THE UNIVERSITY OF TEXAS AT EL PASO  
COLLEGE OF SCIENCE  
DEPARTMENT OF MATHEMATICAL SCIENCES

Course #: 12648/12572  
Course Title: BINF/STAT 5354: Post-Genomic Analysis  
Credit Hrs: 3  
Term: Fall 2014  
Course Meetings & Location: T,TR 9:00-10:20 am; Location TBD  
T,TR 10:30-11:20 pm; Bell Hall Computer Lab  
Prerequisite Courses: STAT 5380, STAT 5385 or Instructor approval  
Course Fee: (if applicable) None  
Instructor: Dr. Amy Wagler  
Office Location: Bell Hall 311  
Contact Info: Phone # 915-747-6847  
E-mail address: awagler2@utep.edu  
Fax # 915-747-6502  
Emergency Contact: 915-747-5761 (math dept office)  
Office Hrs: TBD  
Textbook(s), Materials: Required: TBD

Course Objectives  
(Learning Outcomes): Students will learn to apply appropriate probabilistic models and statistical techniques to address bioinformatics problems such as biomolecular sequence and microarray data analyses. This course consists of two modules and a lab: (1.) Probabilistic modeling for nucleic and amino acid sequences; (2) Statistical analysis of a multivariate response; (3.) Computer Lab-R statistical analysis package to prepare and analyze data.

Through assigned projects, class discussions, hands-on labs, as well as oral presentations, students will also acquire the skills to identify bioinformatics problems that require advanced mathematical and statistical knowledge, and to describe and discuss these issues with individuals with suitable expertise.

Activities and Assignments: Students will be expected to attend lecture, read the assigned texts, and practice the concepts by solving problems assigned for homework. The homework problems will be supplemented with computer assignments requiring the use of statistical software available in the UGLC computer lab and the ACES computer lab in Bell Hall. Statistical software instructions will be provided as needed. In-class group activities will be used to encourage active learning. Study groups to discuss the problems and brainstorm approaches to problem solving are encouraged, however, the written assignments and computer programs turned in for grading are to be your own work and reflect your individual effort.
Course Schedule: **September 10**- Class Census Day. If a student drops before the census date, neither the course nor a grade will appear on the student’s academic record. This is the last day to drop without a W. **October 31**- Course Drop Deadline **December 8-12**-The project presentations will be given during or before the week of final exams as scheduled by the university.

Grading Policy: Assessment of the course is based on homework (25%), 2 in-class exams (25% each), and a semester-long project (25%).

Projects that are used (or have been used) to satisfy the requirements of another course are not acceptable. Calculators may not be shared on exams. Cell phone calculators are not permitted on exams.

Letter grades are determined according to the following scale:

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<tr>
<th>Grade</th>
<th>Score</th>
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<tr>
<td>A</td>
<td>90-100</td>
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<td>B</td>
<td>80-89</td>
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<td>C</td>
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<td>D</td>
<td>60-69</td>
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<td>F</td>
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Make-up Policy: No make-up quizzes or late homework are allowed. Make-up examinations will only be given in rare cases. Students are expected to take the two exams at the scheduled times.

Attendance Policy: Class attendance is required and noted at the beginning of class; more than two unexcused absences will result in an instructor-initiated drop or final grade reduction.

Academic Integrity Policy: Violations of academic integrity, including unauthorized submission of work performed by others, will be pursued vigorously to result in the most severe sanctions. Please refer to UTEP’s policy cited in [http://admin.utep.edu/Default.aspx?PageContentID=2084&tabid=30292](http://admin.utep.edu/Default.aspx?PageContentID=2084&tabid=30292)

Civility Statement: No text messaging in class. Please silence cell phones before coming to class. Students are expected to actively participate in class discussions and group activities. Group work that is not completed in class is to be finished as homework, so use the class time wisely by staying focused on the class topic and avoiding off-topic discussion.

Disability Statement: If a student has or suspects she/he has a disability and needs an accommodation, he/she should contact the Disabled Student Services Office (DSSO) at 747-5148 or at <dss@utep.edu> or go to Room 106 Union East Building. The student is responsible for presenting to the instructor any DSS accommodation letters and instructions.

Military Statement: If you are a military student with the potential of being called to military service and/or training during the course of the semester, you are encouraged to contact Drs. Leung, Staniswalis, or Wagler as soon as possible.