

Development of doctoral programs in agriculture and agricultural economics

Prof. dr Črtomir Rozman
University of Maribor



www.mards.ucg.ac.me

Co-funded by the
Erasmus+ Programme
of the European Union



Maribor, 8.11.2019



Introduction

- Full professor of farm management
- Head of PhD study program Agricultural economics 2007-2011; 2015-2019; 2019 –
- Supervised/cosupervised 11 PhD thesis, currently working on 4
- Nominated for supervisor of the year in 2017 by Mlada akademija (Young
- Member of executive board of cooperative Kooperativa Kristal z.o.o. (sugar beet and malt/beer barley production)

www.mards.ucg.ac.me



Structure of post graduate study programs before 2007

- BsC 4 years University Bachelor
- BsC 3 years Professional Bachelor (students could enter 4 year University programme after graduating in year 3)
- Msc programme 2 year
- PhD programme after MSc
- Possibility of direct transfer from MsC to PhD for successful candidates (successful in the light of publications)

www.mards.ucg.ac.me



History

- Start of PhD programs at University of Ljubljana (Biotechnical faculty) in the 50ties
- 1966 – post graduate programs of forestry
- Only general agriculture with no special emphasis on Agricultural economics → most of Slovenia agricultural economists conducted their post graduate studies in other republics (mostly University of Zagreb and University of Belgrad)
- This was situation until 2000

www.mards.ucg.ac.me



Development of post graduate programs at University of Maribor

- 1992 Higher school of agriculture transformed to High school of agriculture with 4 year professional programs that were later acknowledged as university B.Sc. programs
- 1995 High school of agriculture transformed to Faculty of agriculture (with the decision of National Assembly)
- The new Faculty did not have any post graduate programs at the beginning

www.mards.ucg.ac.me



- 1999 the first post graduate program in the field of agricultural economics is approved by the national quality control board
- 2000 start of the program
- Msc and PhD program
- Only one appointed professor of agricultural economics at the entire University
- The others came from Faculty of economics, Faculty of law, University of Reading, Universität für Bodenkultur (Wien), Institute for hop and brewery Žalec and Biotechnical faculty (University of Ljubljana)

www.mards.ucg.ac.me



- June 2003 first MSc thesis
- October 2003 first PhD defense (direct doctorate)
- Their PhD was either continuation after finished MSc or direct PhD

