- Faculté des sciences
- www.unine.ch/sciences

Bioinformatics tools (3BL2194)

Filières concernées	Nombre d'heures	Validation	Crédits ECTS
Master en biologie	**Cours: 30 pg**	**Voir ci-dessous**	3

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

Période d'enseignement:

- Semestre Automne

Equipe enseignante

Lecturers: Nikolai Ivanov, Thomas Junier, Daniel Croll (coordinator)

Assistants: Nikhil Kumar Singh, Yann Jeanneret

Objectifs

To acquire a basic understanding of bioinformatics including important algorithms and analysis tools.

Contenu

The course aims to make all participating students proficient in all basic areas of bioinformatics. We particularly focus on the needs of modern biology to treat large amounts of data and automate analyses procedures. The course is structured into lectures that introduce some key areas of bioinformatics followed by practicals on the computer to provide first hand experience. Lecturers and students will be available for ample discussions of tools and approaches.

The content of this course includes the following topics:
1- Introduction to Unix and scripting
2- Sequencing analysis
3- Genome assembly
4- Phenotype-genotype associations
5- Epigenetics

Forme de l'évaluation

Exercises to be graded during each practical lecture. If a student misses a practical, the student needs to make arrangements with the lecturers. If the final mark is insufficient, the student has to hand in two critical essays on the topics developed, at most two weeks after the end of the class (10.12.2018). Renewed failures will require a 30' oral exam to be arranged with the lecturers.

Documentation

More information will be provided on Moodle.

Recommended book: Bioinformatics for Biologist. Edited by Pavel Pevzer abd Ron Shamir. Cambridge University Press. 2011.

Pré-requis

Reading of scripts before lectures and exercises.

Forme de l'enseignement

Lectures and computer lab. Participation in the computer lab is mandatory (grading during the practical).