



საქართველოს ტექნიკური უნივერსიტეტი  
GEORGIAN TECHNICAL UNIVERSITY

Approved by  
Academic Council of GTU  
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## Master's Educational Program

### Name of the program

მევენახეობა და ენოლოგია

Viticulture and Enology

### Faculty

აგრორული მეცნიერებების და ბიოსისტემების ინჟინერინგი

Agriculture Sciences and Biosystems Engineering

### Program Supervisor

Professor David Magradze

### Qualification to award

Master of Agricultural Sciences

Will be awarded in the case of passing not less than 120 credits of an educational program

### The language of teaching

English

### Precondition for admission to the program

The studying rights on a Master's program is entitled person who has at least a bachelor's or equivalent academic degree and has English knowledge in the level B2, that must be approved by appropriate Certificate from Institution with special Accreditation, or tests providing by the University. The person will be enrolled according the results of the Graduate Record Examination (based on the Graduate Record Examinations, and tests in specialty submitted in the English language). Sample tests will be posted up on the website of the Department of Education of GTU at least one month before the start of the examinations. Admission to the Master's program without passing the examination may be established by the Ministry of Education and Science.

### Description of the program

The program was developed according ECTS system - 1 credit equivalent to 25 hours, which is meant as a contact, as well as independent work hours. The credit distribution is presented in the program curriculum. The program lasts 2 years (4 semesters) and includes 120 credits. Research Component 45 credits and Study Omponents - 75 credits, including compulsory specialty subjects - 58 credits and

optional subjects - 5 credits, industrial practice 12 credits.

One semester includes 20 weeks, from which the training process takes place 15 weeks.

GTU Rector will be published before the semester and the academic calendar is published on the website.

Masters will undertake the enterprise practice on the basis of a contract with the relevant organizations in the nursery, vineyard and winery.

In the first semester the student is studying three 5 credits, one 6 credits, one 4 and one 5 credit optional subjects.

In the second semester, three 5 credits, one 6 credits, one 4 credits and a master's research project / prospectus estimated at 5 credits.

The third semester student is studying two 6 credits, two 4 four credits and a theoretical / experimental research / colloquium, estimated at 10 credits.

In the fourth semester student completes master's thesis, completion and protection of master's thesis includes 30 credits.

### The purpose of the program

To prepare the enologist in accordance with labor market demands, which will be competitive, practically-oriented and ready to meet the highest expectations of the wine industry. To acquire the students with the required theoretical knowledge and practical skill. To introduce to students the world of grape growing, wine making, wine appreciation and wine business. To teach the current techniques, to give information about modern methods, innovations used while managing a vineyard and winery. To explain the importance of specific viticulture techniques in creating wines with good flavor and aroma. To provide the experience for students that develops relevant skills in current practices for harvesting grapes and processing grapes into wine at a commercial vineyard and/or winery. To become students familiar with common analytical skills used in a wine laboratory.

### Learning Outcomes and Competences (General and Sectoral)

Lecture Seminar (working in the group) Practical classesLaboratory class'sField Work/Practice Course Work/Project Consultation Hours Independent Work Master Thesis.

The most widely spread teaching and learning methods as well as their definitions are given below. A Teacher should choose the proper method according to the concrete aim and problem.

1. **Discussion/debates.** 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 of reasoning and substantiating their own ideas.
2. **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.
3. **Problem-based learning (PBL)** is a method which uses a concrete problem as the initial stage both for acquiring new knowledge and integration process.
4. **Heuristic method** is based on the step-by-step solving of a given problem. It is realized by means of independent fixing of the facts in the teaching process and determining the ties among them.
5. **Demonstration method** implies presenting information with the help of visual aids. It is quite effective in reaching the required result. It is frequently advisable to present the material simultaneously through audio and visual means. The material can be presented both by a teacher

and a student. This method helps us to make different steps of perceiving the teaching material more obvious, specify what steps the students are supposed to take independently; at the same time this strategy visually shows the essence of an issue/problem. Demonstration can be very simple.

