

Ilia State University
Faculty of Business, Technology and Education
Bachelor Program: Mathematics (Major and Minor)
Curriculum

Faculty	Faculty of Business, Technology and Education
Program Title	Mathematics (Major and Minor)
Awarded Academic Degree/Qualification	Bachelor in Mathematics
Program Duration/ECTS Credits	8 Semesters, 240 ECTS (1 ECTS: 25 hours) • Major - 120 ECTS. • Free Component: General Module – 60 ECTS; • Minor/Free component - 60 ECTS.
Language of Instruction	Georgian
Head of the Program	Merab Svanadze, Professor
The Date of Program development and Update	The program was launched in 2011 and recently updated in 2020. Subject to periodic review changes to the curriculum might be introduced prior to the beginning of each academic year.
Admission Requirements to the Program	
Applicants wishing to enrol in the program must have passed the Unified National Examinations in accordance with the regulations established by the Ministry of Education and Science of Georgia	
Program Objectives	
The goal of the Bachelor's program in Mathematics is to prepare graduates who have studied the fundamental directions of higher mathematics, foundational concepts, and derived concepts, and are capable of establishing organic connections among them. Additionally, the program aims to provide students with a solid foundation in modern science and technologies for their future application. Students will have the opportunity to familiarize themselves with the applications of mathematics, which includes developing approaches necessary for solving problems and generalizing methods for resolving tasks and their solutions. The program also aims to develop transferable skills such as advanced verbal and written communication in both Georgian and foreign languages, critical analysis, and reasoned judgment.	
Program Learning Outcomes	
1. Graduates will have a deep understanding of fundamental concepts, principles, and theories in higher mathematics, including classical mathematical models, and can identify their interconnections. 2. Graduates are capable of selecting and applying mathematical methods to solve theoretical and practical problems within these foundational concepts, and can research tasks related to classical mathematical models. 3. Graduates possess the ability to logically reason and identify premises and conclusions in mathematical argumentation. 4. Graduates can execute practical projects following predefined recommendations or instructions. 5. Graduates are proficient in clearly and accurately communicating their arguments and conclusions in both Georgian and English to specialists and non-specialists, adhering to academic integrity principles. 6. Graduates are adept at using contemporary informational and communication technologies. 7. Graduates can manage their own learning process and effectively utilize resources.	
Teaching Methods	
• Lecture	

- Seminar
- Practical Method
- Discussion/Debate
- Demonstration Method
- Elements of Electronic Learning

These methods are part of the specific curriculum of the program, and they might be supplemented by other methods as detailed in the syllabuses of individual courses.

Program Structure

The Bachelor's program in Mathematics consists of three main components:

- **Free Component: General Modules** - 60 credits.
- **Core Learning Sphere** - 120 credits.
- **Additional Program/Free Component** - 60 credits.

General Modules (60 credits) include:

- Introduction to Contemporary Thought I - 6 credits.
- Introduction to Programming - 6 credits.
- Academic Work Techniques - 6 credits.
- Practical English Language Courses - 24 credits.
- Introductory Courses - 18 credits
 - Mathematics Introductory Courses Block - 12 credits
 - Introductory Courses Block for other disciplines - 6 credits.

Core Learning Sphere (120 credits):

- Compulsory Mathematics Program Courses - 96 credits.
- Compulsory-Elective Mathematics Program Courses - 24 credits.

Additional Program/Free Component - 60 credits. (Additional information about learning courses of Free Component will be provided via Argus)

Student Assessment

Student assessment should be based on a 100-point grading scale:

(A) 91-100 Excellent

(B) 81-90 Very Good

(C) 71-80 Good

(D) 61-70 Satisfactory

(E) 51-60 Sufficient

(FX) 41-50 Unsatisfactory - meaning a student needs more effort to pass an examination and is given an extra chance to pass an additional examination through independent work.

(F) Failure - 40 and less of the maximum of grades, meaning the student's effort is not enough and he has to learn the subject anew.

Note: Assessment components and criteria are detailed in the syllabus of each course.

Employment Opportunities

- Management and planning services in economics.
- Mining, communication, and transportation companies.
- Banking and insurance companies.
- Statistical services.
- Organizations and companies requiring knowledge of mathematics and/or computer modelling and information technologies.
- General education schools, especially in cases where graduates complete a one-year teacher training program.

Necessary Auxiliary Conditions /Resources For Learning

Lecture auditoriums.
 Teaching laboratories.
 Computer classes.
 University library.
 Institute for Fundamental and Interdisciplinary Mathematical Research.
 Computing Center.
 "Argus" environmental monitoring system.
 Moodle, a learning management system, integrated with Turnitin.
 Symbolab.com - an online math solver.
 MAXIMA - a computer algebra system.
 The LaTeX Project - a document preparation system.