



COURSE CARD

1. Basic information

Course name in English:	Professional preparation of documents in the LaTeX system	
Course name in Polish:	Profesjonalny skład tekstu w systemie LaTeX	
Number of hours:	30	
Type of course:	Elective course	
Form of course:	lecture	
Code of course:	W13MTM-SD0132W / MAQ100413W	
Course leader:	Dr inż. Przemysław Scherwentke	
Faculty of the course leader:	W13 Faculty of Pure and Applied Mathematics	
Email address of the course leader:	Przemyslaw.Scherwentke@pwr.edu.pl	
Scientific discipline(s) assigned to the course (doctoral students representing the marked disciplines can participate in the course):	Architecture and urban planning	<input checked="" type="checkbox"/>
	Automation, electronic, and electrical engineering	<input checked="" type="checkbox"/>
	Information and communication technology	<input checked="" type="checkbox"/>
	Biomedical engineering	<input checked="" type="checkbox"/>
	Chemical engineering	<input checked="" type="checkbox"/>
	Civil engineering and transport	<input checked="" type="checkbox"/>
	Mechanical engineering	<input checked="" type="checkbox"/>
	Environmental engineering, mining, and energy	<input checked="" type="checkbox"/>
	Mathematics	<input checked="" type="checkbox"/>
	Chemical sciences	<input checked="" type="checkbox"/>
	Physical sciences	<input checked="" type="checkbox"/>
	Management and quality studies	<input checked="" type="checkbox"/>

2. Objectives

C1 Obtaining knowledge of LaTeX and typesetting rules

C2 Typesetting moderate complicated scientific texts.

C3 Ability of transforming between documents like the report (PhD), the article, the presentation etc.

C4 Getting to know basic programming aspects LaTeX.

C5 Recognizing improperly typeset texts.

C6 Recognizing subtleties carried by the proper typography, especially in an own area of interest

3. Content

Detailed information about the course content, including topics and form of classes.



No.	Topic	Number of hours	Form of classes
1	Introduction to TeX. Error interface.	2	lecture
2	Main commands.	2	lecture
3	Mathematical mode.	2	lecture
4	Advanced structures in math mode.	2	lecture
5	Some environments of text mode.	2	lecture
6	The structure of the document. Counters. Category codes (as an introduction to macros).	2	lecture
7	Some typographic rules.	2	lecture
8	Basic knowledge about macros.	2	lecture
9	Advanced macros, also with a structure.	2	lecture
10	Graphics in LaTeX.	2	lecture
11	Table of contents, index, bibliography. BibTeX.	2	lecture
12	Presentations. The beamer package.	2	lecture
13	Selected LaTeX packages	2	lecture
14	Typography of a journal article and a book — practice.	2	laboratory
15	Practice of programming in TeX/LaTeX.	2	laboratory

4. Prerequisites

List of prerequisites relating to knowledge, skills and other competences for course participants.

1. Basic knowledge of scientific and mathematic notation.
2. Computer skills.

5. Learning outcomes

List of learning outcomes at level 8 of the Polish Qualifications Framework assigned to the course (mark the learning outcomes in the last column).

Symbol	Learning outcome	
	<i>KNOWLEDGE. Doctoral student knows and understands:</i>	
SzD_W3	the main trends in the development of the scientific or artistic disciplines covered in the curricula;	<input type="checkbox"/>
SzD_W4	research methodology;	<input type="checkbox"/>
SzD_W5	the rules for the dissemination of scientific results, including in open access mode;	<input checked="" type="checkbox"/>
SzD_W6	the fundamental dilemmas of modern civilization;	<input type="checkbox"/>
SzD_W7	the legal and ethical conditions of scientific activity;	<input type="checkbox"/>
SzD_W8	the economic and other relevant conditions of scientific activity;	<input type="checkbox"/>
SzD_W9	basic principles of knowledge transfer to the economic and social spheres and commercialisation of results of scientific activity and know-how related to these results.	<input type="checkbox"/>
	<i>SKILLS. Doctoral student is able to:</i>	



SzD_U2	use knowledge from different fields of science or art to creatively identify, formulate and innovatively solve complex problems or perform research tasks, in particular: - define the purpose and subject of scientific research, formulate a research hypothesis, - develop research methods, techniques and tools, and use them creatively, - draw conclusions on the basis of scientific research; critically analyse and evaluate the results of scientific research, expertise and other creative work and their contribution to knowledge development; transfer the results of scientific activities to the economic and social spheres;	<input type="checkbox"/>
SzD_U3	communicate on specialised topics to the extent that they enable an active participation in the international scientific community;	<input checked="" type="checkbox"/>
SzD_U4	disseminate research results, including in popular forms;	<input checked="" type="checkbox"/>
SzD_U5	initiate debates and participate in a scientific discourse;	<input type="checkbox"/>
SzD_U6	be able to speak a foreign language at B2 level of the Common European Framework of Reference for Languages to a level that enables them to participate in the international scientific and professional environment;	<input type="checkbox"/>
SzD_U7	plan and implement an individual or collective research or creative activity, including in an international environment;	<input type="checkbox"/>
SzD_U8	independently plan and act for one's own development and inspire and organize the development of others;	<input type="checkbox"/>
SzD_U9	plan classes or groups of classes and implement them using modern methods and tools.	<input checked="" type="checkbox"/>
<i>SOCIAL COMPETENCES. Doctoral student is ready to:</i>		
SzD_K3	fulfilling the social obligations of researchers and creators, initiate public interest activities, thinking and acting in an entrepreneurial way;	<input type="checkbox"/>
SzD_K4	maintaining and developing the ethos of research and creative environments, including: - carrying out scientific activities in an independent manner, - respecting the principle of public ownership of research results, taking into account the principles of intellectual property protection.	<input type="checkbox"/>

6. Evaluation

Short description of the method(s) used to evaluate the learning outcomes assigned to the course, e.g., exam, test, report, presentation, etc.

Typesetting individual documents in LaTeX and an oral exam based on the obtained results.

7. Teaching methods

Short description of the teaching methods used during the course, e.g., multimedia presentation, discussion, literature studies, developing written documents, own work, etc.

N1. Multimedia lectures.

N2. Project and discussion

8. Literature



List of primary and secondary literature used to prepare the course and including additional knowledge for participants, e.g., books, textbooks, research papers, standards, web pages, etc.

PRIMARY LITERATURE:

- [1] Leslie Lamport, LaTeX. System opracowywania dokumentów. Podręcznik i przewodnik użytkownika. WNT, 2004 or (or original version).
- [2] Kazimierz Borkowski, LaTeX. Profesjonalny skład publikacji, 1992.
- [3] Marcin Borkowski, Bartłomiej Przybylski, LaTeX książka kucharska. Online:
<https://www.ptm.org.pl/latex-ksiazka-kucharska>

SECONDARY LITERATURE:

- [1] Donald Knuth, TeX. Przewodnik użytkownika. WNT, 2005 (or English version).
- [2] Antoni Diller, LaTeX wiersz po wierszu: zasady i techniki przetwarzania dokumentów, Helion, 2001 (or English version).
- [3] Helmut Kopka, Patrick W. Daly, Guide to LaTeX, Addison-Wesley, 2003.

9. Other remarks

Additional remarks, comments, (e.g., language of the course)

Part of the literature is in Polish, as we need Polish typographic rules and terminology.