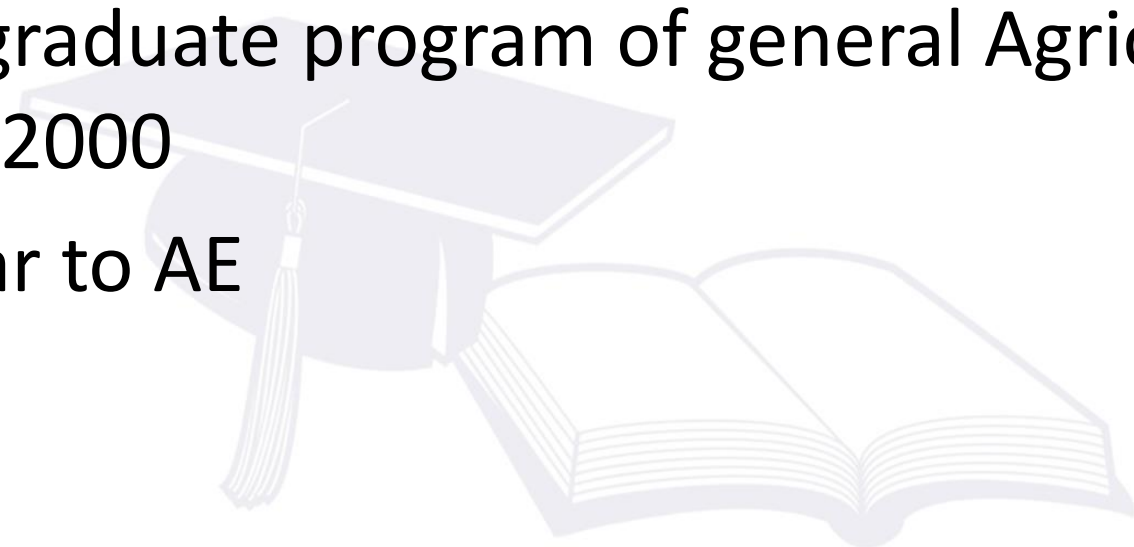


- Direct PhD: for excellent candidates with publication in JCR and successful doctoral exam:
 - *Especially successful students could be enrolled to study for a Ph.D. degree without acquiring previously M.Sc. degree. This is a subject of approval by the postgraduate study committee. During the doctoral study student shows that he/she has mastered broader general theoretical knowledge of the branch of study, methods of independent scientific work and methods of application of new information.*

www.mards.ucg.ac.me



- Post graduate program of general Agriculture since 2000
- Similar to AE



www.mards.ucg.ac.me

Co-funded by the
Erasmus+ Programme
of the European Union



- Last enrolment in 2006
- Programs formally finished in 2016
- AE: 2 classical PhDs, 3 direct PhDs
- Agriculture: 4 classical PhDs, 4 direct PhDs

www.mards.ucg.ac.me



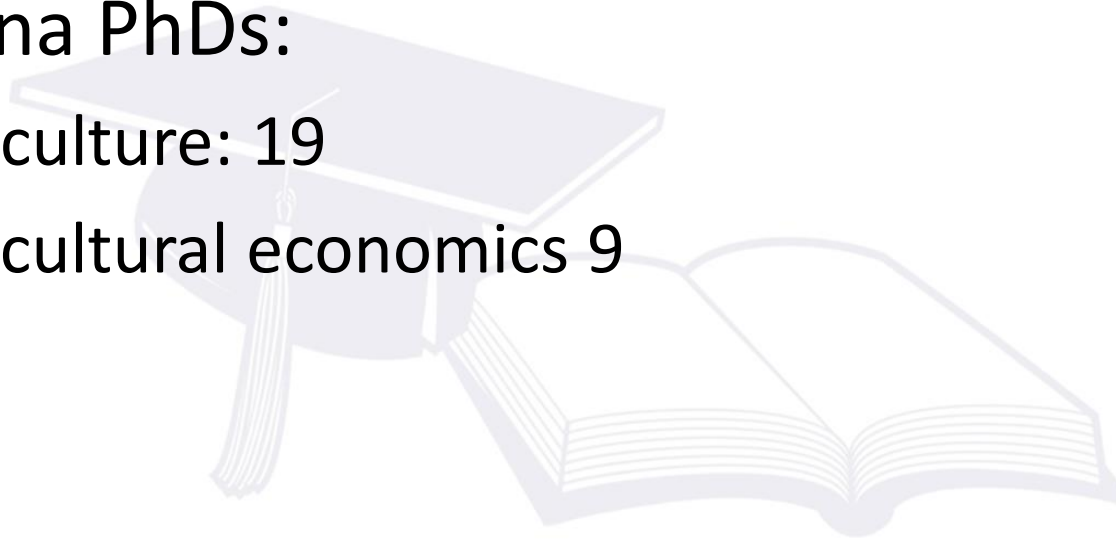
After 2006

- Bologna reform
- Bachelor (1st level), Master (2nd level), PhD (3rd level)
- At least 60 ECTS (1 year) of PhD
- Vertical connection through study programs

Agribusiness management (B.Sc.) → Agricultural economics (Master) → Agricultural economics PhD



- Bologna PhDs:
 - Agriculture: 19
 - Agricultural economics 9



www.mards.ucg.ac.me





Detailed descriptions of the study programmes, including subject descriptions

Animal Science

Organic Farming

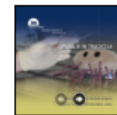
Agronomy -
Ornamental Plants,
Vegetables and
Field Crops

