

## Course Syllabus

### English for Research Professional Communication

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#### Basic Information

<b>Title of the Academic Program</b>	Master's Degree Programs in English “Biomedical Data Science”
<b>Type of the course</b>	core
<b>Course timing and duration</b>	From October 1st till February 1st, 1 semester (16 weeks)
<b>Study credits</b>	5 ECTS
<b>Duration</b>	180 hours
<b>Language of instruction</b>	English
<b>Academic requirements</b>	<ul style="list-style-type: none"><li>- BSc degree in Biology, Physics, Biophysics, Chemistry, Biochemistry, Environmental Sciences or equivalent (transcript of records)</li><li>- good command of English, at least B2, certificate or other official records</li></ul>

#### Course Description

The course aim is to provide knowledge and practical skills for effective reading, critiquing scientific articles in primary journals, and writing up a draft manuscript of such an article. The course includes four segments. In **Segment 1** you will get familiar with the genres of professional scientific literature and indicators used in the international system of scientific publications. In **Segment 2** you will learn how to search and find publications related to your master research project. In segment 3 you will learn how to structure, write up the text of the original article, and how to choose the proper journal to publish your manuscript. Segment 4 is devoted to the principles of scientific ethics and authorship.

Students will be asked to attend a weekly class and to complete short reading, analyzing, writing, editing, and peer-reviewing exercises, including writing and reviewing a short paper (5500 characters) presenting original research results as the final assessment.

### **Special Features of the Course**

First, the course is intended for those students who are planning to become professional researchers in science and technology fields. But writing is thinking and writing exercises themselves enhance thinking. So, the main virtual outcome of the course is the enhancement of your thinking capability. The course slogan is “Good writing is based on good reading”.

I am sure that soon you realize that scientific writing is the natural part of the research process, and this part is as important as the research procedures. The course will develop your ability to contribute to the production of the novel research results in the written published text for the professional audience and contribute to scientific knowledge. And even if you are not going to be a scientist, good writing skills would be extremely helpful in any career.

### **Course Aim**

To provide students an introductory level knowledge and practical skills in reading, analyzing, writing up, and publishing original scientific articles in peer-reviewed journals.

### **Learning Outcomes of the Course**

By the end of the course, you will be able to:

- find primary scientific publications related to your research interests
- read, analyze, and use primary scientific publications
- write up the draft manuscript of your article in the format of peer-reviewed journals
- present the scientific research results in the text, diagrams, tables, and images
- find the most appropriate journals to publish your manuscript
- submit the manuscript to the journal and response to the peer-review.

### Course Structure

Learning Activities	Hours
Lectures	-
Practice sessions / Seminars	48
Self-study Assignments	96
Final Assessment	36
<b>Total study hours</b>	<b>180</b>

### Course Outline

Week	Lectures	Practice sessions / Seminars/Labs	Self-Study Assignments	Hours <sup>1</sup>
1	No	Introduction to the course. How the science works: from the idea to publication. Significance of written communication in the scientific community. Genres in the scientific literature. A brief overview of the scientific article publication procedure. Peer-	Home assignment: preparing the oral presentation about your BS and MS research projects.	0/2/4

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<sup>1</sup> 1 Hours designed for lectures/practice sessions .../self-study assignments.

		reviewed journals and predatory journals		
2	No	The international system of scientific publications. Introduction to science metrics. How to search for primary scientific articles. Practice sessions: (1) self-presentation at the seminar; (2) searching for articles related to your MS research topic.	Home assignments: (1) searching for articles related to your MS research topic; (2) preparing the list of journals publishing these articles; the preparation of the articles' list related to your MS or Ph.D. research project.	0/4/8
3	No	The structure of a typical original article. Seminar: presentation of the articles' and the journals' lists.	Home assignment: analyzing the structure of three original articles (written).	0/4/8
4-5	No	The introduction section in the original article: rhetoric structure, how to read and interpret. Practice session: framing the specific problem of the research.	Home assignment: rhetoric analysis of the introduction section in (written).	0/4/8
6-7	No	How to write up the materials and methods section. Seminar: presentation of the rhetorical analysis of the introduction section.	Home assignment: writing up the text describing the methods applied in your research.	0/4/8
8-7	No	The results section: structure. The coherence of data and their descriptions; reliability and validity of the results; the approach applied in the research. The layout of data and results representation. Tables and diagrams. Writing lab: consulting and mutual reviewing of the method section in your manuscript	Home assignments: (1) reading and rhetorical analysis of the Results section in the article; (2) writing up the results section of your short paper manuscript.	0/6/12
9-10	No	The Discussion section: relevance, structure, arguments	Home assignments: reading and rhetorical analysis of the Discussion section in the article; (2) writing up the	0/6/12

		Writing lab: consulting and mutual reviewing the texts of the Results section	discussion section of your manuscript.	
11-12	No	The title, byline, abstract, and the keywords of the article. Writing lab: consulting and mutual reviewing the texts for the introduction section/	Assignments: (1) analyzing the title, byline, and abstract of the articles from the article list; writing up the title and abstract for your manuscript.	0/8/16
13-15	No	Writing lab: consulting and mutual reviewing the discussion sections in your manuscripts	Preparation of the draft manuscript of the short article on the results of your MS research project for final assessment, mutual reviewing.	0/8/16
16	No	Final assessment seminar: presentation of the draft manuscript of extended thesis on your MS research project, mutual reviewing.		0/2/4

### **Assessment**

The final assessment task is the manuscript presenting the results of your MS research project and written in the format of the original paper for the primary scientific journal.

### **Attendance Policy**

Students are expected to attend classes regularly. In case of missing the in-class activity, a student should perform an additional exercise (will be given by the instructor) within one week.

Every topic has a home assignment work that should be done in written form (except several questions in the first assignment). The report on the assignment should be submitted before the lecture within 5 days from the moment students received a list of problems. The final mark will be made by the same grade policy as for a final exam.

### **The Web page of the course**

The webpage of the course “**English for Professional Research Communication**” is available through the E-learning SibFU web site: [www.e.sfu-kras.ru](http://www.e.sfu-kras.ru). You must be logged in to access this course. The Course Guide and all accompanying materials are also available on the course’s webpage.

### **Core reading**

Powell M. Reading Rhetorically. Hand-out’s materials. Available on the course’s webpage.

How to Write a Paper in Scientific Journal. Style and Format.

Available at <https://www.bates.edu/biology/files/2010/06/How-to-Write-Guide-v10-2014.pdf>

### **Supplementary reading**

Yeong Foong May. How to read and critique a scientific research article. Notes to guide students reading primary literature (with teaching tips for faculty members). World Scientific Publishing, 2014. 102 P. ISBN-13;978-9814579162.

Gastel B., Day R.A. How to write and publish a scientific paper. Eighth Edition. Greenwood, 2016. EISBN: 978-1-4408-4263-4.

Wilke C.O. Fundamentals of data visualization. A primer on making informative and compelling figures. O’Reilly, 2019. ISBN: 978-1492-03108-6.

Alley M. The craft of scientific presentations. Critical steps to succeed and critical errors to avoid. Second Edition. Springer, 2013. ISBN: 978-1-4419-8278-0 (paper), 978-1-4419—8279-7 (eBook).

Alley M. The craft of scientific writing. Fourth Edition. Springer, 2018. ISBN: 978-1-4419-8278-2 (paper), 978-1-4419—8288-9 (eBook).

### **Facilities, Equipment, and Software**

Personal portable computer with Internet access for classes

Microsoft Office or any other software for text writing and editing, diagram drawing, and preparing oral presentations.