|  |  |
| --- | --- |
| Course: | *Meteorology*  |
| Course id: |
| Number of ECTS: 6 |
| Teacher:  | D.T. Mihailovic |
| Course status | Mandatory |
| Number of active teaching classes (weekly) |
| Lectures: 3 | Practical classes: 2 | Other teaching types: 0 | Study research work: 0 | Other classes: 0 |
| Precondition courses | None |
| 1. Educational goal

The course aims to provide students with the basic concepts to understand the physical characteristics of the Earth's atmosphere and how these properties affect fundamental processes of importance to agriculture.  |
| 1. Educational outcomes

The course is designed to provied fundamental information to enable students to have reasonable understanding of meteorological problems related to agriculture and to extrapolated this knowledge to new situations related to organisation of agricultural production from farm to regional level. |
| 1. Course content

LecturesPart I: Physical background1. Introduction. Short description of meteorology. Meteorological elements. Weather and climate. Organization of weather observation (2). 2. The composition of the atmosphere. Origin and the physical structure of the atmosphere. Atmospheric density and pressure - vertical profile (3). 3. The Atmosphere and Earth radiation fluxes. Global radiation. Earth and atmospheric longwave radiation. Atmospheric UV radiation. Soil and water energy balance. Energy balance of the Atmosphere. Atmospheric pressure (8). 4. Atmospheric water. Evaporation. Evapotranspiration. Condensation and sublimation of water vapor in the atmosphere. Cloud precipitation. (8). 5. Atmospheric circulation. Wind. Fronts and cyclones. Local winds. General atmospheric circulation (5). Part II: Impact of climate and weather on plants6. About climate. Climate elements and factors. Climate classification (4). 7. Climate change. Climate change impact on agriculture. Natural and anthropogenic causes of climate change. Recent climate change trends. Potential climate change impact on agriculture (4). 8. Selected chapters of agrometeorology. Role of agrometeorology. Impact of weather and climate on plants. Impact of weather and climate on pest and disease developments. Adverse weather conditions in agriculture - forecasting and protection. Agrometeorological analysis and forecasting (7).Practical classes: CalculusIntroduction. Weather observation and data management (2). Duration of shortwave radiation - measurement and calculation (2). Intensity of shortwave and longwave radiation - measurement and calculation (2). Atmospheric humidity - measurement and calculation (2). Evaporation - measurement and calculation (2). Transpiration - measurement and calculation (2). Precipitation - measurement and calculation (2). Soil temperature - measurement and calculation (2). Air temperature measurement. Sum of active temperatures - methods of calculation (2). Effective sums of air temperature. Calculation of acummulated dagree-days and degree-hours (2). Drought. Calculation of hydrothermic coefficient of Selyaninov (2). Radiation frost forecasting (2). Forecasting meteorological conditions for plant disease and pests appereance (2). New techniques in weather data measurements and analysis (2). |
| 1. Teaching methods

Lectures,Practical classes/Calculus, Consultations |
| Knowledge evaluation (maximum 100 points) |
| Pre-examination obligations | Mandatory | Points | Final exam (izabrati) | Mandatory | Points |
| Lecture attendance | Yes | 0 | *Written part of the exam-tasks and theory* | Yes | 50 |
| Test - lectures | No | 30 |  |
| Exercise attendance | Yes | 0 |
| Test - exercise | Yes | 20 |
| Literature  |
| Ord. | Author | Title | Publisher | Year |
|  | Milosavljevic M. | Climatology | Scientific book | 1963 |
|  | Milosavljevic M. | Meteorology | Scientific book | 1967 |
|  | Mihailovic, D.T., Lalić, B., Arsenić, I. | Meteorological observations and data management | Faculty of Agriculture | 2008 |

|  |  |  |
| --- | --- | --- |
| Znak univerziteta | UNIVERSITY OF NOVI SADFACULTY OF AGRICULTURE 21000 NOVI SAD, TRG DOSITEJA OBRADOVIĆA 8 | Znak fakulteta2 |
| Study Programme AccreditationUNDERGRADUATE STUDIES Svi programi su navedeni ispod tabele *(uneti naziv programa)* |