CAP 5510 (Bioinformatics)

1. **Catalog Description** See UF course catalog.

2. **Pre-requisites and Co-requisites**
I will assume that you have already taken data structures and algorithms courses, and you are comfortable with basic computer programming (e.g., with C or Java).

3. **Course Objectives**
This course will discuss the major components of bioinformatics data (such as DNA and protein sequences and protein structures) and how computer technology is used to understand this data better.

4. **Instructor**   Tamer Kahveci
    a. Office location   Malachowsky Hall 5400C
    b. E-mail address   tkahveci @ ufl
    c. Web site   http://www.cise.ufl.edu/~tamer
    d. Office hours   Monday/Friday 11:50 AM -12:40 PM

5. **Teaching Assistant**
    TBA

6. **Meeting Times**
    Monday/Wednesday/Friday (10:40 - 11:30 AM)

7. **Class/laboratory schedule** See 4 & 6

8. **Meeting Location**
    CSEE119

9. **Material and Supply Fees**   None

10. **Textbooks and Software Required**
None. See class page for recommended reading and books.

11. **Recommended Reading**   (see 10 above)

12. **Course Outline**
I am planning to cover the following topics.
    *   Biological sequences
    *   Sequence alignment-Dynamic programming
    *   Sequence alignment - Heuristics (BLAST, etc)
    *   Substitution matrices, statistics
    *   Multiple sequence alignment
    *   Phylogeny
    *   Protein structures
    *   Sequence assembly
    *   Biological networks

13. **Attendance and Expectations**
    *   I encourage class attendance.

- Please return your assignments in time. Late returns will cause 20 % deduction in your grade for that assignment for each late day. Submissions after 5 days from the due date will not be graded.

- Please see me during office hours. If I postpone or cancel the office hour, I will post it in the announcements section.
- Please avoid any activities that will disturb the flow of the lectures: Silence your cell phones, pagers, etc.

14. **Grading – methods of evaluation**
Grading will be based on homeworks and quizzes (50 %), project (50 %). I will reward high quality projects with up to 2.5 % bonus points.

15. **Grading Scale** I will not use curve to determine the letter grades. The boundaries will be
- 93+   A
- 90+   A- and above
- 85+   B+ and above
- 80+   B and above
- 76+   B- and above
- 73+   C+ and above
- 70+   C and above
- 66+   C- and above
- 63+   D+ and above
- 60+   D and above
- 55-   E

16. **Make-up Exam Policy**   N/A

17. **Honesty Policy** – All students admitted to the University of Florida have signed a statement of academic honesty committing themselves to be honest in all academic work and understanding that failure to comply with this commitment will result in disciplinary action. This statement is a reminder to uphold your obligation as a UF student and to be honest in all work submitted and exams taken in this course and all others.
18. **Accommodation for Students with Disabilities** – Students Requesting classroom accommodation must first register with the Dean of Students Office. That office will provide the student with documentation that he/she must provide to the course instructor when requesting accommodation.
19. **UF Counseling Services** – Resources are available on-campus for students having personal problems or lacking clear career and academic goals. The resources include:
    - University Counseling Center, 301 Peabody Hall, 392-1575, Personal and Career Counseling.
    - SHCC mental Health, Student Health Care Center, 392-1171, Personal and Counseling.
    - Center for Sexual Assault/Abuse Recovery and Education (CARE), Student Health Care Center, 392-1161, sexual assault counseling.
    - Career Resource Center, Reitz Union, 392-1601, career development assistance and counseling.
20. **Software Use** – All faculty, staff and student of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.