Bachelor's Educational Program

Program Title

მევენახეობა და ენოლოგია
Viticulture and Enology

Faculty

აგრარული მეცნიერებების და ბიოსისტემების ინჟინერინგის ფაკულტეტი
Agriculture Sciences and Bio-Systems Engineering

Program Head/Heads

Professor Davit MAGHRADZE Professor Mariam KHOMASURIDZE

Qualification to be Awarded and the Extent of the Program in terms of Credits

Bachelor of Agricultural Sciences will be awarded by combining at least 210 credits of the education program's primary specialty and no more than 30 credits of free components if 240 credits are completed.

Language of Teaching

Georgian

Prerequisite for Admission to the Program

Only the holder of a state certificate proving complete general education, or a document equivalent to it enrolled in accordance with the procedure established by Georgia law, shall have the right to study at the Bachelor's Educational Program.

Program Description

The program is based on the ECTS system; 1 credit is equal to 25 hours, which includes both contact and independent work hours. The distribution of credits is presented in the program curriculum. One semester includes 20 weeks, of which the learning process takes place over a period of 15 weeks. The rector of the GTU issues an academic calendar before the beginning of the semester, which is published on the website.

The duration of the program is 4 years (8 semesters). Bachelor's qualification will be awarded by combining a primary specialty (at least 210 credits) and free components (at least 30 credits) if at least 240 credits are completed.

The primary specialty of the education program (210 credits) includes:

a) foreign language component - 22 credits. At the beginning of the study, the student has the right to choose one of four foreign languages (English, Russian, German, French) and accumulate 6-6-5-5 credits during the first four semesters;

b) elective education course in humanitarian sciences - 5 credits. (introduction to philosophy, Georgian history and culture, sociology, political science, applied psychology, academic writing, culture, and modernity);

c) compulsory education courses in the specialty – 164 credits;

During the first, second, third, fourth and fifth semesters, the language of teaching in the courses of specialization is Georgian only. During the sixth, seventh, and eighth semesters, the student may choose education courses a) in which the language of teaching is Georgian; b) the language of teaching is English; c) courses in combination with of teaching in Georgian and English.

c) Compulsory elective education courses in the specialty - provided at the rate of 6 credits in the seventh semester. The program includes compulsory elective courses in both Georgian and English.

d) Practical training course: the program is provided in the amount of 10 credits. The program includes practical training courses in both Georgian and English.

e) Final thesis (report): the instructions for the thesis, rules for the selection, evaluation and defense of the topic are attached to the educational program and approved at the meeting of the Council of the Faculty of Agricultural Sciences and Biosystems Engineering.

From the free components (free elective education courses) the student chooses a certain number of subjects, the total amount of which is not less than 30 credits. The structure of the program allows the student to choose and take the free components in different semesters of study, namely: in the third semester for 10 credits, in the fourth semester for 5 credits and in the fifth semester for 15 credits.

The first semester includes four compulsory courses in the specialty and foreign language of 6 credits, for a total of 28 credits.

The second semester includes four compulsory courses in the specialty, foreign language of 6 credits, and a university elective education course - 5 credits, for a total of 32 credits.

The third semester includes four compulsory courses in the specialty, foreign language - 5 credits and one free elective course for 5 credits each. A total of 32 credits per semester.

The fourth semester includes three compulsory courses in the specialty, foreign language for 5 credits, and one free elective course for 5 credits, for a total of 28 credits;

The fifth semester includes two compulsory courses in the specialty, four 5-credit free elective courses, for a total of 29 credits;

The sixth semester includes six compulsory courses in the specialty, for a total of 31 credits; The student may select compulsory courses in the specialty according to the language of teaching, in Georgian and English.

The seventh semester includes three compulsory courses in the specialty and compulsory elective courses in the specialty - 6 credits.

The eighth semester includes four compulsory courses in the specialty, final thesis - 3-credits and a internship component for 10-credits.

Detailed information about the learning process is provided in the Instructions for Managing the Educational Process at Georgian Technical University at the following electronic address.

Program Objective

To prepare specialists in viticulture and enology, who, based on the experience gained by participating in the agro-technological activities of the vineyard, technological and physical-chemical processes in the enterprise, and participating in their management, will have the opportunity to work and develop their careers in viticulture and wine production. To study the basic principles and elements of viticulture and enology, the different methods of wine production from grapes, factors affecting viticulture production, wine quality, composition, grape growing regulations, economic aspects of production, the tasks of regulating the industry and the established requirements for viticulture and enology. enology. To give the enterprise the practical experience necessary for laboratory work.

