WP 2: Joint framework for harmonization of PhD study programs and the development of the curriculum draft

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Description:

- to establish joint elements of PhD study programs among PIs related to program management, tutoring and scientific content and to identify the best practices in program management and tutoring.

- to establish the guidance document for developing PhD study programs in plant health for sustainable agriculture in WBC with defined learning outcomes, detailed description of program management, tutoring and proposed scientific content able to respond the requirements of the modern agriculture.

- To develop the first draft of the curriculum of International Joint PhD study program in Plant Health for Sustainable Agriculture.

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Tasks :

- **Task 2.1. University reports on PhD study program management and mentoring**

- At the kick off meeting (in Zagreb): the aim of WP will be explained and the methodology will be discussed. Members will be asked to prepare the documents describing the PhD study program management and tutoring system in their institutions and presents the results at the workshop in Podgorica.

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Tasks :

- **Task 2.2. Workshop for developing guidance document (roadmap)**

- At the workshop (held in Podgorica in May 2019) the different managent and tutoring practices will be presented and discussed and the best ones will be identified. In the second part of workshop the discussion will be held in order to identify how the joint curriculum shall address the research needs for plant health knowledge in sustainable agriculture. Learning outcomes will be proposed.

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Tasks :

- **Task 2.3. Development of roadmap for creation of international joint PhD study program**

- The action plan (tasks, duties, deadlines) will be agreed among partners. In the action plan all important issues related the integrated nature and common rules, management and quality criteria of the programme will be respected. Based on the results of the WP 1 and defined learning outcomes the basic structure of the joint curriculum will be established.

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Tasks :

- **Task 2.3. Development of roadmap for creation of international joint PhD study program**

- Planning the PhD program in the foreseen education network will be done with particular care on decisional and procedural criteria regarding stakeholder and student involvement, management and tutoring of the PhD program, staff and equipment requirements, regulations, didactic and administrative aspects, student and staff mobility. The rules for accreditation of joint PhD programs at different universities will be explored and analysed (if the accreditation is possible). The forms will be collected and the general chapters will be developed.

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Tasks :

- **Task 2.4. Creation of the curriculum draft**

- The course desriptions will be collected and draft of the curriculum will be created. At the workshop held in Mostar/Tirana in November 2020 the collected material (draft) will be discussed among the members and the improvements will be proposed. The final version of the curriculum will be presented on scientific conference in Novi Sad (held in October 2021).

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Expected Deliverable/Results/ Outcomes

- PIs will prepare the reports and description how the PhD study programs in their institutions are managed,
- what are the rules related to mentoring,
- how the mentors are chosen
- what are the rules and procedures from the enrollement, approval of PhD topic to the final thesis and defence and graduation.

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University of Montenergo Biotechnical Faculty

We are very young Faculty:

By establishing of Studies of Agriculture, in the year 2005/2006, the Institute developed into the Faculty, and in 2008 formally changed the name into Biotechnical Faculty.

Study system (cycles)

From 2005/2006

- 3+1+1 (Bachelor degree, Specialistic degree and Master degree)

From 2017/2018

- 3+2+3 (Bachelor degree, Master degree, PhD degree)

Bachelor degree

Academic study programs

- Plant production (60 students)

- Animal production (40 students)

Applied study programs

- Continental fruit growing and medicinal herbs (30 students) in Bijelo Polje

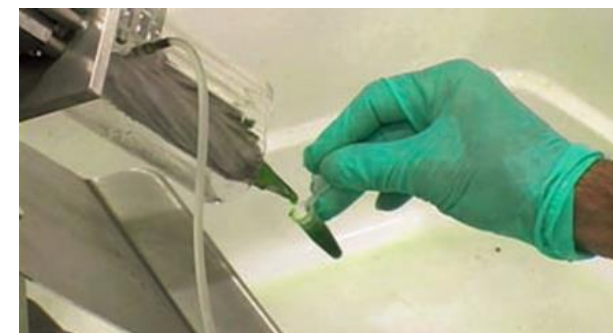- Mediterranian fruit growing (30 students) in Bar

Master degree (from 2020/2021)

