Branch :Agriculture

Code: AGRBIO
Option: Agricultural Biosciences
Level: Master
Prerequisites:
Opportunities:
After graduation, you can find a job in the national or international labour market, for example in universities, research institutes, and the public sector or in biotechnology, livestock and life science companies.
Career opportunities are also available in international organizations such as the CGIAR centers, FAO and the World Health Organization (WHO).
In addition, more and more young scientists specializing in agricultural biosciences are finding employment in small companies and start-ups in areas such as biotechnology and artificial intelligence, which provide technologies or services to the agricultural sector.
Graduates with combined expertise in molecular biology and quantitative and computational methods are highly sought after in the labour market, as the number of graduates does not meet the demand for qualified personnel. It is expected that demand will increase as molecular methods and artificial intelligence will fundamentally change the agricultural sector and increase the demand for research and development.

Description:

This international program entitled "Agricultural Biosciences" focuses on basic biological research for efficient and sustainable agricultural production of crop and animal species. It integrates quantitative and computational approaches in a unique, interdisciplinary agricultural curriculum. What is happening in this study?

Agricultural biosciences offer solutions to major societal challenges. They can contribute significantly to the security of food supply, the preservation of natural resources and the mitigation of climate change.

The MSc Agricultural Biosciences builds on the vision of the UUT School of Life Sciences and offers a fundamental, mechanistic understanding of the biological processes underlying plant and animal agricultural production, combined with expertise in dealing with data-rich challenges and quantitative data analysis.

Unlike other MSc programs that take a specialized view of basic research and distinguish between plant and animal sciences, we at UUT believe that a generic approach is more appropriate as many biological mechanisms are shared between plants and animals. The emphasis on molecular and computational methods reflects UUT's strategy of valuing innovation as the basis of knowledge.

The M.Sc. Agricultural Biosciences deals with different organisms, namely plants, animals and microbes. The program takes advantage of the synergistic effects created by integrated studies on plant and animal species by teaching generic and specific biological concepts, methods and tools. It reflects the high level of innovation in agricultural biosciences and prepares graduates for a multi-track career allowing flexibility and migration in the labour market.

As an agricultural biosciences graduate, you will have an in-depth knowledge of the molecular, biochemical and physiological processes contributing to agricultural production. You will be able to optimize the processes leading to genetic improvement of crops and livestock. With knowledge of the genotype-phenotype relationship, you can optimize production environments. Graduates learn to integrate heterogeneous data from different disciplines, to handle large experimental data sets and to master predictive analysis. You can evaluate molecular and computational methods for their impact and trade-offs in practice and communicate their relevance to agricultural production in a livable environment.

Quality and competences:

processes relevant to agricultural production.
be able to conduct research in the agricultural biosciences and be able to relate your knowledge and findings to other disciplines.
be aware of the challenges and demands of society in the context of agricultural biosciences and have the social skills to communicate across disciplines and cultures.
have developed your personal skills to navigate in a changing environment and manage complex projects.