School of Agricultural and Natural Sciences

Programme Title:

Viticulture and Winemaking

Qualification Awarded:

Bachelor's in Viticulture and Winemaking

Programme Credits:

240 ECTS credits

Language of Instruction:

Georgian

Objectives of the Programme:

The aim of the educational program is to give graduates of the Bachelor's in Viticulture both theoretical and practical knowledge in the field of winemaking. Graduates will have a wide range of knowledge and professional skills meeting modern requirements. They will know general basics in the field of viticulture and winemaking of Georgia, as well as major varieties of vines, agrotechnical rules and norms of their planting, growth/formation and cultivation, as well as their biological and ecological aspects. They will know classical method of winemaking, as well as other basic technologies of processing/enhancement and bottling. Graduates will be able to select and use modern methods of wine processing.

Career Options:

Graduates of the Bachelor's in Viticulture and Winemaking program have wide employment perspectives, namely:

- wine producing companies;
- wine laboratories;
- small farms;
- viticulture and wine-making consulting firms;
- Ministry of Environmental Protection and Agriculture of Georgia
- LEPL National Agency of Wine;
- NGOs of relevant profile;
- state and non-governmental food safety monitoring organisations.

Admission Prerequisites:

Admission to the programme is carried out in accordance with the Law of Georgia on Higher Education and in accordance with the provisions of the unified national examinations approved by Order N19/N of 18 February 2011.

To facilitate the mobility of high school graduates and prospective students, it is permissible to enrol in an educational programme without passing unified national examinations, in accordance with the rules and terms defined by the Ministry of Education and Science of Georgia, for those that are:

- foreign citizens or persons without citizenship, who received complete general education or its equivalent abroad;
- Georgian citizens who received complete general education abroad or its equivalent and during the last two years of complete general education had been studying abroad;
- foreign citizens, who have studied/ are studying and have received credits/qualifications abroad from a Higher Educational Institution recognized by the legislation of that country;
- Georgian citizens, who, for the term defined by the Ministry of Education and Science of Georgia, lived/are living, studied/are studying and have received credits/qualifications abroad from a Higher Educational Institution recognized by the legislation of that country.

Enrolment in educational programs is also possible through mobility, in accordance with the Rule of Transfer Between High Educational Institutions defined by the by Order N10/N of February 4, 2010 by the Minister of Education and Science of Georgia.

Learning Outcomes (Competences)

After completion of the program, graduates will know different types of soils, their fertility and amelioration; vine morphology, its vital processes and development phases; vine pests and diseases, causes of their origin, fighting measures and prevention; planning and cultivation of vineyards; management of the harvest processing; wine-making methods taking into consideration the vineyard and agro-climatic conditions; wine processing and bottling.

On the basis of this knowledge the graduate will be able to evaluate the soils and select the appropriate grape varieties according to the agro-climatic conditions. Graduates will be able to build a vineyard and ensure its care and development. They will be able to plan a harvest, collect/pick it using their knowledge of wine making, processing and bottling. They will be able to select and manage the required machinery for *marani* (traditional Georgian wine-cellar).

After completing the Bachelor's Degree in Viticulture and Winemaking, graduates will own general and specific competencies listed below:

General Competences:

Graduates will be able to:

- apply critical thinking, discuss and debate;
- professionally write and communicate in native language;
- write and communicate scientific material in foreign languages (English and French);

- adapt and act in unfamiliar and changing environments;
- work in a group;
- use modern information and communication technologies;
- plan a research, conduct it, analyze the results and draw conclusions;
- process scientific literature, analyse it and publicly discuss it;
- appreciate and respect the differences and cultural diversity.

Specific Competences:

Graduates will have:

- knowledge of the characteristics of plant biology, ongoing biochemical and physiological processes in the plant;
- ability to estimate soils geneses, cultivate soils and implement fertility management;
- knowledge of the historical and geographical origins of vines; European, American and Asian species; varieties, clones and hybrids of vine: table, raisin and rootstock grapes; countries, regions and specific zones with viticulture;
- knowledge of the vine anatomy ecophysiology; growth-development stages of vine and phenology; recommended and / or limited ecological conditions for vine cultivation; effect of viticulture specific zones (*teruaris*).
- knowledge of the rules of vegetative propagation; ability to select vine rootstocks, that are phylloxera resistant, to bread single-year and green tincture rootstocks;
- ability to handle vine selection, adopt and improve new varieties, using hybridization and in vitro technologies; knowledge of clone selection methods;
- ability to prepare the vineyard site, process soil, plant rootstocks, arrange supporting systems, select proper vineyard design;
- ability to seasonally manage vineyards: manage vine pests, use integrated protection methods; supervise irrigation, vine nutrition; balance vegetative and generational development, carry out formative pruning, vine care operations; organize harvesting;
- ability to plan and manage harvest, conduct alcoholic and malolactic fermentation, physio-chemical analysis, wine processing, handling and bottling; select and use the necessary equipment for technological processes;
- ability to organoleptically evaluate wine, determine the origin of wine diseases and prevent it; evaluate the specifics of wine from Georgia and other countries and present it to consumers;
- understanding of the importance of marketing and develop a marketing plan, define product representation and positioning, come up with a bottle label and formulate brand identity;

- ability to find information materials on viticulture and winemaking issues in order to formulate a problem, analyze it and solve it, forming a reasonable conclusion.

