RICHLAND COLLEGE DEPARTMENT OF BIOLOGY  
School of Mathematics, Science, and Health Professions  
Course Syllabus for  
Biol 1406: Biology for Science Majors I  
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: January 22– May 16, 2019  
Section: 83012  
Class time and days: Lecture: Tuesdays & Thursdays 9:30 a.m.-10:50 a.m.; Lab: Tuesdays 11:00a.m.-1:50p.m. Lecture WH160, Lab SH153  
Room:  
Instructor: Dr. Stanita Jackson  
Contact Info: Email: stanitajackson@dcccd.edu  
Phone: 972-284-5582  
Office hours: Mon. 9:45 a.m.-10:45 a.m.; Tues. 2:00 p.m.-3:00 p.m.; Wed. 9:45 a.m.-10:45 a.m.; Thurs. 11:00 a.m.-12:00 p.m.; Fri. 2:15 p.m.-3:15 p.m.  
Office Location: Wichita 221  
Last date to withdraw: Wednesday, April 17, 2019  
Final Exam Day and time: Thursday, May 16, 2019 from 9:30 a.m.-11:20 a.m in WH160  
Bring scantron and #2 pencil for Final exam  

Evaluation Procedures: Your course grade will be based on 4 lecture exams, a final examination, lecture grades, and laboratory quizzes. The lecture exams will be multiple choice, true/false, matching, and short answer/essay. The final exam is comprehensive. You will need a green #882 scantron and a #2 pencil for each exam. All exams are comprehensive in the sense that you are expected to have mastered all previous material, although each lecture exam will focus on the most recently covered material. Exams will be based both on the lecture material and assigned reading. The final exam grade will replace your lowest lecture exam grade, if higher. There are no “borderline” situations regarding the final course grade.  

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Lecture Exams @ 100 points each</td>
<td>400</td>
</tr>
<tr>
<td>Lab Quizzes (best 10 out of 12 lab quizzes</td>
<td>130</td>
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<tr>
<td>except lab report) @ 13 points each</td>
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<tr>
<td>Pre-Lab (best 10 out of 12 pre-labs) @ 12 points each</td>
<td>120</td>
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<tr>
<td>Enzymes Lab Report</td>
<td>50</td>
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<tr>
<td>Active Learning</td>
<td>30</td>
</tr>
<tr>
<td>Online HW</td>
<td>130</td>
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</tbody>
</table>

Revised for Spring 2019
Power Point Research = 40 points
1 Final exam @ 100 points = 100 points
Total Points Earned = 1000 points

Convert to letter grade:

- 900 or above = A
- 800-899 = B
- 700-799 = C
- 600-699 = D
- Below 600 = F

For an A you must EARN: 900 points
For a B you must EARN: 800 points
For a C you must EARN: 700 points
For a D you must EARN: 600 points

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.

(Instructor reserves the right to amend this syllabus as necessary.)

Attendance Policy: To be successful, students must attend and participate in all enrolled courses. Lecture and lab attendance are required and necessary to be successful. If you come to one class but not the other, you will not be successful in this course. Changes in the lecture or lab schedule OR the assignment of extra credit opportunities (if applicable) may be announced during lecture. Handouts and homework may be distributed during lecture. It is the student’s responsibility to obtain all such information in the case of absence from lecture.

Lab Quizzes/Pre-labs: ABSOLUTELY NO MAKE-UPS FOR 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. Lab attendance is mandatory and will be recorded weekly. Absences will result in a zero on the weekly quiz and will dramatically affect your grade. The week following your absence, you will be required to take the current week’s quiz (not the missed quiz). The missed quiz grade will be a zero. The lab quizzes will be given within the first 15-20 minutes of lab class with no make-ups. If you miss the first week of lab you will not be able to attend future labs until that lab is completed and a grade will not be given for the lab quiz. Pre-labs (found at the beginning of each lab exercise on ecampus) are due at the night before each lab period.
If you do not attend a lab, you cannot turn in a Pre-lab for it. *Your lab manual should be printed out as a “hard copy” for completion.*

**Required Materials:**

- **BIOLOGY 2e, by OpenStax (FREE!)**
  
  [https://openstax.org/details/books/biology-2e](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.*

**Instructor Policies and Suggestions for Student Success:**

- **ACTIVE LEARNING:** Includes individual pop quizzes and journaling (based on reading assignments) as well group activities during lecture. Students are responsible for reading the chapters for each lecture and focus on specific page numbers assigned by the professor as this is part of your active learning activities. These cannot be made up if absent.

