DESCRIPTION OF THE COURSE

Name of the course **Electronics**	Code: **BGME34**	Semester: 5
Type of teaching: Lectures and laboratory work	Classes per week: L – 3 hours; LW – 2 hours	Credits: **5**

LECTURER:
Assoc. Prof. Ph.D. Dimitar Alexiev (FETT), Tel. 965 3677, email: dalex@tu-sofia.bg
Technical University – Sofia

COURSE STATUS IN THE CURRICULUM: Compulsory for the students' specialty "General Mechanical Engineering" at Department of German engineering training and industrial management at Technical University – Sofia for educational and background degree "Bachelor".

AIMS AND OBJECTIVES OF THE COURSE: **Electronics** course aims to familiarize students with functional principles and analysis of fundamental electronic circuits and devices and simple methods for designing some of them also. Acquired knowledge will allow specialists of "General Mechanical Engineering" specialty to take part in wide-outlined team at industrial equipment development.

DESCRIPTION OF THE COURSE: Educational stuff enclose following topics: basic building components of electronics (diodes, thyristors, bipolar and field transistors, integrated circuits); analog electronic circuits (amplifiers, generators, functional transducers); pulse and digital circuits (flip-flops, multivibrators, logical circuits, decoders, registers, analog to digital and digital to analog converters); power supply devices (rectifiers, filters, stabilizers) and another fundamental electronic circuits and devices.

PREREQUISITES: The discipline is build by basic knowledge of Physics and Electrical Engineering.

TEACHING METHODS: Lectures carry out by traditional way with usage of some helpful technical tools for education. Laboratory works are carried out with laboratory kits for research of electronic circuits and respective measurement devices.

METHOD OF ASSESSMENT: At the end of V^{th} term hold written examination which completely includes working on fixed count of problems. Exercises and examination are conformed to accepted routine by specialty "General Mechanical Engineering" in Karlsruhe University – Germany.

INSTRUCTION LANGUAGE: German

BIBLIOGRAPHY:
1. Vogelmann, H. Elektronik. Universität Karlsruhe, 2001. 2. Tietze, Ul., Ch. Schenk. Halbleiterschaltungstechnik. Springerverlag, 1993. 3. Linse, H. Elektrotechnik für Maschinenbauer. Stuttgart, Teubnerverlag, 1992. 4. Flegel, G., K. Birnstiel. Elektrotechnik für den Maschinenbauer. München, Carl Hauser Verlag., 1982.