

CIS 4930 / CIS 6930: Recent Advances in Bioinformatics

Instructor: [Tamer Kahveci](#)

Email: tamer@cise.ufl.edu

Section: 2243 / 5367

Location: TUR 2303

Time: MWF 8th period

Office hour: MW 9th period

Contact: E436 (office), 392-6849 (office phone)

Goals:

This course will discuss the cutting edge developments in bioinformatics and computational biology. The course also aims to provide exposure to existing bioinformatics software and databases. In this class, we will discuss recent publications on computational biology and bioinformatics with emphasis on computer science challenges and contributions. Each student will be responsible from presenting one or more such papers in class and joining discussions on papers presented by the other people in class. Also each student will do a class project that has the largest impact on the final grade.

Announcements:

- A brief reading list is [here](#). I will update the list throughout the semester.
- Check the announcements regularly

Prerequisites

Algorithms and Data Structures are required. Bioinformatics (CAP 5510) is strongly recommended (not required). I will assume that the students already have basic knowledge on these topics and are comfortable with basic computer programming (e.g., with C or Java).

Topics:

This course will cover the most recent developments in a broad range of bioinformatics problems. I would like to put more focus on analysis of pathways. The topics are as follows:

- Analysis of biosequences and its applications.
- Comparison of protein structures

- Predicting protein structures
- Analysis of pathways

Grading:

(Subject to minor changes till the first day of the semester) Grading will be based on project (55 %), presentations (15 %), homeworks (30 %). Class participation and novelty in projects will be rewarded by bonus (5 % each). Late returns will cause deduction of 20 % of the points for each late day.

Text book:

There is no text book for this class since we will use papers as our main source.

Other:

- Check out [disability resources](#).
- Cheating, plagiarism, and other types of [academic dishonesty](#) will be subject to punishment.
- I encourage class attendance.
- Please visit only during office hours. If you really need to meet me out of the office hours email me to make an appointment. If I postpone or cancel the office hour, I will post it in the announcements section and (try to) put a note on my office door.

Tamer Kahveci



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