COURSE DESCRIPTION CARD - SYLLABUS

Course name
Preparation of the diploma thesis with elements of scientific research [S2Trans1-TrSz>PPDzEB]

Course

Field of study
Transport

Year/Semester
2/3

Area of study (specialization)
Railway Transport

Profile of study
general academic

Level of study
second-cycle

Course offered in
Polish

Form of study
full-time

Requirements
compulsory

Number of hours

Lecture
0

Laboratory classes
0

Other (e.g. online)
0

Tutorials
0

Projects/seminars
10

Number of credit points

14,00

Coordinators

dr inż. Paweł Komorski
pawel.komorski@put.poznan.pl

Lecturers

Prerequisites

KNOWLEDGE: The student has advanced and in-depth knowledge of transport engineering, theoretical foundations, tools and means used to solve simple engineering problems. SKILLS: The student is able to plan and carry out experiments, including measurements and simulations, interpret the obtained results and draw conclusions as well as formulate and verify hypotheses related to complex engineering problems and simple research problems. SOCIAL COMPETENCES: The student understands that in computer science, knowledge and skills very quickly become outdated.

Course objective

The aim is to deepen the knowledge and skills on planning and conducting research works and the ability to present the results of these works.

Course-related learning outcomes

Knowledge:
Student knows advanced methods, techniques and tools used in solving complex engineering tasks and conducting research in a selected area of transport.
Student has knowledge of ethical codes related to scientific and research work 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.
The student is able to plan and conduct experiments, including measurements and simulations, interpret the obtained results and draw conclusions, as well as formulate and verify hypotheses related to complex engineering problems and simple research problems.
The student is able to use analytical, simulation and experimental methods to formulate and solve engineering tasks and simple research problems.
Using among others conceptually new methods, the student is able to solve complex tasks in the field of transport engineering, including typical tasks and tasks with a research component.
The student is able to prepare and present a scientific study in Polish and English, presenting the results of scientific research or an oral presentation on specific issues in the field of transport engineering.
The student is able to determine the directions of further learning and implement the process of self-education, including other people.

Social competences:
Student understands the importance of using the latest knowledge in the field of transport engineering in solving research and practical problems.
Student is aware of the need to develop professional achievements and to comply with the rules of professional ethics.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Learning outcomes presented above are verified as follows:
Completion of the course based on:
- assessment of the diploma thesis presented,
- regularity of its implementation,
- technical problem solving skills.

Programme content

Compatible with the topic of the diploma thesis.

Course topics

Topics include issues in the area of rail transport in the broadest sense of the term, in accordance with the thesis topic agreed with the supervisor.

Teaching methods

Discussion with the student about problems occurring during diploma thesis preparation, solving research problems or providing sources in the literature to solve problems.

Bibliography

Basic
Scientific and technical literature necessary to prepare the thesis
Supplementary according to the topic of the thesis and the guidelines provided by the thesis Supervisor.

Breakdown of average student's workload

	Hours	ECTS
Total workload	375	14,00
Classes requiring direct contact with the teacher	125	5,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	250	9,00