Hanze

# Course: The Biological Research Technician — credits: 5

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| **Course code** | BOVP23RANALIST |
| **Name** | The Biological Research Technician |
| **Study year** | 2023-2024 |
| **ECTS credits** | 5 |
| **Language** | Dutch, with parts in English |
| **Coordinator** | E. Coffeng |
| **Modes of delivery** | Lecture<br>Practical / Training<br>Project-based learning<br>Tutorial |
| **Assessments** | Orientatie op Modelorganismen - Other assessment<br>Wiskunde en Molberekeningen - Computer, organised by STAD examinations |

**Learning outcomes**

This module has the following learning outcomes:

You independently perform simple chemical calculations (mol, gram, reaction equations, molarity, dilutions) using a scientific calculator according to current scientific knowledge;

You independently solve mathematical equations (1st degree, 2nd degree and a system of linear equations) using arithmetic rules, (natural) logarithms, powers and roots (without calculator) and at the level described in the BOKS;

You possess, reproduce and analyse knowledge about the growth, development and living conditions of a model organism and apply it by growing a model organism under different conditions under supervision in the biomedical laboratory;

You work together with peers on a joint assignment in a biomedical context according to the guidelines of the programme and bear shared responsibility. You communicate in collaboration with peers about obtained results according to the guidelines of the training;

You possess knowledge of the profession and the work field of the biological research analyst and reflect independently (according to programme guidelines) on your choice of study.

DAS competencies

| Competency | Level (I-IV) |
|---|---|
| Research | I |
| Experimentation | I |
| Development | |
| Management | I |
| Advise | |
| Instruction | I |
| Leadership | |
| Self-management | I |

**Content**

Many different model organisms are used in the field of biological and medical research, such as Escherichia coli, Hansenula polymorpha, Drosophila melanogaster, Caenorhabditis elegans, Arabidopsis thaliana, etc. In this module, you will get to know some of these organisms in the lab, giving you a good overview of your future profession. In a project group, you find out how they grow and for which research questions they are used in the work field of the research analyst. You present the results of your research to your fellow classmates. Chemical calculation is an essential part of the research analyst's work, necessary for making the right growth media, among other things. To this end, we make a start with chemical arithmetic (mole calculations and dilutions). You are also taught mathematics in order to be able to calculate correctly with scientific notations, second-degree equations and logarithms. Because this module already gives you a very good idea of your future profession, we let you reflect extensively on the past module. This conscious self-evaluation will enable you to assess whether you have made the right study choice.

**Included in programme(s)**

Major Biology and Medical Research

**School(s)**

Institute for Life Science & Technology

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