



UE1-Basic Methods and Lab Skills



Niveau d'étude
BAC +4



ECTS
15 crédits



Composante
UFR Sciences
Vie Terre
Environnement

Présentation

Description

Les enseignements de cette UE sont délivrés à l'Université de Mayence en Allemagne

This module aims to bring all students to a unique experimental and technical level. Here essential basic techniques will be taught and trained to prepare the students to work in a modern microbiological, molecular biological and biotechnological lab. The conceptual design of the course is to teach the methods in logical order "from gene to protein". In the accompanying lecture, the theoretical background of the techniques are taught, which are then trained and applied in the experimental part of the module. In the accompanying seminar a scientific correlation to the methods is drawn. Programm :

Lectures (21h)

Introduction to and theoretical background of advanced laboratory techniques.

Tutorials (10,5h)

Data analysis.

Practice (84h)

Training of basic methods and lab skills in a modern microbiological, molecular biological and biotechnological lab.:

Design of oligonucleotid primers

Polymerase chain reaction (PCR)

Molecular biological cloning strategies

Genetic manipulation of microorganisms

Overproduction of proteins, fermentation

Purification of proteins, chromatography



SDS-PAGE, Western blot

Enzymatic reactions

Objectifs

Choosing and applying state-of-the-art microbiology and molecular biology laboratory techniques.

Designing technical approaches to address research questions in microbiology and molecular biology.

Evaluating the quality and reliability of laboratory work in molecular biology.

Heures d'enseignement

CM	Cours Magistral	21h
TD	Travaux Dirigés	10,5h
TP	Travaux Pratiques	84h

Pré-requis obligatoires

Basic notions in microbiology and molecular biology. Basic notions of work in a microbiology and molecular biology lab.

Modalités de contrôle des connaissances

Évaluation initiale / Session principale

Type d'évaluation	Nature de l'évaluation	Durée (en minutes)	Nombre d'épreuves	Coefficient de l'évaluation	Note éliminatoire de l'évaluation	Remarques
CT (contrôle terminal)	Ecrit sur table			15		Possibilité épreuve orale



Seconde chance / Session de rattrapage

Type d'évaluation	Nature de l'évaluation	Durée (en minutes)	Nombre d'épreuves	Coefficient de l'évaluation	Note éliminatoire de l'évaluation	Remarques
CT (contrôle terminal)	Ecrit sur table			15		Possibilité épreuve orale

Infos pratiques

Campus

➤ Campus de Dijon