Post-graduate Certificate in Biodata Analysis

provided by

Pázmány FITB & HiDucator Ltd.
Biodata Analysis Program at a glance

- one-year, fully online, 60-credit program in English
- the aim of the program is to prepare the students to meet the demands of academic and industrial organizations performing high-throughput gene expression and sequencing studies
- the program covers aspects of biostatistics, sequence analysis, high-throughput analysis of genomic, proteomic and transcriptomic data, as well as phylogenetics and structural bioinformatics
- lecturers are experts in various areas of bioinformatics and, as active researchers, are up to date with the latest developments in the field
- the online program provides high flexibility making it possible to complete it efficiently and comfortably beside work and from anywhere in the world
Program Details

- the program is divided to two semesters of 30 recommended credits concluding with a 12-credit thesis work in the second semester.

- the program covers aspects of biological databases and data formats, programming with focus on biomolecular analysis, practical aspects of data processing and puts emphasis on extracting and critical evaluation of the biological relevance of the results.

- our practice-oriented training offers the acquisition of valuable, readily applicable skills and knowledge to even those with prior experience in bioinformatics.

- the program is divided into building blocks with clear task assignments and deadlines and within the given time frame they can be completed at the pace most convenient for the student.
Course Overview

- Includes courses on online databases, biostatistics, data analysis with R from basics to high-throughput applications, programming in Python as well as structural bioinformatics.

- In the second semester there are optional courses available like enrichment and heatmap analysis, Java programming, BioPython and advanced structural bioinformatics.

- The program is fully online with courses accessible through an e-learning system and the practices include substantial individual project work with hands-on help of the lecturers available on demand.
Courses

Compulsory courses

- Biological Databases and Online Analysis Tools
- Introduction to Bio-statistics
- Introduction to Programming in Python
- Introduction to Structural Bioinformatics
- Genomics, Transcriptomics and Proteomics
- Biological Data Analysis with R
- High Throughput Data Analysis with R
- Phylogenetics with R
- Sequence Analysis with BioPython

Elective courses

- Enrichment Analysis
- Heatmaps for Analyzing Gene Expression Data
- Advanced Structural Bioinformatics
- Java Programming for Bionics

You can find the Course Catalogue of the Biodata Analysis Program at itk.ppke.hu/en/education
Our Partners

The Faculty of Information Technology and Bionics fosters innovation, research, and exciting cooperations at all levels of education, from Bachelor’s to Doctoral degree. Our courses reflect our interdisciplinary approach and are taught by academics with leading expertise in the relevant area.

The Biodata Analysis program involves teachers from PPCU with substantial teaching experience and an active research record in diverse areas of computational biology.

HiDucator is a company specialized to deliver online courses in the fields of bioinformatics, biodata analysis, and biostatistics. The company utilizes our accumulated know-how from several years of experiences in online training.

The courses of the Biodata Analysis Program are offered in collaboration with HiDucator, an expert in online bioinformatics education.

SARomics Biostructures provides a broad range of structural biology services that include FastLane™ Standard and FastLane™ Premium off-the-shelf structures, gene-to-structure and protein NMR spectroscopy services.

They are participating the Biodata Analysis Program by joining the Advanced Structural Bioinformatics course.
Application Process

- **Entry requirement** for the program is a BSc diploma in molecular biology or a related field.

- Applicants might be invited to an oral online interview.

- Required **English language knowledge**: B2 level, internationally recognized English certificate according to CEFR (e.g. IELTS with total score of 6.0, TOEFL with a score of 90).

- The **cost of the program** is 2,000,000 HUF.
Contact

Find out more at
itk.ppke.hu/en/education

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