[Research Methodology]

Course level: Master ([M1])
Track(s): [MLDM, DSC (M2)]

ECTS Credits: 2

Course instructors: [Emilie Morvant and Ievgen Redko]

Education period: [1st] semester
Language of instruction: English

Expected prior-knowledge: [basics in machine learning and data mining]

Aim and learning outcomes: This course aims at presenting what is research in machine learning and data mining. Moreover, it gives tools to be able to present a contribution either thought writing or through a talk.

Keywords: [Research, Scientific Communication, LaTeX, Beamer]

Syllabus:

- What is research?
  - How to become a researcher?
  - How to do research?
    - Steps in research process
    - Evaluation of the research (the publication principle, etc.)
    - Ethics in research
- How to write a scientific paper?
  - Organization of a paper
  - Making use of LaTeX (and bibtex)
- How to present a scientific contribution?
  - From understanding a paper to the presentation of it

Organisation and timetable: [Volume CM/TD/TP] 10h of lectures – 10h Practical Sessions to prepare a presentation of a scientific article (NB: can change depending on the number of students)

Form(s) of Assessment: Preparation of a summary (LaTeX) and presentation (beamer) of a scientific article

Literature and study materials:

- The researcher's article: a three-part adventure: https://www.youtube.com/watch?v=K4qY8WvgZOw
  a movie directed by Charlotte Arene in collaboration with the “Physics Reimagined team of LPS (Université Paris Sud and CNRS)
- The data scientist’s guide for writing papers by Nikolaj Tatti from Department of Computer Science, Aalto University (Finland): https://users.ics.aalto.fi/ntatti/howtowrite2016/

Additional information/Contacts:

emilie.morvant@univ-st-etienne.fr and ievgen.redko@univ-st-etienne.fr