- **ONLINE HOMEWORK:** Sapling Learning Online homework will be posted and accessible via ecampus Blackboard. Your instructor will provide instructions for registering. Online homework assignments will be due each week (specific due dates will accompany the assignments in the CONNECT online system). There are 13 chapters at 10 points each =130 total points to earn. There is no make-up work for online homework. You must adhere to the due dates or you will earn a zero.

- **Science Corner** – Second floor Sabine building. **FREE** tutoring for all science courses. Check posted schedules to find out times for each course.

- **Computer Labs** –
  - Richland College Main Computer Lab, Del Rio, Room D257, 972-238-6317  
  - Overflow Lab for Main Computer, Wichita Hall, Room WH159

  - Students must provide their own storage devices; printers are available for printing in some labs. Copying of software is not allowed; personally-owned software may not be used; food and drinks are not allowed in labs. Students must adhere to the DCCCD's Rules of Responsible Computing. Remember to save often and back-up your work - things happen, computers crash.

- **Center for Tutoring and Learning Connections (CTLC)** – room M216 – for tutoring in all

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classes and to make-up science lab safety training - (972)-238-6226

- Students pursuing careers in the Health Professions can find specific information on occupations, resources, financial aid, and programs at Texas institutions at this RLC Health Professions website:  www.rlc.dcccd.edu/medcareers

GENERAL CLASSROOM/LAB POLICIES:

1. Lecture starts at 9:30 a.m. on Tuesdays and Thursdays; Lab starts at 11:00 a.m. on Tuesdays. Please be punctual.
2. Please turn off and put away your mobile phone/smartwatch while in class (lecture and lab). There should be no cell phone usage in class under any circumstances. If cell phones are out during lecture exams and lab quizzes, you will receive a zero for that exam and/or quiz. If it is an emergency and you must use your phone please step outside of the classroom, except during lecture exams and lab quizzes.
3. Once you pick up your lecture exam and lab quiz you will not be allowed to leave the room for anything until you are finished turn it in for grading. If you need to go to the restroom, please do so before the exam and quiz. There is no ins and outs allowed during exams and quizzes.
4. Persistent talking among classmates during lecture and lab will not be tolerated. A student may be asked to leave the classroom at the discretion of the instructor. You will not be able to hear what the instructor is saying if you are talking at the same time. Be respectful.
5. 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.
6. To be successful in this class, Attendance is Required for both lecture and lab. Consider this class as or more important than your job. It is not ok to leave lab or lecture early, or miss lab or lecture completely, because of work. At the end of lecture, be courteous and allow the instructor to finish speaking before standing and leaving the room.
7. NO WHINING IS ALLOWED about class work!!! You are an adult, so let’s behave that way.
8. The responsibility of conducting your assignments and receiving your preferable grade(s) lies with you, therefore at the end of the semester, once final grades are posted please do not email the Professor about grade changes due to your own negligence. I will not respond to those emails.
9. Lab Dress code: Students are required to wear proper lab clothing including: long-sleeve shirts, knee length shorts (no shorts above the knee) and closed-toe shoes (covering entire feet). If students do not abide by the lab dress code, there will be a one-time warning. If the students still don’t abide by the lab dress code, the student will not be able to return to the lab.

Late Work, Lab and/or Make-up Exam Policy:

Extra Credit:
Extra credit points may be offered during the semester, at the discretion of the instructor. Please don’t keep asking the instructor about extra credit. It will be announced in class if the instructor decides to offer it. Extra credit must be turned in on the due date the instructor announces, if not credit will be not granted. If these points are earned, they will be added to the total points earned, not the final course grade. Extra credit will not be offered after final grades have been posted for the semester, so please do not ask about extra credit then.

Makeup Exams & Lab Quizzes:
There are No Make-Ups for lecture exams. If one is missed, the missed score will be replaced by the final exam % score. If two are missed, the second missed score will be a zero, except in extreme extenuating circumstances. There will be a Back on Track session held after the first exam for those that don’t do well.

The lab quiz will be administered during the first 15-20 minutes of the lab period only; if you are late for lab, you will

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have less time to finish the quiz or may miss the quiz. **No Make-ups for lab quizzes under any conditions.** You will receive two drop lab quizzes and pre-labs due to extenuating circumstances you may encounter throughout the semester. 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 will be completed on ecampus. The weekly lab assignments must be completed during the lab session and will be essential to your comprehension of the lab material and success on the lab quizzes. **Lab exercises should be printed and brought to lab each week. I strongly suggest printing the entire lab manual and binding it.** You will write a lab report for the Enzymes lab. The professor will give you more information and post resources on ecampus.

