 Semester and Year: Summer II 2017  
Section: 86501  
Class time and days: Lecture: M,T,W,R 5:40-7:40pm Lab: M,T,W,R 7:50-9:50pm  
Room: Lecture: C212 Lab: SH151  
PLEASE NOTE THAT WE HAVE CLASS (LECTURE) ON FRIDAY, July 14th.  
Instructor: Dr. Shaun Danesh  
Email: sdanesh@dccc.edu (Email directly, do not use eCampus for contact)  
Office: WH-294 (214) 890-3824  
Office hours: M,T,W,R 5:00-5:40pm  

Last date to withdraw with a “W”: August 3, 2017  

Final Exam (EXAM IV) Day: Thursday, August 10th, 2017  

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:  
1000-900pts = A; 899-800pts = B; 799-700pts = C; 699-600pts = D; 599pts and below = F  
There are no “borderline” situations with regard to the final course grade. All final grades are rounded to the nearest point as follows: e.g. a final average of 89.51 will be rounded to 90, thus earning an A for the course. A final average of 89.49 will be rounded to 89, thus earning a B for the course.  

Course grade is determined as follows:  
4 lecture examinations @ 150 pts each = 600 pts  
4 In class active learning @ 12.5 pts each = 50 pts  
10 lab quizzes @ 15 pts each = 150 pts  
10 pre-lab worksheets @ 10 points each = 100 pts  
1 Enzyme Lab Report = 100 pts  
Total points = 1000 pts  

- Lecture Examinations: Green scantron form 882E is required for all exams. If one exam is missed, the missed score will be replaced by your highest exam score. The lecture examinations may be a combination of multiple choice and true-false. Any subsequent exam may not be missed or postponed under any circumstances and will always result in a grade of (0/100). If no exams are missed, the highest exam grade will replace your lowest exam grade.  
- Lab Quizzes: One lab quiz will be dropped, at the end of the semester your lowest lab quiz grade will be increased to 15/15. 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. **All lab quizzes must be turned in at 8:05 pm sharp!**

- **Pre-lab worksheets:** Before each lab, (unless otherwise noted on the schedule), you must print out and complete a prelab worksheet and bring it to turn in at the beginning of each lab section. Points off for not printing out the pre-labs. 10% off for each day late.

- **In-Class Groupwork:** In four occasions I will provide a worksheet to be done in groups in the classroom. If you are absent for class, you will miss these points. No makeups available.

- **Lab Report:** You will write a lab report about the Enzymes (lab 6) exercise. **If you do not attend this lab, you must make up the lab by attending another section's lab period.** There is a 10% penalty for each day a report is turned in late. Also, reports need to be typed and turned in as a physical copy, no digital copies accepted. For due dates, look at your class schedule. **You may not work with anyone else on the lab report, nor can you turn in similar text or graphs.**

**Attendance Policy:** There will be no make-up opportunities for any missed points due to absences for any reason. Thus, it is strongly recommended that students attend each class. No assignments will be accepted via email. However, there will be no official course grading policy on attendance. If there is a conflict in your schedule, contact me ASAP.

**Required Materials:**
- **BIOLOGY, by OpenStax** (FREE!)  
  https://openstaxcollege.org/textbooks/biology

- The **Laboratory Manual** is available online on e-campus under the “Lab” tab.

**Instructor Policies and Suggestions for Student Success:**
*Show up to lectures and labs on time.  
*Turn off your mobile phone.  
*No use of headphones during lecture time.  
*Persistent talking or giggling among classmates during lecture will not be tolerated. A student may be asked to leave the classroom at the discretion of the instructor.  
*You are expected to take good care of all the equipment/materials provided to you in the lab. It is your responsibility to keep your working area and materials clean.  
*Consider this class as or more important than your job. It is not O.K. to leave lab early, or miss lab completely, because of work.  
*Students are encouraged to discuss academic goals and degree completion with their instructors.  
*Plagiarism is taking of someone’s ideas and misrepresenting them as one’s own. This includes word-for-word lifting of words as well as lifting ideas (even paraphrasing them in your own words) without giving someone credit for them (either by footnoting, or in the Works Cited at end of the paper). Plagiarism is not allowed and will result in a grade of F.  
*Cheating is forbidden and is grounds for a grade of F for the semester.  
*Emailed assignments will not be accepted.

**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/](http://www.rlc.dcccd.edu/advising/) for more details. Also, consult the **Advising Syllabus** [http://richlandcollege.edu/assets/uploads/2015/02/advising-syllabus.pdf](http://richlandcollege.edu/assets/uploads/2015/02/advising-syllabus.pdf) regularly to check if you are on track.

