RTU Course "Research Seminars"

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General data

Code	RDE425
Course title	Research Seminars
Course status in the programme	Compulsory/Courses of Limited Choice
Responsible instructor	Vjačeslavs Bobrovs
Academic staff	Sandis Spolītis Andis Supe Laura Skladova Oskars Ozoliņš
Volume of the course: parts and credits points	2 parts, 4.0 Credit Points, 6.0 ECTS credits
Language of instruction	LV, EN
Annotation	The correct approach to the description and presentation of scientific results is one of the most important tasks in master's studies. The study course focuses on the development of research skills of master students, the definition of research topics, as well as the correct interpretation of the achieved results, especially by working with new technological achievements and promising solutions, researching scientific material in higher class publications. The study course is designed to provide information on the latest developments in the field of telecommunications.
Goals and objectives of the course in terms of competences and skills	The aim of the study course is to provide the necessary information about the stages and processes of developing a final thesis, as well as to motivate students to develop in the professional and scientific fields. Tasks of the study course: • to introduce with the organization and implementation of master's thesis development; • to introduce with the requirements of telecommunication companies in the performance of work; • to develop the ability to create and evaluate thesis development, to analyse the obtained results, as well as their logical structure and distribution between engineering and scientific data; • to improve the necessary skills in presenting the final work, both for specialists and scientists in the field of telecommunications.
Structure and tasks of independent studies	Independent work is carried out to collect literature, analyse and prepare a presentation on the analysed material.
Recommended literature	Obligātā/Obligatory: 1.Jared Bhatti, Zachary Sarah Corleissen, Jen Lambourne, David Nunez, Heidi Waterhouse. Docs for Developers: An Engineer’s Field Guide to Technical Writing, 2021. 23 - 44 p. 2.Jean-Philippe Dionne. Presentation Skills for Scientists and Engineers 2021. 5 - 14 p. 3.Presentation Skills For Scientists And Engineers: The Slide Master. 4.Supe, A., Zaķis, K., Ģēģere, L., Redka, D., Poriņš, J., Spolītis, S., Bobrovs, V. Raman Assisted Fiber Optical Parametric Amplifier for S-Band Multichannel Transmission System. Fibers, 2021, Vol. 9, No. 2, pp.1-11. 5.Salgals, T., Alnis, J., Mūrnieks, R., Brice, I., Poriņš, J., Andrianov, A., Anashkina, E., Spolītis, S., Bobrovs, V. Demonstration of a Fiber Optical Communication System Employing a Silica Microsphere-Based OFC Source. Optics Express, 2021, Vol. 29, No. 7, pp.10903-10913. 6.K. Morgan. “Technical Writing Process” Better On Paper Publication, 2015. 247 p. 7.K. Van Laan “The Insider’s Guide to Technical Writing”, XML Press, 2012. 346 p. Citi informācijas avoti/ Other sources of information: 1.https://ieeexplore-ieee-org.resursi.rtu.lv/Xplore/home.jsp 2.https://www.itu.int/en/ITU-T/publications/Pages/recs.aspx 3.https://www.etsi.org/ 4.https://www.osapublishing.org/jocn/home.cfm 5.https://www.sciencemag.org/careers/2016/03/how-seriously-read-scientific-paper 6.https://www.gsma.com/ 7.https://www.fiercetelecom.com/ 8.https://searchnetworking.techtarget.com/
Course prerequisites	Telecommunication technologies.

Course contents

Content	Full- and part-time intramural studies		Part time extramural studies	
	Contact Hours	Indep. work	Contact Hours	Indep. work
Master thesis development and planning. Variant analysis.	8	12	0	0
Master thesis instrumental provision. Practical examples from the laboratories of the Institute of Telecommunications.	8	12	0	0
Presentations of representatives of telecommunications companies, analysis of the services of existing companies and possible directions of work. Different variants of master's thesis. Discussion.	16	24	0	0
Defining the aim and tasks of the master's thesis, creating a logical and sequential structure.	16	24	0	0
Master's thesis development process, interpretation of engineering and scientific results. Discussion of the presentation.	8	12	0	0

Defining the title of the master's thesis, content presentation, discussions.	8	12	0	0
Total:	64	96	0	0

Learning outcomes and assessment

Learning outcomes	Assessment methods
Understands the master's thesis development plan and discuss their solution in a discussion.	Discussions, test.
Is able to evaluate the equipment of a specific master's thesis.	Discussions., test.
Is able to prepare a full-fledged presentation about the progress of their master's thesis.	Test.
Is able to prepare a presentation on the engineering and scientific results of their master's thesis and evaluate it.	Discussions, test, exam.
Is able to follow the principles of proper presentation, maintain contact with the audience and accurately transfer the researched results of the master's thesis.	Exam.

Evaluation criteria of study results

Criterion	%
Tests, discussions	50
Exams	50
Total:	100

Study subject structure

Part	CP	Hours per Week			Tests		
		Lectures	Practical	Lab.	Test	Exam	Work
1.	2.0	0.0	2.0	0.0		*	
2.	2.0	0.0	2.0	0.0		*	