Course syllabus: Computing Science Research Methodology, Publication and Presentation Techniques

Target group: doctoral students of the Department of Computing Science
Language: English
ETCS credits: 7.5

Content and Aims
The course is a hands-on course on the research methodology and publication and presentation techniques in Computing Science. In a learning-by-doing fashion, it covers the entire process of writing a typical research paper including topic selection, writing, giving and receiving feedback, submitting, receiving reviews, preparing the final version, and oral presentation. Papers are singly authored to ensure that the student personally gets exposed to all aspects of the process. Particular emphasis is put on the problems of plagiarism and copyright infringement. Deadlines are strict.

Outline
Lectures 2–3 lectures give an overview of the research process, scientific writing, the role of peer reviewing, the use of citations, the problem of plagiarism, and the preparation of a good oral presentation.

Individual Work  Selection of a topic; handing in a topic description for approval; conducting necessary research and writing the paper (starting by gathering required additional information and making a rough outline); 3 peer group meetings; submission via EasyChair; review process; preparation of final version of accepted papers; presentation during the final conference event of the course.

Peer Group Meetings Peer groups consisting of 3–4 students and a convener (an advisor from the CS department) are composed by the instructors. Each group meets 3 times during the process for providing feedback. Sending drafts in time as well as reading and commenting is mandatory. Comments are mediated by the convener.

Expected Learning Outcomes

Knowledge and Understanding
- Demonstrate familiarity with research methodology in general and the methods of the specific field of research in particular (cf. National Learning Outcome 2).

Competence and Skills
- Demonstrate the capacity for scholarly analysis and synthesis as well as to review and assess new and complex phenomena, issues and situations autonomously and critically (cf. National Learning Outcome 3).
- Demonstrate the ability to identify and formulate issues with scholarly precision critically, autonomously and creatively, and to plan and use appropriate
methods to undertake research and other qualified tasks within predetermined time frames and to review and evaluate such work (cf. National Learning Outcome 4).

– Demonstrate the ability to identify the need for further knowledge (cf. National Learning Outcome 7).