**CATALOGUE OF KNOWLEDGE**

**1. NAME OF THE SUBJECT**

**PRACTICAL EDUCATION: Ecosystems**

**2. GENERAL OBJECTIVES**

The overall objectives of the course are:

•building the moral and ethical sense of fairness, accuracy and conscientiousness at work;

• a responsibility and a positive attitude to organisms and nature;

• ability to recognise and know the basic conditions for the growth and development of beneficial organisms;

• knowledge of legislation in this area;

• ability to master standard methods, procedures and measures for the introduction of beneficial organisms;

• ability to protect plants against diseases, pests and other harmful agents and protect the environment and the health of him/her and co-workers;

• ability to produce safe food, free of harmful contamination of the chemical agents;

• Communicating with clients and advising them in plant protection.

**3. THE SUBJECT SPECIFIC COMPETENCES**

In the course the student acquires the following competences in addition to the generic subject specific competences:

• keeping records relating to the beneficial organisms and their transport,

• participating in defining the agents pathological changes in ecosystems and taking appropriate action,

• carrying out laboratory examinations and analysis, and planning how to protect ecosystems on the basis of the results of the preparation,

• recognizing the beneficial organisms in nature,

• growing beneficial organisms

• controlling the population of beneficial and harmful organisms in nature,

• preparing project documentation in the field of equilibrium of ecosystems,

• informing the public about the importance and characteristics of natural balances.

**4. OPERATIONAL OBJECTIVES**

|  |  |
| --- | --- |
| **INFORMATIVE OBJECTIVES** | **FORMATIVE OBJECTIVES** |
| Student: | |
| Populations of beneficial organisms | |
| * knows native and non-native beneficial organisms whose cultivation is permitted in the Republic of Slovenia, * understands the biological characteristics of beneficial organism and its relationship to the target organisms, * knows abiotic conditions for optimum cultivation and storage of beneficial organisms, * knows the technical equipment for the cultivation of beneficial organisms. | * creates a list of beneficial organisms that can be grown, * plans to grow and implements supply beneficial organisms to the certain level of development, * plans to implement security measures in the cultivation, use, storage and transport of beneficial organisms. |
| Measures ensuring the equilibrium of ecosystems | |
| * knows the sectoral legislation, * knows the conditions for the entry and use of native and exotic species of organisms for biological plant protection, * knows the uses of predators for the target organism and chooses the appropriate method. | * participates in planning of the use of beneficial organisms for plant health measures in agriculture and forestry * assesses the risk of the use of the beneficial organisms for nature, * prepares the project documentation in the field of equilibrium of ecosystems, * participate in the implementation of the development projects and research. |
| Protection of ecosystems and the introduction of beneficial organisms | |
| * knows effects of the introduction of beneficial organisms for the natural environment and its dangers * can assess the damage threshold, * knows the methods ecoremediation, * knows the criteria and methods for assessing populations of organisms and ecological balance,   identifies the effects of environmental pollution on climate change,   * compares the climate in Slovenia, the type and amount of precipitation, * evaluate the physical, chemical and biological properties of soil, * determines the measures to protect the soil against erosion, * knows the parameters of pollution and legislation on soil protection, * knows how to do water monitoring, * knows the limits of individual pollutants. | * conducts biotic protection measures with beneficial organisms in agriculture and forestry, * obtains a permit to enter and use exotic species of organisms, * evaluates the presence of different populations of organisms in a given environment, * sets up and use the measuring apparatus * observe the weather, measures and monitors meteorological parameters (temperature, air and soil, air pressure, wind, rainfall ...) * carries out the monitoring of environment in a certain place, * knows how to acquire a sample of soil for analysis and uses the laboratory equipment, * determines the physical properties of the soil and analyses the biological activity of the soil, * carries out physical,chemical and other measurements in the field * carries out tests of toxicity, * ensures safety when working with chemicals and takes care of the proper removal of spent chemicals * cooperates with the inspection services, * informs the public about the importance and characteristics of natural balances. |

**5. OBLIGATIONS OF STUDENTS AND SPECIAL FEATURES IN PERFORMANCE**

The total 310 hours of the student's work in the company amounts to 10 credits. It is required that the presentation of the report on a practical training under the mentorship of the company and mentor at school is carried out.