

**NATIONAL RESEARCH TOMSK POLYTECHNIC UNIVERSITY**  
**Department of industrial and medical electronics**

**Course Description**

**Discipline/Course:** Information technology

**Field of GEP:** 11.03.04 Electronics and nanoelectronics

**Training profile (specialization, syllabus):** Industrial Electronics

**The goals and objectives of the course:**

- \* familiarity with modern approaches of the mathematical and software information systems;
- \* to develop in students practical skills of software applications to the solution of problems of data processing and analysis;
- \* development needs of students to independent cognitive activity.

**Course Outline:**

Introduction

Section 1. Basics in mathematical processor MathCAD.

Section 2. Graphs in the mathematical processor MathCAD.

Section 3. The solution of equations and systems.

Section 4. Solution of differential equations. Integration.

Conclusion

**As a result of studying discipline the student should:**

To know: fundamentals of modern software environments for solving professional problems

Be able to: apply knowledge of related Sciences for solving problems of data processing

To possess: skills of using computational tools to solve data processing tasks

**Types of educational work:** lectures, laboratory work; monitoring (individual assignments, examinations, individual work, consultations of the teacher).

**Midterm Assessment:** credit