**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**

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| **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.
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| 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.
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| 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.
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**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.