

Title <b>Communication Networks</b>	Code <b>POZ04WTS2ICE07</b>
Field <b>Electronics and Telecommunications</b>	Year / Semester <b>autumn</b>
Specialty <b>Information and Communication Technologies</b>	Course <b>elective</b>
Hours Lectures: <b>2</b> Classes: <b>2</b> Laboratory: -    Projects / seminars: -	Number of credits <b>5</b>

**Lecturer:**

Prof. dr hab. inż. Wojciech Kabaciński  
Chair of Communication and Computer Networks  
tel. (061) 665-3907, fax. (061) 665-3922  
e-mail: Wojciech.Kabacinski@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:**

Elective course for students of Electronics and Telecommunications,  
specialization Information and Communication Technologies.

**Objectives of the course:**

To provide students with the knowledge of architecture and standards of broadband networks including optical networks. Explaining the basic problems of multimedia networks.

**Course description:**

Lectures: Communication systems and networks. Introduction to communication networks. Information transfer methods and switching: circuits, packets, ATM. Layered network models. Transmission systems: PCM, SDH, OTN, WDM. Telecommunication services. Telecommunication network types and architectures: PSTN, ISDN, GSM, UMTS, 4G, ATM, IP. Network nodes: architectures and functions. Signalling in telecommunication networks. Call control procedures. Switching fabrics. Principles of traffic theory. Basic routing methods in telecommunication networks  
Classes: seminars prepared by students, exercises to subjects covered by lectures.

**Initial knowledge:**

Basic mathematic and probability theory.

**Teaching methods:**

Lectures supported by multimedia presentations.

**Assessment methods:**

Written exam.

**Bibliography:**

1. Tarek N. Saadawi, Mostafa H. Ammar: Fundamentals of Telecommunication Networks, Wiley, 1994.
2. Roger L. Freeman: Fundamentals of Telecommunications, Wiley, 1999.