



# UNIWERSYTET PRZYRODNICZY WE WROCŁAWIU

## Scientific Writing and Communication Educational subject description sheet

### Basic information

<b>Field of study</b> Biology		<b>Education cycle</b> 2023/24	
<b>Speciality</b> laboratory techniques in biology		<b>Subject code</b> BD000000BBLTLS.M2C.3308.23	
<b>Organizational unit</b> The Faculty of Biology and Animal Science		<b>Lecture languages</b> english	
<b>Study level</b> Second-cycle programme		<b>Mandatory</b> optional	
<b>Study form</b> Full-time		<b>Block</b> specialization subjects	
<b>Education profile</b> General academic		<b>Disciplines</b> Biological sciences	
		<b>Subject related to scientific research</b> Yes	
		<b>Subject shaping practical skills</b> Tak	
<b>Teacher responsible for the subject</b>	Lynda Bourebaba		
<b>Other teachers conducting classes</b>	Lynda Bourebaba		
<b>Period</b> Semester 2	<b>Examination</b> graded credit	<b>Number of ECTS points</b> 2.0	
	<b>Activities and hours</b> lecture: 10 seminar/conversatory: 20		

## Goals

C1	The course aims to provide the students with theoretical knowledge about various elements of scientific writing, practical experience on text editing, and provide the students with tools to improve their scientific texts, and communicate orally research results in a good way. The course is intended to convey understanding of how to organize a scientific manuscript, how to improve on all parts of the text, including clear writing, and how to write an informative and convincing cover letter. The course will also present and discuss what is good research communication. The main emphasis is on the most common form, the “primary scientific paper”, but other forms will be covered. Matters related to oral presentations, poster preparation and proposal writing will also be discussed. Thus, students will become familiar with the forms of presenting new findings to various scientific forums.
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## Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	The student will know how to evaluate scientific texts and suggests improvements with respect to clear writing, and precision with respect to the text content	KB_P7S_WG01, KB_P7S_WG02, KB_P7S_WK14	project, observation of student's work, presentation, test, participation in discussion, performing tasks
W2	The student will get familiar with literature on recommendations for good scientific writing.	KB_P7S_WG01, KB_P7S_WK13	project, observation of student's work, presentation, test, participation in discussion, performing tasks
W3	The student will be conscious about how scientific data is communicated and knows tools to improve on own presentations.	KB_P7S_WG01, KB_P7S_WG03, KB_P7S_WK13	project, observation of student's work, presentation, test, participation in discussion, performing tasks
<b>Skills - Student can:</b>			
U1	The student will know how to properly structure a scientific manuscript that conforms to the rules and requirements	KB2_UU10, KB_P7S_UK08, KB_P7S_UW05	oral credit, presentation, test, participation in discussion, performing tasks
U2	The student will be able to use editing and management software for document and bibliographic references preparation.	KB_P7S_UW02, KB_P7S_UW03, KB_P7S_UW05	oral credit, presentation, test, participation in discussion, performing tasks
U3	The student will know how to prepare and present effective oral presentations and posters	KB_P7S_UK07, KB_P7S_UK08	oral credit, presentation, test, participation in discussion, performing tasks
<b>Social competences - Student is ready to:</b>			
K1	Student will know how to deal with scientific editors, and others involved in the scientific publishing process	KB_P7S_KO02, KB_P7S_KR05	oral credit, observation of student's work, presentation, participation in discussion

K2	The student will be introduced to the participation in formal meeting of people with a shared interest, and open scientific debate	KB_P7S_K004, KB_P7S_KR05	oral credit, observation of student's work, presentation, participation in discussion
K3	The student will broaden his theoretical and practical knowledge in the field of scientific writing and communication, thus expanding his possibilities on the work market.	KB_P7S_K003, KB_P7S_K004	oral credit, observation of student's work, presentation, participation in discussion

### Balance of ECTS points

Activity form	Activity hours*	
lecture	10	
seminar/conversatory	20	
presentation/report preparation	10	
exam participation	10	
consultations	5	
lesson preparation	5	
<b>Student workload</b>	<b>Hours</b> 60	<b>ECTS</b> 2.0
<b>Workload involving teacher</b>	<b>Hours</b> 45	<b>ECTS</b> 1.7

