



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Pre-diploma Seminar [S2Inf1E-IO>SEM1]

Course

Field of study

Computing

Year/Semester

1/2

Area of study (specialization)

Software Engineering

Profile of study

general academic

Level of study

second-cycle

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

30

Number of credit points

2,00

Coordinators

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Lecturers

Prerequisites

The student should know English at least at the B2 level, be able to prepare presentation slides using PowerPoint or a similar tool and know the rudiments of the LaTeX system.

Course objective

The course aims to prepare students for the proper (i.e., based on literature studies) selection and formulation of the diploma thesis topic. In addition, students will become familiar with the methods of conducting literature studies and selected tools.

Course-related learning outcomes

Knowledge:

the student has an in-depth knowledge of the issues concerning his/her future thesis. (k2st_w4)

the student knows the structure of a "structured abstract" and the protocol of a systematic literature review. (k2st_w6)

the student has basic knowledge of intellectual property and the phenomenon of plagiarism. (k2st_w7)

Skills:

the student is able to conduct a literature study based on a systematic literature review. (k2st_u1)
the student is able to select appropriate bibliographical databases and formulate queries related to the research questions. (k2s_u2)
the student is able to discuss in information technology topics (k2s_u12).
the student is able to prepare and deliver a presentation. (k2s_u13)
the student is able to act as a reviewer and point out possible weaknesses in the slr protocol (k2s_u15)
the student is able to independently acquire the knowledge needed to write a thesis. (k2st_u16)

Social competences:

the student realizes the rapid growth of knowledge and how quickly his achievements can become obsolete. (k2st_k1)

the student realizes the importance - from a practical point of view - of using the latest knowledge. (k2st_k2)

the student realizes how important it is - also for himself - to share knowledge with others. (k2st_k3)

the student realizes the consequences of plagiarism. (k2st_k4)

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

The final grade will be based on the following component grades:

- * Result of the test regarding the material presented in the lecture form
- * Assessment of the literature study protocol
- * Assessment of the interim report
- * Assessment of the final report
- * Assessment of the review of the final report
- * Assessment of the research project statement
- * Assessment of the chairperson role

Each of these grades will be expressed on a scale of 0-10 points, and the final grade will be based on a weighted average of the component grades.

Programme content

Systematic Literature Studies

Multimedia presentations - Basic principles

Good practices in scientific discussions and reviews

Formulating an aim of a research project

References, citations, and bibliographic styles

Master's thesis structure and the diploma procedure

Course topics

Systematic Literature Reviews vs. Systematic Mapping Studies

Protocols of Systematic Literature Studies

Query-based literature studies

Snowballing method

The Covidence tool

Threats to validity

Checklist-based assessment of protocol's quality

Good and bad practices of multimedia presentations

Aim formulation based on the SMART criteria and the structured abstract concept

BibTeX

Types and structure of master's thesis

Teaching methods

During the first meetings, the teacher presents the methods of literature studies and other useful techniques in the form of a lecture (multimedia presentation). The remaining meetings are devoted to multimedia presentations prepared by the students. After each student presentation, there is a discussion focused on the strengths and weaknesses of the presentation. The seminar is supported by the eKursy platform (Moodle), where instructional materials are available and through which students send their slides and other stuff.