**College Policies and Procedures:**
For Institution Policies, please visit the Richland website [https://richlandcollege.edu/employees/syllabus-institutional-policy-statements/](https://richlandcollege.edu/employees/syllabus-institutional-policy-statements/)

**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
- **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.
**Course Syllabus For**

**Biol 1406: Biology for Science Majors I**
4 credit hours (3 lec/3lab)

<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>Lecture Chapter*</th>
<th>Lab topic</th>
<th>Lab QUIZ topic / due dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
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<tr>
<td>Tue</td>
<td>June 11</td>
<td>Chapter 1</td>
<td>Lab 1 – Safety and Class Orientation</td>
<td>Lab 1 – Safety</td>
</tr>
<tr>
<td>Wed</td>
<td>June 12</td>
<td>Chapter 2</td>
<td>Lab 2 – Microscopy (+ prelab)</td>
<td>Lab 2 – Microscopy</td>
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<tr>
<td>Thurs</td>
<td>June 13</td>
<td>Chapter 2, 3</td>
<td>Lab 3 – Scientific Method (+ prelab)</td>
<td>Lab 3 – Scientific Method</td>
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<tr>
<td>Friday</td>
<td>June 14</td>
<td>Chapter 3</td>
<td>Lab 4 – Chemistry &amp; Life (+ prelab)</td>
<td>Lab 4 – Chemistry &amp; Life</td>
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<td>Week 2</td>
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<tr>
<td>Mon</td>
<td>June 17</td>
<td>Chapter 3, 6</td>
<td>Lab 5 – Spectrophotometry(+ prelab)</td>
<td>Lab 4 – Chemistry &amp; Life</td>
</tr>
<tr>
<td>Tues</td>
<td>June 18</td>
<td>Chapter 6</td>
<td>Lab 6 – Enzymes (+ prelab)</td>
<td>Lab 5 – Spectrophotometry</td>
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<tr>
<td>Wed</td>
<td>June 19</td>
<td>Chapter 6,4</td>
<td>Lecture in lab – Chapter 4</td>
<td>Lab 7 – Cells (+ prelab)</td>
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<tr>
<td>Thurs</td>
<td>June 20</td>
<td>Chapter 4</td>
<td>Lab 7 – Cells (+ prelab)</td>
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<td>Week 3</td>
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<td>Mon</td>
<td>June 24</td>
<td><strong>EXAM I (Ch.1-3)</strong></td>
<td>Lab 8 – Membranes (+ prelab)</td>
<td>Lab 7 – Cells</td>
</tr>
<tr>
<td>Tues</td>
<td>June 25</td>
<td>Chapter 7</td>
<td>Lecture in lab – Chapter 7</td>
<td>Lab 8 – Membranes</td>
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<tr>
<td>Wed</td>
<td>June 26</td>
<td>Chapter 7</td>
<td>Lab 9 – Respiration (+ prelab)</td>
<td>Lab 9 – Respiration</td>
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<tr>
<td>Thurs</td>
<td>June 27</td>
<td>Chapter 8</td>
<td>Lab 10 – The Cell Cycle (+ prelab)</td>
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<td>Week 4</td>
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<tr>
<td>Mon</td>
<td>June 31</td>
<td>Chapter 8</td>
<td>Lab 11 – Meiosis (+ prelab)</td>
<td>Lab report due date</td>
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<tr>
<td>Tues</td>
<td>June 1</td>
<td><strong>EXAM II (Ch. 6,4)</strong></td>
<td>Lecture in lab – Chapter 11</td>
<td>Lab 10 – The Cell Cycle</td>
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<tr>
<td>Wed</td>
<td>June 2</td>
<td>Chapter 11</td>
<td>Lab 12 – Mendel. Genet.(no prelab)</td>
<td>Lab 11 – Meiosis</td>
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<tr>
<td>Thurs</td>
<td>June 3</td>
<td>Chapter 11,12</td>
<td>Lecture in lab – Chapter 12,14</td>
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<td>Week 5</td>
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<td>Mon</td>
<td>July 7</td>
<td><strong>EXAM III (Ch.5,7,8)</strong></td>
<td>Lab 13 – Protein Synth (no prelab)</td>
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<tr>
<td>Tues</td>
<td>July 8</td>
<td>Chapter 14,15</td>
<td>Lecture in lab – Chapter 15</td>
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<tr>
<td>Wed</td>
<td>July 9</td>
<td>Chapter 15</td>
<td>Lecture in lab – Chapter 15</td>
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<tr>
<td>Thurs</td>
<td>July 10</td>
<td><strong>EXAM IV (Ch.10,11,12,14,15)</strong></td>
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*If a chapter is completed ahead of schedule, we may proceed to the next chapter ahead of schedule and vice versa.

Note: mandatory Friday class on July 14th for lecture.