

BACHELOR OF HEALTH CARE, BIOMEDICAL LABORATORY SCIENCE

Degree: Bachelor of Health Care, 210 credits, 3.5 years

Curriculum, InnopedaOPS, 2018 –

1. Description of studies

As a biomedical laboratory scientist you will be working as a specialist in clinical laboratory work at clinical laboratories in the health-care sector or medical and bioscience research laboratories. In your role you will be promoting public health, producing laboratory tests required for the treatment and care of patients and work in active cooperation with other professional teams within health care. As a specialist in clinical laboratory work, your skills include correct sampling technique, sample analysis and quality control of test results. The degree will also qualify you for international positions. On your graduation, you will be licensed by the National Supervisory Authority for Welfare and Health (Valvira) to work as a biomedical laboratory scientist.

The training in biomedical laboratory science will give you wide-ranging basic practical knowledge and skills that you will be able to apply in your future role in an innovative manner. You will be studying in modern facilities centered by health care expertise at Kupittaa campus. You will be training at TuasLab, the biomedical teaching laboratory using state-of-the-art equipment and instruments.

After completing your Bachelor's degree, you may continue on a Master's degree programme at a UAS or a university.

Structure and content of studies, 210 ECTS

Core competence 170 ECTS

- basic studies 24 ECTS
- professional studies 101 ECTS (incl. training at TuasLab, 33 ECTS)
- practical training 45 ECTS

Complementary competence 40 ECTS

- achieving individual excellence 10 ECTS
- thesis 15 ECTS
- multiprofessional optional studies 15 ECTS

During **basic studies**, you will build the foundation for your professional competences and higher education learning skills and acquire language proficiency as required by the Finnish Polytechnics Decree (424/2003). Your language proficiency will be specified on your degree certificate.

During **professional studies**, you will gain wide-ranging skills required in the various areas of specialism in clinical laboratory work.

During **practical training**, you will learn to apply theoretical knowledge as you practice your skills in real laboratory work. You will be working under supervision at a biomedical teaching laboratory TuasLab, clinical laboratories in different sections of public health service or biomedical research laboratories. You may complete part of your practical training on international student exchange. Exchange students may participate in professional training at the teaching laboratory Tuaslab in English (30 ECTS).

You will acquire **complementary competences** in the specialist field of your choice. You improve your professional competences by focusing on one or several specialties in clinical laboratories according to your personal interests. You can also deepen your skills by participating in ongoing schemes and development projects, by working at the biomedical teaching laboratory or by attending student guidance during laboratory training.

The Bachelor's thesis is written as part of a working life-oriented development and research project to demonstrate your capacity for independent work and your ability to use research-based information with a critical perspective.

Through **multiprofessional optional studies** (15 ECTS) you will expand your knowledge base by selecting studies that support your career from the options available at TUAS.

2. Competence goals

As a student biomedical laboratory scientist, you will learn critical and creative thinking as well as your teamwork and networking skills as an individual and as a member of a community and wider networks. As a clinical laboratory technologist, you will grow from an observer into a specialist and further into an innovator.

As an **observer**, you will learn key basic skills in clinical laboratory work, which form the foundation for correct and safe laboratory procedures. You will be able to name the stages of the laboratory analysis process and identify key elements that guarantee the integrity of the process. You will acquire basic abilities in critical thinking and problem-solving in your specific professional field. As an observer, you will gain your first hands-on experiences in professional life and start planning your learning and development from the perspective of your future career. You will learn the principles of evidence-based approach and build your ability to use scientific information.

When transitioning into a **specialist** in clinical laboratory technology, you will focus on basic knowledge and skills in a specialized context. As your competences develop, you will learn how to analyse your own performance as well as that of your work community.

During your work experience at a laboratory, you will expand your professional networks and become a committed member of a work community.

As an **innovator** in clinical laboratory technology, you will gain skills in critical thinking and learn to apply scientific knowledge based on evidence and evaluation, skills which you will subsequently be able to apply in your thesis and when participating in various working-life oriented projects.

The skills set of a biomedical laboratory scientist covers the following specialized competence areas:

- customer service and guidance skills
- biomedical skills
- quality assurance and safety and security
- laboratory research process skills
- professional conduct
- research, development and leadership skills

Customer service and guidance skills means the ability to provide good customer service and to serve as an expert and advisor in laboratory research as part of a multiprofessional team.

Biomedical skills include knowledge about the biochemical reactions in the human body and the application of this knowledge in clinical laboratory work.

Quality assurance and safety and security refers to the knowledge of and compliance with quality assurance systems and occupational safety regulations in the laboratory setting.

Laboratory research process skills cover correct sampling techniques, the knowledge of the functional principles of analytical instruments and the ability to evaluate the reliability of results.

Professional conduct in laboratory work requires strong ethical, critical and professional judgement and decision-making skills.

Research, development and leadership skills refers to the application of evidence-based information in practice.

3. Learning methods

The focus of the curriculum is in providing practical competences and it is designed to meet the requirements of working life. You are expected to take a proactive approach to your studies and take responsibility for your own learning in the different environments. The teachers will support and guide you in the building of your knowledge base, learning

and the application of knowledge. You will be studying independently and as a member of various teams and in a real-life laboratory setting.

You will learn how to combine your accumulated knowledge base with practice during practical training and multiprofessional simulation exercises at the teaching laboratory. The main learning environment is TuasLab, where teachers will facilitate and supervise various projects run by teams of students. Through multiprofessional projects you will learn how to operate as part of a multiprofessional team and as an entrepreneur. As a peer instructor you will expand your skills by teaching future professionals in your own and other fields in health care.

Each course includes an online module. Some of the courses are taken entirely online and can be completed during the summer term or according to your personal study plan. The English-language online learning module (60 ECTS) includes online courses jointly compiled by different universities of applied sciences, which you can take as a core or complementary competence.

You will train and work in English at the teaching laboratory in a genuinely multicultural environment together with our international exchange students. Other international activities include the tutoring of exchange students and participating in various seminars and projects. You may complete some of the courses and practical training abroad.

In study counselling, you will draw up your individual study plan (eHOPS), in which you describe and schedule the progress of your studies. The eHOPS is updated annually and your tutor will support you through your plan.

4. Assessment

The purpose of continuous assessment is to support your learning and to steer your professional development. Your knowledge and skills are assessed against the competence goals set for the course as described in the implementation plan. You will receive personal guidance on how to set your personal goals and you will draw up a plan to achieve them. You will learn peer and self-assessment skills, reflective learning, and how to receive and give constructive feedback. You will be given oral and written feedback on your progress in your professional development, particularly during supervised practical training.

As a student, you have the right and the duty to contribute to the development of the higher education institution through various channels. For the purpose of quality assurance, you will be required to give oral and written feedback on each course. We will also organize feedback day events for the entire line of study. The feedback days are an opportunity for you to have your say in how the training could be improved.