Syllabus
EPP 531 Fall 2017 Special Problems
University of Tennessee, Knoxville

Computational genomics journal club specifically focused on web-based genomic databases and analysis tools.

Course sections:	EPP 531-005
Meeting Time:	Wednesday 2:30-3:20
Meeting Place:	Plant Biotechnology Building, Room 113
Course Credit Hours:	1
Couse website:	https://github.com/mestato/EPP531/wiki/

Intructor

Meg Staton	Email: mstaton1@utk.edu
Assistant Professor	Office: PBB 154
Entomology and Plant Pathology	Office hours: after class and by appointment

The instructor reserves the right to revise, alter or amend this syllabus as necessary. Students will be notified by email of any such changes.

Teaching Assistant

Matt Huff	Email: mlhuff92@gmail.com
Research Associate	Office: PBB 153

I. Course Description

This one hour computational genomics journal club will specifically focused on reading peer-reviewed literature articles addressing web-based genomic databases and analysis tools.

II. Value Proposition

The discipline of bioinformatics is one of the most effective and promising tools for generating biological research discoveries, but it requires robust training in order to apply the principles correctly. This course will provide students with a survey of useful bioinformatic tools and databases available for free online and the opportunity to practice using those tools. Further, students will develop skills in reading, evaluating, understanding and criticizing peer-reviewed literature. Students will also practice oral presentation skills.

III. Student Learning Outcomes/Objectives

A. Students will have a working knowledge of bioinformatic tools and databases available for free online
B. Students will be able to effectively communicate and critically assess peer reviewed literature regarding bioinformatic tools and databases

IV. Learning Environment

Class meets Wednesday 2:30-3:20 and will consist of presentations and discussion.

A classroom is a collaborative environment, and both the instructor and the students have a shared responsibility to ensure a successful learning experience. Students should be prepared for all classes, be respectful of others, actively contribute to the learning activities in class and abide by the UT Honor Code. The teaching assistants and I will be prepared for all classes, evaluate learners fairly and equally, be respectful of all students, create and facilitate meaningful learning activities and follow University codes of conduct.

V. Course Communication

Outside of class and the website, the instructor and TAs will utilize email to communicate course information, such as additional readings, changes to the syllabus, answering questions relevant to all students, etc. All students are responsible for checking their university email accounts and reading all emails regarding the class.

VI. Texts/Resources/Materials

The course website will be used to distribute reading materials, presentations, and relevant links (https://github.com/mestato/EPP531/wiki/). There is not a required textbook to purchase. Readings for each class period can be found on the course website.

VII. Required Equipment

Students are required to bring their own laptops (and power cord if needed) to class on the day they are presenting or to provide the instructor their presentation ahead of class.

VIII. Course Evaluation

The final grade for each student will be on an A-F scale:

A	93-100 points
B+	88-92 points
B	80-87 points
C+	77-79
C	70-76
F	below 70

Points will be accrued through:

Presenting an article	
Providing throught-provoking questions	15%
Oral presentation of article	15%
Testing of tool or database from the article	15%
Leading discussion of the article	15%
Engaging in discussion throughout the semester	40%

Details (and how to be successful in this class):

Selecting an article

- The article should focus on a bioinformatic tool or database, not use it tangentially.
- The article needs to be a peer-reviewed publication.
- Ask the instructor about the appropriateness at least 2 weeks ahead of time
- Post the article on the github wiki at least 1 week ahead of time (by the previous class)

Thought provoking questions

- Be creative and think deeply. See the "questions to get you started" bullet points below. Which are the most difficult to answer? Which would you have tried to do differently if you were in charge of developing this resource? What additional needs are there in the wider user community?
- Provide the questions to the class by noon on Monday of your presentation week on the github wiki.

Oral presentation

- Spend about 20 minutes on the presentation. Do not go over or under by more than 5 minutes.
- Explore the article with a clear, easy to understand presentation appropriate for all audience members
- Provide evidence that you tested the tool yourself, preferably by showing a live demo or output
- Questions to get you started:
    - What is the target user community for this tool?
    - What is the value proposition?
        - For an interactive tool: What is the input data? What format should it be in? Are there limits on the amount of input data? How well does the tool scale? Is there a stand alone version you can download and install? What is the algorithm or method?

        - For a database: What types of data are available? Are they integrated? What would a user only be able to find here? Is it clear where the data comes from and how it was generated? Is the data manually curated?
    - Is the user interface intuitive? Is there documentation?
    - Are regular updates being provided?
    - What technology or technologies were used to build the resource? (Language, database, etc)
    - What do you think are the strengths and weaknesses of the resource?
    - What do you think are the strengths and weaknesses of the way the resource is presented in the paper?

