

## Scientific writing and reporting SYLLABUS

**Study subject No.**        **5.3.**

**Responsible Unit:**        **Latvia University of Life Sciences and Technologies,  
Faculty of Economics and Social Development (LBTU)**

**Credits and distribution of academic hours\*:**

	Credits ECTS	Contact hours		Independent study hours	Total hours
		Lectures	Practical works and seminars		
LBTU	5	23	22	105	150
<b>Total:</b>	<b>5</b>	<b>23</b>	<b>22</b>	<b>105</b>	<b>150</b>

\* 1 ECTS = 30 hours (9 contact hours and 21 independent hours);

1 academic hour = 40 minutes;

Theoretical lectures not less than 50% of contact hours.

**Course developers:**

Latvia University of Life Sciences and Technologies (LBTU), **PhD Dina Popluga**

**Notes:** General study course for the master programme Bioeconomy.

**Prior knowledge:** none.

**Annotation:** The course provides an understanding and knowledge of the key principles of scientific writing and reporting. Students build up basic skills in producing student research papers, beginning from choosing a research topic or problem, then defining a research aim and specific research tasks, selecting research methods, designing the structure of the research through to representing the research results. Students learn the basics of scientific and methodological matters and acquire practical skills needed for further research. In the course attention is paid to practical use of databases where scientific papers are available, on preparing effective tables and figures. Students learn how to use appropriate units of measurements, how to analyse scientific literature, put references in text and prepare List of References. The course explains preconditions for preparation of successful posters and oral reports.

**The aim:** to develop practical competences and critical understanding of knowledge in the development and reporting of scientific research papers.

**Description of the organization and tasks of students' independent work:** The student has to complete an independent work – during the study course student develops at least two scientific papers or abstracts and prepares oral presentation about results presented in scientific paper or abstract.

**Learning outcomes (knowledge, skills and competence)**

Learning outcome	Assessment methods	Level of achievement		
		Satisfactory	Average	High
<b>KNOWLEDGE</b>				

Learning outcome	Assessment methods	Level of achievement		
		Satisfactory	Average	High
Demonstrate the knowledge of types of scientific research and how to practically apply it.	Test	40-69% of the questions are answered correctly.	70-89% of the questions are answered correctly.	90-100% of the questions are answered correctly.
Demonstrate the knowledge of how to organise and present research results in scientific paper.	Independent work	Insufficient knowledge of some of the most important relevant regularities.	Insufficient knowledge of some relevant matters.	The knowledge of the matters meets or exceeds course learning requirements.
<b>SKILLS</b>				
<b>Professional skills</b>				
Formulate a research topic or problem, a research object and a research subject, independently formulate a research aim and specific research tasks and create a research plan.	Practical individual and group work, a test	General understanding of requirements for scientific research paper; difficulty in formulating a research aim and specific research tasks and creating a research plan.	Some ability to formulate a research topic or problem, a research aim and specific research tasks for a scientific research paper and create a research plan.	Ability to accurately formulate a research topic or problem, a research aim and specific research tasks for a scientific research paper and subsequently to create a research plan according to the above.
Draw research conclusions and proposals and ethically and responsibly write bibliographical references and citations.	Practical individual and group work, a test	General understanding of the results, conclusions and proposals of a scientific research paper, many of which have inaccuracies.	Some ability to differentiate the results of a scientific research paper from the conclusions and proposals; the bibliographical references and citations contain inaccuracies.	Ability to accurately draw research conclusions and proposals and write bibliographical references and citations.
<b>Soft skills</b>				
Responsibly plan the completion of the assignments given.	Independent work	Difficulty in planning their own time and meeting deadlines.	Deadlines are met, yet the work is done superficially and inaccurately.	Deadlines are met, the work is done accurately.
Present the results of the independent work done.	Presentation	Unconvincing presentation skills; difficulty in arguing the opinion.	Good ability to present the results, yet the argumentation is based on basic knowledge and there is difficulty in identifying relevant regularities.	Ability to convincingly and reasonably present the results based on their own assessments, an analysis of relevant information and the regularities identified.
Effectively work in a team.	Practical group work	Difficulty in engaging in teamwork and expressing and arguing their own thoughts.	Some ability to engage in teamwork and express and argue their own thoughts.	Excellent ability to engage in teamwork and express and argue their own thoughts.

Learning outcome	Assessment methods	Level of achievement		
		Satisfactory	Average	High
<b>COMPETENCE</b>				
Independently acquire, select and analyse information and demonstrate the knowledge of scientific ethics as well as independently structure their own research papers.	Independent work, presentation	Inability to analyse and synthesize the information acquired and structure the research paper; no sufficient citations are given to information sources.	Sometimes, there is difficulty in verifying the credibility of information sources or accurately making a list of references.	Ethical and responsible understanding of the relevant matters and an ability to critically apply analysis and synthesis as well as accurately write citations and references.

