RICHLAND COLLEGE DEPARTMENT OF BIOLOGY
School of Mathematics, Science, and Health Professions
Course Syllabus For
BIOL 1407: Biology for Science Majors II
4 credit hours (3 lec/3lab)

INSTRUCTOR’S INFORMATION
(Instructor reserves the right to amend this information as necessary.)

Semester and Year: Spring 2019
Meeting Dates: Jan 22 – May 10
Section: 83003
Class time and days: MF 11:15 – 12:35; W 11:15 – 2:05
Room: MF WH-277; W SH129
Instructor: Ricardo Azpiroz, Ph.D.
Contact Info: razpiroz@dcccd.edu; 972-238-6330; SH 284
Office hours MWF 2:00 – 3:00 pm; TR 10:00 – 11:00 am.

Last date to withdraw: Wednesday, April 17
Final Exam Day and time: Monday, May 13, 11:15

Evaluation Procedures:

<table>
<thead>
<tr>
<th>Evaluation Procedures</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory and Quizzes</td>
<td>500</td>
</tr>
<tr>
<td>Final Exam</td>
<td>200</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1000</td>
</tr>
</tbody>
</table>

Grade Scale: 0-59%=F; 60-69%=D; 70-79%=C; 80-89%=B; 90-100%=A

Attendance Policy: In order to be successful, students must attend and participate in enrolled courses. Attendance in lab is mandatory to obtain lab credit.

Required Materials:


The Laboratory Manual is available online. Print the entire manual and keep it in a three-ring binder. You must bring the entire manual to every lab session.


You must have a pack of 3 x 5 inch index cards, and always have 2 or 3 with you in class or lab.
Instructor Policies and Suggestions for Student Success:

Classroom Mechanics
A. Mobile phones will be needed on occasion for quick searches during class and lab. THE REST OF THE TIME, phones must be put away and set on “silence” or “vibrate”. A mobile phone that is visible without being prompted by the instructor will be considered a sign of disrespect and will affect the student’s quiz grade for the day or week.
B. Classroom seating assignments will change over the course of the semester to facilitate group work and classroom dynamics. All students are expected to comply with the instructor’s directions regarding seating.
C. The row of seats closest to the door in the classroom is reserved for students who arrive after class has started.

Exams: There will be three exams worth 100 points each. The first two exams will consist of a mixture of multiple choice, short answer, and matching column questions. No exam grade will be dropped. Exam 3 will be broken into four weekly “IDF quizzes” (In Defense of Food quizzes) or writing assignments to be completed in class. Students are allowed to make up one exam and/or IDF quiz only, and the makeup may be in a format different from that of the regular exam.

Labs: Attendance in the lab is mandatory for credit; however, attendance is not sufficient for credit. The “Lab Grade” will consist of a mixture of attendance, participation, quizzes and completion of the work in the lab manual. The lab manual must be brought to the lab in its entirety every lab session. The three lowest lab grades will be dropped. Not all labs will be graded. We will also have class quizzes.

Please note that Lab Quizzes WILL INCLUDE LECTURE MATERIAL. This is also where points will be taken off for asking questions about items on this syllabus.

Final Exam: The final exam will cover the entire semester and will be multiple-choice. No make-up.

Please consult the Advising Syllabus regularly to check if you are on track, at

http://richlandcollege.edu/assets/uploads/2015/02/advising-syllabus.pdf

Institutional Policies: Institutional Policies relating to this course can be accessed from the following link:

www.richlandcollege.edu/syllabipolicies
CATALOG COURSE DESCRIPTION: Biology for Science Majors II

Prerequisite: BIOL 1406. One of the following must be met: (1) DREA 0093 AND DWRI 0093; (2) English as a Second Language (ESOL) 0044 AND 0054; or (3) have met Texas Success Initiative (TSI) Reading AND Writing standards and the college Writing score prerequisite requirement.

Course Description: An introductory survey of current biological concepts for students majoring in the sciences. Emphasis will be placed on topics which include evolution, biological diversity, ecology, and comparative structure and function of organisms. (3 Lec., 3 Lab.) Coordinating Board Academic Approval Number 2601015103

STUDENT LEARNING OUTCOMES
Upon successful completion of this course, students will:
1. Describe modern evolutionary synthesis, natural selection, population genetics, micro and macroevolution, and speciation.
2. Describe phylogenetic relationships and classification schemes.
3. Identify the major phyla of life with an emphasis on plants and animals, including the basis for classification, structural and physiological adaptations, evolutionary history, and ecological significance.
4. Describe basic animal physiology and homeostasis as maintained by organ systems.
5. Compare different sexual and asexual life cycles noting their adaptive advantages.
6. Illustrate the relationship between major geologic change, extinctions, and evolutionary trends.
7. Apply scientific reasoning to investigate questions, and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.
8. Use critical thinking and scientific problem-solving to make informed decisions in the laboratory.
9. Communicate effectively the results of scientific investigation.
10. Demonstrate knowledge of modern evolutionary synthesis, natural selection, population genetics, micro and macroevolution, and speciation.

