Semester and Year: Spring 2019  
Meeting Dates: 01/22/2019 - 5/10/2019  
Section: 83501  
Class time and days:  
Lecture: M 5:40-8:25PM- WH275  
Lab: W 5:40-8:25PM- SH153  

Instructor: Professor Danielle Sader  
Contact Info: dsader@dcccd.edu  

Office hours: As Requested  

Last date to withdrawn: Wednesday, April 17th, 2019  

Final Exam Day and time: Monday, May 13, 2019 5:40-7:30  
Bring a Scantron sheet for the final exam  

DCCCD CATALOG COURSE DESCRIPTION  
An introductory survey of contemporary biology for students majoring in the sciences. Topics emphasized will include the chemical basis of life, structure and function of cells, energy transformations, and molecular biology and genetics.  

PRE-REQUISITES  
One of the following must be met: (1) DREA 0093 AND DWRI 0093; (2) ESOL 0044 AND ESOL 0054; or (3) have met TSI Reading and Writing standards AND DCCCD Writing score prerequisite requirement.  
RECOMMENDED PRE-REQUISITE: MATH 1314. Successful completion of College Algebra or concurrent enrollment in higher-level mathematics is recommended.  

Evaluation Procedures:  
GRADE EVALUATION: Grades determined by performance, not needs or wants.  
Standard grading scale will be used: 100-90% = A; 89-80 = B; 79-70 = C; 69-60 = D  
[This may change at the discretion of the instructor.]  

Course grade is determined as follows:  
4 lecture examinations @ 100 pts each = 400 pts  
On-line homework = 100 pts  
Active Learning during lecture time = 100 pts  
LabQuizzes (@13 pts each) = 130 pts  
Pre-labs (@12 pts each) = 120 pts  
Lab Report = 50 pts  
1 Final exam @ 100 pts  
1000 pts  

THE INSTRUCTOR RESERVES THE RIGHT TO AMEND THIS SYLLABUS AS NECESSARY.

Revised for Spring 2019 01/2019
NOTES ABOUT GRADED MATERIALS:

- **LECTURE EXAMINATIONS:** NO MAKE-UPS!! If an exam is missed, the missed score will be replaced by the final exam % score. The lecture examinations will be a combination of multiple choice, true or false, matching and/or short answer questions. If you fail the first exam, you will be invited to a “Back on Track” session, where study strategies will be discussed and problems will be addressed.

- **LAB QUIZZES/Pre-Labs:** TWO lab quizzes and TWO pre-labs will be dropped for extenuating circumstances like tardiness, absence due to illness, deaths in the family, or because of poor performance. ABSOLUTELY NO MAKE-UPS FOR LAB QUIZZES. The lab quiz will be administered during the first 15 minutes of the lab period; if you are late for lab, you will have less time to finish the quiz. If you leave the lab after taking the quiz (without completing the lab exercise to the teacher’s satisfaction) your lab quiz for that day will not be graded (will receive a grade of zero). Pre-labs (found on your ecampus site) are due at midnight the day before the lab. If you did not attend a lab, you will not get credit for that lab’s prelab.

- **ACTIVE LEARNING:** Includes individual pop quizzes (based on reading assignments) as well a group quizzes. These cannot be made up if absent.

- **HOMEWORK:** Sapling Learning; available for free on your ecampus biology site

**STUDENT INSTRUCTIONS**

1. Follow the Sapling Learning link from your instructor’s course page. For initial registration, your Sapling Learning homework must be accessed through that link. After logging in once using this link, you can log in to subsequent sessions from your instructor’s course page or from the Sapling home page.

2. If you already have a Macmillan Learning account you can log in with your existing credentials and skip to step 4. Create your password and set all three security questions. Start typing in your institution to select from the options that appears in the Primary Institution or School name field. If your institution does not appear you can add it by typing in the full name. Accept the terms of use and click “Sign Up”. Check your email for the confirmation link to complete your registration and return to the login page.

3. Set your institution by searching using your institution’s full name and selecting the appropriate option from the menu that appears.

4. You’ve been automatically enrolled into the appropriate homework course on Sapling Learning and will be directed to your course page.

5. Review the system requirements and confirm that Flash is updated and enabled in your browser.

6. **Need Help?** Our technical support team can be reached by phone, chat, or by email via the Student Support Community: https://macmillan.force.com/macmillanlearning/s/.

- **LAB REPORT:** The instructor will provide the necessary information to complete this assignment.

- **FINAL EXAM:** The final exam is comprehensive (labs and lectures included). It consists of 100 multiple choice questions. A Scantron sheet is required for this.

**Required Materials:**

- **BIOLOGY 2e, by OpenStax** (FREE!)  
  https://openstax.org/details/books/biology-2e  
  Print: Optional  
  ISBN-10: 1-947172-51-4  
  Digital:  

- Sapling Learning (Online Homework System)  
  SUPPLIED ELECTRONICALLY FREE OF CHARGE VIA ECAMPUS

- The Laboratory Manual is available (free) online on your e-campus site.
Attendance Policy: Attendance is necessary for class participation and course work. There will be no make-up opportunities for missed assignments. Thus, it is strongly recommended that students attend each class. However, there will be no official course grading policy on attendance. If there is a conflict in your schedule, contact me ASAP.

Richland College’s Quality Enhancement Plan ~ Learning to Learn: Developing Learning Power
Richland College is piloting its Quality Enhancement Plan (QEP) in select classes. The QEP provides techniques, practices, and tools to help students develop the habits, traits or behaviors needed to be effective and successful lifelong learners in college and in life. For more information, please check QEP (http://www.richlandcollege.edu/qep/)

Academic Progress: Students are encouraged to discuss academic goals and degree completion with their instructors. Specific advising is available throughout the semester. Check http://www.rlc.dcccd.edu/advising/ for more details. Also, consult the Advising Syllabus (https://alt.richlandcollege.edu/assets/uploads/2015/02/AdvisingSyllabus.pdf ) regularly to check if you are on track.

