

UE High throughput Biology



Component
UFR Chimie-
Biologie

- > **Teaching language(s):** English
- > **Open to exchange students:** Yes
- > **Code d'export Apogée:** YAX9BI37

Presentation

Description

Course outline

The lectures present the basic methodology and some advanced techniques used for high throughput *in vitro* small molecule drug discovery. The principles and statistical methods used for assay optimization and validation will also be explained.

- I. Molecular biology, Biochemistry and Protein expression
- II. Proteomic analysis; Mass spectrometry
- III. Lab-chips and Cell-chips
- IV. Structural biology: Crystallography and Crystallization; RMN
- V. Combinatory chemistry

Format of exams: Oral exam (at the end of December) and Research project (at the beginning of January)

Course parts

UE High throughput Biology - CM	Lectures (CM)	30h
UE High throughput Biology - TD	Tutorials (TD)	10h

Recommended prerequisites

Background in biochemistry, molecular biology and cellular biology. Knowledge in physiology, immunology and microbiology will be appreciated. Students with laboratory and/or practical skills will better understand technological benefits of the use of high throughput technologies in the lab work.

Period : Semester 9

Skills

After completion of this course, students should:

1. Know the basic methodology and some advanced techniques used for high throughput in vitro small molecule drug discovery;
2. Comprehend approaches and statistical methods used for assay optimization and validation;
3. Be able to compare and contrast different methods used for the discovery of biomarkers and validation;
4. Have in-depth knowledge acquired through independent investigation of one key technology used for drug or biomarker discovery;
5. Be able to present this knowledge in oral and written form.

Useful info

Contacts

Program director

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Place

➤ Grenoble



Campus

➤ [Grenoble - University campus](#)