

- Faculté des sciences
- [www.unine.ch/sciences](http://www.unine.ch/sciences)

### R&D Workshop (3IN2053)

Filières concernées	Nombre d'heures	Validation	Crédits ECTS
<b>Master en informatique</b>	<b>Cours: 4 ph</b>	<b>controle continu: 1</b>	10

ph=période hebdomadaire, pg=période globale, j=jour, dj=demi-jour, h=heure, min=minute

#### Période d'enseignement:

- Semestre Printemps

#### Equipe enseignante:

Hugues Mercier, Peter Kropf, Jacques Savoy

#### Objectifs:

Upon successful completion of this course, students will be able to

- Collaborate with an industrial partner on a real-life practical project
- Discuss and justify design and implementation choices
- Present research and development results in front of an audience
- Do a bibliographic search on a research topic
- Review scientific articles
- Structure and write a research article

#### Contenu:

The R&D workshop is based on a problem solving approach and includes a practical R&D project and a scientific research project. The presentations and discussions of the advancement of both projects in class are an integral part of the course.

The first part of the workshop is a practical R&D project. The principal objective is to apply the knowledge and skills that the students acquired in their classes by elaborating solutions for real-life practical problems presented by various enterprises and clients. Recent participants include 2xlibre, Hôpital Neuchâtelois, IFAAR, UniNe Institute of work and organizational psychology, UniNE Centre for Hydrogeology and Geothermics, InnoMining, Red Hat, Space-X and Swisscom.

The second part of the workshop is an introduction to scientific research. Each student will be paired with a researcher in Computer Science and work on a small research project. This may include reading scientific articles on a given topic, extending an existing algorithm, do a comprehensive survey of the state of the art techniques in a specific field, ... The students will write a short scientific article and present their results in class at the end of the semester. Even though there is no unique correct way to conduct scientific research, the main objective is to present general methods and skills that will help the students do research efficiently.

During the first weeks, an introduction to the different aspects underlying both parts of the workshop will be given: how to search for and recognize good articles, how to write a scientific report, how to prepare a project, how to interact with a client, peer-review process, ...

#### Forme de l'évaluation:

Continuous assessment based on the presentation given by the student for both the theoretical and practical projects and based on the implementation and report of the practical project. The practical R&D project will be evaluated by an initial plan, a final report, three presentations and the evaluation from the client. The research project will be evaluated by two presentations, an initial draft and the final research article. Students must pass both projects to pass the course.

#### Documentation:

All the documents required for the course will be posted on ILIAS.

#### Pré-requis:

Students who have not reached at least 20 credits in the Master BeNeFri program at the beginning of the workshop must obtain the authorization of the workshop coordinator.

#### Forme de l'enseignement:

4h/week  
Spring semester

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