College Policies and Procedures:
Institutional Policies relating to this course can be accessed from the following link: www.richlandcollege.edu/syllabipolicies

Student Learning Outcomes
Upon successful completion of this course, students will:
1. Describe the characteristics of life.
2. Explain the methods of inquiry used by scientists.
3. Apply scientific reasoning to investigate questions and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.
4. Use critical thinking and scientific problem-solving to make informed decisions in the laboratory.
5. Communicate effectively the results of scientific investigations.
6. Identify the basic requirements of life and the properties of the major molecules needed for life.
7. Compare and contrast the structures, reproduction, and characteristics of prokaryotic cells and eukaryotic cells.
8. Describe the structure of cell membranes and the movement of molecules across a membrane.
9. Identify the substrates, products, and important chemical pathways in metabolism.
10. Identify the principles of inheritance and solve classical genetic problems.
11. Identify the chemical structures, synthesis of nucleic acids and proteins.
12. Describe the unity and diversity of life and the evidence for evolution through natural selection.

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

Revised for Spring 2018  12/2017
• **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.
<table>
<thead>
<tr>
<th>Day</th>
<th>Lecture and Reading Topic</th>
<th>Chapter</th>
<th>Lab Topic</th>
<th>Lab QUIZ Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan 21</td>
<td>NO CLASS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jan 23</td>
<td>LAB</td>
<td>1</td>
<td>Class Orientation &amp; Lab 1 (Safety)</td>
<td></td>
</tr>
<tr>
<td>Jan 28</td>
<td>Characteristics of Living Things &amp; Scientific Method</td>
<td>1</td>
<td>Lab 2 Microscopy</td>
<td>---</td>
</tr>
<tr>
<td>Jan 30</td>
<td>LAB</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feb 04</td>
<td>Atoms and Bonding &amp; Properties of Water</td>
<td>2</td>
<td>Lab 3 Scientific Method Microscopy</td>
<td></td>
</tr>
<tr>
<td>Feb 06</td>
<td>LAB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feb 11</td>
<td>Carbon &amp; Molecules of Life</td>
<td>3</td>
<td>Lab 4 Chem and Life GraphsScMe</td>
<td></td>
</tr>
<tr>
<td>Feb 13</td>
<td>LAB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feb 18</td>
<td><strong>EXAM 1</strong> (Chapters 1,2,3); Metabolism &amp; Enzymes</td>
<td>6</td>
<td>Lab 5 Spectrophotometry Chem and Life</td>
<td></td>
</tr>
<tr>
<td>Feb 20</td>
<td>LAB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feb 25</td>
<td>Metabolism &amp; Enzymes; Cells</td>
<td>6/4</td>
<td>Extended Lecture in the Lab</td>
<td></td>
</tr>
<tr>
<td>Feb 27</td>
<td>LAB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mar 04</td>
<td>Cells</td>
<td>4</td>
<td>Lab 6 Enzymes Spectrophotometry</td>
<td></td>
</tr>
<tr>
<td>Mar 06</td>
<td>LAB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mar 11</td>
<td><strong>Spring Break</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mar 13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mar 15</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mar 18</td>
<td><strong>EXAM 2</strong> (Chapters 4,6); Membranes/ Cell Resp</td>
<td>5/7</td>
<td>Lab 7 Cells Enzymes</td>
<td></td>
</tr>
<tr>
<td>Mar 20</td>
<td>LAB</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Revised for Spring 2019 01/2019
<table>
<thead>
<tr>
<th>Day</th>
<th>Lecture topic</th>
<th>Chapter</th>
<th>Lab topic</th>
<th>Lab QUIZ Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mar 25</td>
<td>Cell Respiration</td>
<td>7/8</td>
<td>Lab 8 Membranes</td>
<td>Cells + Turn in Draft or LabReport</td>
</tr>
<tr>
<td>Mar 27</td>
<td>LAB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apr 01</td>
<td>Photosynthesis</td>
<td>8</td>
<td>Lab 9 Cell Resp/Photo</td>
<td>Membranes</td>
</tr>
<tr>
<td>Apr 03</td>
<td>LAB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apr 08</td>
<td>Exam 3 (Ch. 5,7,8); Mitosis/Meiosis</td>
<td>10,11</td>
<td>Extended Lecture in Lab</td>
<td>CellResp/Photo</td>
</tr>
<tr>
<td>Apr 10</td>
<td>LAB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apr 15</td>
<td>Pattern of Inheritance &amp; Genetics</td>
<td>12</td>
<td>Lab 10 Cell Cycle</td>
<td>Lab Report is due</td>
</tr>
<tr>
<td>Apr 17</td>
<td>LAB (Drop Date!)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apr 22</td>
<td>DNA Replication; Protein Synthesis</td>
<td>14,15</td>
<td>Lab 11 Meiosis</td>
<td>Cell Cycle</td>
</tr>
<tr>
<td>Apr 24</td>
<td>LAB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apr 29</td>
<td>Protein Synthesis</td>
<td>15</td>
<td>Lab 12 Mendelian Genetics</td>
<td>Meiosis</td>
</tr>
<tr>
<td>May 01</td>
<td>LAB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>May 06</td>
<td>Exam 4 (Ch. 10,11,12,14,15)</td>
<td></td>
<td>Lab 13 Protein Synthesis</td>
<td>Mendelian Genetics+ProtSyn</td>
</tr>
<tr>
<td>May 08</td>
<td>LAB</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Final Exam Day and Time:** M, May 13, 2019  5:40-7:30 am WH-131

Revised for Spring 2018  12/2017