

DEPARTMENT OF COMPUTATIONAL AND APPLIED MATHEMATICS



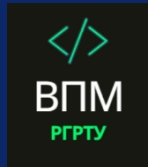
You program the future with us!

Ryazan State Radio Engineering University

Faculty of Computer Engineering



Department staff



Department of Computational and Applied Mathematics

The Department of Computational and Applied Mathematics was founded in 1964 as a complex scientific, educational and methodological center for training of specialists in the field of programming and the use of hardware.

The Department has been a Degree-granting Department since 1989.

The main scientific direction of the Department is the development of mathematical and software for computers, complexes, systems and networks.

Personnel: 7 doctors of science, 20 candidates of science as well as qualified engineers, graduate students and doctoral students.

DEPARTMENT OF COMPUTATIONAL AND APPLIED MATHEMATICS

Specialties and majors

Bachelor's degree program

Qualification - Bachelor

Major 09.03.04 «Software Engineering»

Major 09.03.03 «Applied Informatics»

Program duration – 4 years

Specialist's degree program

Qualification - Engineer

Specialist's major 09.05.01 «Application and Operation of
Special Purpose Automated Systems»

Program Duration – 5 years



Major 09.03.04

«Software Engineering»

Training program «Artificial Intelligence Systems Software»

Academic partnership program implemented jointly
with Bauman Moscow State Technical University
within the framework of the Federal Project
«Artificial Intelligence»

Program duration – 4 years

Major 09.03.04

Software Engineering



Comprehensive knowledge of software engineering



Development and application of information and communication technologies skills



Ability to develop and maintain competitive software systems



Particular attention is paid to studying the basics of artificial intelligence and data analysis

Operating systems

Windows

Linux

Programming languages

JavaScript

Haskell

C

PHP

C++

SQL

Python

Prolog

1C

HTML

C# Java

Major Subjects

Databases

Programming

Basics of Programming Engineering

Advanced Computer Vision

Machine-dependent Programming Languages

Automation of Software Deployment and Operation

Software Team Development Technology

Object-Oriented Programming

Programming of Special-purpose Computers

Intelligent Interfaces Programming for Mobile Systems

Software Testing

Data Security

Basics of Artificial Neural Networks

Big Data Basics

Computer Architecture

Providing training for bachelors majoring in 09.03.04 is implemented in close cooperation with leading IT-companies

SberTech

Tinkoff

RNT Group

Russia Central Bank

Program Region

Infotech

Quantron

Promavtomatika

Sibintech

Loginom

D-Link

Innotech

Students undergo internships, have the opportunity to take free training courses in various programming languages and software development technologies, receive certificates and have the opportunity to get a job in these and other companies

Alumni can become:

- Programmer
- Systems Analyst
- Tester
- Head of Software Development
- Software Architect
- Big Data Specialist



Major 09.03.03 «Applied Informatics»

Program duration – 4 years (full time)
5 years (extramural)

Major 09.03.03

Applied Informatics



**Modeling of applied and
information processes**



**Information systems design,
development, implementation and
maintenance**



Software Development

Operating systems

Windows

Linux

Programming languages

JavaScript

VB

Python

XML

C++

SQL

C

PHP

HTML

1C

C#

Java

Major Subjects

Information Systems Design

Software in Social and Economic Systems

Development of Non-standard Solutions on 1C Platform

Design of Intelligent Information Systems

Modern software development technologies

Client-server Database Applications

Development and Analysis of Requirements for Software Systems

Implementation of Java-based Software into Industrial Development

Software Testing

Object-Oriented Programming

Design of Intelligent Information Systems

Information Management

Internet Programming

Providing training for bachelors majoring in 09.03.03 is implemented in close cooperation with leading IT-companies

Promavtomatika

SberTech

Innotech

Sibintech

INVEST

Program Region

Tinkoff

D-Link

Students undergo internships, have the opportunity to take free training courses in various programming languages and software development technologies, receive certificates and have the opportunity to get a job in these and other companies

Alumni can become:

- Programmer
- Systems Analyst
- Business Application Developer
- Information Systems Developer
- Head of Software Development
- Tester



Specialist's major 09.05.01 «Application and Operation of Special Purpose Automated Systems»

Training program «Mathematical, Software and
Information Support for Computers and Automated
Systems»

Program duration – 5 years

Operating systems

Windows Linux

Programming
languages

1C C++

Python Assembler

PHP C#

JavaScript SQL

Java

Specialist's major 09.05.01

Application and Operation of Special Purpose Automated Systems



Fundamental physics and mathematics training



Universal training in information technology and programming



Special training in the design and operation of secure automated systems, data mining, computer modeling, etc.



