

MICB405: Bioinformatics

COURSE DESCRIPTION

MICB405:Bioinformatics introduces students to the concepts and applications of bioinformatics research across several broad topic areas including: sequence data and databases; high-throughput sequencing; genomics and metagenomics; sequence similarity throughout evolution; protein structural information; and network approaches to systems biology. From a biological perspective, the main considerations and applications of the computational tools used in each of these subject areas are discussed. Lecture materials are supplemented by in-class activities and a research project where students apply bioinformatic tools introduced in class to an experimental dataset.

COURSE INFORMATION

Classes run: Thursday, September 5, 2013 - Thursday, November 28, 2013

Location: Chemistry (CHEM), Room D300

Meeting days: Tuesday, Thursday, Friday

Meeting times: 11:00AM - 12:20PM (Tues, Thurs) Lectures – CHEM D310
10:00AM - 11:00AM (Fri) Tutorial - TBD
2:00PM - 3:00PM (Fri) Tutorial - TBD

Midterm: Oct 16th, 2012

Final: TBA*

Prerequisites: One of MICB 324; BIOC 300; BIOC 302; BIOC 303; BIOL 335

URLs: All course material will be posted to <http://resources.connect.ubc.ca>

* Do not plan travel until after exam period

INSTRUCTORS

Name: Martin Hirst (course coordinator)

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Office location: Room 408, Centre for High-Throughput Biology, Networks for Centres of Excellence, 2125 East Mall, UBC

Office hours: By appointment

Name: Steven Hallam

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Office location: Room 2.552 , Life Sciences Institute, 2350 Health Sciences Mall, UBC

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Name: Jennifer Gardy

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Office location: Genome Research Laboratory, BC Centre for Disease Control, 655 West 12th Ave, Vancouver, BC

Office hours: By appointment

GRADING

Final Grade

Research Project 15%

Midterm 35%

Final 50%

Note: If you fail to write the midterm, the weighting will be adjusted to the final exam. You must have a passing average on the exam(s) to pass the course.

Research Project

Students will be expected to complete a bioinformatics research project utilizing tools and techniques introduced in the lectures. The research project will involve the analysis of an experimental dataset from which the students will be asked to draw conclusions. Students will be expected to have access to a web-enabled computer to complete the research project. The research project will count towards the final grade (15%) and will involve a brief report written in a manuscript style (Introduction, Methods, Results and Conclusion). A late penalty of 5% per day will be deducted from a research project that is handed in after the due date. Contact the instructor if a medical or family reason prevents you from handing in the project component on time. Additional information on the research project will be distributed in class and posted on the course blog.