6. **Inductive method** determines such a form of conveying any kind of knowledge when in the process of learning the train of thought is oriented from facts towards generalization, i.e. while presenting the material the process goes from concrete to general.
7. **Deductive method** determines such a form of conveying any kind of knowledge which presents a logical process of discovering new knowledge on the basis of general knowledge, i.e. the process goes from general to concrete
8. **Analytical method** helps us to divide the whole teaching material into constituent parts. In this way the detailed interpretation of separate issues within the given complex problem is simplified.
9. **Synthetic method** implies forming one issue from several separate ones. This method helps students to develop the ability of seeing the problem as a whole.
10. **Verbal or oral method** comprises a lecture, narration, conversation, etc. During the process the teacher conveys, explains the material verbally, and students perceive and learn it by comprehending and memorizing.
11. **Laboratory method** implies the following forms of activity: conducting experiments, showing video materials, etc.
12. **Practical methods** unite all the teaching forms that stimulate developing practical skills in students. In this case a student independently performs different kinds of activity on the basis of the knowledge acquired e.g. field study, teaching practice, field work, etc.
13. **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.
14. **Designing and presenting a project.** While designing a project a student applies the knowledge and skills he has acquired for solving a problem. Teaching by means of designing projects increases students' motivation and responsibility. Working on a project involves the stages of planning, research, practical activity and presenting the results according to the chosen issue. The project is considered to be completed if its results are presented clearly, convincingly, and correctly. It can be carried out individually, in pairs or in groups; also, within the framework of one or several subjects (integration of subjects); on completion the project is presented to a large audience.
15. **Activity-oriented teaching** implies teachers' and students' active involvement in the teaching process, when practical interpretation of the theoretical material takes place.
16. **Written method** implies the following forms of activity: copying, taking notes, composing theses, writing essays, etc.

Forms and Methods of achieving the learning outcomes are uploaded to the university web-site and can be find via the following link:<http://www.gtu.ge/quality/new/en.pdf>

### Student knowledge assessment system

Grading system is based on a 100-point scale.

Positive grades:

- (A) - Excellent - the rating of 91-100 points;
- (B) – Very good - - the rating of 81-90 points
- (C) - Good - the rating of 71-80 points
- (D) - Satisfactory - the rating of 61-70 points
- (E) - Enough - the rating of 51-60 points

Negative grades:

- **(FX)** - Did not pass - 41-50 points of rating, which means that the student needs more work to pass and is given the right to take the exam once more with independent work;
- **(F)** – Failed - 40 points and less, which means that the work carried out by the student is not enough and he/she has to learn the subject from the beginning.

### Field of employment

After graduation of this program, with the acquired knowledge and awarded qualification, person will be able to work in private sector, governmental and nongovernmental organizations such as wine companies, grape growing companies, sparkling wine and distilled beverages enterprises, laboratories, tasting commissions, associations working in the field of viticulture and enology, Ministry of Agriculture and its affiliated agencies.

### Opportunity to continue learning

Doctoral Educational Programs

### Human and material resources necessary for the implementation of the program

The program provides the appropriate human and material resources.  
For more information see the attached documents.

**Number of attached syllables:16**

### Program Study Load

№	Course Title	Precondition of admit	ECTS Credits			
			I Year		II Year	
			Semester			
			I	II	III	IV
1	Viticulture and vineyard management systems	N/A	5			
2	Wine production and winery systems	N/A	6			
3	Enochemistry	N/A	5			
4	Global wine business	N/A	5			
5	Wine microbiology	N/A	4			
<b>Elective</b>		N/A	<b>5</b>			
6 <sup>1</sup>	World wines and winemaking techniques					
6 <sup>2</sup>	Wine grapes and world grape growing regions					
7	Vineyard establishment and maintenance	Viticulture and vineyard management systems		5		

8	Field Practice in viticulture	Viticulture and vineyard management systems		6		
9	Methods of must and wine analyses	Enochemistry		5		
10	Regulation of viticulture and wine production	N/A		4		
11	Wine marketing and sales	N/A		5		
12	Sparkling wine producing methods	Wine production and winery systems			4	
13	Sensory evaluation of wine	Wine production and winery systems; Enochemistry; Wine microbiology.			6	
14	Enterprise Practice in Winery	Wine production and winery systems. Enochemistry			6	
15	Production of distilled spirituous beverages of grape origin	Wine production and winery systems. Enochemistry.			4	
<b>Research Component:</b>						
	Master Research Project / Prospectus	N/A		5		
	Theoretical / experimental research / colloquium	Prospectus			10	
	Accomplishment and Defense of Master's Thesis	Colloquium				30
<b>Total per semester:</b>			<b>30</b>	<b>30</b>	<b>30</b>	<b>30</b>
<b>Total per year:</b>			<b>60</b>		<b>60</b>	
<b>Total:</b>			<b>120</b>			