Competences developed in the Program are evaluated in accordance with the six criteria for the first level of Higher Education set by the National Qualification Framework:

Knowledge And Understanding:

Graduates will have:

- knowledge of the basis of the natural sciences (chemistry, physics, biology) and the principles of precise sciences (mathematics and mathematical statistics);
- knowledge of the basic principles of genetics, vine selection, vine physiology, general biochemistry of plants (including vines);
- understanding of the ecological factors and their action on the ecosystem;
- knowledge of the basic methods for breeding and evaluation of new varieties of grapes and hybrids;
- knowledge of the morphology of vines, its vital processes and development phases;
- knowledge of the general principles of viticulture;
- knowledge of the principles of soil types, structure, processing methods, fertility and improvement of its ecological conditions;
- knowledge of the main vine pests and diseases, causes of their origin and integrated measures of integrated fighting against it;
- knowledge of cellar equipment and its principles;
- knowledge of the modern trends in the industry, new innovative directions (organic viticulture, modern approaches);
- knowledge of the working principles of machinery or equipment in the vineyard or cellar.

Applying Knowledge to Practice:

Graduates will be able to:

- select the land and vine varieties for viticulture and winemaking activities;
- set up agrotechnical measures in optimal calendar time;
- properly cultivate the soil, carrying out planting and care activities;
- manage planning and cultivation of the vineyard; manage the harvesting processes;
- plan and implement measures against the specific types of pests;
- identify vine pests and define their harm;
- take care of the vines, carry out formative pruning, determine the maturity of grapes and manage harvesting;
- process grapes, conduct alcoholic and malolactic fermentation, process wine, care, stabilise and bottle;

- select the appropriate methods of wine making in accordance with the vineyard and agro-climatic conditions;
- conduct wine tasting and evaluation, take preventive measures in case of problem;
- select and use of the necessary machine tools;

- effectively create wine packaging and present it from a marketing point of view.

Ability to Make Conclusion:

Graduates will be able to:

- collect data, analyze and formulate grounded conclusions for solving the problem;
- draw relevant conclusions regarding the care of the vineyards and the development in winemaking technology;
- make rational and adequate decisions regarding viticulture and winemaking;
- conduct independent analysis of new and established data and / or situations, using the appropriate knowledge and field methods;
- make conclusions and provide reasonable grounds for production hygiene, waste management and environmental protection measures;
- determine alternative ways of solving a problem and provide justification and safeguards for the decisions made;
- describe the business environment in which the vine is cultivated / maintained, the wine production and the principles of managing the decision-making process;
- conclude on the complete care of the vineyard and winemaking process and how it fits the existing legislation.

Communication Skills:

Graduates will be able to:

- participate in debates, discussions and public discussions regarding professional issues;
- present their opinions to a professional audience;
- work as a team.

Ability to Learn:

Graduates will be able to:

- identify learning tasks and methods, independently conduct the learning process, identify the latest up-to-date scientific literature, thoroughly process and deepen the knowledge through an in-depth analysis of the new information received,
- guide and plan the learning process;
- independently and efficiently manage time and study resources.

Values:

Graduates will be aware of:

- the importance of all the events in the direction of harvesting and production;
- the importance of their profession and of the relevant responsibilities;
- the need for protection of the genetic resources of the vine (selection, modern breeding) and the importance of sustainable use of the plant;
- using modern intensive technologies in viticulture and winemaking.

Learning and Teaching Methods

In order to achieve learning outcomes, the purpose of each study course is to determine the appropriate learning and teaching methods. In the frame of the program, the following methods are used: the verbal method, discussions / debates, demonstration method, group work, case-studies, brainstorming, inductive method, deductive method, role and situational games, practical and laboratory studies and analysis.

Within the framework of academic freedom, the lecturer is entitled to specify and use methods that are not included in the program and/or not use any of the learning and teaching methods from the program, based on the course content.

The following evaluating tools are used in order to measure the learning outcomes: homework assignments, tests, practical exams, presentation of completed works, projects and other tools. According to the training courses, teaching methods are written in syllabus.

Knowledge Assessment System

Student's knowledge is assessed by a score system out of 100 points. The assessment is multicomponent and meets the rules of calculating higher educational program credits, approved by the Order N3 issued on 5 January 2007 by the Minister of Education and Science of Georgia.

During the assessment of student's knowledge, all the academic staff and any invited personnel are obliged to use the above-mentioned rule. Following scheme is used to assess the knowledge:

1. **Five types of positive assessment:**
   (A) Excellent – score between 91-100;
   (B) Very good – score between 81-90;
   (C) Good – score between 71-80;
   (D) Satisfying – score between 61-70;
   (E) Sufficient – score between 51-60.

2. **Two types of negative assessment:**

(FX) Fail to pass – score between 41-50, which means that the student needs to work more and he or she is able to redeliver exam after the independent preparation;

(F) Fail – score 40 and below, which means that work done by students is not sufficient and he or she must study the course again.

During the assessment of study outcomes forming and summary assessment forms are used. These include, but are not limited to: homework tasks, laboratory work, tests, oral and written exams, presentations, essays, projects.

Study plan (Curriculum)

Curriculum and semester plan are available. The description of the study components is described in the syllabi.

Human and Material resources

Agricultural University of Georgia employs outstanding academic and invited personnel with successful experience (see annex) for its educational programmes.

Educational programmes are financially and materially supported. For implementation of the programmes university allocates relevant financial resources. Programmes are also supported materially. Educational programmes are taught at Kakha Bendukidze University Campus, which is equipped with all the necessary inventory and other resources needed for high quality education.