\* hour means 45 minutes

### Study content

No.	Course content	Activities
1.	<p>1. The current structure of scientific literature, the basics of scientometrics, the main features of the scientific information 'industry', how to decide where to publish (2h)</p> <p>2. Scientific publications; Meeting Abstracts, Papers, and Proceedings, Research Articles, Review Articles, Short communication and Popular Articles overview (2 h)</p> <p>3. The different parts of a primary scientific paper and how to write them (2h)</p> <p>4. The publication process and Plagiarism (manuscript preparation, submission, dealing with editors, technical editing) (2h)</p> <p>5. Oral presentations: preparation and delivery, poster preparation, conference participation (2h)</p>	lecture

2.	1. Scientific article analysis (2,5 h) 2. Introduction to the management of bibliographic references by Zotero and Mendeley (2.5h) 3. Write an analysis of a published figure (1.5h) 4. Formulate a precise problem statement and an informative and covering manuscript title (1.5h) 5. Results organisation, figures and tables preparation (1.5h) 6. Structure and content of informative and convincing cover letters (1.5h) 7. Proposal/Grant writing and project management (2.5) 8. Succeed in the form and the oral presentation of a presentation (oral presentation based on an analysed scientific article) (2.5h) 9. Scientific poster preparation (1.5h) 10. Scientific communication presentation seminarium (2.5h)	seminar/conversatory
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## Course advanced

### Teaching methods:

text analysis, brainstorming, foreign language (conversation classes), problem-solving method, presentation / demonstration, teamwork, discussion, lecture

Activities	Examination methods	Percentage in subject assessment
lecture	test	50%
seminar/conversatory	oral credit, project, observation of student's work, presentation, test, participation in discussion, performing tasks	50%

## Literature

### Obligatory

- Day RA & Gastel B 2006. How to write and publish a scientific paper. 6th ed. Cambridge Univ. Press
- Cargill, M., & Connor, P. (2013). Writing scientific research articles: Strategies and steps (2nd ed.). Chichester, England: Wiley-Blackwell.
- Swales, J., & Feak, C. (2004). Academic writing for graduate students: Essential tasks and skills (2nd ed.). Ann Arbor, MI: University of Michigan Press.

### Optional

- Schimel, J. (2011). Writing science: How to write papers that get cited and proposals that get funded. Oxford, England: Oxford University Press.
- Hofmann, A. (2012). Writing in the biological sciences: A comprehensive resource for scientific communication. Oxford, England: Oxford University Press.
- Hofmann, A. (2012). Writing in the biological sciences: A comprehensive resource for scientific communication. Oxford, England: Oxford University Press.

## Kierunkowe efekty uczenia się

Kod	Treść
KB2_UU10	The graduate is able to independently plan his/her own professional or scientific career and realize his/her own lifelong learning.
KB_P7S_KO02	The graduate is ready to cooperate with the socio-economic environment.
KB_P7S_KO03	The graduate is ready to act in a systematic and entrepreneurial manner, as well as implement innovative solutions.
KB_P7S_KO04	The graduate is ready to cooperate with representatives of public institutions and scientific units in implementing innovative solutions, exchanging experiences and organizing activities for the benefit of the social environment.
KB_P7S_KR05	The graduate is ready to correctly solve the dilemmas of modern biology in ethical, legal and economic terms.
KB_P7S_UK07	The graduate is able to prepare a presentation of the results of his/her research, compare them with the results of other authors' research and conduct a discussion, as well as find and implement innovative solutions.
KB_P7S_UK08	The graduate is able to speak a foreign language at the B2+ level of the Common European Framework of Reference for Languages and at a higher level in specialized terminology.
KB_P7S_UW02	The graduate is able to create databases, as well as apply relevant statistical methods to analyze data using proper statistical packages.
KB_P7S_UW03	The graduate is able to proficiently use professional scientific literature in biology and related disciplines in Polish and English.
KB_P7S_UW05	The graduate is able to write a scientific article with a structure typical of the discipline, based on his/her own research, in Polish and foreign language.
KB_P7S_WG01	The graduate knows and understands in-depth the contemporary theories and laws of nature; He/she knows the methodology of natural science research.
KB_P7S_WG02	The graduate knows and understands in-depth the statistical methods used in modeling, describing and interpreting biological effects and processes.
KB_P7S_WG03	The graduate knows and understands in-depth the issues of morphology and physiology of living organisms, with particular emphasis on the connections between their structure and function.
KB_P7S_WK13	The graduate knows and understands the issues of knowledge in the field of currently discussed problems in the specialized literature, especially concerning contemporary conditions and threats to biodiversity.
KB_P7S_WK14	The graduate knows and understands how to obtain and account for funds for biological research. He/she knows and understands the principles of industrial property and copyright protection.