

INTERNSHIP BIOMEDICAL ENGINEERING

(6 ECTS = 180 h study time)

Last update 23/10/2023

GENERAL INFO:

Coordinators

1/ Prof. Johan Stiens, johan.stiens@vub.be

2/ Prof. Jef Vandemeulebroucke, jef.vandemeulebroucke@vub.be

Academic in charge of the general coordination: Prof. Lincy Pyl, Lincy.Pyl@vub.be

6 ECTS

The 'Internship in Biomedical Engineering' is an elective course.

Since the academic year 2021-22, it is a semester course. Two versions are offered: a 1st semester offer and a 2nd semester offer. Both offers have the same course ID (009043) but a different catalog number: catalog number 4019819FNR for the 1st semester version and catalog number 4023541FNR for the 2nd semester version.

Duration: 180 hours study time = equivalent to 5 weeks operation of full-time equivalent position

PREREQUISITES

At the end of the first exam session of the current year: having failed no more than 20 ECTS, and no more than 4 teaching units of the current master (not preparatory!) teaching program. If these enrolment requirements are not met at the end of the first session deliberation, the internship contract is cancelled as well as the internship itself.

In any case, the internship project is always pending on approval of the internship coordinator(s). If the internship enters in conflict with an exam, priority must be given to the exam and in no case requests for exception are considered.

TIMING:

Options to execute the internship:

The candidate is responsible for finding a company or institute where the training will take place for an internship. A whole list of potential companies will be additionally offered by the course titular.

Option 1 (Semester 1 version)

- to execute the internship in the summer period between MA1 and MA2.
- the effective registration for the course happens before October 15th of the academic year after the execution of the internship.
- the student has to register for the 1st semester offer of the course, with catalog number 4019819FNR.

Option 2 (Semester 2 version)

- to execute the internship in the summer period after MA2
- the effective registration for the course happens before February 28th of the same academic year.
- the student has to register for the 2nd semester offer of the course, with catalog number 4023541FNR.

For both versions the same deadlines are valid.

The administrative procedure is available on the [website](#).

Step 1: [Form to request internship](#) (deadline: 31/05) (=Application form)

Step 2: [Internship agreement](#) (deadline: 15/06) (= Internship agreement)

Step 3: Form for evaluation to be filled in by the internship supervisor of the training entity (Evaluation document)

Step 4: [Upload internship report](#) _

LOCATION FOR THE EXECUTION OF THE INTERNSHIP:

- In a company, institute with industrial relevance, or hospital. The entity where the internship is executed can be national or international.
- Internships are not allowed:
 - In Belgian university labs.
 - For international students, an internship in their home university.
 - For Erasmus IN students, an internship in their home country.
 - In a country classified at risk: VUB Faculty of Engineering will give negative advice for students applying for an internship in countries in war.
 - When (one of) your training entity supervisor(s) is a close relative. In any case, the internship project is always pending on approval of the internship coordinator(s).

PROCEDURE FOR THE VUB ERASMUS+ TRAINEESHIPS:

- Equivalent to general document. Please contact ir.mobility@vub.be for more information
- Deadline EU destinations: February 15th.
- Deadline non-EU destinations: December 15th.

LINK BETWEEN THESIS & INTERNSHIP

The thesis and the internship may be done in collaboration with the same company or institution. However, the thesis and the internship must have clearly defined and distinct deliverables and learning outcomes, and they will be evaluated separately.

PROGRAMMA OBJECTIVES

The goal is to bring the student in contact with the actual industrial or social environment where the knowledge being acquired will be applied. Drawing the attention to different aspects of the environment that escape the traditional education methods.

Stimulating a critical reflection on his/her studies of biomedical engineering.

- Project based working: formulation of targets, target-wise reporting, keep track of the outcome and project development.
- To function as a team in a multidisciplinary environment.
- Written, oral and graphical reporting concerning a technical or scientific topic.
- Act in an ethical, professional and social way.

- To be aware of the main commercial, legal of the own engineering discipline.
- To show perseverance, a drive for innovation and the creation of added value.

Depending on the kind of activity during the internship, the internship **can lead to some extra outcomes** in one or more competences as listed below:

- To master advanced knowledge in the own engineering discipline and application of it in creative complex problem solving.
- Make use in a creative and target-oriented way of domain specific CA Engineering.
- (CAE) tools and advanced ICT means.
- Selection and application of the most suitable models, methods and techniques.
- Critical and objective assessment of own results and these from literature.
- Adapt to flexible and professional conditions.
- Master the complexity of technical systems by exploiting system- or process models.
- Bridge the gap between conflicting specs and boundary conditions in an innovative design and/or process.
- Convert incomplete, conflicting or redundant data into useful information.
- Dispose of sufficient ready information and understanding to check complex calculations and make first order estimations.
- Pay attention to the cradle-to-grave aspects of systems, machines, processes.
- Pay attention to aspects of energy efficiency, environmental impact, material consumption and personnel cost.
- Pay attention to aspects **of reliability, safety, and ergonomic aspects**.
- Having insight in and understand the importance of **the role of entrepreneurs in society**.

REPORTING

The report (max 25 pages, without potential appendices of computer code, mathematical derivations, technical specs of instruments..) includes the following items:

- A description of the training entity.
- A technical description of the activities of the student.
- Remarks concerning social or personal matters in relation to the internship.
- Conclusions, including e.g. the added value and the benefits of the internship for the student and possible shortcomings and/or assets of the curriculum that were evidenced during the traineeship.

The focus is on the technical content, but the other aspects are as relevant!

Deadline for the submission of the report:

For SEM1 option: 30/10.

For SEM2 option: 30/08

Oral Presentation:

Concise overview of the report

Duration: 15-20 min; Q&A: 15-20 min

For SEM1 options: In the period November – December after the execution of the internship.

For SEM2 option: before the end of the August-September exam session.

GRADING

The final grade is composed based on the following categories:

- Internship activities determine 60% of the final mark.

The evaluation mark is based upon the evaluation form and the (oral) feedback provided by the supervisor of the training entity.

- Internship report determines 20% of the final mark.
- Oral presentation determines 20% of the final mark.