### Map of learning outcomes

Nº	Course Title	Knowledge and understanding	Ability to use knowledge in practice	Making judgments	communication skill	ability to learn	Values
1	Viticulture and vineyard management systems	X	X	X	X	X	

2	Wine production and winery systems	X	X	X			X
3	Enochemistry	X	X		X		
4	Global wine business	X	X		X	X	
5	Wine microbiology	X	X		X		
<b>Elective</b>							
6 <sup>1</sup>	World wines and winemaking techniques	X	X	X			X
6 <sup>2</sup>	Wine grapes and world grape growing regions	X	X	X			X
7	Vineyard establishment and maintenance	X	X	X	X	X	
8	Field Practice in viticulture		X		X	X	
9	Methods of must and wine analyses	X	X		X		
10	Regulation of viticulture and wine production	X	X		X	X	
11	Wine marketing and sales	X	X		X	X	
12	Sparkling wine producing methods	X	X	X			X
13	Sensory evaluation of wine	X	X	X	X		
14	Enterprise Practice in Winery		X	X	X	X	X
15	Production of distilled spirituous beverages of grape origin	X	X	X			X
<b>Research Component:</b>							
	Production of distilled spirituous beverages of grape origin	X	X	X	X	X	X
	Theoretical / experimental research / colloquium	X	X	X	X	X	X
	Accomplishment and Defense of Master's Thesis	X	X	X	X	X	X

### Program curriculum

№	Course code	Course Title	ESTS credits / hours	Hours								
				Lecture	Seminar (work in the group)	Practical classes:	Laboratory	Practice	Course paper / project	Mid-semester exam	Final exam	Independent work
1	AGC21110E1-LS	Viticulture and vineyard management systems	5/125	30	15					1	1	78
2	MAP18510E1-LSP	Wine production and winery systems	6/150	30	15	15				1	1	88
3	BRS22210G1-LB	Enochemistry	5/125	30			15			1	1	78

4	BUA53910E1-LS	Global wine business	5/125	30	15					1	1	78
5	BRS14810E1-LB	Wine microbiology	4/100	15			15			1	1	68
<b>Elective</b>												
6 <sup>1</sup>	MAP18210E1-LS	World wines and winemaking techniques	5/125	30	15					1	1	78
6 <sup>2</sup>	AGC21210E1-LS	Wine grapes and world grape growing regions	5/125	30	15					1	1	78
7	AGC21010E1-LS	Vineyard establishment and maintenance	5/125	30	15					1	1	78
8	MAP18410E1-R	Field Practice in Viticulture	6/150					90		1	1	58
9	MAP18610E1-LP	Methods of must and wine analyses	5/125				45			1	1	78
10	LAW11410E1-LS	Regulation of viticulture and wine production	4/100	15	15					1	1	68
11	BUA53810E1-LS	Wine marketing and sales	5/125	30	15					1	1	78
12	MAP18810E1-LS	Sparkling wine producing methods	4/100	15	15					1	1	68
13	MAP18410E1-LSP	Sensory evaluation of wine	6/150	30	15	15				1	1	88
14	MAP18310E1-R	Enterprise Practice in Winery	5/150					90		1	1	58
15	MAP18710E1-LS	Production of distilled spirituous beverages of grape origin	4/100	15	15					1	1	68

Program Supervisor

David Magradze

Agriculture Sciences and Biosystems Engineering

Head of Quality Assurance Service

Vakhtang Ugrekhelidze

Dean of the Faculty

Giorgi Kvartskhava

**Agreed with**

Quality Assurance Service of GTU

Irma Inashvili

**Modified by**

Agriculture science and biosystems engineering

At the meeting of Faculty Board

27.02.2018

Chairman of the Faculty Board

Giorgi Kvartskhava