Graduates are able to manage informatization projects for enterprises and organizations

Training program - Mathematical, Software and Information
Support for Computers and Automated Systems

Specialist's major 09.05.01

Application and Operation
of Special Purpose
Automated Systems

Major Subjects

Modern Software Development Technologies

Networks and Telecommunications

Technologies for Design and Development of Special Software

Development and Analysis of Requirements for Special Purpose Automated Systems

Information Security in Special Purpose Automated Systems

Special Purpose Automated Systems Operation

Specialized Computing Devices Programming

Video Computer Technologies in Automated Systems

Special Purpose Automated Systems

Intelligent Automated Systems Design

Industrial Software Development

Software for Socio-economic Systems

Data Mining

Providing training for bachelors majoring in 09.05.01 is implemented in close cooperation with leading IT-companies

Ryazan State
Instrument-Making
Enterprise
Program Region
Sberbank Technology

Design Bureau «Globus»
RNT Group
Sibintech
Russia Central Bank

Infotecs
Quantron
D-Link Trade
Promavtomatika

Students undergo internships, have the opportunity to take free training courses in various programming languages and software development technologies, receive certificates and have the opportunity to get a job in these and other companies

Alumni can become:

- Programmer
- Systems Analyst
- Automated Systems Specialist
- Big Data Specialist
- Head of Software Development

Graduates who have mastered the basic educational program can continue their education in a master's program.

Two majors are available:

- ✓ 09.04.04 «Software Engineering» (Academic partnership program implemented jointly with Bauman Moscow State Technical University within the framework of the Federal Project «Artificial Intelligence»);
- ✓ 09.04.03 «Applied Informatics» (within the framework of the educational program «Applied Informatics in Economics»).

After completing your master's degree, you can continue your studies in graduate school.

Master's degree program

- ✓ Major 2.3 «Information Technologies and Telecommunications»



Career Day



Career Day: IT Career Day

IT Career Day helps students learn about professional and career prospects for working in the domestic information technology market.

The event is attended by leading IT companies in the region.

In 2023, the organizers were the IT Committee of the Chamber of Commerce and Industry of Ryazan Region and Group of Companies “Promavtomatika”. The event was attended by:

- GC «Promavtomatika»;
- AltCraft;
- Assi;
- Vybor;
- EnKod;
- Infostandart. Abonent+;
- Promregion;
- GK «Center of Integrated Security of Information Technologies»;
- CRM-Group;
- Loginom.

After the grand opening and plenary part, it was possible to attend master classes. Students and graduates of universities could attend any lectures from IT companies directors and specialists. The most active participants who attended the most master classes took part in the drawing of a super prize.

Career Day: Day of 1C career



Career Day: Day of 1C career

1C Career Day - an event dedicated to careers in the 1C related sphere, organized jointly with «Promavtomatika» company. Students and graduates of IT specialties can get acquainted with the activities of an 1C company and build their professional development trajectory in the field of 1C programming.

Thanks to participation in 1C Career Day, students can:

- learn about student contests and competitions on 1C:Enterprise platform;
- attend master classes on rapid application development and more;
- learn about vacancies and internships;
- receive an invitation to pre-graduate and operational practice.

Career Day: Job fairs

Ryazan State Radio Engineering University regularly hosts a traditional event for the employment of young specialists - a job fair, which is attended by senior students.

The main goal of the event is to promote the employment of students and graduates of our University in Ryazan and neighboring regions companies as well as to create conditions for employers to select specialists who meet all requirements and criteria.

Dozens of the largest organizations of Ryazan and Moscow regions are participating in the fair, presenting vacancies for students and graduates of Ryazan State Radio Engineering University.

Within the fair, students are informed about the situation on the regional labor market, measures of social support for youth and the level of wages in various organizations.

Students Scientific Work



Students of our Department conduct scientific research in the following main areas:

Development of mathware and software for intelligent information processing and decision-making support systems;

Research in the areas of natural language processing, knowledge representation models, neural networks and other deep learning models;

Methods and algorithms for aerospace image processing;

Increasing the reliability, transmission and storage of large volumes of digital data in telecommunication systems;

Development of methodological support for teaching modern computer and information technologies.

