COURSE DESCRIPTION

University: Comenius University in Bratislava
Faculty: Faculty of Management

Course ID: FM.KIS/150AB/17
Course title: Writing Scientific Papers

Educational activities:
Type of activities: seminar
Number of hours:
  per week: 2  per level/semester: 28
Form of the course: on-site learning

Number of credits: 3
Recommended semester:
Educational level: I., II.

Prerequisites:

Recommended prerequisites:
The course intends to give students the skills necessary to write a research thesis, and to prepare other professional materials for presentation or publication. It also should prepare them to be able to write scientific papers especially if they intend to follow research career, or teaching carrier at university. Topics covered in this course include: searching the scientific literature; scientific writing style; writing graduate level papers, proposals, projects, and thesis components; preparing scientific presentations; presentation of data; using visual aids; and using word processing, spreadsheet, and presentation software.

Further, the course is designed to introduce students to basic scientific writing skills. Participants will review the general principles of clear, persuasive writing, and will apply these principles to writing for a scientific audience. Particular emphasis will be placed on conveying the significance of research, outlining the aims, and discussing the results for scientific papers. The course will also provide an overview of the structure and style of scientific manuscripts.

Classes are highly interactive, and the majority of class time will be spent discussing student scientific writing. The goal of the course is to encourage active and open interaction among students. Ideal endpoints include improved self-editing, and development of effective strategies for offering and receiving concise editorial recommendations among peers.

The course aims to clarify the writing process and teach the fundamentals of effective scientific writing.

The course will take a multi-modal approach so that students can also work on presentations and posters, using visuals and graphics effectively to convey their message in the scholarly and public realm, including print and digital publishing sites, adapting the materials and texts as needed to become increasingly critical thinkers and writers, who can shape material effectively.

While working on clear, correct, concise style, the course will also address the evolution of scientific writing and conventions. A wide range of scientific fields will be addressed, with special emphasis on the field of management.

Course requirements:
The following course learning objectives form the basis. The goal of each assignment is to demonstrate mastery in one of the following areas:
• Model effective scientific and technical communication in the workplace by actively participating in writing activities, both individually and collaboratively.
• Apply technical information and knowledge in practical documents for a variety of a.) professional audiences (including peers and colleagues or management), and b.) public audiences.
• Write documents that demonstrate professional style: concise, clear, accurate, honest, economical, and unambiguous.
• Use professional writing strategies: Direct order organization, objective voice, unbiased analysis and summary, and use of transitional devices to create coherence.
• Recognize, explain, and use the rhetorical strategies and the formal elements of specific genres of technical communication, such as technical abstracts, data based research reports, instructional manuals, technical descriptions, web pages, wikis, and correspondence.
• Collect, analyze, document, and report research clearly, concisely, logically, and ethically; understand the standards for legitimate interpretations of research data within scientific and technical communities.
• Recognize and develop professional format features in print, html, and multimedia modes, as well as use appropriate nonverbal cues and visual aids.
• Revise and edit effectively in all assignments, including informal media (such as email to the instructor).
• Demonstrate professional work habits, including those necessary for effective collaboration and cooperation.

Focus Areas:
The core of this course consists of the following four skill areas:
• Research skills - using primary and library research to discover information
• Correspondence skills - learning the generic conventions of each
• Explanatory or demonstrative writing skills - to disseminate technical information to either nontechnical or technical readers, such as descriptions, instructions, informational handouts, international conferences
• Visual communication skills - may appear as separate assignments or as components of other assignments

Learning outcomes:
The successful student will demonstrate the ability to:
• Present scientific information in appropriate language for various audiences, including scholarly and general, in print and online
• Understand of the needs of various audiences/readerships and how these needs affect the style, vocabulary, and content of writing
• Recognize the conventions governing the dissemination of scientific knowledge
• Understand the origins of scientific writing styles
• Write concisely, concretely, and accurately to present complex scientific ideas clearly
• Expand information literacy (researching primary and secondary sources) for finding, evaluating, integrating and synthesizing ethically the necessary information and visuals for the completion of a project
• Effectively and ethically incorporate appropriate scientific exhibits (visuals, graphs, charts, etc) for designing presentations and posters, and for supplementing text
• Competence in the mechanics of writing is essential, including use of appropriate documentation styles.

At the end of the course, students should be able to:
• Distinguish different types of research, their audiences and how research material might be effectively presented
• Prepare scientific and technical papers, and presentations
• Format documents and presentations to optimize their visual appeal when viewed in-press, as a podcast or audio/video file format on the internet, or through personal presentations to an audience
• Effectively use features of Microsoft Office to create eye-catching professional documents and presentations
• Effectively use features of Microsoft Word, Powerpoint, and Excel to create professional looking tables, graphs and figures
• Accept constructive criticism and use reviewers’ comments to improve quality and clarity of written reports and presentations.

Class syllabus:
Module-1: Introduction
• Research – What is it?
• How do researchers communicate?
• Examining examples of different types of scientific communication
• Introduction to concepts, investigation of scholarly and popular science writing categories, understanding the difference, rhetorical situation and audiences, disciplinary expectations, what counts as evidence
Module-2: Scientific Literature
• Searching the scientific literature
• Using online search engines
• What is a refereed journal?
• Plagiarism and how to avoid it
• Reading sample Lit Reviews as models of thinking and organizing material
• Work on Lit Review/Annotated bibliography to provide background for longer article
• Work on summary and analysis, rhetorical précis, abstracts, keywords
• Discover a research question and find the conversation to enter
Module-3: Beginning to Write
• Establishing your constraints
• Organizing your writing
• Preparing outlines
• Standard formats for scientific papers, research projects and theses style guides
Module-4: Content
• Creating a literature review
• Preparing other sections of a research report (abstract, introduction, materials and methods, results and discussion, conclusions)
• Including and summarizing research data
• Presentations/sharing of research report on scientific writing in the disciplines, scholarly and popular media
• Continued work on writing styles and correctness
Module-5: Style and grammar
• Scientific writing style
• First-person vs. Third-person; Passive vs. active voice
• Avoiding excessive wording
• Grammar
• Avoiding misuse of words
• When to use footnotes
• More reading. Polishing prose and adapting to audiences.
Module-6: Reference citations
• How to use references
  - Within the text
  - How to make lists of references
Module-7: Revising
• Dealing with revisions
• Accepting criticism
• Making sense of reviewers’ comments
• Making the changes
• What to do if you do not agree with reviewers’ comments

Module-8: Other communication and other types of scientific writing
• research proposals
• creating a fact sheet/bulletin
• articles for popular press
• memos, letters and emails

Module-9: Using Computer technologies
• Microsoft Word
  - Formatting (including margins, tabs, indents, justification, etc)
  - Using the table feature
  - Creating tables of content
• Microsoft Excel
  - Creating tables, charts, graphs

Module-10: Poster and Oral Presentations
• Organization and formats for posters
• Using Microsoft Powerpoint
• Designing and preparing slides for an oral presentation
• Importing tables, charts and graphs from Excel
• Optimizing pictures for use in presentations
• Using visual aids without overdoing it
• Using Microsoft Powerpoint

Recommended literature:
9. UNDERSTANDING THE PUBLISHING PROCESS. How to publish in scholarly journals. Published by Elsevier, April 2015.

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 1

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Lecturers: prof. Ing. Natalia Kryvinska, PhD.

Last change: 17.10.2019

Approved by: