GENERAL/MOLECULAR VIROLOGY (BIOL4404/5404)  
Laboratory Syllabus  
Fall 2016

TEACHING ASSISTANT

Dulce Cantu

LABORATORY SESSIONS

Lab A meets on Thursdays from 9:10 to 11:30 a.m. at SCIE 2.214

TYPE OF LABORATORY INSTRUCTION

There will be no experiments involving active pathogenic viruses in any of the laboratory sessions. The laboratory sessions will involve several activities such as: 1) student presentations of projects, 2) display of videos illustrating various aspects of infectious viral diseases, 3) discussion of student projects, and 4) observation of viruses using the electron microscope.

OBJECTIVES

You are expected to learn about the main problems confronted by humans, plants and animals with pathogenic viruses with emphasis on their molecular structure, genetics, epidemiology, and control. Students will review sources of information on virology.

STUDENT LEARNING OUTCOMES

(1) The biology graduate knows the role of the cell in life and living systems, and understands the inter-relationships between sub-cellular structures that contribute to its functioning as a unit.

(2) The biology graduate understands the role of DNA in inheritance and can explain how environmental conditions influence natural selection processes and contribute to adaptation.

(3) The biology graduate is aware of the diversity of life, and understands inter-relationships among organs and organ systems within an organism, and inter-relationships between an organism and its environment.

(4) The biology graduate is familiar with the tremendous diversity in structure (organellar, cellular, organismal) and how that relates to the organismal niche or habitat.
(5) The biology graduate understands how the organization of a specific structure within an organism is related to a specific function, and how this function contributes to survival of the organism.

(6) The biology graduate understands the Scientific Method, is able to analyze and interpret data, and communicate research findings in both oral and written form.

(7) The biology graduate is prepared to accept employment in a variety of environmental and health related professions, enter medical and dental schools, pursue graduate degrees in the biological sciences, or teach in public or private schools.

**ATTENDANCE TO LAB SESSIONS IS COMPULSORY**

Attendance is a strict requirement whenever lab activities are scheduled. If absent to the lab session, you must notify your instructor 24 hours before or after the session. A valid excuse must be presented. You must arrive on time and be before the weekly student presentations. The door will be locked during presentations and open after presentations. Absentism and tardiness will translate in significant deductions of points for the ‘Effort & Participation’ grade component.

**GRADING**

The laboratory for BIOL4404/5404 represents 20% of your final course grade. The final lab grade will be based on the following:

<table>
<thead>
<tr>
<th>Component</th>
<th>Value (%)</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Oral Presentation</td>
<td>30</td>
<td>A Power Point presentation</td>
</tr>
<tr>
<td>Written Project</td>
<td>40</td>
<td>Deadline Dec. 1/16 during lab period only. No extensions.</td>
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<tr>
<td>Final Exam</td>
<td>20</td>
<td>t.b.a.</td>
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<tr>
<td>Effort &amp; Participation</td>
<td>10</td>
<td>Instructor will deduct points for tardiness and absentism or lack of questions or interest.</td>
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The final exam will probe your knowledge on relevant lab activities and presentations conducted during the sessions throughout the semester.

Effort and participation will be based on your performance as a student (questions, interest, motivation, attitude, attendance, etc.). The instructor will keep a record for every session.

**THE POWER-POINT PRESENTATION (30% value)**

A topic on any area of virology must be selected by the student at the beginning of the course so that a table of presentations with respective dates will be constructed and posted on the web site. No
overlapping topics will be allowed within a lab session. Topics of presentation must be well prepared to generate class interest for questions and discussion. Make sure to present your slides to your instructor days before your presentation (not the previous day). The instructor will advise the student, check for contents, provide tips, and help improve your project.

A copy of the slide presentation must be passed to every student at the beginning of the lab session. The presenter should dress as if he or she were presenting a talk for a job interview. List of topics can be seen in the project section of the course web site.

THE WRITTEN PROJECT (40% value)

The written project is designed to expose the student to the rigidity of scientific writing. Each student is requested to select a topic of interest from the following field: human, animal, bacterial, plant, vaccines, genetic engineering, and pharmaceutical medicines for pathogenic viruses. The literature review should include as many organized subcategories as possible (like the organization of a thesis or the table of a book contents). It should include graphics, tables, figures, statistics, and a bibliography or reference section.

To avoid plagiarism, the instructor may request a file of the text when the project is submitted. The contents of the file will be submitted to a web site for a check on plagiarism. The instructor will also check your work against previous projects of past courses. Any significant plagiarism will deduct 70 points from the grade and a cancellation of the effort component of the total lab grade for the lab session.

Students will have the opportunity to select original topics and inform the instructor during the first week of the course. Students can submit titles to the instructor for approval either in class or via e-mail. The projects will be presented orally using Power Point (20-25 minutes). You are requested to check the list of approved projects in the course web site so overlapping of titles will be avoided. Topics cannot overlap with those of other students taking the course. If a student decides to change the title after having submitted it then just contact the instructor as soon as possible with the proposed change.

The grade will be competitive and based on the best of the written projects. If the best project is of good quality, meeting the requirements below, and have a minimum of 30 pages, then this will be the standard to grade the remaining projects. You will have an entire semester to work on a good quality written project. The instructor will remind and request proofs of your progress on this project.

The instructor assumes that you already know how to write a literature review. Be sure to be very neat, meticulous and organized.
Guidelines:

- Include a cover page with title, name, course, date and institution.
- Must include a detailed table of contents with corresponding pagination.
- Topics under review should be organized and clearly defined.
- Must present figures, tables, statistics, or any other visual descriptions.
- Must underline or italicize technical names with no spelling mistakes.
- Pages should be numbered and typed in Times Roman or Arial font size 12 in double lines.
- Must start your written project from the beginning of the semester and NOT left it for the last two weeks before the deadline.
- Use speller function of your word processor to avoid spelling mistakes.
- It is highly recommended to consult referred journals of virology. You may access these journals by only using UTPA computers at http://www.sciencedirect.com.
- You must include citations from your sources of information (text, figures, statistics, maps, images, etc.).
- Failure to follow guidelines will translate in a lower grade.
- **Plagiarized information will not be included in the grading.** It will be totally ignored. The instructor will refer your work to the Dean of Students if plagiarism is evident. You must write and present your original work as per university regulations. No copy and paste work will be admitted. Figures and tables must show a source or citation.

⇒ Note that the minimum requirement of 30 pages is not too much as compared if you were writing weekly laboratory reports throughout the semester. However, you must plan ahead and avoid leaving the project to the last weeks or to the end of the semester. Consult with your instructor for any questions regarding the presentation and project.

**STUDENTS WITH DISABILITIES**

Students with disabilities are encouraged to contact the Disability Services Office for a confidential discussion of their individual needs for academic accommodations. It is the policy of the University of Texas Rio Grande Valley (UTRGV) to provide flexible and individualized accommodation to students with documented disabilities that may affect their ability to fully participate in course activities or to meet course requirements. To receive accommodation services, students must be registered with the Disability Services Office (DS), University Center # 108, 665-7005 or disabilityservices@utrgv.edu