BIO 475 Special Problems
Spring 2018

Dr. Robert Wiggers
E-mail: rwiggers@sfasu.edu
Office: S204
Phone: 468-2147

Office Hours:
MWF 10 – 11; TR 9:30 – 11; R 1:30 – 3:30; by appointment

Course Description:
Independent investigations by students guided through individual conferences with the professor willing to work with them.

Text and Materials: none

Pre-Requisites: Successfully completed 18 hours of Biology & Permission of Instructor

Student Learning Outcomes:
1. Execute the scientific method and critically evaluate data.
2. Work collaboratively in a laboratory setting.
3. Clearly articulate scientific information in a written format.

Program Learning Outcomes:
1. PLO – 2: clearly articulate scientific information in the written form

Course Requirements:
1. Lab participation: Minimum of 3 hours per week per credit hour, and an overall minimum of 40 hours per semester. Review of recent literature pertaining to the assigned project.
2. Research Summary: The research summary is due no later than May 4, 2018 at 5:00 p.m. This document should summarize the assigned literature and fully describe the methods and theories that you learned as a result of your experience in the lab throughout the semester and should also include how this knowledge will apply to your career in the future.

Grading:
Grades will be based on the percent completion of the assigned project and research summary.
90 – 100 % project completion = A
80 – 89 % project completion = B
70 – 79 % project completion = C
60 – 69 % project completion = D
Less than 60% project completion = F
Failure to submit the research summary will result in the deduction of one letter grade.

Project Description: Bio-informatic study of melanoma in multiple organsims.

Utilizing database resources, genetic alterations in melanoma in platyfish, gray phenotype horses, and humans will be compiled. In humans, genetic differences between familial and sporadic melanomas will be note. A sequence analysis of genes common to the three organisms will be performed, especially with an eye to mutations that affect the domain of resulting proteins. Potential primers to amplify affected areas across genes in the three organisms will be developed.
**Time Outline:**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literature research</td>
<td>2 - 3</td>
</tr>
<tr>
<td>Gene comparison</td>
<td>5 – 6</td>
</tr>
<tr>
<td>Sequence analysis using Genbank</td>
<td>8 – 10</td>
</tr>
<tr>
<td>Common mutation screening</td>
<td>11 – 12</td>
</tr>
<tr>
<td>Primer Design</td>
<td>11 – 14</td>
</tr>
<tr>
<td>Research summary</td>
<td>7 – 8</td>
</tr>
</tbody>
</table>

Total: 44 – 54 hours

These are estimates of the minimum hours required to complete the project. It is possible that more time could be required for each of the objectives.

**Academic Integrity**

Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism.

**Definition of Academic Dishonesty**

Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one's paper without giving the author due credit.

The University’s definitions of academic dishonesty as well as penalties for violations can be found in the larger Student Code Of Conduct.

**Withheld Grades**

Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average. You may read the complete policy here.

**Students with Disabilities**

To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices/.

**Acceptable Student Behavior**

Classroom behavior should not interfere with the instructor's ability to conduct the class or the ability of other students to learn from the instructional program. Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic or other penalties. This prohibition applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom. Students who do not attend class regularly or who perform poorly on class projects/exams may be referred to the Early Alert Program. This program provides students with recommendations for resources or other assistance that is available to help SFA students succeed. You may read the student code of conduct here.