Testing of the tool or database

- Try more than one dataset or search. For a tool, try different input types. Does it fail gracefully if you test something that does not meet the input specifications? For a database, try different ways to search, download or otherwise access information.
- Possibly try creating a real world example (maybe your own data?) and try it out.
- Provide some evidence and discussion of this in the presentation.

Leading discussion

- Have some thoughts on your thought provoking questions planned
- Have some additional thoughts prepared as well.
- Make sure everyone in the room has time to express an opinion and no individual person dominates the discussion. Try a web search on "how to moderate a panel" or "how to moderate a discussion" to get some tips.
- If there is silence before the end of class and no one has come up with anything else to say, this is a problem and will not be graded lightly! Have A LOT of prepared discussion topics. Its ok to explore additional avenues outside the scope of the paper, such as who has used similar tools/databases and how they compare, what follow up tools are needed, etc.

Engaging in discussion

- Do the readings and spend time thinking about each article well before the class. Come to class prepared to say something about the article and having it read it well enough to comment on new ideas about it.
- Don't be afraid to speak up or worry about saying something incorrect. Each student comes to the class with different areas of research and background. This is what makes the discussion interesting and helps to see concepts from a different perspective.

IX. Attendance

Attendance is the responsibility of each student. Your discussion grade will suffer if you miss class. Absences due to special circumstances should be discussed with the instructor prior to the absence via email or in person.

XI. Course Feedback

A final course evaluation will be provided to each student at the end of the course through the Student Assessment of Instruction System (SAIS). Each student will receive an email toward the end of the semester providing a link to the survey.

Course Schedule

August

23 – Class – Presenter TBD

30 - No Class

September

6– Class – Presenter TBD

13– Class – Presenter TBD

20 – Class – Presenter TBD

27 – Class – Presenter TBD

October

4– Class – Presenter TBD

11– Class – Presenter TBD

18– Class – Presenter TBD

25 – Class – Presenter TBD

November

1– Class – Presenter TBD

8– Class – Presenter TBD

15– Class – Presenter TBD

11– Class – Presenter TBD

No exam.

UNIVERSITY POLICIES

Dear Student,

The purpose of this Campus Syllabus is to provide you with important information that is common across courses at UT. Please observe the following policies and familiarize yourself with the university resources listed below. At UT, we are committed to providing you with a high quality learning experience.

I wish you the best for a successful and productive semester.

Provost Susan Martin

Academic Integrity:
"An essential feature of the University of Tennessee, Knoxville is a commitment to maintaining an atmosphere of intellectual integrity and academic honesty. As a student of the university, I pledge that I will neither knowingly give nor receive any inappropriate assistance in academic work, thus affirming my own personal commitment to honor and integrity."

University Civility Statement:
Civility is genuine respect and regard for others: politeness, consideration, tact, good manners, graciousness, cordiality, affability, amiability and courteousness. Civility enhances academic freedom and integrity, and is a prerequisite to the free exchange of ideas and knowledge in the learning community. Our community consists of students, faculty, staff, alumni, and campus visitors. Community members affect each other's well-being and have

a shared interest in creating and sustaining an environment where all community members and their points of view are valued and respected. Affirming the value of each member of the university community, the campus asks that all its members adhere to the principles of civility and community adopted by the campus: http://civility.utk.edu/.

Disability Services:
"Any student who feels he or she may need an accommodation based on the impact of a disability should contact the Office of Disability Services (ODS) at 865-974-6087 in 2227 Dunford Hall to document their eligibility for services. ODS will work with students and faculty to coordinate reasonable accommodations for students with documented disabilities."

Your Role in Improving Teaching and Learning Through Course Assessment:
At UT, it is our collective responsibility to improve the state of teaching and learning. During the semester, you may be requested to assess aspects of this course either during class or at the completion of the class. You are encouraged to respond to these various forms of assessment as a means of continuing to improve the quality of the UT learning experience.

Key Campus Resources For Students:
- Undergraduate Catalog: (Listing of academic programs, courses, and policies)
- Graduate Catalog
- Hilltopics: (Campus and academic policies, procedures and standards of conduct)
- Course Timetable: (Schedule of classes)
- Academic Planning: (Advising resources, course requirements, and major guides)
- Student Success Center: (Academic support resources)
- Library: (Access to library resources, databases, course reserves, and services)
- Career Services: (Career counseling and resources; HIRE-A-VOL job search system)