

Description of curricular units

1. Curricular Unit: Research Training

2. Curricular Unit code: TI

3. Faculty: Instituto de Tecnologia Química e Biológica

4. Departament:

5. Course: PhD Program in *Chemical and Biological Sciences and Engineering*

6. Course level: PhD

7. Type of Curricular Unit: Compulsory

8. Year of study plan: 1st year

9. Semester: 1st semester

10. Number of credits: 10 ECTS

11. Coordinators: Cláudio Manuel Soares / Ricardo Louro, Additionally, the heads of the laboratories where the student receives the lab rotation will also be involved.

12. Number of hours/week: 28 total contact hours during the semester.

13. Objectives of Curricular Unit

In this course the student will be exposed to research at international, advanced level, performed in the laboratory of his/her supervisor(s). The objective is to teach the practice of research, by a supervised immersion of the student in his/her's PhD research plan within this(e) laboratory(es). He/she will become familiar with the scientific area, and will be able to plan original research jointly with the supervisor(s). Another objective of this course is that the student presents and defends before a jury the objectives and methodology that will be used to make an original scientific work. A report containing the preliminary results obtained during the course should also be given.

14. Background requirements

None.

15. Content of Curricular Unit

Besides learning the underlying processes of performing modern research, the student will become familiar with one or several scientific areas. A report will be delivered, containing the student's preliminary results and a short explanation of the research plan leading to the PhD thesis. These preliminary results and the description of the research plan will be presented and defended in front of a jury, containing at least one of the lecturers in charge for this course, as well as the supervisor(s) of the laboratory(ies) where this research was implemented.

16. Bibliography

Scientific papers and reference books of the areas of the research projects.

17. Teaching methods

This course follows the philosophy of work- and problem-based learning. Despite the fact that the student's work is supervised, creativity and some student's autonomy will be developed. Learning will be implemented through the reading of scientific papers and reference books, by the planning and execution of research and by the writing of reports and plans.

18. Evaluation

Assessment of this course will have three components:

- 1) Continuous assessment by the supervisor(s) of the student – 50%.
- 2) Assessment of the report of the research project. This assessment will be made by the supervisor(s) of the student – 25%.
- 3) Assessment of the presentation of the preliminary results and work plan leading to the PhD thesis. This will be assessed by at least one of the people in charge for this course – 25%.

19. Language

The working language in this course will be that which normally is under use in the laboratory where the research projects are going to be implemented. Typically, it can be either Portuguese or English. The report and its oral presentation will be done in English.