Credit module "Environmental safety processes in the food and cosmetic industries" description

<table>
<tr><th>Branch of knowledge direction of training, education level indicators</th><th>Common informantion</th><th>Characteristics of credit module</th></tr>
<tr><td>Branch of knowledge
0513

Chemical Technology and Engineering</td><td>Name of subject

Environmental safety processes in the food and cosmetic industries</td><td>Form of study
Daily</td></tr>
<tr><td>Direction of training
6.051301
Chemical Technology</td><td>Number of Credits
ECTS
2</td><td>Status of credit module

for elective students</td></tr>
<tr><td>Specialty</td><td>Number of sections
__1__</td><td>The cycle to which the credit module belong
The variable component of training</td></tr>
<tr><td rowspan="2">Specialization</td><td rowspan="2">Individual task
Work for calculation</td><td>Second year training</td></tr>
<tr><td>Semester 3</td></tr>
<tr><td rowspan="4">Education level

Bachelor</td><td rowspan="2">Total number of hours
60</td><td>Lectures
18 hours.</td></tr>
<tr><td>Practicals (seminars)
18 hours.</td></tr>
<tr><td rowspan="2">Weekly classroom hours:
– 2 hour
Self work of students
– 2 hour</td><td>Self work of students
24 hours,

including the work on individual task
10 hours.</td></tr>
<tr><td>Type and form of semester control
test (written)</td></tr>
</table>

The **purpose** of the credit module is the creation of students' abilities:

- conduct peer review impacts of food and perfumery-cosmetic production on air, water and soil

- plan environmental activities in the production and measures to modernize production lines to reduce pressure on the environment

- apply knowledge of the chemical composition of solid and liquid waste including industrial wastewater to develop measures for their safe disposal

- work out technical documentation relevant enterprises to obtain international certification for environmental standards ISO 9000 and ISO 14000

After training the students have to demonstrate the following learning outcomes:
knowledge:

- terminology apparatus, such as environmental safety, environmental management, environmental assessment and audit, environmental certification
- list and classification of basic compounds contained in the emissions, waste water and solid wastes
- requirements to assess the impact of relevant enterprises on air quality
- requirements for the valuation of discharges wastewater into natural waters of different categories
- regulatory requirements for the disposal of solid waste
- requirements for the implementation of environmental management systems in manufacturing
- points of environmental marketing, including labeling requirements, environmentally safe food additives and cosmetics

the ability to:

- ganger enterprises rely ratio and the size of buffer zones of food and perfumery-cosmetic manufacturing
- calculate the maximum allowable content of harmful components (suspended solids, surfactants, phenols, halogen-containing compounds, etc.) in industrial waste waters
- perform calculations maximum permissible concentration harmful components in soil near the storage of solid waste production profile
- determine the extent of environmental risks in food and perfumery-cosmetic manufacturing

The program is created by Assoc. prof. of Physical chemistry department, PhD Lyudmila Khrokalo