Learning Outcomes/Competences (general and sectoral)

- **Knowledge and Understanding** – Extensive knowledge of viticulture and enology. Knowledge and understanding of the basic principles of grape growing: biological processes in grape growth, protection of grapes from diseases, agronomic measures necessary for soil fertilization. Knowledge of the main grape varieties. Knowledge of the basic principles of production of alcoholic beverages of grape origin: technological operations, current physical and chemical processes, equipment and materials used. Knowledge and understanding of factors affecting product quality: soil, climate, environmental factors, composition of raw materials, technological techniques;

- **Ability to apply knowledge in practice** - In accordance with predetermined reference points: ability to participate in the selection of a vineyard plot, production of seedlings, cultivation of a vineyard, carrying out agro-technological measures necessary for growing grapes; Ability to participate in harvesting, processing of grapes and wine production. Ability to determine physico-chemical indicators and organoleptic evaluations of sweets, wine materials and wines made from them, strong alcoholic beverages at separate stages of technological processes; Ability to operate machinery and equipment used in the vineyard and enterprise.

- **Ability to make conclusions** – Collection and interpretation of data on the quantity of raw materials and products, physical and chemical composition, materials and tools used, market requirements specific to the field of viticulture and winemaking. In the field of viticulture-enology ability to analyze the current state of the market of grapes and liquor products, the situation in the vineyard and at the enterprise, the compliance of products with regulatory documents of the industry, the ability to formulate a conclusion based on the situation;

- **Communication skills** – Preparation of a detailed written report on grape growing and production of products from it, in the field, vineyard and enterprise, commodity market, regulation of production, existing problems and ways of their solution, as well as oral communication of information in Georgian and foreign languages to specialists and non-specialists; creative use of modern information and communication technologies: preparation of presentations, databases, visual materials on possible risks and expected results;

- **Ability to learn** – Identification of the need for further learning for work and career development in the field of viticulture-enology; consistent and multifaceted evaluation of one's own learning process, emphasizing both theoretical and practical knowledge: literature search, independent work on study materials, understanding and assimilation of practical material, deepening of theoretical knowledge through practical activities.

- **Values** – Respecting established values in the field of viticulture-enology. Participating in the process of forming new values based on ancestral traditions and history combined with modernity in the field of viticulture-enology and endeavoring to affirm them.

Methods of Achieving Learning Outcomes (teaching-learning)

☒ Lecture ☒ Seminar (group work) ☒ Practical ☒ Laboratory ☒ Practice

☒ Course work/Project ☒ Consultation ☒ Independent work

In the learning process, depending on the specifics of a particular study course program, the following activities of the teaching-learning methods are used, which are outlined in the relevant study course programs (syllabi): (discussion, debate, presentation, group work, etc.)

1. **Discussion/debate** – this is the most widely spread method of interactive teaching. A discussion process greatly increases the quality of students' involvement and their activity. A discussion may turn into an argument and this process is not merely confined to the questions posed by the teacher. It develops students' skills in reasoning and substantiating their own ideas.

2. **Cooperative learning** - this is a teaching strategy in which each group member is required not only to learn independently, but also to help his teammate learn the subject better. Each group member works on a problem until everyone has mastered it.

3. **Collaborative work** - using this method implies dividing students into separate groups and giving each group its own task. The group members work at their issues individually and at the same time share their opinions with the rest of the group. According to the problem raised, it is possible to shift the functions among the group members in this process. This strategy ensures the students' maximum involvement in the learning process.

4. **Problem-based learning (PBL)** - a method that uses a specific problem as the initial stage of the process of acquiring and integrating new knowledge

5. **Heuristic method** - is based on the step-by-step solution of the set problem. This process is carried out by independent fixation of facts and vision of connections between them.

6. **Case study** - is a method of active problem-situational analysis, which is based on learning by solving specific problems - situations (solving so-called "cases"). This method of learning is based on the discussion of specific practical examples (cases). "Case" is a kind of tool that allows you to use the acquired theoretical knowledge to solve practical problems. By combining theory and practice, the method effectively develops the ability to make informed decisions in a limited amount of time. Students develop analytical thinking, the ability to work in a team, the ability to listen to and understand alternative opinions, to develop generalized solutions taking into account alternatives, to plan actions and predict their results.

7. **Brain storming** – is an operational method of problem solving based on stimulating creative activity. This method involves facilitating the formation and expression of as many, preferably radically different, opinions and ideas on a particular issue/problem within the theme as possible. The mentioned method stipulates the development of a creative approach to the problem. The use of the method is effective when there are large groups of students and consists of several basic stages:

- definition of the problem/issue from a creative point of view;
- during a certain period of time, uncritical recording of thoughts expressed by listeners on a problem (mostly on the board);
- definition of the evaluation criteria to determine whether the idea corresponds to the purpose of the research;
- evaluation of the chosen ideas according to predetermined criteria;
- through exclusion, to highlight those ideas that are most relevant to the issue;
- identification of the idea with the highest score as the best way to solve the problem.