Biosystems
Engineering

Viticulture, Enology
and Fruit-Growing

Agri-Business and
Rural Development

Agriculture and Environment

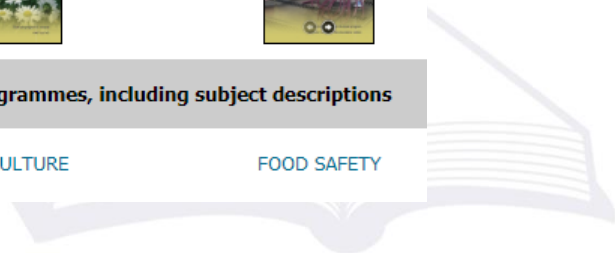


Detailed descriptions of the study programmes, including subject descriptions

AGRICULTURAL ECONOMICS

AGRICULTURE

FOOD SAFETY



Podrobna opisa študijskih programov s predmetniki

AGRICULTURAL ECONOMICS

AGRICULTURE

www.mards.ucg.ac.me

Co-funded by the
Erasmus+ Programme
of the European Union



- Programs lasted 2007-2018
- The candidates had to publish a paper in JCR Journal before promotion (not condition for the defense)

www.mards.ucg.ac.me



Best publications from PhD students

- PRIŠENK, Jernej, ROZMAN, Črtomir, PAŽEK, Karmen, TURK, Jernej, BOHAK, Zarja, BOREC, Andreja. A multi-criteria assessment of the production and marketing systems of local mountain food. *Renewable agriculture and food systems*, ISSN 1742-1705, 2014, vol. 29, iss. 4, str. 345-354. [COBISS.SI-ID [3522348](#)], [JCR, SNIP, WoS do 2. 7. 2018: št. citatov (TC): 2, čistih citatov (CI): 0, čistih citatov na avtorja (CIAu): 0, [Scopus](#) do 27. 6. 2018: št. citatov (TC): 2, čistih citatov (CI): 0, čistih citatov na avtorja (CIAu): 0] kategorija: 1A1 (Z, A', A1/2); uvrstitev: [SCI](#), [Scopus](#), MBP; tip dela je verificiral OSICB
- PAVLOVIČ, Martin, ČERENAK, Andreja, PAVLOVIČ, Viljem, ROZMAN, Črtomir, PAŽEK, Karmen, BOHANEK, Marko. Development of DEX-HOP multi-attribute decision model for preliminary hop hybrids assessment. *Computers and electronics in agriculture*, ISSN 0168-1699. [Print ed.], 2011, letn. 75, št. 1, str. 181-189, doi: [10.1016/j.compag.2010.11.002](#). [COBISS.SI-ID [534412](#)], [JCR, SNIP, WoS do 16. 12. 2018: št. citatov (TC): 23, čistih citatov (CI): 11, čistih citatov na avtorja (CIAu): 1.83, [Scopus](#) do 25. 11. 2018: št. citatov (TC): 25, čistih citatov (CI): 10, čistih citatov na avtorja (CIAu): 1.67]
- ROZMAN, Črtomir, POTOČNIK, Majda, PAŽEK, Karmen, BOREC, Andreja, MAJKOVIČ, Darja, BOHANEK, Marko. A Multi-criteria assesment of tourist farm service quality. *Tourism management*, ISSN 0261-5177. [Print ed.], 2009, letn. 30, str. 629-637. doi:10.1016/j.tourman.2008.11.008, doi: 10.1016/j.tourman.2008.11.008. [COBISS.SI-ID 2713900], [JCR, SNIP, WoS do 20. 1. 2019: št. citatov (TC): 30, čistih citatov (CI): 23, čistih citatov na avtorja (CIAu): 3.83, [Scopus](#) do 22. 2. 2019: št. citatov (TC): 42, čistih citatov (CI): 31, čistih citatov na avtorja (CIAu): 5.17] . kategorija: 1A1 (Z, A'', A', A1/2); uvrstitev: [Scopus](#) (d), [SSCI](#), MBP; tip dela je verificiral OSICB
- HUEHNER, Rudawiro Monica, ROZMAN, Črtomir, PAŽEK, Karmen. A case study on the application od the analytic hierarchy process (AHP) to assess agri-environmental measures of the rural development programme (RDP 2007-2013) in Slovenia. V: DE FELICE, Fabio (ur.), SAATY, Thomas L. (ur.), PETRILLO, Antonella (ur.). *Applications and theory of analytic hierarchy process - decision making for strategic decisions*. Rijeka: Intech. 2016, str. 37-54, graf. prikazi. <http://dx.doi.org/10.5772/63924>. [COBISS.SI-ID [4221228](#)] kategorija: 3B (Z, A1/2); tip dela je verificiral OSICT

