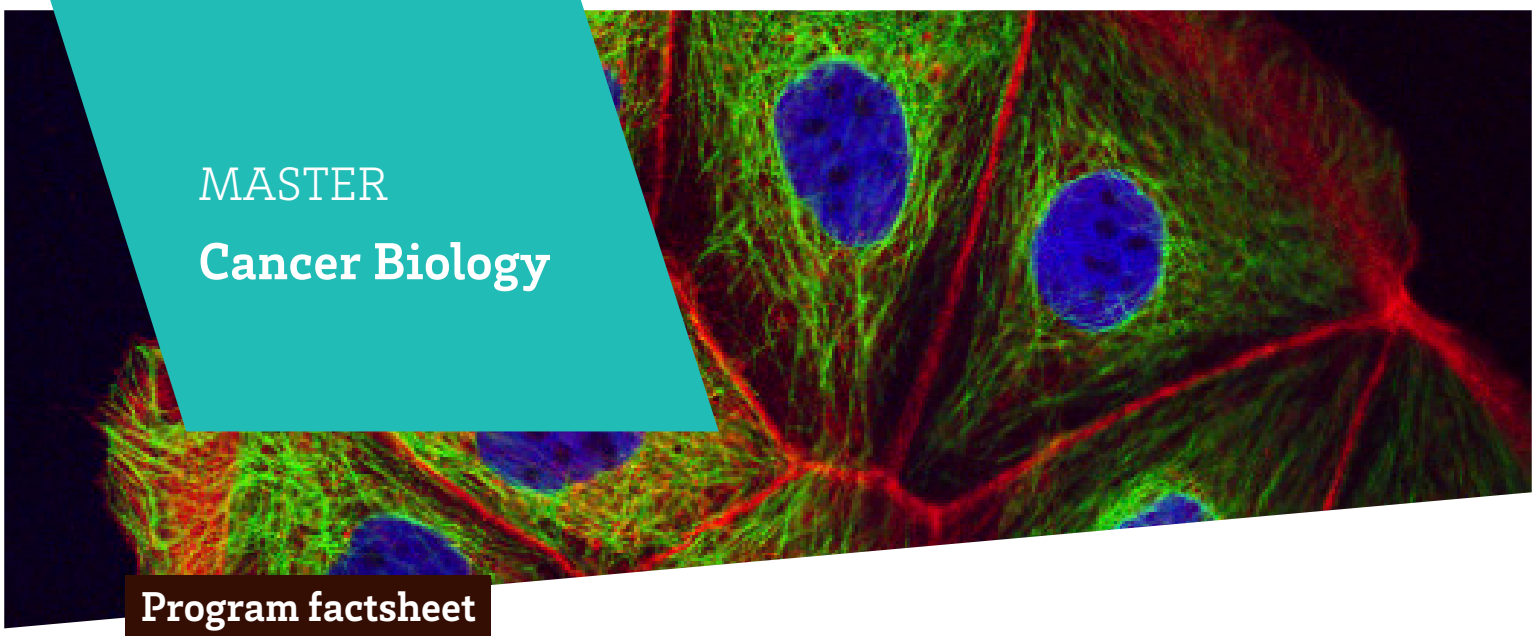

MASTER

Cancer Biology

Program factsheet

PROGRAM DURATION
2 years (120 ECTS).

LEVEL
Master of Science degree.

TUITION FEES
Annual fees are calculated according to the rules and regulations of the University of Bordeaux. Consult the website *www.u-bordeaux.com/Education/Tuition-fees* for the latest information.

ADMISSION REQUIREMENTS
Bachelor degree or 180 ECTS equivalent in Biology or relevant Life Sciences field.

LANGUAGE REQUIREMENTS
Candidates should be proficient in English. A certificate may be requested proving a minimum of English B1 level according to the "Common European Framework of Reference for Languages" grid (European Union and Council of Europe, http://europass.cedefop.europa.eu).

