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1 Master in Bioinformatics at Aarhus University

Much of the text here is copied from the official AU page about the Master's degree programme in Bioinformatics.

Introduction

Bioinformatics is a fusion of biology, statistics and computer science that focuses on the development and application of computational solutions for analysing and handling biological and biomedical data. The field of bioinformatics plays a key role in modern biology and biomedicine, where collecting and analysing large data sets is essential. To address the challenges of big data in modern biology and biomedicine, a bioinformatician must combine practical and theoretical skills in statistical modelling, data analysis, and computer programming with a deep knowledge of biology and biomedicine - a network of competencies that students will acquire through the two-year MSc in Bioinformatics programme at Aarhus University.

The MSc in Bioinformatics programme is open to all students with a BSc degree in the natural, technical or health sciences with a significant content of mathematical, biological, and/or computational subjects, such as a BSc degree in bioinformatics, biology, molecular biology, molecular medicine, mathematics, statistics or computer science. Students on the programme will be exposed to the many topics in bioinformatics through lectures, projects and exercise sessions; they will specialise in a bioinformatics subject during their thesis work, while also acquiring general competencies in data analysis and computer programming.

Career profile

The MSc in Bioinformatics programme is both practical and research oriented. It reflects the interests of the business community, research institutions and the public sector. Students obtain skills within the development and application of computational solutions for analysing and handling data-intensive systems in general, and biological and biomedical systems in particular. Graduates are thus extremely well placed to find

employment as bioinformatics specialists in the biotechnology or biomedical industry, or in other areas where computational analysis of large amounts of data are essential. They are also attractive to the IT industry as software developers.

Programme structure

With a combination of two specialisations, elective courses, and projects, there are many ways to structure your Bioinformatics master's programme. All students must do 30 ECTS thesis and a 10 ECTS project. All students must also follow a mandatory course in either computational thinking or molecular evolution depending on their background. The mandatory course can be part of a specialisation, which makes it possible to have one more elective course. The 10 ECTS project can be scheduled in any semester, which makes it possible to study abroad during the third semester.

Semester |

Specialisations:

- Algorithms and Programming
- Machine Learning and Data Science
- Molecular Evolution and Genomics

Forms of teaching

At the University of Aarhus, you are in close contact with researchers in a way that you rarely experience at other universities. The door to the professor's office is always open if you need clarification of the study material, and you are encouraged to ask questions at lectures and during exercises. We make heavy demands on your academic skills and independence. In return, you gain considerable benefits in the form of academic challenges and scientific knowledge, in addition to broad competences.

The teaching at the university focuses on independence, critical thinking and collaboration. Part of the teaching is in the form of lectures that introduce new angles to the material compared with the textbooks. The theoretical and practical exercises take place in small groups where you study relevant issues in depth. Most bioinformatics students also spend a certain amount of time on project work in small groups in connection with the use or development of bioinformatics tools.

The varied forms of teaching, collaboration in groups and the opportunity for close scientific dialogue with the researchers provide you with general competences that are in great demand in the global job market. These competences include abstract, critical and independent thinking, analytical skills and strategic planning. You can use these skills in many contexts – even in jobs you didn't know you were qualified for.

Student life

There is more to life as a bioinformatics student at the University of Aarhus than subjects and lessons. As a bioinformatics student, you attend the Bioinformatics Research Centre. The centre is not only young and active, but also has ongoing academic and social activities in which both students and staff participate. In addition, students can use a computer room and a reading room. As a bioinformatics student, you meet students from a number of other science degree programmes in joint lectures. You therefore naturally participate in both social and academic activities together with students of subjects such as biology or computer science.

Voices of students

> I did a bachelor in molecular medicine. asdlkfa sldjfa sldkjf alsdjf alskdjf alskf lasjd flasdj flkasjd flskdj flasjd flasdj flaksdjf laskdj flaskdfj alsdfj alskdjf alskjfa lskdfj laskdjf dlkfa sldjfa sldkjf alsdjf alskdjf alskf lasjd flasdj flkasjd flskdj flasjd flasdj flaksdjf laskdj flaskdfj alsdfj alskdjf alskjfa lskdfj laskdjf dlkfa sldjfa sldkjf alsdjf alskdjf alskf lasjd flasdj flkasjd flskdj flasjd flasdj flaksdjf laskdj
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> — Ditte 2021

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