www.mards.ucg.ac.me



Other achievements



Vseh pet nagrajencev letošnjega izbora Agrobiznis se lahko pohvali, da obvladajo kmetijstvo in trženje. Z leve so na sliki **Urša Kunz** s posestva Trnulja, **Ivan Drev** iz **Kmetijske zadruga Šaleška dolina**, **Žan Težak** iz pekarnice Težak, **Luka Voglar** iz čebelarstva Voglar in **Matej Kolenko** s kmetije Kolenko.



www.mards.ucg.ac.me

Co-funded by the
Erasmus+ Programme
of the European Union



Kick-off Meeting, Montenegro, February
2019



Since 2018

- „Reform“ of the PhD studies at UM
- So called Doktoral school
- Special requirements for teachers/supervisors and external reviewers

www.mards.ucg.ac.me



Requirements for teachers

- At least 3 references in 5 years (first or leading author): papers in JCR journal (at least Q3), books (publishers on the list of ARRS) or books chapters (publishers on the list of ARRS), patents
- Some differences for social sciences (not only JCR but also SCOPUS and SNIP)
- Is this the right approach?

www.mards.ucg.ac.me



Requirements for PhD candidates

- Publication in JCR (Q3) before PhD defense
- Differences for social sciences: also SNIP impact factor, Scopus and scientific books (monographs) published by publishers on the ARRS list

www.mards.ucg.ac.me



AE

- 4 years
- 1st year is organised
 - Compolsory subjets: Research methods in AE (6), Project management (6) (transferable skills)
 - 2 IRW subjects (30)
 - 1 optional curse from the list chosen with respect to the PhD subject (18)
- Years 2-4 preparation of PhD thesis

www.mards.ucg.ac.me



Ime predmeta: **OSNOVE RAZISKOVALNEGA DELA V AGRARNI EKONOMIKI**
 Course title: **RESEARCH METHODS IN AGRICULTURAL ECONOMICS**

| <u>Študijski program in stopnja</u> <u>Study programme and cycle</u> | <u>Študijska smer</u> <u>Study option</u> | <u>Letnik</u> <u>Year of study</u> | <u>Semester</u> <u>Semester</u> |
|---|--|---------------------------------------|------------------------------------|
| Agrarna ekonomika, 3.stopnja Agricultural economics, PhD | | 1 | 1 |

Vrsta predmeta (obvezni ali izbirni) / Course type (compulsory or elective):

Univerzitetna koda predmeta / University course code:

| <u>Predavanja</u> <u>Lectures</u> | <u>Seminar</u> <u>Seminar</u> | <u>Vaje</u> <u>Tutorial</u> | | | <u>Klinične vaje</u> <u>Clinical training</u> | <u>Druge oblike študija</u> <u>Other forms of study</u> | <u>Samost. delo</u> <u>Individual work</u> | <u>ECTS</u> |
|--------------------------------------|----------------------------------|--------------------------------|----|----|--|--|---|-------------|
| 10 | 5 | AV | LV | RV | | 135 | 6 | |
| | | | | | | | | |

Nosilec predmeta / Course coordinator:

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

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:
Prerequisites for enrolling in the course or for performing study obligations:

Vsebina (kratak pregled učnega načrta):

Uvod v znanstveno raziskovalno delo in specifičnosti v agrarni ekonomiki.
 Baze znanstvene literature.
 Objavljanje znanstvenih rezultatov.
 Raziskovalne metode specifične za agrarno ekonomiko:

- Viri podatkov
- Ekonometrični modeli
- Simulacijski modeli
- Metode napovedovanja in klasifikacije
- Večkriterijska analiza in modeli
- Sistemi za podporo odločanju

