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| **STUDY PROGRAMME:** | **Professional Undergraduate Study Programme *Agriculture***  Specific field of study: Course foundations | |
| **Course:** | **PRINCIPLES OF AGROCLIMATOLOGY** | |
| **Course code:** 241281  **Course status**: compulsory | **Semester: I** | **ECTS credits: 2,5** |
| **Course holder:** | **Iva Rojnica**, M.Eng.Agr., lecturer | |
| **Modes of delivery:** | **Number of hours** | |
| Lectures | 15 | |
| Excersises | 15 | |
| Practical training | 8 | |

**Course objectives:** Through the Principles of Agroclimatology, students will learn to define climate as a factor of biotopes and agrobiotopes, they will become familiar with basic meteorological elements, their measurement and influence on plant production.

**Course content**

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|  | **Course units** | **Modes of delivery:** | | | **Places of delivery:** |
| **L** | **E** | **S** |
| 1. | Introduction, climate, weather, atmosphere; composition, atmospheric pollutants, ozone hole | 2 | 1 |  | Classroom |
| 2. | Climate elements - introduction | 1 |  |  | Classroom |
| 2.1. | Light - spectral composition, intensity of sunlight, day length, photoperiodism, the impact of light on plant growth and development | 2 |  |  | Classroom |
| 2.2. | Heat and temperature - air temperature, soil temperature, the impact of temperature on plants | 3 |  |  | Classroom |
| 2.3. | Water (moisture) - water cycle in nature, air humidity, clouds and fog, precipitation (formation, classification), the impact of water on plant growth and development | 1 | 2 |  | Classroom |
| 2.4. | Air (wind) - cyclone and anticyclone, wind, the most important winds in Croatia, wind rose; Beaufort scale, damages and benefits of wind, windbreaks, colloquium I | 2 | 1 |  | Classroom |
| 3. | Meteorological measurements and observations:  Meteorological instruments: classification; (instruments for measuring insolation, thermometers and geothermometers, evaporimeters, psychrometers and hygrometers, rain gauges or ombrometers, barometers, anemometers, wind vanes) and meteorological measurements and observations (measurement of individual elements, observation diary, processing and use of meteorological data) | 1 | 4 |  | Meteorological station |
| 4. | Agricultural climate assessment: hydrothermal coefficient, De Martonne's aridity index, Lang's rain factor, Walter's climatic diagram | 2 | 4 |  | Computer room |
| 5. | Organization of the meteorological service, weather forecasting |  | 1 |  | Classroom |
| 6. | Köppen's climate classification, climatic regions of Croatia |  | 1 |  | Classroom |
| 7. | Phenology, colloquium II | 1 | 1 |  | Classroom |
| IN TOTAL | | **15** | **15** | - |  |
| PRACTICAL TRAINING | | | | | |
| 8. | Creation of the project assignment | 8 | | | Computer room |
| IN TOTAL | | **8** | | |  |

**L=Lectures, E=Excersises, S=Seminars, PT=Practical training**

**Learning outcomes (LO)**

LO 1. Assess the impact of the most important meteorological elements on agricultural production

LO 2. Evaluate the key role of agroclimatic indicators in optimizing plant agricultural production

LO 3. Connect meteorological elements with meteorological instruments

LO 4. Analyze climatic data from different periods and areas, and create a climate diagram and agricultural climate assessment

Course holder:

Iva Rojnica, M.Eng.Agr., lecturer

Križevci, July 2024