ForBio
Forskerskole i Biosystematikk
Research School in Biosystematics

Introduction to Bioinformatics for Biosystematics

Facts about the course
Credits: 5 ECTS
Level: PhD-level course
Language of instruction: English
Time: September 16-20 (GNU/Linux and Bash introduction will be given September 14-15)
Place: Natural history Museum, University of Oslo

The course is arranged by the Research School in Biosystematics – ForBio – and travel and accommodation is refunded for ForBio members registered at other universities than University of Oslo. ForBio members have priority if the number of students exceeds 25. ForBio may also support master students who fulfill the prerequisites and need the course for their thesis work. Please note that this is not a master course and master students will not get course credits from the University of Oslo. See www.forbio.uio.no for more information on ForBio and membership.

Course content
Basic programming skills are becoming essential for handling large datasets and performing complex analyses in biosystematics. This course aims to provide the students with tools to solve practical problems often encountered in biosystematic research. The students will be introduced to programming using Python (www.python.org), R (www.r-project.org), and SQL (e.g., http://en.wikipedia.org/wiki/SQL). Other programming languages may be used for specific tasks.

Learning outcomes
Upon completion of the course, the students should be comfortable working with a command-line interface, well oriented in the basics of Python, R, and SQL programming, and familiar with methods for computerized process control and data analysis.

Admission
Deadline for applications is August 4.

All students are requested to apply by filling the ForBio course registration form at https://nettskjema.uio.no/answer/55285.html

PhD-students registered at University of Oslo
PhD students from the University of Oslo who would like to take the course as a part of their theoretical syllabus for the PhD degree also need to register through Studentweb https://studweb.uio.no/as/WebObjects/studentweb2?inst=UiO in addition to the ForBio course registration form.

PhD-students registered at Norwegian universities other than University of Oslo:
PhD students from Norwegian universities other than University of Oslo who would like to take the course as a part of their theoretical syllabus for the PhD degree must apply for status as a visiting PhD student before August 12 at www.mn.uio.no/english/research/doctoral-degree-and-career/phd-programme/courses/visiting-phd.html.
Please contact the student administration at the University of Oslo (studieinfo@bio.uio.no, +47 2285 6344) for more information.

PhD-students/post-docs registered at non-Norwegian universities:
The student administration at the University of Oslo does not administrate students registered at foreign universities, and PhD-students registered at non-Norwegian universities can therefore not get formal course credits from University of Oslo. However, ForBio will provide all participants that pass the exam with a course certificate.

Prerequisites
The course participants are expected to have basic knowledge in evolutionary biology and phylogenetic analyses of molecular data corresponding to BIO4200 - Molecular Evolution (www.uio.no/studier/emner/matnat/biologi/BIO4200/index-eng.xml), and BIO4210 - Classification and Phylogeny (www.uio.no/studier/emner/matnat/biologi/BIO4210/index-eng.xml).

You will need a laptop throughout the course. Make sure you have administrator privileges and can install software on the computer.

No programming experience is required but participants are expected to be familiar with the GNU/Linux environment and Bash (www.gnu.org/software/bash). A two day introduction will be arranged for participants with no or limited experience of GNU/Linux and Bash. Please register for the introduction in the application form.

Teaching
All lectures and computer exercises will take place at the Natural history Museum, University of Oslo.
Lectures and computer exercises.
Literature: Handouts.

Schedule:
September 14-15 (Saturday-Sunday): Introduction to GNU/Linux and Bash.
September 16-20 (Monday-Friday): Python, R, SQL.

Exam information
Each student will have to present a written solution to a programming problem given out by the teachers during the course. The solution should be delivered within two weeks after the course ends. The solution will be marked as passed/not passed.

More information including a more detailed schedule will be sent to all participants two weeks after the application deadline.
Any questions before that can be sent by email to magnus.popp@nhm.uio.no