Title **Digital Systems Design**	Code **1010801131010810060**
Field **Electronics and Telecommunications**	Year / Semester **2 / 3**
Specialty **-**	Course **core**
Hours Lectures: **3** Classes: **2** Laboratory: **2** Projects / seminars: **-**	Number of credits **0**
	Language **polish**

Lecturer:

> prof. dr hab. inż. Jerzy Tyszer
> Katedra Radiokomunikacji
> tel. +48 61 665 3814, fax. +48 61 665 3823
> e-mail: tyszer@et.put.poznan.pl

Faculty:

> Faculty of Electronics and Telecommunications
> ul. Piotrowo 3A
> 60-965 Poznań
> tel. (061) 665-2293, fax. (061) 665-2572
> e-mail: office_det@put.poznan.pl

Status of the course in the study program:

> Obligatory course, II year, Faculty of Electronics and Telecommunications

Assumptions and objectives of the course:

> It aims to provide a clear picture of fundamental concepts, effective problem-solving techniques, and appropriate exposure to modern technologies, design techniques, and applications in the area of digital circuits and systems. The presentation consists of balanced coverage of relevant ideas progressing through all levels of design and abstraction starting with simple binary numbers and codes, moving through the gate and register levels, and concluding with an introduction to design for test concepts.

Contents of the course (course description):

> Binary numbers and codes, Boolean algebra, gate-level circuits, two-level design, computer-aided design of multi-level circuits, arithmetic circuits, combinational logic blocks, programmable logic devices, hardware description languages, sequential logic, latches and flip-flops, registers and counters, sequential circuits analysis and design, automated synthesis of finite-state machines based on Mealy and Moore models, asynchronous circuits, algorithmic state machines, test generation for combinational circuits, design for testability, built-in self-test.

Introductory courses and the required pre-knowledge:

> Basic knowledge of discrete mathematics and microelectronics.

Courses form and teaching methods:

> Lectures supported by slides, tutorials and laboratory projects.

Form and terms of complete the course - requirements and assessment methods:

> Tests and written exam.

Basic Bibliography:

> -

Additional Bibliography:

> -

http://www.put.poznan.pl/