



# UNIWERSYTET PRZYRODNICZY WE WROCŁAWIU

## Scientific Writing and Communication Educational subject description sheet

### Basic information

<b>Field of study</b> Biology		<b>Education cycle</b> 2022/23
<b>Speciality</b> laboratory techniques in biology		<b>Subject code</b> BD000000BBLTLS.M2C.3308.22
<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: 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	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.	<ol style="list-style-type: none"> <li>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)</li> <li>2. Scientific publications; Meeting Abstracts, Papers, and Proceedings, Research Articles, Review Articles, Short communication and Popular Articles overview (2 h)</li> <li>3. The different parts of a primary scientific paper and how to write them (2h)</li> <li>4. The publication process and Plagiarism (manuscript preparation, submission, dealing with editors, technical editing) (2h)</li> <li>5. Oral presentations: preparation and delivery, poster preparation, conference participation (2h)</li> </ol>	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
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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	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	Absolwent potrafi samodzielnie planować własną karierę zawodową lub naukową i realizować własne uczenie się przez całe życie.
KB_P7S_KO02	Absolwent jest gotów do współpracy z otoczeniem społeczno-gospodarczym.
KB_P7S_KO03	Absolwent jest gotów do działania w sposób systematyczny i przedsiębiorczy, a także stosowania innowacyjnych rozwiązań.
KB_P7S_KO04	Absolwent jest gotów do współpracy z przedstawicielami instytucji publicznych i jednostek naukowych w zakresie stosowania innowacyjnych rozwiązań, wymiany doświadczeń i organizowania działalności na rzecz środowiska społecznego
KB_P7S_KR05	Absolwent jest gotów do prawidłowego rozstrzygania dylematów współczesnej biologii w ujęciu etycznym, prawnym i ekonomicznym
KB_P7S_UK07	Absolwent potrafi przygotować prezentację wyników swoich badań, porównywać je z wynikami badań innych autorów oraz prowadzić dyskusję a także znaleźć i zastosować innowacyjne rozwiązania
KB_P7S_UK08	Absolwent potrafi posługiwać się językiem obcym na poziomie B2+ Europejskiego Systemu Opisu Kształcenia Językowego oraz w wyższym stopniu w zakresie specjalistycznej terminologii
KB_P7S_UW02	Absolwent potrafi tworzyć bazy danych a także stosować właściwe metody statystyczne do analizy danych wykorzystując odpowiednie pakiety statystyczne
KB_P7S_UW03	Absolwent potrafi biegle wykorzystywać fachową literaturę naukową z zakresu biologii i dyscyplin pokrewnych w języku polskim i angielskim
KB_P7S_UW05	Absolwent potrafi napisać pracę naukową o strukturze typowej dla dyscypliny, opartą o własne badania, w języku polskim i obcym.
KB_P7S_WG01	Absolwent zna i rozumie współczesne teorie i prawa przyrodnicze;. Zna metodologię badań przyrodniczych
KB_P7S_WG02	Absolwent zna i rozumie metody statystyczne wykorzystywane w modelowaniu, opisie i interpretacji zjawisk i procesów biologicznych
KB_P7S_WG03	Absolwent zna i rozumie w stopniu pogłębionym zagadnienia z zakresu morfologii i fizjologii organizmów żywych, ze szczególnym uwzględnieniem związków między ich budową i funkcją
KB_P7S_WK13	Absolwent zna i rozumie w stopniu pogłębionym zagadnienia z zakresu wiedzy w zakresie aktualnie dyskutowanych w literaturze specjalistycznej problemów, szczególnie dotyczących współczesnych uwarunkowań i zagrożeń bioróżnorodności
KB_P7S_WK14	Absolwent zna i rozumie sposoby pozyskiwania i rozliczania funduszy na badania biologiczne. Zna i rozumie oraz zasady ochrony własności przemysłowej i prawa autorskiego