



## Joint PhD Programme in Natural Sciences of Free University of Tbilisi and Agricultural University of Georgia

### Programme Title:

Joint PhD Programme in Natural Sciences

### Qualification Awarded:

PhD in Biology;  
PhD in Chemistry;  
PhD in Physics.

### Language of Instruction:

Georgian

### Programme Credits:

180 ECTS

### Concept of the Programme:

Free University Tbilisi (FUT) and Agricultural University of Georgia (AUG) have a vast experience in the development of high quality bachelor's degrees in natural sciences. Many graduates continue to study or work overseas, however, there are also graduates who would like to continue their academic career but can't afford to go abroad.

There are no educational programs in Georgia that provide adequate access to education to an integrated natural sciences program, namely biology, physics and chemistry. Therefore, the joint educational program in natural sciences is partially designed for such persons and aims to provide them with a high standard of educational services.

FUT and AUG have unique resources, such as highly qualified professors, material base, financial resources, etc. in the field of natural sciences in order to jointly prepare PhD graduates that will be able to engage in scientific, pedagogical or practical activities.

With joint resources, FUT & AUG can create much better conditions and scientific environment than separately from each other.

While designing this educational program, existing successful models in both United States and in Europe were reviewed and taken into account. Based on these models, we developed a curriculum matching with our goals and potential.

### Objectives of the Programme:

The goal of the Joint PhD Program in Natural Sciences is to:

- ensure scientific research in natural sciences, namely, in biology / chemistry / physics;
- prepare skilled staff in natural sciences, namely, in biology / chemistry / physics, that can independently conduct scientific research and teach at higher educational institutions;



- activate work in the field of scientific research, raising the quality of scientific research and integrating researchers in international scientific field;
- ensure the creation and dissemination of new knowledge in natural sciences, namely, in biology / chemistry / physics.

Goals set to achieve by Universities' PhD Students are to:

- identify and organise research with the help of a mentor;
- offer methodological and theoretical knowledge required to conduct a high level of research;
- create an appropriate environment for effective work - in particular PhD students should have a work space, computer hardware, library, as well as access to electronic library resources).

Joint PhD Program in Natural Sciences is focused on the development of the necessary skills, which are important for a successful career in the current labour market. PhD students will be able to share their future scientific interests and engage them in new and neighbouring study fields. This is especially important when PhD students are looking for ways to solve complex, interdisciplinary scientific problems in natural sciences.

Aim of FUT & AUG is to create the best environment for learning, teaching and research, which will be the best in Georgia and accessible to young people at all levels, including at the PhD level. University will assist PhD students in creating the best environment for studying in their fields of interest.

### **Admission Prerequisites:**

A citizen of Georgia, as well as any foreign citizen who has master's degree or an equivalent academic degree is allowed to apply to the program. In addition, according to the legislation, a person may be enrolled through mobility transfer. Admission to educational program is announced through a Joint Order from Rectors of Free University of Tbilisi and Agricultural University of Georgia. The announcement of admission will be posted on the website of both universities. The applicant should present the following documents:

- Curriculum Vitae (CV);
- copy of ID card;
- electronic photograph, sized 3X4 cm;
- copy of master's degree diploma or equivalent academic degree certificate;
- certificate of authentication and / or certification of knowledge of English language, at least at B2 level, proving that the candidate has experience in learning and / or working in English;
- a cover letter that should not exceed 1250 words and should include the description of the subject matter and its substantiation.



If an applicant does not have a document certifying their knowledge of English language, then they will undergo an English language examination. A person willing to join will be interviewed by a commission established by the joint order of the Rectors of FUT & AUG. After the interview and submitted documents are considered, the commission will submit a recommendation to the Rectors of FUT & AUG about the applicant's enrolment to the educational program.

