Tárgy neve: Research methodology

Tárgyfelelős neve: Dr. Horváth Zoltán

Tárgyfelelős tudományos fokozata: PhD, egyetemi tanár

Tárgyfelelős MAB szerinti akkreditációs státusza: AT

Az oktatás célja angolul / Aim of the subject:

Knowledge

- Masters detailed and high level of understanding and knowledge on specific notions, expressions of scientific writing in mother tongue and at least in English language.
- Masters effective ways of retrieving, organising and creating information from networks and be able to communicate findings scientifically both orally and in written form.

Abilities

- Is able to formalise complex scientific problems emerging in the field of informatics, explore its theoretical and practical background in order to solve the problem.
- Is able to communicate on a high level, take part in discussions, write up a reports, process scientific literature and use it in a creative way, in mother tongue and at least in English, using scientific language both orally and in written form.
- Is able to use resources professionally in order to extract knowledge, have a critical view and evaluate accordingly in order to obtain necessary information for problem solving.
- Is able to perform scientific research under professional guidance and be able to continue education in post-gradual program.
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Attitude:

- Is aware of the developments within own specialisation area of informatics.
- Is a determined Life-Long-Learner for mastering professional competencies in Informatics.
- Accepts and makes peers also to accept the ethical requirements of scientific work and structural culture of community.
- Shares own knowledge and considers publishing results of Informatics an important duty.
- Is open and initiates all kinds of collaboration with participants in the field of Informatics an beyond.

Autonomy, responsibility:

- They Takes responsibility for own decisions made within professional activities.
- Takes responsibility for deadlines and makes others do so too.
- Takes responsibility for own work and the work of those in charge within a project.

Az oktatás tartalma angolul / Major topics:

The aim of the course is make students master the methodology of research, the different forms of publications and the criteria for scientific publishing with the evaluation systems used, the connection between research-development-innovation, how to build aims and the research work plan, as well as to be able to work in groups to develop research proposals. Using the above, students have to develop and compose the aims of chosen diploma topic and plans for producing it in the next one and a half year.

Content:
- examples of student R+D projects,
- using groupware in R+D projects (svn, github. trac, etc.)
- requirements and modes of publications (papers, technical riports, diplomawork, doctoral dissertations, etc.),
- LaTeX basics, especialy using BibTeX, LaTeX and Beamer,
- rules for creating presentations,
- building work plans for R+D+I projects, structure of FP7, H2020, Horizon Europe workplans through example, requirements for planing a project,
- work of conference scientific committee, evaluation process of papers,
- ethical issues.

A számonkérés és értékelés rendszere angolul / Requirements and evaluation:

Students get a mark based on the quality of a scienetific paper presenting a fictive result, a EU research project proposal written, and presentations prepared in teams of 3-5 persons.
Assesment: mixed assessment.

Irodalom / Literature:

- Antoni Martínez Ballesté: Writing Scientific Papers.
  http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.466.7270&rep=rep1&type=pdf,
  35 oldal.
- LaTeX basics https://en.wikibooks.org/wiki/LaTeX/Basics
- Till Tantau, Joseph Wright, Vedran Miletić: The beamer class User Guide for version 3.33.
  http:// www.mif.pg.gda.pl/kfamo/VARIA/beamer_user_guide_v3_33.pdf , 245 oldal, 2013.
- Ben Collins-Sussman, Brian W. Fitzpatrick, C. Michael Pilato: Version Control with Subversion, http://svnbook.red-bean.com, 468 oldal, 2011.