Admission Prerequisites 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.

Program Objective:

The main objective of this program is to prepare students to become agricultural leaders, specialists, and scientists in order to meet the demands of worldwide industrial, social, and governmental needs. The program will provide a broad knowledge and understanding in various aspects, such as, professional communication skills handling in current issues in agronomy in the world, effective approaches in agricultural market production in various cultures, and application of current knowledge and techniques in agro-industry for contributing to local and national agriculture development. This program provides practical techniques and introduces current knowledge of biotechnology, organic farming, and conventional breeding methods so that students can handle agricultural issues in various and specific ways to improve plant varieties, species, cultivars and genetic resources according to human needs and market demands for increasing individual, industrial, and national profits. Therefore, this program is designed to educate and train students to become agricultural professional leaders and specialists with knowledge and experience in the state of the art agricultural science so that they can act effectively and confidently involve themselves in solving agricultural barriers at their work place and their respective countries. Moreover, by focusing on the state of art research interests in the world, students will be able to work not only in conventional fields of agriculture but also in applied agronomic fields such as the sports field industries, natural resources industries, garden industries, biomedical industries and so on.

The Learning Outcomes/Competence (general and field-specific)

Knowledge and understanding:

- The deep and systematic knowledge of crop science.
- Knowledge and understanding of how agricultural productivity can improve food security and assist societies with the ability to streamline more efficient food production methodologies.
- By combining research with in-depth instruction in agronomy, students will have proper knowledge and understanding of the function of the majority of important agronomical genes that can improve useful agronomical characters.
- The knowledge of cultural history and geography of crop growing in agronomic regions worldwide.
- Additionally, students will gain knowledge and understanding of plant anatomy; experience site analysis and improving cultivar; learn the methods of conventional selection and marker assisted selection, nutrient needs of plants, diseases and insect pests management, crop regulation, breeding, and crop management decision.
- Other key objectives include: Understanding of genomics and chemistry of plants; Knowledge of international crop producing regions, major crop by the region and culture; Knowledge and understanding of agronomy's problem and current issues; Understanding the main determination factors of food quality; Knowledge and understanding of technological processes and methods of plant improvement; Knowledge and understanding of sports field management and turfgrass management;
- Knowledge of systems of organic agriculture;
- Understanding of the important issues of soil composition and ecology;
- Knowledge of modern approaches for development and managemnent fruit and ornamental gardening.
- Understanding of the key points of wine businesss development and management .

Applying knowledge:

- Ability of independently planning and implementing the necessary research and measures for maintaining crop field, by consideration of crop variety and cultivar, soil composition and environmental conditions.
- Ability to identify genes for specific resistant and characters and develop marker.
- Ability to select desired variety by marker assisted selection.
- Ability to improve crop, fruit, and turf cultivar in desirable agronomic character.
- Ability to diagnose nutrient and plant condition, and disease problems and searching for original ways of their solution.
- Ability to recognize common nutrient deficiencies and pest infestations and their complex resolution.
- Ability of usage of newest methods, materials and devices for production high quality products by genetic marker, proper to world market demands.

- Ability of independently carrying out quality control in the agronomic field and products. The assessment of risks through unforeseen circumstances and action in new non-predictive multi disciplinal reality.
- Ability to perform laboratory trials on final products over a broad range of addition rates.

Making judgments:

- Ability to select proper variety to develop superior cultivar in certain circumstance.
- Ability to analyze abstract data of agronomy's field, using various methods.
- Ability of understanding the scope of work in manufacturing and research processes.
- Ability of making predictive analyses and proper inferences about current situation during implementation of technological operations.
- Ability to evaluate historical reasons for successful crop production in different regions of the world.
- Ability to evaluate soil and climate data of a potential crop field site to determine: how to prepare it for planting; which crop and which cultivar will grow best there; and what kind of fertilizer or herbicides will work best for the site

Communication skills:

- Ability to communicate concerning agronomical issues with international scholars for the purpose of introducing and explaining the superiority of one's own products.
- Ability to present to the target audience and carry out interpersonal communication.
- Ability to use scientific vocabulary to describe basic process steps involved with developing varieties and cultivar.
- Ability to prepare a research paper focusing on a chosen aspect of the history of research.
- Ability to interpret, analyze and evaluate journal, text publications in agronomy

Learning skills: Assessment of the personal learning process in a coherent and versatile way. Understanding the learning characteristics of the process. Ability of finding, learning and usage of the literature, technical and technological methods for new objectives while acquiring with the accomplishment in agronomy field. Ability to work on publications and to foresee the literature sources during the researches, carried out plants and environment, plants cultivation and growing issues. Identification of further learning needs in agronomy field, based on strategic planning and management of future learning.

Values:

Maintenance and protection of significant definitive professional ethics for agronomist in accordance with the basic laws of action. Based on professional values, the statement of agronomy's field development necessity in the political, economic and social aspects on local and international level. Reception of the agro-scientist with the professional, ethical responsibility and values. Apply academic and professional ethics and values during their internship and while critically evaluating their experience.

Student Knowledge Assessment System:

Assessment is based on a 100 point grading scale.

Positive assessment is:

- **(A)** - excellent - 91% and more of the maximum grade;
- **(B)** - very good - 81-90% of the maximum grade;
- **(C)** - good - 71-80% of the maximum grade;
- **(D)** - satisfactory - 61-70% of the maximum grade;
- **(E)** - enough - 51-60% of the maximum grade;

Negative assessment is:

- **(FX)** - Not passed - 41-50% of the maximum grades. It means that a student needs more individual work, and is given one more possibility to pass the exam;
- **(F)** - Failed - 40% and less of the maximum grade. It means that work performed by a student was not enough and the subject should be learnt from the beginning;

Descriptions of the methods, criteria, and scales of student knowledge assessment are described in syllabuses. Also, it is uploaded to the university web-site and can be find via the following link: http://gtu.ge/quality/new/Evaluating%20students.pdf

№	Courses in the Program	ECTS Credits
1	Plant Biotechnology	5
2	Advanced Plant Pathology	5
3	Organic Agriculture	5
4	Integrated Pest Management	5
5	Professional English in Agriculture I	5
	Elective	
6[1]	Entrepreneurship and World Wine Bussness	5
6[2]	Systemic Production and Marketing Technique of Wine in the World	
6[3]	Management of Food Safety	
7	Advanced Plant Breeding	5
8	Soil Ecology	5
9	Turfgrass Development and Management	5
10	Professional English in Agriculture II	5
11	Modern gardening: Fruit and Grape Growing	5
12	Sustainable Agriculture	5
13	Field Practice in Viticulture and Fruit Growing	5
14	Ornamental Gardening	5
15	Soil Fertility and Plant Nutrition	5
	Research Component	