TOMSK POLYTECHNIC UNIVERSITY ТОМСКИЙ ПОЛИТЕХНИЧЕСКИЙ УНИВЕРСИТЕТ

Electronics 1.2

Course Overview

Level of study	Bachalor Degree
Workload	**ECTS: 4** **Total Hours: 144** **Contact Hours: 64** • **Lectures: 32** • **Labs: 16** • **Seminars: 16**
Course Code	
Semester	4
Prerequisites	Physics Mathematics Electrotechnics 1.3
Course Objectives	• In the field of education – formation of competences, special knowledge and skills in calculation and design in sphere of the modern high-efficiency electronic systems • In the field of training – teaching to effectively work individually and in a team, to show the skills required for professional and personal development • In the field of development – preparing students for further development of new professional knowledge and skills, self-learning, continuing professional self-improvement
Learning Outcomes	Having successfully completed this module, you will be able to: • Apply of knowledge of the electronic components, construction principles, operations, general features of the basic analog, digital and switching devices • Make simple calculations basic units of the electronics • Process and analysis data obtained during the theoretical and experimental studies
Syllabus	• Electrical signals • Electronic components • Amplifiers • Generators of harmonic signals
Labs	• Oscillography electrical signals • Semiconductor diodes • A study amplifier stage bipolar transistor • Investigation of the characteristics and parameters of fets • A study of the operational amplifier
Projects	–

Assessment	Exam
Resources	• Fundamentals of Electric Circuits / Charles K. Alexander, Matthew N.O. Sadiku. – 5th ed., 2013. – 996 p. • Electronics: a complete course / Nigel P. Cook. – 2nd ed., 2004. – 1037 p.
Instructors	Grebennikov Vitaliy Vladimirovich http://portal.tpu.ru/SHARED/g/GREBENNIKOVVV