Content (syllabus outline):

Introduction to agricultural economics research.
Scientific literature.
Publishing of research results.
Specific methodologies in agricultural economics:

- Data sources.
- Econometric models
- Simulation models (types, development and computer simulation)
- Forecasting and classification.
- Multi criteria analysis and models
- Decision support systems.



| UČNI NAČRT PREDMETA / COURSE SYLLABUS | |
|---------------------------------------|---|
| Ime predmeta: / Course title: | PROJECT MANAGEMENT (PRENOSLJIVE VSEBINE) / PROJECT MANAGEMENT (TRANSFERABLE SKILLS) |

| Študijski program in stopnja / Study programme and cycle | Študijska smer / Study option | Letnik / Year of study | Semester / Semester |
|---|-------------------------------|------------------------|---------------------|
| Agrarna ekonomika, 3. stopnja / Agricultural economics, Ph.D. | | 1 | 1 |
| Kmetijstvo, 3. stopnja / Agriculture, Ph.D. | | 1 | 1 |

| | |
|---|----------------------|
| Vrsta predmeta (obvezni ali izbirni) / Course type (compulsory or elective) | OBVEZNI / COMPULSORY |
|---|----------------------|

Univerzitetna koda predmeta / University course code: _____

| Predavanja / Lectures | Seminar / Seminar | Vaje / Tutorial | Klinične vaje / Clinical training | Druge oblike študija / Other forms of study | Samost. delo / Individual work | ECTS |
|-----------------------|-------------------|-----------------|-----------------------------------|---|--------------------------------|------|
| 10 | 5 | AV LV RV | | | 135 | 6 |

Nosilec predmeta / Course coordinator: KARMEN PAŽEK

Jeziki / Languages: Predavanja / Lectures: slovenski/angleški, slovenian / English
Vaje / Tutorial: slovenski/angleški, slovenian / English

| | |
|---|--|
| Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti: | Prerequisites for enrolling in the course or for performing study obligations: |
| - Univerzitetna izobrazba /pred Bolonjski št.pr./ ali - Magisterij stroke Bolonjskega št.pr. | - University degrees /B.Sc. – prior to Bologna st.pr./ or - Master (2nd Cycle Degree) |

| | |
|---|---|
| Vsebina (kratek pregled učnega načrta): | Content (syllabus outline): |
| Priprava in prijavljanje projektov. | Preparation and project application. |
| Primerjalna analiza skupnih stroškov in prihodkov | Cost Benefit Analysis – financial aspect |
| CBA v pogojih negotovosti | Cost Benefit Analysis decision under uncertainty |
| Ocena parametrov finančnega dela CBA analize na osnovi perfektnih in inperfektnih informacije | Financial parameters assessment based on perfect and in-perfect information |
| Opcijsko modeliranje kmetijskih projektov | Option modeling of farm projects |

| | |
|---|--|
| Realne opcije v kmetijstvu | Real option approach in agriculture |
| Tveganje v kmetijstvu in stohastičnost pri načrtovanju projektov. | Risk in agriculture and assessment of stochastics in project planning |
| Ostale prenosljive vsebine: | Other transferable skills: |
| - pisanje znanstvenih prispevkov, - raziskovalna etika, - pogajanja - intelektualna lastnina, - tuji znanstveni jezik, - poslovno komuniciranje, - razvoj kariere | - preparation of scientific publications - research ethics - negotiations - intellectual property - foreign language - business communication - career development |



