COURSE DESCRIPTION CARD - SYLLABUS

Course name
DOCTORAL SEMINAR [S5SD1>SEMD]

Course

Proposed by Discipline
architecture and urban planning
automation, electronics, electrical engineering and space technologies
chemical sciences
civil engineering, geodesy and transport
environmental engineering, mining and energy
information and communication technology
management and quality studies
materials engineering
mechanical engineering

Year/Semester
4/8

Level of study
Doctoral School

Course offered in
English

Form of study
full-time

Requirements
compulsory

Number of hours

Lecture
0

Laboratory classes
0

Other
0

Tutorials
0

Projects/seminars
10

Number of credit points

2,00

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Prerequisites

Knowledge: PhD student has the knowledge resulting from the scope of completed university studies, necessary to implement the doctorate in the chosen discipline. Skills: PhD student is able to organize his own workshop using modern research methods; is able to formulate and verify research hypotheses, plan and conduct research and scientific experiments as well as analyze, interpret, critically evaluate, develop and present research results. Social competencies: PhD student is prepared to take social responsibility for studying at doctoral school; understands the need to deepen, update and popularize knowledge especially regarding the achievements of science and technology. Has the ability to work in a team, is open to cooperation with other people.

Course objective

Getting to know the general principles of preparing doctoral documentation in accordance with the PhD School requirements. Overview of the basic requirements for the preparation of doctoral dissertation, broadening the knowledge of PhD students concerning the ways to properly prepare and give oral presentations. Preparing PhD students to critically analyze and asses scientific research results and evaluate their own contribution to the development of a scientific discipline as well as to take part in scientific discourse.

Course-related learning outcomes

Knowledge:
A PhD student who graduated from doctoral school knows and understands:
1. to the extent that enables revision of existing paradigms - global achievements, covering theoretical basis as well as general and selected specific issues, that are specific to scientific disciplines studied at the doctoral school, [P8S_WG/SzD_W01],
2. key developmental trends of science disciplines in which education takes place at the doctoral school, [P8S_WG/SzD_W02],
3. principles of promoting scientific activity results, also in an open access mode, [P8S_WG/SzD_W04],
4. basic conditions of knowledge transfer to the economic and social sphere as well as commercialization of the results of scientific activities and know-how related to these results. [P8S_WK/SzD_W07].

Skills:
A PhD student who graduated from doctoral school can:
1. use the knowledge from different branches of science to creatively identify, formulate and to innovatively solve complex problems or to execute research tasks in particular:
- define the aim and subject of scientific research, form a research hypothesis,
- develop research methods, techniques and tools and use them creatively,
- draw conclusions on the basis of research results, [P8S_UW/SzD_U01],
2. critically analyze and asses scientific research results, work of experts and other creative activities together with their contribution into knowledge development, [P8S_UW/SzD_U02],
3. take part in scientific discourse. [P8S_UK/SzD_U07].

Social competencies:
A PhD student who graduated from the doctoral school is ready to:
1. critically assess the achievements within a given scientific discipline, [P8S_KK/SzD_K01],
2. critically evaluate their own contribution to the development of a given scientific discipline, [P8S_KK/SzD_K02],
3. maintain and develop the ethos of research and creative communities, including:
- conducting independent scientific activity,

- respecting the principle of public ownership of the results of scientific activities, including the principles of intellectual property protection. [P8S_KR/SzD_K07].

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Assessment of oral presentation on the implementation of the doctoral dissertation and assessment of doctoral students' answers to questions related to both the presentation and their knowledge of relevant discipline. Lecturer responsible for the seminar assesses the doctoral students' participation in the discussion during the seminar sessions and their involvement in preparing the presentation.

The following grading scale is used to assess learning outcomes: very good (5.0), good plus (4.5), good (4.0), satisfactory plus (3.5), satisfactory (3.0), unsatisfactory (2.0). The subject is considered as not completed in the case of a grade of 2.0.

The following assignment of grades to percentage ranges of results is used:
above 50% - 60.0%: 3.0
above 60% - 70.0%: 3.5
above 70% - 80.0%: 4.0
above 80% - 90.0%: 4.5
above 90% - 100%: 5.0

Programme content

Ongoing monitoring of progress in the implementation of the individual research plan. Discussing the key principles of organizing doctoral documentation according to the requirements of the PhD School, providing essential guidelines for preparing a doctoral dissertation, and expanding PhD students' knowledge on effectively preparing and delivering oral presentations.

Course topics

1. Scientific discussion (principles applicable during exchange of scientific views, clarity of formulation of observations, doubts, questions, giving opinions on the content presented).
2. Presentation of progress in the implementation of the doctoral dissertation (structure of presentations, analysis of the issues presented in doctoral dissertations).
3. Preparation of PhD students for the defense of the doctoral dissertation (giving opinions on the content presented).
4. Discussion on the need to develop transversal competences valuable on the labor market, such as adapting to new conditions, taking the initiative, problem solving skills, risk assessment or decision making skills.

Teaching methods

Seminar, consultations on doctoral dissertation and implemented projects, discussions on the presented doctoral projects.

Bibliography

Basic
1. Chris A. Mack, The lecturer responsible for the seminar assesses the presentation prepared by the doctoral students and their activity in the discussion.How to Write a Good Scientific Paper, SPIE PRESS Bellingham, Washington USA, 2018.
2. Marino J., Stefan M.I., Blackford S. (2014) Ten Simple Rules for Finishing Your PhD. PLoS Comput Biol 10(12): e1003954. https://doi.org/10.1371/journal.pcbi.1003954.

Additional
1. Turabian K.L. A Manual for Writers of Research Papers, Theses, and Dissertation, 8th edition, Chicago (Illinois): The University of Chicago Press, 2013.

Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,00
Classes requiring direct contact with the teacher	10	0,50
Doctoral student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation)	40	1,50