8. **Demonstration method** - this method implies a visual presentation of information. It is quite effective in terms of achieving results. In many cases, it is better to present the material to students in both audio and visual form simultaneously. The material being studied can be demonstrated by both the teacher and the student. This method helps to make visible the different stages of understanding the learning material, to clarify what students will have to do independently; At the same time, this strategy visualizes the essence of the issue/problem. The demonstration can take a simple form.

9. **Inductive method** - determines the form of transfer of any knowledge when, in the process of learning, the course of thought is directed from facts to generalization, i.e., when transferring the material, the process goes from the specific to the general.

10. **Deductive method** - determines the form of transferring any knowledge, which is a logical process of discovering new knowledge based on general knowledge, i.e., the process goes from the general to the specific.

11. **Method of analysis** - helps to break down the learning material as a whole into its component parts. This facilitates detailed coverage of individual issues within a complex problem.

12. **Synthesis method** - involves grouping separate issues into a whole. This method helps to develop the ability to see the problem as a whole.

13. **Verbal or oral method**. This method includes lecture, narration, conversation, etc. In the above process, the teacher conveys and explains the learning material through words, and students actively perceive and internalize it by listening, memorizing, and understanding.

14. **Writing work method** - implies the following forms of activity: copying, taking notes, making a synopsis of the material, composing theses, writing an abstract or essay, etc.

15. **Laboratory method** - implies the following types of actions: setting of samples, demonstration of video material, dynamic material, etc.

16. **Practical methods** - combines all forms of learning that provide students with practical skills. In this case, the student independently performs this or that action on the basis of acquired knowledge, for example, industrial and pedagogical practice, fieldwork, etc.

17. **Explanatory method** - is based on discussing a given issue. In the process of explaining the material, the teacher brings concrete examples, the detailed analysis of which is made in the framework of the given topic.

18. **Activity-based learning** - requires the active involvement of the teacher and the student in the learning process, where the practical interpretation of theoretical material is especially important.

19. **Project development and presentation** - during the work on the project, the student uses the acquired knowledge and skills to solve a real problem. Project-based learning increases students' motivation and responsibility. The work on a project includes the stages of planning, research, practical activity, and presentation of the results in accordance with the chosen issue. A project is considered to be realized if its results are presented in a clear and convincing manner and in a correct form. It can be done individually, in pairs, or in groups. It can also be done within one subject or within several subjects (subject integration). Once completed, the project will be presented to a wider audience.

Student's Knowledge Assessment System

The student's knowledge is assessed on a 100-point scale.
Positive grades are:
- (A)-Excellent - 91-100 points;

- (B)-Very Good – 81-90 points;
- (C)-Good – 71-80 points;
- (D)-Satisfactory – 61-70 points;
- (E)-Sufficient – 51-60 points.

Negative grades are:
- (FX) - Failed to pass – 41-50 points, which means that the student needs more work to pass and is allowed to take an additional exam once with independent work;
- (F) - Failed - 40 points or less, which means that the work done by the student is insufficient and he/she will have to study the subject again.

The syllabi provide appropriate forms and methods of assessment of student's knowledge. The description of the appropriate methods, criteria and scales of evaluation forms is attached to the educational program, as well as posted on the University website.
http://www.gtu.ge/quality/axali/shefasebisforma.pdf.

Fields of employment

1) Grape-based alcoholic beverage enterprises (wine cellars, brandy and grape and distillery factories, family production).
2) Private companies whose activities include planting vineyards, growing grapes and producing vine seedlings (vineyards and nurseries).
3) State organizations: a) Ministry of Agriculture and its subordinate structures: LEPL National Wine Agency, LEPL National Food Agency, LEPL Scientific-Research Center of Agriculture; b) Parliament of Georgia - Committee on Agrarian Issues.
4) Non-profit organizations of the agrarian sector, professional unions.
5) Grape-based alcoholic beverage laboratories (accredited, research, enterprise-owned).
6) Viticulture. Companies manufacturing and distributing materials, machines, devices intended for the viticulture sector.
7) Organizations working in the marketing, distribution and commercialization of wine.

Opportunities for continuing education

Master's degree educational programs

Human and material resources needed to implement the program

The program is provided with adequate human and material resources. For additional information, please find the attached documentation.

Number of attached syllabi: 86