3000788 Introduction to Computational Molecular Biology
Course Syllabus
Fall 2024

About this course

This course provides an introduction to computational biology and bioinformatics for students with no prior exposure to the topics. We will focus on the logic and concept behind various approaches and algorithms related to omics technique. Some hands-on practice will be provided in the form of in-class demos, Python programming sessions, and problem sets.

All contents and announcements will be provided on the course's official GitHub page at https://github.com/cmb-chula/comp-biol-3000788/. Please bookmark it.

Course format

Beginning Fall 2024, we will adopt a **video-quiz-recitation** learning style where students are expected to watch the recorded lecture videos before class time. Then, at the beginning of each class, there will be a short survey-like quiz that asks about the student's impression of the content for that lecture. The rest of the class time will be spent reciting/discussing the key points from the video. We hope that this will enhance the learning experience by allowing students to be familiar with the content and to have a chance to formulate questions before meeting with the instructor.

Grading

90% from 10 problem sets (9% each)
10% from attendance, quiz, and class participation
No exam

Problem sets are **due at noon on the date of the next problem set**. Problem set should be emailed to the instructor at sira.sr@chula.ac.th. Extension may be requested at least 2 days prior to the due date. Late turn in will result in a 10% point reduction.

Language

To accommodate international students, we will host two sections, **Thai on Wednesday 1-3pm** and **English on Friday 1:30-3:30pm**. All slides and handouts will be in English. Videos from prior years are available in both language and must be studied before the corresponding sessions:

Thai: https://github.com/cmb-chula/comp-biol-3000788/blob/main/TH_videos.md
English: https://github.com/cmb-chula/comp-biol-3000788/blob/main/EN_videos.md

Note that 3 lectures are missing from the English recording, namely **Course introduction**, **Computational thinking** and **Gene expression dynamics simulation for systems biology**. Full lecture for these sessions will be conducted in the English section.

Hands-on demos

All demo sessions will be conducted live. Students are expected to install the software and download all necessary data file **prior to class time**.

Schedule

Thai: every Wednesday 1-3pm
International: every Friday 1:30-3:30pm

If a classroom is not available, or in special circumstance, the session will held on Zoom at https://chula.zoom.us/j/96463769050?pwd=3K2v7NbweHEsoFDIGlpEH3BFoC249u.1
Meeting ID: 964 6376 9050
Password: 389436