Branch : IT and communication

Sigle : BIOINF

Option : BIOINFORMATICS

Level : Bachelor

Prerequisites: Scientific baccalaureate or equivalent

Opportunities:

If you decide to embark on a career after completing the degree in bioinformatics, you will open up a wide range of opportunities in various sectors. In addition to biotech companies, these include the pharmaceutical and medical sectors as well as food technology. Further options are offered by industrial research or basic research oriented towards information technology in the natural sciences.

Description

Bioinformatics is a young and emerging field of study and research that combines modern information sciences (computer science, mathematics and statistics) with life sciences (biology, chemistry, pharmacy, medicine, biotechnology and food technology). Bioinformatics deals with computational issues arising from the application of new working techniques and a rapidly growing stock of data in the life sciences. It is also becoming increasingly important in medicine and pharmaceutical research.

The exponential growth of biological data generated by national and international research projects offers an exceptional field of application for modern bioinformatics. Only the use of computational methods makes it possible to build mathematical models in the life sciences and to use them for

the analysis of new and large amounts of data. In this context, the potential uses of informatics in the life sciences go far beyond its current applications.
In industry, bioinformatics is seen as a key technology. Not least, biotech start-ups are dependent on candidates with specific and interdisciplinary skills. As bioinformatics methods are already in use in industry, but there are still few graduates in this interdisciplinary discipline, industry needs well-trained bioinformaticians.

Specific competences:

As a graduate, you will have a solid grounding in computer science, mathematics and natural sciences. In computer science, for example, this includes programming, algorithms and data structures, automata and formal languages, and in mathematics, in addition to combinatorics and algebra, analysis and stochastics. In the natural sciences, the focus is on biology, chemistry and biochemistry.

Quality and competences:
You will become familiar with the basic approaches and methods of bioinformatics, which are the prerequisite for sequencing genomes or predicting protein structures and functions, among other things. Thanks to your bachelor thesis, you will also have gained initial experience of working independently on ongoing research tasks.