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

Bioinformatics tools (3BL2194)

Filières concernées	Nombre d'heures	Validation	Crédits ECTS
Master en biologie	**Cours: 3 ph**	**controle continu: 1**	3

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

Période d'enseignement:

- Semestre Automne

Equipe enseignante:

Dr. Yvonne Willi, UniNE (Coordinator)
Dr. Nikolai Ivanov, PMP
MSc Christophe Seppey, UniNE
MSc Marco Fracassetti, UniNE

Objectifs:

The objective of this course is to get an understanding of what bioinformatics is, some common algorithms used, and their application in the analyses of DNA, RNA of protein sequences.

Contenu:

The course is split into five modules (M) with the following themes:
- M1 Sequence analysis : pairwise alignment
- M2 Sequence analysis : multiple alignment and SNP detection
- M3 Gene prediction
- M4 Metabarcoding
- M5 Epigenetics

Each module is taught on two subsequent weeks and is split into lectures (week 1) and computer lab (week 2).

Forme de l'évaluation:

The final grade will be based on assignments that will be worked on during the computer lab. During each computer lab, a maximum of three assignments are given (total: 5 computer labs * 3 assignments = 15 assignments).

Documentation:

A script for each module

Pré-requis:

Reading of script before lectures and pracs, available on: vert/Biol_Cours/Enseignants/3 Masters/Master_Biology/Bioinformatics

An idea about unix and linux commands
http://www.math.utah.edu/lab/unix/unix-commands.html
http://www.cheatography.com/davechild/cheat-sheets/linux-command-line/
https://help.ubuntu.com/community/CommandlineHowto/
http://freeengineer.org/learnUNIXin10minutes.htmlhttp://linuxcommand.org/lc3_learning_the_shell.php

Forme de l'enseignement:

Teaching will include lectures (week 1 of a module) and computer lab (week 2 of a module). Participation of the computer lab is mandatory as the assignments given then will be marked.