



School of Agricultural and Natural Sciences

Programme Title:

Agronomy

Qualification Awarded:

Bachelor's in Agronomy 0101

Programme Credits:

240 ECTS

Language of Instruction:

Georgian

Objectives of the Programme:

The aim of the Bachelor Program in Agronomy is to prepare graduates who will excel in both, theoretical and practical activities. They will have knowledge and professional skills that meet modern requirements; they will know the agro-technical rules and norms of cultivating, as well as biological and ecological aspects of the main agricultural crops existing in Georgia and around the world.

Career Options:

Graduates of Bachelor Program in Agronomy have a wide range of employment options. Namely:

- large and small farms;
- greenhouse farms;
- agro-consulting centres / companies;
- ministry of environment protection and agriculture of Georgia and all regional divisions under its subordination;
- relevant area of the retail sales networks
- scientific-research institutes and laboratories of corresponding profile;
- agricultural product processing enterprises and companies;
- governmental and non-governmental organizations of agrarian profile;
- state / private research and consulting services;
- international projects financed by donors;
- can become self-employed and create a farm for him or herself.

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 the origin of agricultural crops, their biology and ecology; vital processes of plants; soil types, their main characteristics, soil fertility and their processing methods; characteristic (systematic) signs of plant pests and diseases, and their ontogenesis. Doses and timings of herbicides, pesticides, fungicides usage. Methods of seed rotation planning; weed ecology. On the basis of this knowledge, the Bachelors will be able to nurture various agricultural crops, provide them with nutrients and feeds, protect against pests and diseases, maintain soil fertility. They will be able to plan the farming production system taking into consideration soil and climate conditions. Test and introduce new technologies, manage a farm and make relevant decisions. Selection of integrated protection of plants from harmful organisms, manifesting of naturally existing biogas reserves and their efficient use of preventive measures based on modern research methods and genetic patterns. Graduates will explore the principles of organic agriculture, production of the bioproducts and certification issues in organic agriculture. They will also be aware of the closed ground peculiarities and will have a general knowledge about agricultural machinery.

After completion of Bachelor Program, graduates will own general and specific competencies listed below:

General Competences:

- ability to apply critical thinking, discuss and debate;
- ability to professionally write and communicate in native language;
- ability to write and communicate scientific material in foreign languages (English);
- ability to adapt and act in unfamiliar and changing environments;



- ability to work in a group;
- ability to continuously learn and deepen the knowledge;
- ability to use modern information and communication technologies;
- ability to plan a research, conduct it, analyze the results and draw conclusions;
- ability to process scientific literature, write and form a scientific publication;
- ability to appreciate and respect differences and cultural diversity.

Specific Competences:

- knowledge of the characteristics of plant biology, biochemical and physiological processes in the plants;
- ability to identify ecological factors affecting bioscopy, ecosystem and biosphere and assessing their influence;
- knowledge of the general principles of plant protection;
- ability to evaluate soils based on the soil genesis; soil processing and its fertility management;
- ability to determine the state of soils and its climate conditions, and connect them with the growth potential of specific plants;
- knowledge of the cultivation of vegetables and horticultural crops, agricultural crops, and their care and cultivation;
- knowledge of the biological and agricultural peculiarities of horticultural crops, berries, nuts and dry subtropical crops;
- knowledge of the bioecological and economic peculiarities of vine cultures;
- knowledge of the mechanical technologies of the care and cultivation of agricultural crops;
- knowledge of the general principles of organic agriculture;
- ability to find and analyse informational materials regarding agronomic issues, formulate a substantiated conclusion about the setup of the problem and its solution;
- ability to evaluate the existing problem and describe/explain it both verbally and in writing to both specialist and non-specialists;
- understanding of the importance of the sustainable use, preservation and protection of the natural and agro-ecosystems in agronomy.

Competences developed in the Bachelor's in Agronomy Programme are evaluated in accordance with the six criteria for the first level of Higher Education set by the National Qualification Framework:

Knowledge and Understanding:

- 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 plant genetics, plant selection, plant biology, plant physiology, general biochemistry;



- understanding of the ecological factors and their effect on the ecosystem;
- knowledge of the basic methods of evaluating and planting new varieties of plants and hybrids;
- knowledge of the general methodological principles;
- knowledge of the principles of soil types, structures, processing methods, fertility and improvement of its ecological conditions;
- knowledge of the root and leaf feeding and diagnosis of issues.
- knowledge of the main pests and diseases of agricultural crops, and the necessary integrated measures to combat against them;
- knowledge of the industrial principles of agriculture (farming, planting, breeding, gardening, viticulture, food production, etc.);
- knowledge of the modern trends in agriculture, new innovative directions (organic agriculture, modern biotechnology);
- knowledge of the principles of working on agricultural machinery.

Applying Knowledge to Practice:

- ability to plan agricultural activities on land for cultivation;
- ability to carry out established agrotechnical measures in accordance with the optimal calendar grounds;
- ability to compile the seed rotation system;
- ability to process, sow and conduct planting works on soil;
- ability to management and take protective measures for soil fertility;
- ability to organize soil fertilization, soil fertilization system, agro technique for maintenance of plant protection, plant protection measures, harvesting and re-cultivation and packaging;
- ability to identify agricultural pests and define them;
- ability to plan and implement measures to combat pest-specific species;
- ability to diagnose plant diseases, plan and implement an integrated management system;
- ability to consider the reproduction of plants, their selection methods and testing of new varieties.

Ability to Make Conclusion:

- ability to draw proper conclusions based on the farming profile of plants and yield an increase according to the correct cultivation of the crops;
- ability to distinguish the best varieties for specific production based on their test results;
- ability to argumentatively discuss soils and their relevant problems;
- ability to select agricultural crops, analyze the problems arising in the process of vegetation, come up with conclusions and make the necessary decisions, considering all the local agro-climatic and other important factors;



- ability to logically discuss relevant problems of agricultural crops, deliver relevant conclusions and justify their opinion;
- ability to assess and conclude the positive and negative impact of environmental factors on plants.

Communication Skills:

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

Ability to Learn:

- ability 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,
- ability to guide and plan the learning process;
- ability to effectively manage time and study resources.

Values:

Graduates of the Program will:

- be aware of the importance of each agro-activity - selection, production and harvest of agricultural crops;
- understand the importance of their own profession in the production of healthy products in a less harmful environment;
- understand the need for conservation and application of the genetic resources of conscious plants (wild cultivars of wild plants, folk breeding and modern breeds) for sustainable agriculture;
- be aware of the use of modern intensive technologies for agricultural production.

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 framework of the Bachelor's Program in Agronomy, the following forms and methods are used: Verbal method, discussions / debates, demonstration method, group work, case-studying, brainstorming 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, reports, 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.