Bibliography

Basic

1. American Psychological Association. (2022, March). Style and grammar guidelines. APA Style. Retrieved from <https://apastyle.apa.org/style-grammar-guidelines>
2. Brereton, P., Kitchenham, B. A., Budgen, D., Turner, M., & Khalil, M. (2007). Lessons from applying the systematic literature review process within the software engineering domain. *Journal of systems and software*, 80(4), 571-583. Retrieved from <https://doi.org/10.1016/j.jss.2006.07.009>
3. Budgen, D., Brereton, P., Drummond, S., & Williams, N. (2018). Reporting systematic reviews: Some lessons from a tertiary study. *Information and Software Technology*, 95, 62-74. <https://doi.org/10.1016/j.infsof.2017.10.017>
4. Carrera-Rivera, A., Ochoa-Agurto, W., Larrinaga, F., & Lasa, G. (2022). How-to conduct a systematic literature review: A quick guide for computer science research. *MethodsX*, 101895. Retrieved from <https://www.sciencedirect.com/science/article/pii/S2215016122002746>
5. Overleaf. (2023). Documentation. Retrieved from <https://www.overleaf.com/learn>
6. Overleaf. (2023). Bibliography management with bibtex. Retrieved from https://www.overleaf.com/learn/latex/Bibliography_management_with_bibtex
7. Oxbridge Editing. (2020, September 16). A complete guide to writing a master's thesis. Retrieved from <https://www.oxbridgeediting.co.uk/blog/a-complete-guide-to-writing-a-masters-thesis/>
8. Postgrad Solutions Ltd. (2023). The dos and don'ts of academic writing in English. Retrieved from https://www.postgrad.com/advice/phd/dos_and_donts_of_academic_writing/
9. Postgrad Solutions Ltd. (2023). How to write a masters dissertation or thesis: Top tips. Retrieved from https://www.postgrad.com/advice/exams/dissertations_and_theses/top_tips_writing_postgraduate_thesis/
10. Markus Püschel. (2022). How to give strong technical presentations. ETH Zürich. Retrieved from <https://ethz.ch/content/dam/ethz/special-interest/infk/chair-program-method/pm/documents/Education/Seminars/AS2022/Guide-PresentationsHS22.pdf>
11. Michel Theriault. (2013, November 25). 5 Principles For Making PowerPoint Slides With Impact. *Forbes*. Retrieved from <https://www.forbes.com/sites/allbusiness/2013/11/25/7-principles-for-making-powerpoint-slides-with-impact/?sh=8679e144d038>
12. Wikipedia. (2023, June 25). PICO process. Retrieved from https://en.wikipedia.org/wiki/PICO_process
13. Wohlin, C. (2014, May). Guidelines for snowballing in systematic literature studies and a replication in software engineering. In *Proceedings of the 18th international conference on evaluation and assessment in software engineering* (pp. 1-10). Retrieved from <http://dx.doi.org/10.1145/2601248.2601268>

Additional

14. Bui, Y. N. (2013). *How to write a master's thesis*. Sage Publications. Retrieved from https://books.google.pl/books?hl=en&lr=&id=_bQgAQAAQBAJ&oi=fnd&pg=PP1&dq=master+thesis&ots=Oi76Mj0vgY&sig=2ghUMNTO1G
15. Cardinal Stritch University Library. (2017). APA style quick reference. Retrieved from <https://library.stritch.edu/getmedia/68645fbb-f965-4ea0-a63d-14672a6c5fb7/APAStyleGuide6>
16. van Dinter, R., Tekinerdogan, B., & Catal, C. (2021). Automation of systematic literature reviews: A systematic literature review. *Information and Software Technology*, 136, 106589. Retrieved from <https://doi.org/10.1016/j.infsof.2021.106589>
17. Felizardo, K. R., Mendes, E., Kalinowski, M., Souza, É. F., & Vijaykumar, N. L. (2016, September). Using forward snowballing to update systematic reviews in software engineering. In *Proceedings of the 10th ACM/IEEE International Symposium on Empirical Software Engineering and Measurement* (pp. 1-6). DOI: <http://dx.doi.org/10.1145/2961111.2962630>
18. Lesley Library. (2023, Jun 27). APA Format explained. Retrieved from <https://research.lesley.edu/apa-6>
19. Molléri, J. S., Petersen, K., & Mendes, E. (2020). An empirically evaluated checklist for surveys in software engineering. *Information and Software Technology*, 119, 106240. Retrieved from <https://doi.org/10.1016/j.infsof.2019.106240>
20. Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., ... & Moher, D. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *International journal of surgery*, 88, 105906. Retrieved from <https://doi.org/10.1016/j.ijsu.2021.105906>
21. Petersen, K., Vakkalanka, S., & Kuzniarz, L. (2015). Guidelines for conducting systematic mapping studies in software engineering: An update. *Information and software technology*, 64, 1-18. Retrieved from <http://dx.doi.org/10.1016/j.infsof.2015.03.007>
22. Wohlin, C., & Rainer, A. (2022). Is it a case study?—A critical analysis and guidance. *Journal of Systems and Software*, 192, 111395. Retrieved from <https://doi.org/10.1016/j.jss.2022.111395>

Breakdown of average student's workload

	Hours	ECTS
Total workload	50	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)	20	1,00