საქართველოს ტექნიკური უნივერსიტეტი
GEORGIAN TECHNICAL UNIVERSITY

Approved by
Resolution № 733 of the Academic Council of GTU dated July 6, 2012

Amended by
Resolution № 01-05-04/109 of the Academic Council of GTU dated July 29, 2021

Master's Educational Program

Program Title

აგრარული ტექნოლოგიები
Agricultural Technology

Faculty

აგრარული მეცნიერებების და ბიოსისტემების ინჟინერინგი
Agricultural Science and Biosystems Engineering

Program Head/Heads

Professor Ioseb SARJVELADZE
Associate Professor Natela MACHAVARIANI

Qualification to be Awarded

Master of Agricultural Sciences, with speciality in Agronomy (0101).

Will be awarded upon completion of at least 120 credits of the educational program

Language of Teaching

Georgian

Prerequisite for Admission to the Program

A person with a minimum of (01) Bachelor of Agricultural Sciences, (05) Bachelor of Science/Natural Sciences or equivalent academic degree who is enrolled through Master's examinations (General Master's Examination and examination/s as determined by the GTU) is eligible to study in the Master's program. Examination questions/tests will be posted on the GTU Training Department website at least one month prior to the examinations. Admission to the program without passing Master's exams is possible according to the rules established by the Ministry of Education and Science of Georgia.

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. 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 distribution of 120 credits in the Master's educational program "Agricultural Technology" is presented as follows: 40 credits are allocated for compulsory courses, 10 credits for the elective courses in the specialty and 30 credits for the elective modules. 40 credits are allocated to the research component.

Research component:

It involves research work aimed at developing the master's student's ability to make independent theoretical and practical reasoning and conclusions.

Detailed information about the Master's program and instructions for completing the thesis to be submitted for obtaining the academic degree of master's are given at the following electronic address: "Georgian Technical University's Regulations for Master's Degree Program.":

Program Objective

The objective of the program is to promote higher agricultural education in accordance with international standards, introduce teaching, and develop modern methodology. Graduates should study crop care, including cultivation methods, harvesting, storage, and processing. On the basis of modern agro-technological experience of advanced countries, they will be able to: improve soil tillage systems, rationally use soil and water resources, carry out selection and sowing activities, proper crop rotation, crop protection from pests and diseases and weed control measures. Factors of plant life, methods of increasing and managing soil fertility, reclamation, and conservation, agrotechnical and ameliorative measures, organization of fodder base of animal husbandry, the technology of food crops maintenance on natural pastures and arable land and food production; Introduction and dissemination of innovative machine-building technologies for crop production, modern technologies for the production of environmentally friendly products.

Learning Outcomes/Competences (general and professional)

Knowledge and understanding. After completing the educational program, the graduate will have knowledge of modern achievements of agricultural science and advanced technologies which will allow to develop new original ideas for the production of environmentally friendly agricultural products; The graduate will know how to determine the possibility of achieving high quality and high yields through different types of agro-technologies, will understand the monitoring of natural and industrial stocks of phytogenetic resources, conservation of biodiversity and protection of man-made situations.

Ability to apply knowledge in practice - the graduate will be able to independently manage agriculture, conduct scientific research; will be able to solve modern problems of agrarian policy for the production of harmless plant products. He will be able to independently carry out the selection and assessment of soil-climatic zones for agricultural crops, as well as the assessment and correction of the state of agrophytocinosis; introduce innovative technologies and research methods in agronomy using a variety of methodological approaches for plant protection and nutrition, soil fertility improvement; will be able to link the priorities of economically beneficial directions with sustainable use of the most important species (endemics) of the unique and richest phytogenic fund of Georgia.

Ability to make conclusions - will be able to formulate valid conclusions and determine the relationship between them, considering contemporary, practical needs, based on an awareness of clearly defined problems, taking into account and analyzing the results obtained as a result of research.

Communication skills - the graduate will acquire the ability to communicate with the academic community on important issues in the field of agriculture; also, will be able to understand and process information obtained in the course of communication, prepare written reports and presentations of conducted research using information and communication technologies, cooperate fruitfully with the interested public on the basis of acquired knowledge, provide them with high quality consulting.

Ability to learn - the graduate will be able to understand current issues in the field of agriculture, obtain the latest relevant information, printed or other materials, and independently conduct research based on that information to ensure continuous professional development and adapt to a changing environment.

Values - the graduate will develop high standards of professional cooperation. He/she will be able to raise and independently resolve issues in the field of agriculture, evaluate and contribute to the creation of value in the field.

Methods of achieving learning outcomes (teaching-learning)

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

☐ Course work/Project ☒ Master's thesis ☒ 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, collaborative work, case study, demonstration, induction, laboratory work, analysis, problem-based learning (PBL), brain storming, synthesis, writing work, deduction, role-playing and situational games, oral or verbal work, explanation, practical work, cooperative learning, action-oriented learning, project development and presentation.

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.

Research component: completion and defense of the Master's Thesis - a person who has completed all the educational components provided by the educational program will be allowed to defend the Master's Thesis.

The completed qualifying thesis is the result of the independent research work of the Master's student. Submission, public defense and **assessment of the completed qualification work are carried out once, the assessment is done with 100 points.**

The evaluation rule and procedure are determined by the Academic Council of the University approved by Resolution No. 01-05-04/133 of August 14, 2020 "Georgian Technical University's Regulations for Master's Degree Program", Appendix 2

Fields of employment

The Ministry of Environmental Protection and Agriculture of Georgia and all regional divisions and agencies under its jurisdiction; Large and small farms; Relevant trade network service facilities; Agricultural laboratories; Agricultural production services; Agricultural greenhouse, farms; Governmental and non-governmental organizations of agricultural profile; Research and advisory service centers; Educational institutions.

Opportunities for continuing education

PhD 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: 49