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| **Title** | **Ecology of plant pathogenic fungi** |
| **Code** | ZDIA43 |
| **Study Program** | Postgraduate Interdisciplinary University Programme Environment protection and Nature Conservation |
| **Semester** | III |
| **ECTS** | 5 |
| **Status** | elective |
| **Lecturer** | full professor Jasenka Ćosić, PhD<br>full professor Karolina Vrandečić, PhD |
| **Co-Lecturers** | |
| **Requirements for Enrolment** | |
| **Objectives** | Objectives of the course are to adopt knowledge on influence of environmental factors on plant pathogens and host plants |
| **Learning Outcomes** | After succesful completion of the course students will be able to:<br>1. Predict influence of ecological factors on disease development<br>2. Predict influence of ecological factors on processes within plants<br>3. Comprehend the importance of ecological factors for development of plant pathogens and disease spread<br>4. To connect disease symptoms with possible cause of disease<br>5. To create prognosis of disease appearance<br>6. To succesfully chose, plan and implement protection measures in plant production |

**Connection between Learning Outcomes, Curricular and Student Activities**

| Student Activities | ECTS | Learning Outcomes | Curricular Activities | Methods of Assessment | Credits* | |
|---|---|---|---|---|---|---|
| | | | | | min | max |
| Lectures | 1 | 1-6 | Literature examination | Activity check trough discussion | 5 | 10 |
| Seminars | 2 | 1-6 | Literature examination and seminar implementation | Examination and evaluation of seminar work according to previously determined criteria | 10 | 20 |
| Final exam | 2 | 1-6 | Preparation of exam by literature examination | Verbal exam | 10 | 20 |
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| **Total** | 5 | | | | | |

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| **Consultations** | Once a week for 2 hours (defined at the beginning of the academic year) and additionally if there is a need in agreement with students | | |
| **Learning Activities** | **Lectures** | **Seminars** | **Practice** |
| **Hours** | 10 | 5 | 0 |
| **Contents / Teaching Units** | Course introduction. Variability of plant disease development. Temperature influence. Influence of light on pathogenic fungi and bacteria, influence of pH and deficiency of macro and micro elements in plant nutrition, unfavorable influence of toxic gasses (SO2, SO3), acid rains, plant toxicity of plant protection preparations. Characteristics, | | |

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| | diagnostics and control of so called physiological or functional diseases which are indirectly caused by certain abiotic factors. Epidemiology. Prognosis of plant disease incidence. |
| **Obligatory Literature** | 1. Agrios, G.N. (2005.): Plant Pathology. General Aspects. Academic Press, New York.<br>2. Kišpatić, J. (1992.): Opća fitopatologija. Agronomski fakultet Sveučilišta u Zagrebu. |
| **Recommended literature** | 1. Parker, C.A., Rovira, A.D., Moore, K.J., Wong, P.T.W., Kollmorgen, J.F. (1985.): Ecology and Management of Soilborne Plant Pathogens. APS Press.<br>2. Milgroom, M.G. (2015.): Population Biology of Plant Pathogens: Genetics, Ecology, and Evolution. APS Press. |
| **Requirements for Aquiring Signature** | Students are obliged to be present at the lecture and actively participate in it. |
| **Type of Exam** | Oral presentation of seminar work up to 20 minutes with PowerPoint presentation.<br>Final written exam. |
| **Lectures Language** | Croatian, English |
| **Quality Monitoring** | Questionnaire for students after classes. |