Academic study programs

- Fruit growing and viticulture

- Crop and vegetable farming

- Plant protection

- Technologies in animal production

Applied study programs

- Continental fruit growing and medicinal herbs

- Horticulture

Doctoral degree

Biotechnical sciences

Program	Sem	Naziv	Fond	ECTS	Status
Biotehnika	1	Metologija naučno istraživačkog rada	4+2+0	8	O
Biotehnika	1	Održiva poljoprivreda	4+2+0	7	O
Biotehnika	1	Istorija poljoprivrede i sociologija ruralnog razvoja	4+2+0	7	O
Biotehnika	1	Pomologija	4+2+0	8	I
Biotehnika	1	Fitopatologija	4+2+0	8	I
Biotehnika	1	Proizvodnja bilja u zaštićenom prostoru	4+2+0	8	I
Biotehnika	1	Biometrika i bioinformatika u stočarstvu	4+2+0	8	I
Biotehnika	2	Pesticidi	4+2+0	8	I
Biotehnika	2	Rad na istraživanju od značaja za doktorsku tezu	0+0+0	22	O
Biotehnika	2	Proizvodnja bilja na oranicama	4+2+0	8	I
Biotehnika	2	Selekcija i oplemenjivanje	4+2+0	8	I
Biotehnika	2	Proizvodni sistemi u stočarstvu	4+2+0	8	I

2017/2018
1 student

2018/2019
4 students (1 student in area of pesticide application)

3 years 180 ECTS, 60 ECTS per year

Center for Doctoral Studies

Center for Doctoral Studies is the professional body of University of Montenegro, which manages the doctoral studies and is responsible for the self-evaluation process, continuous monitoring, insurance and quality improvement.

Teachers at the Biotechnical Faculty

<u>Number of teachers teaching subjects in agriculture</u>
- Full Professors 13
- Associate Professors 11
- Assistant Professors 2
- Assistants 20 (12 PhD, 8 Master)

<u>Number of teachers teaching subjects related to plant health (entomology, zoology, plant pathology, PPPs, application of pesticides)</u>
- Full Professor 1
- Associate Professors 3
- Assistants 3 (3 PhD)
    + 2 Full Professors of chemistry

Basic resources relevant for implementation of PhD study programe

Phytosanitary laboratory

- Laboratory for mycology
- Laboratory for bacteriology
- Laboratory for entomology
- Laboratory for virology
- Laboratory for nematology
- Laboratory for phytopharmacy

Experimental field (22 ha vineyard, 2ha orchard)

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Program	sem	Name of the subject	fond	ECTS	Status
Biotechnics	1	Methodology of scientific research work	4+2+0	8	O
Biotechnics	1	Sustainable agriculture	4+2+0	7	O
Biotechnics	1	History of agriculture and sociology of rural development	4+2+0	7	O
Biotechnics	1	Pomology	4+2+0	8	F
Biotechnics	1	Plant pathology	4+2+0	8	F
Biotechnics	1	Production of plants in greenhouses	4+2+0	8	F
Biotechnics	1	Biometrics and bioinformatics in animal breeding	4+2+0	8	F

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Program	sem	Name of the subject	fond	ECTS	Status
Biotechnics	2	Pesticidies	4+2+0	8	F
Biotechnics	2	Research work related to PhD thesis	0+0+0	22	O
Biotechnics	2	Crop production	4+2+0	8	F
Biotechnics	2	Selection and plant breeding	4+2+0	8	F
Biotechnics	2	Productive systems in animal breeding	4+2+0	8	F

- **PIs will prepare the reports and description how the PhD study programs in their institutions are managed:**

Comission of the Faculty, Center for Doctoral Studies, Senate of the University

- **what are the rules related to mentoring,**

Mentor must have 5 scientific papers published in a journal from SCI/SCIE list

- **how the mentors are chosen**

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- what are the rules and procedures from the enrollement, approval of PhD topic to the final thesis and defence and graduation.

Competition is announced, students of applied studies can not apply for PhD, only students of academic studies, after the competition is completed, Commission of the Faculty talks with PhD students and then enrollment
after first year and exams passed, PhD topic must be defended, one scientific paper must be published SCI/SCIE list before the thesis defendence.

Semastar je 1000 eura, 6000 ukupno.