
BIOCHEMISTRY AND MOLECULAR BIOLOGY STUDY PLAN

FIRST YEAR 60 ECTS

Annual

- Basic Biochemistry Methodology (9 ECTS)
- Physics (EFC) (9 ECTS)

1st semester (Sep-Jan)

- Biochemistry I (6 ECTS)
- Cell Biology (6 ECTS)
- Chemistry (6 ECTS)
- Mathematics (6 ECTS)

2nd semester (Jan-Jun)

- Biochemistry II (6 ECTS)
- Biostatistics (6 ECTS)
- Histological Techniques & Cell Cultures (EFC) (6 ECTS)

SECOND YEAR 60 ECTS

1st semester (Sep-Jan)

- Genetics (6 ECTS)
- Microbiology (6 ECTS)
- Regulation and Biosynthesis of Macromolecules (6 ECTS)
- Regulation of the Metabolism (EFC) (6 ECTS)
- Thermodynamic and Chemical kinetics (6 ECTS)

2nd semester (Jan-Jun)

- Cell Signaling (6 ECTS)
- Immunology (6 ECTS)
- Instrumental Techniques (6 ECTS)
- Proteomics, Structure and Engineering of Proteins (6 ECTS)
- Recombinant DNA Technology (6 ECTS)

THIRD YEAR 60 ECTS

1st semester (Sep-Jan)

- Animal Physiology (ENG) (6 ECTS)
- Biophysics (6 ECTS)
- Human Genetics (6 ECTS)
- Methods in Molecular Biology (6 ECTS)
- Plant Physiology (6 ECTS)

2nd semester (Jan-Jun)

- Biocatalysis (6 ECTS)
- Bioinformatics (6 ECTS)
- Clinical Biochemistry and Molecular Pathology (EFC) (6 ECTS)
- Law and Ethics in Biosciences (6 ECTS)
- Spectroscopy of Biomolecules (EFC) (6 ECTS)

FOURTH YEAR 60 ECTS

1st semester (Sep-Jan)

- Advanced Methods in Biochemistry (EFC) (6 ECTS)

2nd semester (Jan-Jun)

- Structural Biology: Biomedical Applications (6 ECTS)

Optional courses

- Developmental Biology (4,5 ECTS)
- Extension of Molecular Biology (4,5 ECTS)
- Human Physiology (4,5 ECTS)
- Microbial Physiology (4,5 ECTS)
- Nanobiotecnology (EFC) (4,5 ECTS)
- Principles of Industrial Microbiology (4,5 ECTS)
- Systems Biology (ENG) (4,5 ECTS)
- Virology (4,5 ECTS)
- Scientific and Technical writing skills in Basque (6 ECTS)

Optativas

- Genomics (4,5 ECTS)
- Molecular Evolution (ENG) (4,5 ECTS)
- Molecular Pharmacology (EFC) (4,5 ECTS)
- Organic Synthesis in Biosciences (4,5 ECTS)
- Tissue Engineering (4,5 ECTS)
- Scientific and Technical oral skills in Basque (6 ECTS)

FINAL YEAR PROJECT (ENG) (12 ECTS)

ENG: Courses taught in English

EFC: English Friendly Courses, taught in Spanish or in Basque, but support, tutorials and student reporting and exams in English.