**Final Exam:**
The final exam is comprehensive. It consists of 100 multiple choice questions. A Scantron sheet and #2 pencil is required.

**PowerPoint Research Assignment:**
Students will be able to randomly choose a Genetic disease from the instructor’s list to do a Power Point presentation in class. There will be a PowerPoint presentation rubric that students will have to follow to earn all of their points. The PowerPoints will need to be from 5-8 minutes in length and not exceeding 10 minutes. Students will submit an abstract and 3 references along with the power point assignment to the instructor on calendar outlined dates. More information will be given during the semester to students concerning due dates. There will be a **Mandatory** library session. Your professor will give you more information.

**Letters of Recommendation:**
I do not write letters of recommendation for every student. I will only write such letters if I believe my letter will help the student in being admitted to the school/program to which he is applying. This decision is made subjectively and depends on the student’s classroom and lab behavior, attitude, motivation, and grades. You must check with me first and make sure I have agreed to write the recommendation before listing my name as a reference or source of a recommendation. If I approved to write your recommendation letter, you must submit to me in writing your request and information that you would like released in this letter. Please realize that a **mediocre** letter of recommendation may hurt your chances of getting admitted to the school/program of your choice.

**Transferring Credits:**
It is the responsibility of the student to check with the institution to which they intend to transfer credit for this and any other courses. Do not assume that the credits will be transferable without receiving written confirmation from that institution indicating the credits will be accepted in the manner which is intended by the student.

**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/cep/)

**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 [https://alt.richlandcollege.edu/assets/uploads/2015/02/AdvisingSyllabus.pdf](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](http://www.richlandcollege.edu/syllabipolicies)

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**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.
RICHLAND COLLEGE DEPARTMENT OF BIOLOGY
School of Mathematics, Science, and Health Professions
Course Syllabus For
BIOL 1406: Biology for Science Majors I
4 credit hours (3 lec/3lab)

BIOLOGY 1406
FALL 2018 in Rooms SH151 & SH153 WEEKDAY

LAB MANUAL: Laboratory Manual for Biology 1406; Molecular and Cellular Aspects of Life; is available in PDF files on E-Campus.

(Instructor reserves the right to amend this information as necessary.)

