



МИНИСТЕРСТВО НА ОБРАЗОВАНИЕТО И НАУКАТА

Проект BG051PO001-3.1.07-0048 „Актуализиране на учебните планове и програми на специалностите във ФЕТТ, ФТК и МТФ на ТУ-София и създаване на нова съвместна магистърска специалност в съответствие с потребностите на пазара на труда“

DESCRIPTION OF THE COURSE

Name of the course: Nano-and bioelectronics	Code: MMTN 10.5	Semester: 2
Type of teaching: Lectures, seminar and laboratory works	Lessons per week: L-1 h, SW – 1 h, LW-2 h	Number of credits: 5

LECTURER(S):

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COURSE STATUS IN THE CURRICULUM:

Elective for students in "Microtechnology and nanoengineering" for the academic degree "Master".

AIMS AND OBJECTIVES OF THE COURSE:

The course "Nano and bioelectronics" aims is to familiarize students with the basic phenomena, processes, technologies and materials in nanoelectronics and bioelectronics. The knowledge and skills will allow them to gain experience on the applications of bioelectronic devices.

DESCRIPTION OF THE COURSE:

Students study relevant aspects of physics, biology, chemistry, materials science, micro-and nanotechnology related to modern devices based on molecular electronics and bioelectronics.

PREREQUISITES:

Basic knowledge in physics, biology, chemistry, microelectronics, materials.

TEACHING METHODS:

Lectures using visual aids. Seminars conducted on materials given by assistants, during which students have the opportunity to get acquainted with the main characteristics of the studied phenomena and devices.

METHOD OF ASSESSMENT:

Current assessment.

TEACHING LANGUAGE:

Bulgarian

BIBLIOGRAPHY:

- А. Попов, Полупроводникови материали и структури за наноелектрониката, Университетско издателство „Св. Климент Охридски“, София 2007 .
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Timp, G., Ed., Nanotechnology, Springer-Verlag, Berlin, Germany, 1999.
S. Lyshevski, Nano and Molecular Electronics Handbook, CRC Press, Boca Raton, 2007.
C. Nicolini, Molecular Bioelectronics, World Scientific, Singapore, 1996.