Applicants, willing to enrol at PhD programme, will be considered upon the following criteria:

- candidates' professional and / or academic achievements in their field of research;
- potential to create new knowledge;
- distinguished academic motivation;
- intensive and consistent work skills;
- ability to organize time and determine their own training schedule;
- extensive professional knowledge;
- excellent analytical thinking ability;
- accurate observation and critical assessment skills;
- creative and original thinking skills;
- ability to clearly and concisely convey complex ideas.

### Resources:

Academic staff of FUT & AUG, as well as invited academic personnel will participate in the PhD Program.

All the resources, which are available at Agricultural University of Georgia and Free University of Tbilisi will be available to PhD students, including, but not limited to library, electronic databases and research centres.

### Learning Outcomes:

After the completion of the PhD Programme, graduates will own general and specific competencies listed below:

#### Knowledge and Understanding:

Graduates will possess:

- knowledge, based on the latest achievements in biology / chemistry / physics, which will enable the development of existing knowledge and innovative methods;
- knowledge of modern methods of scientific research in biology/ chemistry / physics.

#### Applying Knowledge to Practice:

Graduates will have the ability to:

- independently plan, implement and supervise research in biology / chemistry / physics;



- develop new research and analytical methods and approaches in biology / chemistry/ physics, which are oriented towards creating new knowledge and reflecting the results in international referencing publications;
- conduct experimental research in biology / chemistry / physics;
- carry out research results in biology / chemistry / physics into practice.

#### **Ability to Make Conclusion:**

Graduates will have the ability to:

- conduct deep critical analysis, synthesis and assessment of new, complex and contradictory ideas and approaches;
- independently make correct and effective decisions to solve problems.

#### **Communication Skills:**

Graduates will have the ability to:

- demonstrate new knowledge in a reasonable and clear way interlinking it with existing knowledge;
- participate in thematic polemics with the international scientific community in English.

#### **Ability to Learn:**

Graduates will have the ability to:

- retrieve / process/ use information;
- prepare and develop new ideas and processes in learning and activity process, as well as in scientific research, based on the latest achievements.

#### **Values:**

- knowledge and sharing of ethical norms in research;
- research ways of establishing values;
- develop innovative methods to establish values.

#### **Career Options:**

After completion of PhD Program in Natural Sciences, graduates will be able to work as:

- scientists or researchers in private and state projects;
- academic personnel at the university;
- consultant in private and public organizations.



## Learning and Teaching Methods:

In order to achieve the learning outcomes, following methods are used:

- verbal/oral communication method;
- discussion/debate;
- demonstration method;
- field work;
- presentation;
- induction, deduction, analysis, synthesis;
- laboratory;
- writing method.

Professor or any other person engaged in the educational program is authorized to use one of these methods or any other method in order to achieve concrete academic research goals.

## Knowledge Assessment System

PhD students' knowledge is assessed by a score system out of 100 points; the assessment is multicomponent.

### Training Component Assessment Scale:

- (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.
- (FX) Fail to pass – score between 41-50;
- (F) Fail – score 40 and below.

### Thesis Evaluation Scale:

- Excellent (*summa cum laude*) - excellent work;
- Very good (*magna cum laude*) - the result is above all requirements;
- Good (*cum laude*) - the result exceeds the requirements;
- Average (*bene*) - the result meets all the requirements;
- Satisfactory (*rite*) - the result meets the requirements despite the shortcomings;
- Inadequate (*insufficienter*) - the result does not meet the requirements due to significant shortcomings;
- Completely unsatisfactory (*sub omni canone*) - the result does not meet the set-out requirements.



In case of receiving:

- excellent, very good, good, average and satisfactory assessment - the PhD student is awarded the PhD academic degree;
- unsatisfactory assessment - the PhD student has the right to re-submit thesis in one year;
- completely unsatisfactory assessment - the PhD student loses the right to present the same thesis paper.

The completed number of credits allocated by the PhD by the research component is confirmed by the scientific supervisor in each academic semester.

### **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 and Free University Tbilisi employ outstanding academic and invited personnel with successful experience 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 Campus, which is equipped with all the necessary inventory and other resources needed for high quality education.