POZNAN UNIVERSITY OF TECHNOLOGY

EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM (ECTS)

COURSE DESCRIPTION CARD - SYLLABUS

Course name
Teleinformation Systems [S2Trans1>ST]

Course

Field of study	Year/Semester
Transport	2/3
Area of study (specialization)	Profile of study
Logistics of Transport	general academic
Level of study	Course offered in
second-cycle	Polish
Form of study	Requirements
full-time	compulsory

Number of hours

Lecture	Laboratory classes	Other
30	0	0
Tutorials	Projects/seminars	
0	0	

Number of credit points

2,00

Coordinators

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Lecturers

Prerequisites

KNOWLEDGE: the student has basic knowledge of mathematics, computer science, electronics and information theory. SKILLS: the student is able to obtain information from the literature on the current state of knowledge related to ICT and the latest development trends in this field. SOCIAL COMPETENCES: the student is able to evaluate social and environmental problems resulting from the use of modern information technologies. The student is able to work in a group and shows independence in solving problems, acquiring and improving the acquired knowledge and skills.

Course objective

Familiarization with the concepts related to the scope of construction and operation of ICT systems, expanding the student"s knowledge of the construction of these systems, familiarizing the student with selected techniques and hardware solutions, whose task is to ensure safe communication in ICT networks, familiarizing the student with selected network protocols that guarantee the security of data transmission in ICT systems.

Course-related learning outcomes

Knowledge:

Student has advanced and in-depth knowledge of transport engineering, theoretical foundations, tools and means used to solve simple engineering problems
Student has ordered and theoretically founded general knowledge related to key issues in the field of transport engineering

Skills:
Student is able to obtain information from literature, databases and other sources (in Polish and English), integrate them, interpret and critically evaluate them, draw conclusions and formulate and exhaustively justify opinions
Student is able to use information and communication techniques used in the implementation of projects in the field of transport

Social competences:
Student understands that in the field of transport engineering, knowledge and skills very quickly become obsolete
Student understands the importance of using the latest knowledge in the field of transport engineering in solving research and practical problems

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

1. The assessment takes place during the final class in the form of a test.
2. The test includes the following types of questions:
a) multiple-choice with one correct answer,
b) fill-in-the-blank,
c) open-ended.
3. The test consists of 30 questions, each scored as follows: 0 points for an incorrect answer, 1 point for a correct answer.
4. Time allocated for the test: 35 minutes.
5. In the case of using unauthorized sources during the written assessment:
• First warning: grade reduced by 1 level.
• Second warning: unsatisfactory grade (2.0).
6. Active participation in lectures adds +0.5 to a passing grade from the written assessment.
7. Completing an additional task for those wishing to expand their knowledge of the subject adds +0.5 to a passing grade from the written assessment.

Programme content

Teleinformatic (telecommunication) networks - types, structure. Digital data transmission, transmission structures, coding, multiplexing, modulation, encryption, compression. Types of teleinformation systems, their goals and tasks. Technologies for creating systems. Basic topologies of computer networks paying attention to the advantages and disadvantages of wired and wireless networks.

Course topics

Basic concepts related to the construction of teleinformatic systems. Presentation of the use of teleinformatic systems in road, rail and air transport. Methods of securing these systems.

Teaching methods

1. Lectures with multimedia presentation

Bibliography

Basic
1. Norris M.:Teleinformatyka, WKŁ, 2002
2. Haykin S.: Systemy telekomunikacyjne, WKŁ, 2004
3. Bradford R.: Podstawy sieci komputerowych. Warszawa: WKŁ, 2009
4. Kula S., Systemy Teletransmisyjne, WKŁ, Warszawa 2006
5. Kabaciński W., Żal M.: Sieci telekomunikacyjne. Warszawa: WKŁ, 2008
Additional

1. Marciniak M.: Łączność światłowodowa, WKŁ, 1998
2. Pr. zb.: Vademecum teleinformatyka t. I, II i III. Warszawa: IDG, 2002
3. Simmonds A.: Wprowadzenie do transmisji danych. Warszawa: WKŁ, 1999
4. Urbanek A. (red.): Leksykon. Teleinformatyka. Warszawa: IDG, 2001

Breakdown of average student's workload

	Hours	ECTS
Total workload	60	2,00
Classes requiring direct contact with the teacher	30	1,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	30	1,00