CORE CURRICULUM Statement of Purpose
Through the Texas Core Curriculum, students gain a foundation of knowledge of human cultures and the physical and natural world, develop principles of personal and social responsibility for living in a diverse world, and advance intellectual and practical skills that are essential for all learning.
Core Objectives for the Sciences:
* Critical Thinking Skills - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
* Communication Skills - to include effective development, interpretation and expression of ideas through written, oral and visual communication
* Empirical and Quantitative Skills - to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions
* Teamwork - to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.

Units of Instruction/Class Calendar: Next page.
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<thead>
<tr>
<th>WEEK OF:</th>
<th>LECTURE</th>
<th>LAB</th>
<th>TOPIC</th>
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<tbody>
<tr>
<td>JAN 22</td>
<td>Population Genetics 19.2 to page 500, 19.1</td>
<td>Lab Safety/ Course orientation Monday labs do not meet-MLK Holiday</td>
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<tr>
<td>JAN 28</td>
<td>Evidence for Evolution 18.1</td>
<td>LAB 1</td>
<td>Population Genetics (Monday Labs must complete Lab Safety)</td>
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<tr>
<td>FEB 4</td>
<td>Mutation and Selection: The Origin of Species. Speciation. 18.1. 18.2 WITHOUT allopatric, sympatric</td>
<td>LAB 2</td>
<td>Evolution</td>
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<tr>
<td>FEB 11</td>
<td>The Tree of Life 20.1 -20.3 to page 525.</td>
<td>LAB 3</td>
<td>Geologic Timeline and Cladistics</td>
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<tr>
<td>FEB 18</td>
<td>The Origin of Feathers . 29.5 Mass Extinction p. 737</td>
<td>LAB 4</td>
<td>Seedless plants</td>
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<tr>
<td>FEB 25</td>
<td>EXAM 1 The Animal Body Plan and its Development. 27.1 – 27.3</td>
<td>M-W classes meet for lecture instructions in the laboratory, <strong>Thursday &amp; Friday classes are off due to Professional Development Days.</strong></td>
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<td>MAR 4</td>
<td>Protostomes and Deuterostomes: Placing them on the Tree of Life.</td>
<td>LAB 5</td>
<td>Seed Containing plants</td>
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<tr>
<td>MAR 11</td>
<td>NO LECTURE</td>
<td>NO LAB</td>
<td>SPRING BREAK</td>
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<td>MAR 18</td>
<td>Chordates, Amniotes and Tetrapods: What, exactly, is a marsupial? 29.1, 29.4 to p. 807, 29.6</td>
<td>LAB 6</td>
<td>Animal Kingdom I</td>
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<td>MAR 25</td>
<td>Introduction to Ecology: Trophic Chains and Food Webs. 46.1</td>
<td>LAB 7</td>
<td>Animal Kingdom II (Gloves)</td>
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<tr>
<td>APR 1</td>
<td>More about Slime: Artificial Fertilizers and their consequences</td>
<td>LAB 8</td>
<td>Animal Kingdom III (Gloves)</td>
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<td>APR 8</td>
<td>EXAM 2</td>
<td>LAB 9</td>
<td>Diversity and Ecology Campus Walk</td>
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<td>APR 15</td>
<td>In Defense of Food, 1</td>
<td>LAB 10</td>
<td>Ecological Footprints</td>
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<tr>
<td>APR 22</td>
<td>In Defense of Food, 2</td>
<td>M-R classes meet for lecture instructions in the laboratory, <strong>Friday classes are off due to Holiday.</strong></td>
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<tr>
<td>APR 29</td>
<td>In Defense of Food, 3</td>
<td>LAB 11</td>
<td>Anatomy I: Digestive System (Gloves)</td>
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<td>MAY 6</td>
<td>In Defense of Food, 4</td>
<td>LAB 12 and LAB 13</td>
<td>Anatomy II: Circulatory Systems(Gloves) Anatomy III: Urogenital Systems (Gloves)</td>
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<td>MAY 13</td>
<td>FINAL EXAM May 13, 11:15 a.m.</td>
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