| UČNI NAČRT PREDMETA / COURSE SYLLABUS | | | | | | |
|---|--------------------|---|------------------------------------|--|---------------------------------|-------|
| Ime predmeta: INDIVIDUALNO RAZISKOVALNO DELO – SEMINAR LITERATURA | | | | | | |
| Course title: INDIVIDUAL RESEARCH WORK – LITERATURE REVIEW | | | | | | |
| Študijski program in stopnja Study programme and cycle | | Študijska smer Study option | | Letnik Year of study | Semester Semester | |
| Agrarna ekonomika, 3. stopnja Agricultural economics, PhD | | | | 1 | 1 | |
| Vrsta predmeta (obvezni ali izbirni) / Course type (compulsory or elective) | | OBVEZNI COMPULSORY | | | | |
| Univerzitetna koda predmeta / University course code: | | | | | | |
| Predavanja Lectures | Seminar Seminar | Vaje Tutorial | Klinične vaje Clinical training | Druge oblike študija Other forms of study | Samost. delo Individual work | ECTS |
| | 5 | AV LV RV | | | 375 | 15(3) |
| Nosilec predmeta / Course coordinator: | | Izbrani mentor | | | | |
| Jeziki / Languages: | | Predavanja / Lectures: SLO vaje / Tutorial: SLO | | | | |
| Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti: | | Prerequisites for enrolling in the course or for performing study obligations: | | | | |
| | | | | | | |
| Vsebina (kratek pregled učnega načrta): Študij in pregled literature za potrebe zbrane teme doktorske disertacije. | | Content (syllabus outline): Literature preview for the requirements of a selected PhD subject. | | | | |

| | |
|---|--|
| Temeljni literatura in viri / Reading materials: | |
| Vešana na problematiko doktorske disertacije. | |
| Cilji in kompetence: | Objectives and competences: |
| Sposobnost študija in priprave pregleda literature v povezavi z definiranim znanstvenim problemom. | Capability to study and prepare literature review with respect to the specific research problem. |
| Predvideni študijski rezultati: | Intended learning outcomes: |
| Znanje in razumevanje: Študenti bodo sposobni pripraviti pregled literature in do sedaj uporabljenih pristopov za poljubni raziskovalni problem v agrarni ekonomiki. | Knowledge and understanding: The students will be able to prepare literature review with respect to given research problem in agricultural economics. |
| Metode poučevanja in učenja: | Learning and teaching methods: |
| Seminarni in konzultacije | Seminar work and consultations. |
| Načini ocenjevanja: | Delež (v %) / Share (in %) Assessment methods: |
| Način (pisni izpit, ustno izpraševanje, naloge, projekt) | Method (written or oral exam, coursework, project): |
| Seminarska naloga se smiselno kasneje vključi v doktorsko disertacijo. | 100% The literature review paper that is included into the PhD thesis. |



**UČNI NAČRT PREDMETA / COURSE SYLLABUS**

Ime predmeta: **INDIVIDUALNO RAZISKOVALNO DELO – SEMINAR LITERATURA**
 Course title: **INDIVIDUAL RESEARCH WORK – LITERATURE REVIEW**

| <u>Študijski program in stopnja</u> <u>Study programme and cycle</u> | <u>Študijska smer</u> <u>Study option</u> | <u>Letnik</u> <u>Year of study</u> | <u>Semester</u> <u>Semester</u> |
|---|--|---------------------------------------|------------------------------------|
| Agrarna ekonomika, 3. stopnja Agricultural economics, PhD | | 1 | 1 |

Vrsta predmeta (obvezni ali izbirni) /
Course type (compulsory or elective)

OBVEZNI
 COMPULSORY

Univerzitetna koda predmeta / University course code:

| <u>Predavanja</u> <u>Lectures</u> | <u>Seminar</u> <u>Seminar</u> | <u>Vaje</u> <u>Tutorial</u> | | | <u>Klinične vaje</u> <u>Clinical training</u> | <u>Druge oblike študija</u> <u>Other forms of study</u> | <u>Samost. delo</u> <u>Individual work</u> | <u>ECTS</u> |
|--------------------------------------|----------------------------------|--------------------------------|----|----|--|--|---|-------------|
| | 5 | AV | LV | RV | | | 375 | 15(3) |
| | | | | | | | | |

Nosilec predmeta / Course coordinator:

Izbrani mentor

Jeziki / Languages:

Predavanja / Lectures: SLO

Vaje / Tutorial: SLO

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

Prerequisites for enrolling in the course or for performing study obligations:

Vsebina (kratek pregled učnega načrta):

Študij in pregled literature za potrebe zbrane teme doktorske disertacije.

