



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Diploma seminar [N2Inf1-AMiWdIP>SEM]

### Course

Field of study

Computing

Year/Semester

2/4

Area of study (specialization)

Mobile and Embedded Applications for the Internet of Things

Profile of study

general academic

Level of study

second-cycle

Course offered in

polish

Form of study

part-time

Requirements

compulsory

### Number of hours

Lecture

0

Laboratory classes

0

Other (e.g. online)

0

Tutorials

16

Projects/seminars

0

### Number of credit points

1,00

### Coordinators

prof. dr hab. inż. Andrzej Urbaniak

andrzej.urbaniak@put.poznan.pl

### Lecturers

### Prerequisites

Knowledge: fundamental domain knowledge (including knowledge on methods, techniques and tools) related to the specific topic addressed in the dissertation. Skills: ability to compile knowledge from various sources; ability to form and solve scientific problems related to the topic of the dissertation as well as adjacent fields of computing and information technology. Social competencies: understanding the need for expanding one's competencies; honesty, responsibility, perseverance, cognitive curiosity, creativity, personal culture, and respect for other people.

### Course objective

1. Sharing fundamentals on the methodology of obtaining, collecting and disseminating research results, in particular those related to graduate dissertations in computing and information technology. 2. Sharing skills on forming and solving problems related to integrating and interpreting multi-source data and multi-source knowledge on various research aspects. 3. Sharing skills and knowledge on the ongoing research in the field related to the specific topic addressed in the dissertation.

### Course-related learning outcomes

Knowledge:

students:

have knowledge about development trends and the most important cutting edge achievements in computer science and other selected and scientific disciplines, especially those related to topic addressed in the graduate dissertation [k2st\_w4]

know advanced methods, techniques and tools used to solve complex engineering tasks and conduct research in a selected area of computer science related to the specific topic addressed in the graduate dissertation [k2st\_w6]

have knowledge about ethical codes related to scientific research conducted in the field of computer science [k2st\_w7]

Skills:

students:

are able to obtain information from literature, databases and other sources in polish (and possibly english), integrate, interpret and critically evaluate them, draw conclusions and formulate as well as justify opinions [k2st\_u1]

are able to use it-based information and communication techniques when implementing various aspects of the graduate dissertation [k2st\_u2]

can communicate both in polish (and possibly english) using different techniques in a professional environment and in other environments, also using it tools [k2st\_u12]

are able to prepare and present a scientific study in polish (and possibly english), presenting the results of scientific research or oral presentation on specific issues related to the graduate dissertation [k2st\_u13]

can determine the directions of further learning and implement the process of self-education, including education of other people [k2st\_u16]

Social competences:

students:

understand that in the field of it the knowledge and skills quickly become obsolete [k2st\_k1]

understand the importance of using the latest knowledge in the field of computer science in solving research and practical problems [k2st\_k2]

understand the importance of popularization activities concerning the latest achievements in the field of computer science [k2st\_k3]

are aware of the need to develop professional achievements and comply with the rules of professional ethics [k2st\_k4]

## Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Learning outcomes presented above are verified as follows:

Verification of students' knowledge/skills is based on completeness and correctness of delivered presentations.

Apart from presenting their arguments, when confronted with detailed questions or pieces of critical judgment (which may concern both the form and merits of the presentations), students are expected to put up justified defence of their own arguments. Simultaneously, they are expected to identify and point out potential weak points in the argumentation provided by other students.

## Programme content

The diploma seminar, together with the individual dissertations, introduces the students to conducting practical research, together with the multiplicity of its problems and issues; which are aspects crucial to the second cycle studies. During the seminar students first of all learn about various research problems and various ways to solve such problems. Additionally, students are provided with information on the format of the approaching degree examination, and potential forms of further education (third cycle studies, post-graduate courses, etc.).

Formally, two basic issues are presented: (indirectly) creating research documentation and (directly) disseminating research results. The particular topics, apart from rules and various technological aspects of typography, concern theoretical and practical research problems.

During the seminar students prepare two slide shows detailing the topic addressed in their dissertations, which serve as bases for two presentations. The main objectives of these presentations include:

conveying research problems undertaken in the dissertations and justifying own solutions to these problems.

The presentations basically aim at sketching out:

(first presentation)

- the chosen topic, its objectives and guidelines,
- a short justification of the choice,
- the current state of knowledge in the underlying domain,
- preliminary selection of tools and methods,
- the detailed schedule of activities.

(second presentation)

- the state of play,
- achieved results,
- schedule compliance issues (if applicable),
- modifications to original objectives/guidelines (if applicable).

On undelayed progress, both slide shows (after appropriate merging) become the final slide show to be used in the degree examination.

Last but not least, the objectives of the seminar include raising awareness of the role that information technology engineering plays in the modern society, together with its liability, responsibilities and related issues of professional ethics.

### Teaching methods

Short presentations/talks on selected topics, consultations on research issues related to the research problems addressed by the various dissertations, discussion and Q&A sessions on all aspects (including form and merits) of the students' presentations.

### Bibliography

Basic:

1. Profesjonalna prezentacja multimedialna. Jak uniknąć 27 najczęściej popełnianych błędów, Lenar P., Helion, Gliwice, 2010.
2. Sekrety skutecznych prezentacji multimedialnych. Wydanie II rozszerzone, Lenar P., Helion, Gliwice, 2011.

Additional:

1. Prezentacja, która robi wrażenie. Projekty z klasą, Williams R., Helion, Gliwice, 2011.
2. Microsoft PowerPoint 2010 PL. Praktyczne podejście, Muir N., Helion, Gliwice, 2011.
3. The Craft of Scientific Presentations: Critical Steps to Succeed and Critical Errors to Avoid, Alley M., [sharif.edu/~namvar/index\\_files/Scientific-Presentation.pdf](http://sharif.edu/~namvar/index_files/Scientific-Presentation.pdf), 2002.
4. The Non-Designer's Presentation Book, Williams R., Peachpit Press, San Francisco, 2009.

### Breakdown of average student's workload

	Hours	ECTS
Total workload	25	1,00
Classes requiring direct contact with the teacher	16	0,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	9	0,50