Students present the results of scientific research at scientific and technical conferences of students, master's degree students and specialists at All-Russian, regional and university levels as well as in collections of scholarly works of our University.

Competitions and Olympiads



Students of our Department regularly take part in events connected with their major disciplines

1. All-Russian Olympiad for Students «I am a Professional».
2. International Olympiad in programming on 1C:Enterprise 8 platform, All-Russian competition 1C: Accounting, mobile application development competition, IT Career Day.
3. Championships in competitive programming at regional and all-Russian levels.
4. Open International Internet- Olympiad in informatics (advanced major with an in-depth study of the discipline).
5. Regional competition of student research in the field of information and computing technologies «IT OPEN».
6. Interuniversity Olympiads in analytics and design of information systems, databases, development of models on UML language..
7. Central Russia Championship of Student Team World Championship in Programming within International Collegiate Programming Contest.

Competitions and Olympiads





Competitions and Olympiads



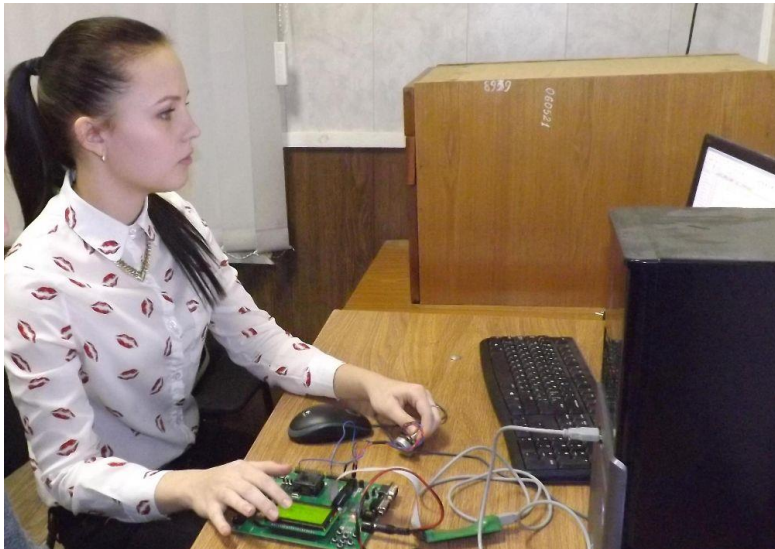
The following material and technical base is used in the educational process:

- 5 specialized multifunctional classrooms equipped with projection equipment, interactive whiteboards and a document camera;
- more than 130 modern computers with Internet access;
- department's own local computer network, forming a specialized segment of the university's corporate network.

Student training centers have been created at the Department:

- training center for modern software development technologies;
- microcontroller programming laboratory;
- Laboratory «1C Programming».

Material and Technical Base



Microcontroller programming laboratory of the company «Melandr»

The laboratory conducts classes in the following disciplines:

- «Programming of microcontrollers» and «Programming of real-time computing systems» for bachelors majoring in 09.03.04 «Software Engineering»;
- «Programming of specialized computing devices» for masters majoring in 09.04.04 «Software Engineering».

In the classes, the basics of programming modern Russian and foreign microcontrollers are studied.

Material and Technical Base



Laboratory
«1C Programming»

Material and Technical Base



Department's main
study hall

Material and Technical Base




Classrooms

Material and Technical Base

Scientific and Educational Work



Teachers of the Department have published dozens of teaching aids, many of which are certified by Academic Services Office.



Teachers of the Department carry out fundamental R&D, receive Russian grants and regularly undergo advanced training and retraining courses.

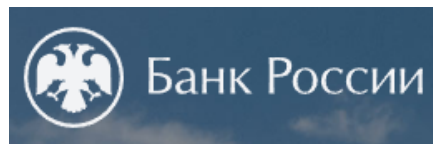


There is the Scientific and Educational Center for Information Technologies in Decision Support Systems operates at the Department.



The developed systems and technologies have been implemented at a number of enterprises in Ryazan and Moscow.

PARTNER COMPANIES



ГОСУДАРСТВЕННЫЙ РЯЗАНСКИЙ
ПРИБОРНЫЙ ЗАВОД



ТИНЬКОФФ



Come study with us!

Graduation Ceremony of bachelor's degree programs «Software Engineering» and «Applied Informatics»