Content (syllabus outline):

Literature preview for the requirements of a selected PhD subject.

www.mards.ucg.ac.me



| UČNI NAČRT PREDMETA / COURSE SYLLABUS | |
|---------------------------------------|---|
| Ime predmeta: | INDIVIDUALNO RAZISKOVALNO DELO - METODOLOGIJA |
| Course title: | INDIVIDUAL RESEARCH WORK - METHODOLOGY |

| Študijski program in stopnja Study programme and cycle | Študijska smer Study option | Letnik Year of study | Semester Semester |
|--|--------------------------------|-------------------------|----------------------|
| Agrarna ekonomika, 3. stopnja Agricultural economics, PhD | | | |
| | | | |

| | |
|--|-----------------------|
| Vrsta predmeta (obvezni ali izbirni) / Course type (compulsory or elective) | OBVEZNI COMPULSURY |
|--|-----------------------|

Univerzitetna koda predmeta / University course code:

| Predavanja Lectures | Seminar Seminar | Vaje Tutorial | Klinične vaje Clinical training | Druge oblike študija Other forms of study | Samost. delo Individual work | ECTS |
|------------------------|--------------------|------------------|------------------------------------|--|---------------------------------|-------|
| | 5 | AV LV RV | | | 375 | 15(3) |

Nosilec predmeta / Course coordinator: Izbrani mentor/Supervisor

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

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

Prerequisites for enrolling in the course or for performing study obligations:

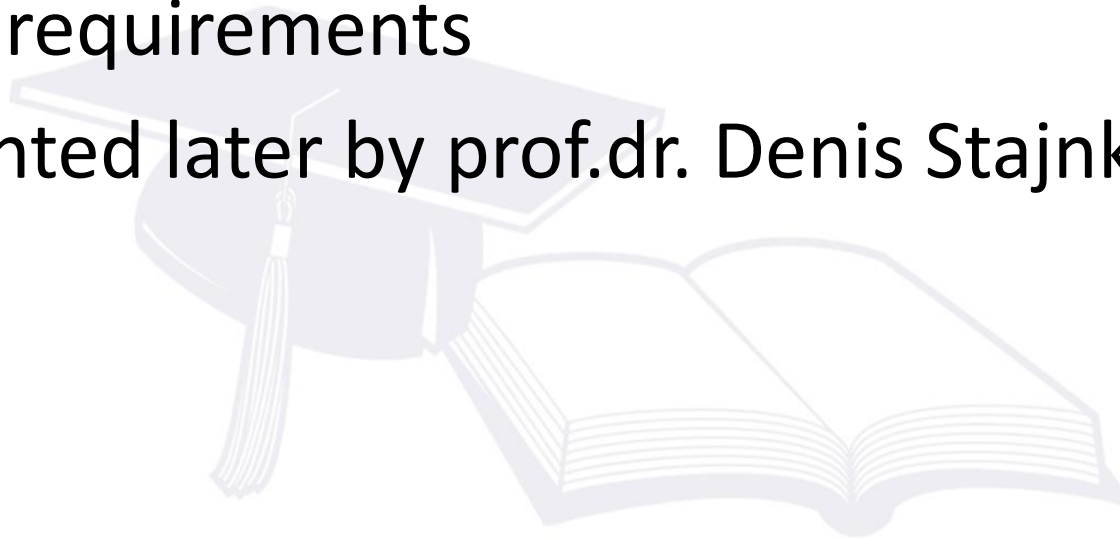
Vsebina (kratek pregled učnega načrta): Študij in priprava raziskovalnih metod za potrebe zbrane teme doktorske disertacije.

Content (syllabus outline): Literature and preparation of research methodology for the requirements of a selected PhD subject.



Agriculture

- Same requirements
- Presented later by prof.dr. Denis Stajanko



www.mards.ucg.ac.me



Special requirements for all PhD study programs

- At least 6 teachers that fully meet the criteria according to the Rules of UM (4 have to be employed at UM)
- Can present a real obstacle for new areas
- Development of PhD study programs:
 - Research basis → Development of PhD programs
 - Or should it go hand in hand?