ACADEMIC COOPERATION
Students may carry out their internship with the following universities: Federal University of Health Sciences of Porto Alegre (Brazil), McGill University (Canada), University of Arizona (USA), University of Lisbon (Portugal), University of Missouri (USA), University of Saragossa (Spain) as well as with various international partners of the Cancer research laboratories at the University of Bordeaux.

Program outline

The Master in Cancer Biology is one of the four degree-granting tracks of the Biology and Health Master. The training program is primarily research-oriented with an emphasis on interdisciplinary approaches to the study of cancer.

The program includes two research internships in laboratories: a two-month long internship in the first year and a five-month long internship in the second year. Students learn about the fundamental bases and emergent areas in the field of cancer, from basic cell and molecular biology of cancer to translational and clinical research. They benefit from open access to state-of-the-art technological tools and direct interaction with expert scientists from the field of Cancer Biology.

The program covers the basic molecular and cellular mechanisms driving oncogenesis, the complex interacting cellular and molecular networks with the tumor microenvironment dictating cancer development and metastatic dissemination, the clinical aspects of cancer pathology and therapeutic possibilities. The development of critical analysis and creative skills that must be applied in the conception of research proposals, accessing and processing experimental data, and literature searches are also important components of the program.

Strengths

Strong connections to a network of research laboratories (French National Center for Scientific research - CNRS, French National Institute of Health and Medical Research - INSERM, the University of Bordeaux and international laboratories) dealing with a broad range of problematics in oncology.

A strong interdisciplinary research dynamic and learning environment, providing students with the possibility to interact with not only biologists, clinicians and other health professionals, but also physicists, mathematicians, chemists, computer scientists and philosophers of science working in the field of cancer.

State-of-the-art technologies for cancer modeling, diagnosis and treatments.

College of Science and Technology

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Program structure

Year 1:

Semester 1

- Cancer cell biology (9 ECTS)
- Bioinformatics and omics (3 ECTS)
- Imaging and molecular histology (3 ECTS)
- Experimental design in biomedical sciences (3 ECTS)
- Molecular and cell biology techniques (9 ECTS*)
- English (3 ECTS*)

Semester 2

- Cancer immunobiology and immunotherapies (6 ECTS)
- High-throughput sequencing and bioinformatics (3 ECTS)
- Research internship (12 ECTS)
- Molecular basis of pathologies (9 ECTS*)
- Optional: animal experimentation training and certification (6 ECTS)

Year 2:

Semester 3

- Microenvironment and tumor heterogeneity (6 ECTS)
- Modeling and therapeutic innovation in cancer (6 ECTS)
- Tutored interdisciplinary project (3 ECTS)
- Communication and project conception (9 ECTS)

Two courses to be chosen from:

- Concepts and causality in cancer (3 ECTS)
- Microbiota and physiopathology (3 ECTS)
- Pharmaceutical sciences (3 ECTS)
- Other courses offered in the Biology and Health Master programs

Semester 4

- Research internship (30 ECTS)

**Courses are common with other tracks of the Biology and Health Master program.*

→ *And after?*

The Master in Cancer Biology prepares students for careers in academic research in biomedical sciences. They may pursue their studies further with a PhD or directly work in research laboratories as scientific staff.

It also prepares students to compete for careers in the industrial sector (biotechnology companies, particularly in product development for the diagnosis and treatment of cancer, in pharmaceutical companies or clinical analysis laboratories). Graduates of the program also have the opportunity of applying for different professional positions in the healthcare system, such as hospitals or clinics.

How to apply?

Applications may be completed online:

› www.u-bordeaux.com/Education/International-study-offer/Masters
› https://apoflux.u-bordeaux.fr/etudiant/

→ *Keep in mind!*

- Expected number of students per year: 20
- Selection procedure: an initial selection is based on students' CV and cover letter; a second level of selection may be based on an interview with pre-selected candidates.
- Selection criteria: academic accomplishments at undergraduate level (grades, honors), research experience (e.g. internships), cover and recommendation letters.
- All courses will be evaluated by one written final exam, which typically accounts for 50% of the grade, additional forms of evaluation depend on the specific courses chosen (these may include continuous evaluation, written reports, oral presentations, etc.).

University of Bordeaux, France

Contact

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