<table>
<thead>
<tr>
<th>WEEK OF:</th>
<th>LECTURE</th>
<th>Lecture Readings</th>
<th>LAB</th>
<th>TOPIC</th>
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</thead>
<tbody>
<tr>
<td>JAN 22 Tue</td>
<td>Syllabus; Ch. 1-Intro to Biology</td>
<td>Pgs. 10-14</td>
<td>Lab 1</td>
<td>SAFETY IN THE LABORATORY/COURSE ORIENTATION (Monday labs do not meet – MLK Holiday)</td>
</tr>
<tr>
<td>JAN 28</td>
<td>Ch. 1-Intro to Biology; Ch. 2-Atoms to Molecules</td>
<td>Pgs. 17-23</td>
<td>LAB 2 except Monday labs</td>
<td>THE MICROSCOPY (Monday labs must complete Lab 1) (QUIZ 1 over Safety)</td>
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<tr>
<td>FEB 04</td>
<td>Ch. 2-Atoms to Molecules; Ch. 3-Biomolecules</td>
<td>Pgs. 34-36; 38-39 (Ch. 2). Pgs. 66-72 (Ch. 3).</td>
<td>LAB 3</td>
<td>SCIENTIFIC METHOD (QUIZ 2 over Microscopy)</td>
</tr>
<tr>
<td>FEB 11</td>
<td>Ch. 3-Biomolecules; Exam 1 Review</td>
<td>Pgs. 83-84</td>
<td>LAB 4</td>
<td>CHEMISTRY AND LIFE (Bring Gloves &amp; wear Goggles) (QUIZ 3 over Scientific Method)</td>
</tr>
<tr>
<td>FEB 18</td>
<td>Exam 1 (02/21/18) on Chapters 1, 2, &amp; 3; Ch. 6 – Metabolism</td>
<td>Pgs. 169-170</td>
<td>LAB 5</td>
<td>SPECTROPHOTOMETRY (Bring Gloves &amp; wear Goggles) (QUIZ 4 over Chemistry and Life)</td>
</tr>
<tr>
<td>FEB 25</td>
<td>Ch. 6 – Metabolism</td>
<td>Pgs. 173-176</td>
<td>Extended Lecture in Lab</td>
<td>No Lab Quiz</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Pages</th>
<th>Lab</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAR 04</td>
<td>Ch. 6-Metabolism Ch.4-Cells;</td>
<td>Pgs. 106-111</td>
<td>LAB 6</td>
<td>ENZYMES (Bring Gloves &amp; wear Goggles)</td>
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<td></td>
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<td>(QUIZ 5 over Spectrophotometry)</td>
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<td>MAR 11</td>
<td>SPRING BREAK</td>
<td>NO LECTURE</td>
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<td>No Lab</td>
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<td>No lab quiz</td>
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<tr>
<td>MAR 18</td>
<td>Ch. 5- Membranes Exam 2 Review</td>
<td>Pgs. 137-141</td>
<td>LAB 7</td>
<td>CELLS</td>
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<td>No lab quiz on Enzymes</td>
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<tr>
<td>MAR 25</td>
<td>Ch. 5-Membranes; Ch. 7-Cellular Respiration Exam 2 (03/28/19)</td>
<td>Pgs. 198-199 (Ch. 7).</td>
<td>LAB 8</td>
<td>MEMBRANES (Bring Gloves &amp; wear Goggles)</td>
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<tr>
<td></td>
<td>on Chapters 6 &amp; 4</td>
<td></td>
<td></td>
<td>(QUIZ 6 over Cells)</td>
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<tr>
<td>APR 01</td>
<td>Ch. 7-Cellular Respiration Chapter 8-Photosynthesis;</td>
<td>Pgs. 205-208 (Ch. 7). Pgs. 219-223 (Ch. 8).</td>
<td>LAB 9</td>
<td>RESPIRATION &amp; PHOTOSYNTHESIS</td>
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<td>(Bring Gloves &amp; wear Goggles)</td>
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<td>(QUIZ 7 over Membranes)</td>
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<tr>
<td>APR 08</td>
<td>Ch. 10-Mitosis Exam 3 Review</td>
<td>Pgs. 269-272 (Ch. 10).</td>
<td>LAB 10</td>
<td>CELL CYCLE</td>
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<td>(QUIZ 8 over Respiration &amp; Photosynthesis)</td>
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<td>Enzymes Lab Report due (11/07/18)</td>
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<tr>
<td>APR 15</td>
<td>Ch. 11-Meiosis; Ch. 12-Mendelian Inheritance Exam 3 (04/18/19)</td>
<td>Pgs. 296-300 (Ch. 11); Pgs. 319-323 (Ch. 12).</td>
<td>LAB 11</td>
<td>MEIOSIS</td>
</tr>
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<td></td>
<td>on Chapters 5,7, &amp; 8</td>
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<td></td>
<td>(QUIZ 9 over Cell Cycle, Mitosis)</td>
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<td>Friday Classes are off due to Holiday</td>
</tr>
<tr>
<td>APR 22</td>
<td>Ch.14-DNA; Ch. 15-Genes &amp; Proteins; Pgs. 363-367 (Ch. 14); Pgs. 289-392 (Ch. 15).</td>
<td>Extended Lecture in Lab</td>
<td>M- R classes meet for lecture instructions in the laboratory Friday Classes meet Lab 11 Meiosis.</td>
<td></td>
</tr>
<tr>
<td>APR 29</td>
<td>Research Presentations</td>
<td>None</td>
<td>LAB 12</td>
<td>MENDELIAN GENETICS (QUIZ 10 over Meiosis)</td>
</tr>
<tr>
<td>MAY 06</td>
<td>Exam 4 (05/07/19) on Chapters 10, 11, &amp; 12. Final Exam Review</td>
<td>None</td>
<td>Lab 13</td>
<td>GENE EXPRESSION (QUIZ 11 over Mendelian Genetics); End-of-Lab Quiz 12 over Gene Expression</td>
</tr>
<tr>
<td>MAY 13</td>
<td>Final Exam on Thursday, May 16, 2019 from 9:30-11:20 a.m. in WH 160</td>
<td>NO LAB</td>
<td>FINAL EXAMS WEEK</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** Classes/labs will NOT meet on these days: Thursday February 28 & Friday March 1 (Professional Development Day), March 11-15 (Spring Break), and April 19 (Holiday).