzivno študirati na temi magistrske naloge, so pogoj za vključitev v delo opravljene vse predhodne študijske obveznosti.	The project practicum provides an important contribution to the orientation and the study of specific work topics, important for the master's thesis. In order for the students to be able to start studying intensely for the master's thesis, the requirement for inclusion of a student into work is the accomplishment of all previous study obligations.

Vsebina:	**Content (Syllabus outline):**
1. Uvod v temeljne vsebine magistrske naloge. 2. Izvajanje skupinskega dela. 3. Glede na izvajanje naloge so podani poudarki na: eksperimentalnih, računalniških ali analitičnih raziskovalnih vsebinah. 4. Priprava programa dela in opredelitev vodenja. 5. Študij literature in vzporedno iskanje rešitev. 6. Tehnike predstavitve rezultatov. 7. Delavnice iz mehkih veščin v	1. Introduction to the fundamental topics of the master's thesis. 2. Execution of teamwork in a research laboratory, or directly in a target pedagogical group. 3. According to the execution of the thesis, the emphasis is placed on: experimental, computer or analytical research topics. 4. Preparation of work programme and definition of guidance. 5. Study of literature and parallel solution finding.

obsegu 8 pedagoških ur.	6. Result-presentation techniques. 7. Soft skills workshops amounting to 8 pedagogical hours.

Temeljna literatura in viri/Readings:

Določena je smiselno za vsakega študenta posebej glede na izbrano raziskovalno temo. Literatura je dosegljiva v knjižnici laboratorija, fakultetni knjižnici ali širše. Praviloma študent študira iz člankov, ki so obravnavali podoben primer, kakor ga ima sam definiranega za magistrsko nalogo.

The literature is reasonably determined for each student individually, according to the selected research topic. The literature is accessible in the laboratory library, the faculty library and elsewhere. The students mainly study articles dealing with a subject similar to the subject of their master's thesis.

Cilji in kompetence:	**Objectives and competences:**
Cilj: Omogoča študentu, da se temeljito pripravi na magistrsko nalogo predvsem v eksperimentiranju, uporabi računalniških orodij in specifični literaturi. Študent tako spozna posebnosti, ki jih lahko uporabi. Predmet se izvaja v laboratoriju (enem ali več) odvisno od dogovora z mentorjem. Z vodenjem in registracijo dela študent spozna načine dela pri razvojno-raziskovalnem delu. Kompetence: Izvajanje projektnega praktikuma omogoči študentu da spozna, kako se pristopi v razvojno-raziskovalni ciklus vključno z eksperimentiranjem. Z registracijo prisotnosti se zagotovi, da študentov prehod iz študija v drugo delovno okolje ne predstavlja velike spremembe. Študent razvije kompetence javnega nastopanja in prezentiranja ter pridobi komunikacijske veščine.	Objectives: The students are thoroughly prepared for their master's thesis, above all they gain competences in experimental work, the use of computer tools, and specific literature. The students are thereby acquainted with the special resources available to them. The course is executed in the laboratory (one or multiple) according to the agreement made with the mentor. The students are supervised and their attendance is registered in order to acquaint them with the methods of research and development work. Competences: The execution of Project practicum enables the student to learn how to take part in the research and development cycle, including experimental work. The registration of attendance ensures the students' transfer from the studies to a different working environment will not be too big a change. The student develops public speaking and presentation skills and acquires communication skills.

Predvideni študijski rezultati:	Intended learning outcomes:
Znanje in razumevanje Študent pridobi izkušnje s pristopom v razvojno-raziskovalni ciklus. Uvede se v vsakdanjik laboratorijskega dela in ima dokazane izkušnje pristopa k pripravi projekta. Uporaba Neposredna uporaba za temeljito pripravo in izdelavo magistrske naloge. Refleksija Z utrjevanjem študijskega delovnika pridobi študent razumevanje delovnega procesa v razvojnih oddelkih in inštitutih. S sistemom delovnega časa študent pridobi ritem prakse že v času študija. Prenosljive spretnosti – niso vezane le na en predmet Z uveljavljanjem dela v laboratoriju ter s prenašanjem znanj iz enega v drug laboratorij zaradi potreb izdelave magistrskega dela se zagotovi uveljavljanje sposobnosti izmenjav in dela v timu, ki ni nujno vselej na istem mestu, marveč na različnih lokacijah. Z delavnicami mehkih veščin študent pridobi komunikacijske spretnosti ter razvije kompetence javnega nastopanja in prezentiranja.	Knowledge and understanding The student gains experience by taking part in the research and development cycle. He or she is introduced to the everyday reality of laboratory and educational work, gaining proven experience on the methodology of project preparation. The student knows and understands the significance of (self)reflection and (self)evaluation, as well as masters the characteristics of scientific writing. Usage Direct usage for a thorough preparation and making of master's thesis. Reflection Repeating the study workday, the student learns to understand the working process in the development departments and institutes. By subjecting themselves to the system of working hours, the students learn the rhythm of real-life practical work already during their studies. The students critically analyse and self-reflect on their research work. Transferrable skills – related to more than one course By enforcing laboratory work and by transferring knowledge between the laboratories for the purposes of creating the master's thesis, the students achieve the ability to exchange knowledge and do teamwork, not necessarily always at the same location. Through soft skills workshops, the student acquires communication skills and develops the competencies of public speaking and presentation.

Metode poučevanja in učenja:	Learning and teaching methods:

Delo, ki se izvaja ali v fakultetnem laboratoriju ali v industrijskem okolju (v razvojnem oddelku) je praviloma projektno vodeno. Študent dobi mesto v laboratoriju ali v razvojnem oddelku in se vklopi v delo z ostalimi sodelavci. Uveljavljen je model delovnega časa. Predavanja strokovnjakov Kariernih centrov UL.	The work executed at the faculty laboratory or in the industrial environment (in the development department) is generally project-managed. The student is given a position in the laboratory or the development department, where he or she is integrated to cooperate with the other co-workers. Lectures by experts from UL Career Centres.

Načini ocenjevanja:	**Delež/ Weight**	**Assessment:**
Ocenjuje se študentovo neposredno vključevanje v študij literature in poročanje o rezultatih, ki se mora opraviti dvakrat. Prvo poročanje je uvod v problem, drugo pa stanje v svetu ter njegov pričakovan prispevek. Metode ocenjevanja in ocenjevalna lestvica so določeni v točki 4.8 vloge za pridobitev soglasja k magistrskemu drugo-stopenjskemu študijskemu programu STROJNIŠTVO.		The student's direct involvement with the study of literature and his or her reporting on the results is assessed. The reporting is done twice: firstly introducing the problem and secondly presenting the state of the art and the envisaged contribution. The evaluation methods and the grading scale are defined in Point 4.8 of the application for approval of Level 2 masters' study programme MECHANICAL ENGINEERING

Ocenjevalna lestvica:	**Grading system:**

Reference nosilca/Lecturer's references:

Nosilci predmeta so vsi profesorji magistrskega študija, ki imajo že predložene reference.

The course coordinators are all master's study professors who already submitted their references.