**Requirements for awarding credit points:** The student has to pass test, as well as to complete an independent work – during the study course student develops at least two scientific papers or abstracts and prepares oral presentation about results presented in scientific paper or abstract.

**Knowledge assessment and prerequisites for taking a test or examination**

The final mark in the course is based on cumulative score: Activity during lectures (10%), Activity during practical/seminar (20%), test (20%), individual independent work (40%) and a presentation (10%).

Topic	Type of assessment	Percentage*	Assessment deadline
Activity in lectures	Participation and activity in discussions	10	During the entire semester
Activity in practical's/seminar classes	Practical assignments during classes and at home	20	During the entire semester
Lecture topics 1-8	Test	20	Within the specified time for the test
Development of scientific papers or abstracts	Individual independent work	40	Within the specified time for presentations
Preparation of oral presentation about results presented in scientific papers or abstracts	Presentation	10	Within the specified time for the test
<b>Formal test with a mark</b>			
Total		100	-

\* 10 percent are equal to one point on a 10-point marking scale (or 10 percent are equal to 0.5 point on a 5-point marking scale).

**The course contents**

**1. Lectures**

1. Science. Scientific research. Classification of sciences. The essence of classification and methodological bases. The ideal structure of science. Fundamental and applied science.
2. Basic principles of scientific methodology. General description of the cognitive process. Creative activity in the cognitive process. Objectives, means and results of scientific cognition. Empirical and theoretical knowledge. Scientific thinking. Quantitative and qualitative research. The role of researchers and research results.
3. Research progress. Stages of the research. Idea and research problem definition. Topics. Research subject and research object. The aim and tasks of the work. Possible structure of research work. Research plan. Choice of

research methodology. Sources of scientific literature. Primary and secondary sources. Search for relevant literature. Plagiarism. Bibliographic references.

4. Basics of scientific research methodology. Concepts of research methodology and method. Methodology and classification of methods. Methodological aspects. Research components. Features of scientific working language. Research ethics issues.
5. Literature review. Literature analysis tasks. Search for relevant literature. Creating a bibliographic list of references and sources. On-line tools.
6. Research results, conclusions. Common and different results and conclusions of research work. Formulation of conclusions and proposals
7. Basic principles of scientific reporting. Publication. Presentation. Presentation components. Presentation tools. Public speaking, speaking, posture, behaviour. Prerequisites for a successful presentation.
8. Research work during studies.

## **2. Practicals**

1. The problem. Subject. Research subject and research object.
2. Aim and tasks of the thesis. Possible structure of research work.
3. Sources of scientific literature. Primary and secondary sources. Bibliographic references.
4. Database and information search in databases.
5. Reference and Bibliography Tools (Mendeley).
6. Structure of scientific publications. Analysis of structure.
7. Features of the scientific working language. Academic writing style.
8. Research results, conclusions and suggestions.
9. Defence of independent work. Presentation structure and presentation.
10. Presentation tools.

### ***List of sources of training, methodological and scientific literature and information***

#### ***Compulsory reading (books, scientific articles, online sources etc.):***

1. Glasman-Deal H. *Science research writing for non-native speakers of English*. London; Hackensack, NJ: Imperial College Press, 2010. xiii, p. 257.
2. Bloch J. *Plagiarism, intellectual property and the teaching of L2 writing*. Bristol, UK; Buffalo: Multilingual Matters, 2012, p. 188.
3. Creswell J.W. *Educational research: planning, conducting, and evaluating quantitative and qualitative research*. 4th ed. Boston: Pearson, 2012. xxii, p. 650.

#### ***Further reading:***

1. Salkind N. *Exploring Research*. 7th Edition – Pearson Education, 2008, p. 336.
2. Wolf C., Joye D., Smith T.W., Fu Yang-Chih. *The Sage Handbook of Survey Methodology*. Croydon: Sage Publications Ltd, 2016, p. 716.
3. Collis J., Hussey R. *Business Research. A Practical Guide for Undergraduate & Postgraduate Students*, London, 2009, p. 376.
4. Sekaran U. *Research Methods for Business* - John Wiley & Sons, Inc., 2009, p. 468.
5. Mitchell, Mark. L. *Research Design Explained* - 5th ed. Belmont, CA: Wadsworth/Thomson Learning, c2004. xx, p. 570.
6. Toepoel V. *Doing Surveys Online*. Croydon: Sage Publications Ltd, 2016. p. 258.

#### ***Other sources***

Electronic data bases of scientific papers, abstracts, e-books – Scopus, Web of Science, EBSCO, etc.

*The material is elaborated with financial support of the European Union Erasmus+ Programme.  
The European Commission's support for the production of this document does not constitute an endorsement of the contents,  
which reflect the views only of the authors, and the Commission cannot be held responsible for any use  
which may be made of the information contained therein.*