Chem 6733
Genomics, Spring 2013

Instructor: Jun Li, Assistant Professor, Department of Chemistry and Biochemistry
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Description about the course
This genomics course is the graduate studies. We will focus particular on genome-wide association and genetic mapping. You will learn to analysis reference genome sequences, design an association project, perform an association studies, and perform actual wet lab experiments. As a necessary skill for genomics, you will learn how to write perl scripts to expedite your work in this course and your own research.

Grade
Students will be given grade of A (90-100), B (80-89), C (70-79), D (60-69) and F (<60) using the following evaluation criteria.
20% class participation (attendance, attention, participation and silence cell phone)
30% student presentation
50% project

Text Books
Text Book (none):

Class Time and Location
W: 6:00-8:30 pm, SLSRC3470

Office Hours
On appointment.
Office location: SLSRC3770

Project paper
Project paper will focus on genome-wide association. The introduction of project paper shall provide a general background of genome-wide association and its application, particular related to your experimental design for this course. You shall find a set of genetic markers based on reference genome sequences, design a set of primers and genotype your own cells or mosquitoes. The project shall contain abstract, introduction, materials and methods, results, and discussion.

University Policies Regarding Reasonable Accommodation and Codes of Behavior:

The University of Oklahoma is committed to providing reasonable accommodation for all students with disabilities. Students with disabilities who require accommodations in this course are requested to speak with the instructor as early in the semester as possible. Students with disabilities must be registered with the Office of Disability Services prior to receiving accommodations in this course. The Office of Disability Services is located in Goddard Health Center, Suite 166, phone 405/325-3852 or TDD only 405/325-4173.

Each student should acquaint her or him self with the University's codes, policies, and procedures involving academic misconduct, grievances, sexual and ethnic harassment, and discrimination based on physical handicap.
Plagiarism and Academic Misconduct

Students engaging in academic misconduct (including cheating, plagiarism, and any other action that may improperly affect evaluation) will be subject to sanctions in accordance with the Norman Campus Academic Misconduct Code. I will recommend "F" for the course and expulsion from the University for all such violations.

Suggestions For Success

This course is designed to be interdisciplinary in nature. Some concepts might be new to students in chemistry & biochemistry students. I encourage the students to give me feedback on time. For example, a student may ask me to explain a concept that I miss. Students are encouraged to visit me or send me an email.

Note: The instructor reserves the right to change any items contained in this syllabus. This includes, but is not limited to: course content, scheduled dates, and fraction(s) of final grade assigned to individual components of the course.

Schedule

Overall outlines:

<table>
<thead>
<tr>
<th>Date</th>
<th>Lecture Topics</th>
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<tbody>
<tr>
<td>Jan 14 -- Jan 18</td>
<td>Introduction to genomics, sequencing technologies and assembly</td>
</tr>
<tr>
<td>Jan 21 -- Feb 15</td>
<td>Genetic markers, genome sequence analysis, and association approaches</td>
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<tr>
<td>Feb 18 -- March 15</td>
<td>Learn perl scripts</td>
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<tr>
<td>March 18 -- March 22</td>
<td>Spring break</td>
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<tr>
<td>March 25 -- April 5</td>
<td>Lecture on genome-wide association study</td>
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<tr>
<td>April 8 -- April 19</td>
<td>Experimental design for genome-wide association and wet lab experiments</td>
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<tr>
<td>April 22 -- April 26</td>
<td>Student project presentation</td>
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<tr>
<td>April 29 -- May 3</td>
<td>Project due</td>
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