RICHLAND COLLEGE DEPARTMENT OF BIOLOGY  
School of Mathematics, Science, and Health Professions  
Course Syllabus For  
Biol 2402: Anatomy and Physiology 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: 01/22/2019 - 05/16/2019  
Section: 83005  
Class time and days: TR 12:30PM - 01:50PM (Lecture) / R 09:30AM - 12:20PM (Lab)  
Room: WH279 (Lecture) / SH133 (Lab)  

Instructor: Libiya Shah  
Office: Sabine 268  
Phone: 972-238-6084  
Instructor’s DCCCD email: Lshah@dcccd.edu  
Office Hours: Refer instructor’s e-campus site  

Last date to withdraw: 04/17/2019 (with W)  

Final Exam Day and time: Thursday, 05/16/2019; 12:30PM – 02:20PM  
Bring scantron sheet for all exams  

Evaluation Procedures:  

Students may earn a maximum of 1000 points for the lecture and lab components combined. The final grades for the course will be assigned as follows:  

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 lecture exams @ 100 points each</td>
<td>300</td>
</tr>
<tr>
<td>3 Mini Lab Practical Exams @ 80 points each</td>
<td>240</td>
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<tr>
<td>Pre-Lab</td>
<td>100</td>
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<tr>
<td>Lab Activity</td>
<td>25</td>
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<tr>
<td>Lab &amp; Lecture Attendance</td>
<td>05</td>
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<tr>
<td>Final Exam</td>
<td>200</td>
</tr>
<tr>
<td>13 Online Homework @ 10 points each</td>
<td>130</td>
</tr>
</tbody>
</table>

Total Points Earned = 1000 points possible  

Divide the Total Points Earned by 10 to get percentage grade. Convert to letter grade:  

90 or above = A  
80-89.9 = B  
70-79.9 = C  
60-69.9 = D  
Below 60 = 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  

THE INSTRUCTOR RESERVES THE RIGHT TO AMEND THIS SYLLABUS AS NECESSARY  

Revised for Spring 2019
Attendance Policy:
You are expected to be in class every session. Your performance in the course is dependent on your attendance, so please make every effort to attend all classes as scheduled. Students who are late or absent are still responsible for all the homework due dates and test dates.

Academic Progress:
Students are encouraged to discuss academic goals and degree completion. Specific advising is available throughout the semester. Check [www.richlandcollege.edu/admissions/process.php](http://www.richlandcollege.edu/admissions/process.php) for more details.

Materials:  You should already have the book/MAP from first semester—but if you do not… - 4 choices

   by Frederic H. Martini, et al

   - Mastering A&P with eText - ISBN 013447869x or 9780134478692
   - Mastering A&P + 3 hole punch unbound print - ISBN 0134478754 or 9780134478753
   - Mastering A&P + clothbound text - ISBN 013439495x or 9780134394954
   - IF YOU ALREADY HAVE A TEXTBOOK, and just need the MAP access---can buy directly from masteringaandp.com (which then changes to https://www.pearsonmylabandmastering.com/northamerica/masteringaandp/, oddly enough).

   (A new copy comes with---Atlas of the Human Body, Interactive Physiology CD-ROM, and access to Martini Online companion website, as well as Mastering A&P homework system. A used text of an earlier edition will not give you access to the above supplemental materials (although you CAN buy a subscription to Martini Online and the online Interactive Physiology).

2. HUMANANATOMY & PHYSIOLOGY LABORATORY MANUAL (cat), (10th edition, ISBN 0032161612X), Elaine Marieb et al. This lab book is for the cat, and we are using the mink for dissections in the course. The organs and structures appear to be pretty much the same for the 2 animals, although there are some differences in muscles and a couple of organs. We have some IN-LAB copies of Dissection Guide and Atlas to the Mink, by Smith and Schenck. And it is also available in the bookstore, as well as online.

WE ARE USING CUSTOM SHORTER VERSIONS THAT HAVE ELIMINATED LOTS OF EXERCISES THAT WE DO NOT USE—cheaper than the full lab book.

   Custom edition of Lab Manual for Richland College is available at the bookstore: ISBN 9781269124768

   - If you would rather or have one accessible to you, you can use the full lab book (11th edition), but be sure that it has cat dissections in it.

3. MORE LAB INFORMATION - [http://delrio.deccd.edu/reynolds/A&P/](http://delrio.deccd.edu/reynolds/A&P/). It has lab handouts, lab practical reviews, graphics for models, dissection, etc. that go along with the lab manual.
OPTIONAL: It is EXTREMELY advantageous to have a histology text. There are various histology atlases at the campus bookstores, as well as Barnes & Noble and Half-Price Books. A really good one is the COLOR ATLAS OF HISTOLOGY, by Gartner (ISBN-0-7817-8872-2).

Online Homework:
This course requires homework that is to be completed and submitted online. Get into Mastering A&P with http://masteringaandp.com—register for the homework system, by using the COURSE ID. Access codes are included with purchase of a new textbook, or can be purchased separately.

Note: Homework will be due the night before each test/exam by 11pm, no extensions! Due dates will be announced on the homework site. It may be submitted earlier than that, but late submission will not be accepted.

Course ID (Needed to Log On): Check e-campus

Units of Instruction/Class Calendar: See a separate page

Instructor Policies and Suggestions for Student Success:

- 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
- This class DEMANDS group interactive skills, both in lab and lecture. Be aware that you will have to COOPERATE with lab partners, in addition to collaborative work groups in the lecture class. Be prepared to be an ACTIVE learner, and to work cooperatively with other students:
- MINK DISSECTIONS ARE PERFORMED IN THE LAB, PER TABLE: BE AWARE OF THIS REQUIREMENT. IT IS YOUR RESPONSIBILITY TO HAVE GLOVES WHEN NEEDED IN LAB.
- Never miss a class. Exams will be based on Lecture classes.
- Text reading assignments are provided with the lecture schedule. Keep up with your reading, and expect to read the chapters more than once!
- Lecture attendance and note-taking will provide an additional learning resource. Some information may be presented in class which is not found in the text! You will be held responsible for such information on the exams.
- Ask questions in class and seek outside help if necessary. Feel free to email me with any questions that you may have and I will be happy to go over the topic again with you. Use tutors at science corner or other biology faculty as well. We want you to succeed, but you must learn the material in order to do so!
- Read the chapters, study the figures, and answer the post-test and review questions at the end of the chapters. I often use these questions on the exams to reward students for working them out on their own. I will be happy to help you with these questions prior to the exam.
- No Food or drinks will be permitted in the laboratory. You may bring in drinks in the classroom only if the classroom is kept clean.
- 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.
- You will be expected to utilize your time in the lecture/lab session efficiently. Conversations other than those related the topic of the lab session will not be allowed. Student(s) may be asked to leave the classroom/lab at the discretion of the instructor if persistent talking during class.
- 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. It is suggested that you will need to spend at least 2 hours of reading and self-study for each hour of lecture. Be realistic about your work and class schedule when registering.
Be prepared to be an active independent learner and to work cooperatively with other students as well. If you cannot or will not do this, you might want to re-think this class.

**BE ON TIME for lecture and lab.** Arriving late will not only prevent you from getting a good start on course material, but also it poses a great distraction for other students and the instructor.

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

- **Late works:** Any assignment turned in late will be assessed a 10% penalty for each DAY it is late.
- **No late submission accepted for homework, and pre-lab.** If you leave the lab without completing the lab exercise to the professor’s satisfaction, your pre-lab for that day will not be graded (will receive a grade of zero).
- **IF you did not attend a lab, you cannot turn in a Pre-lab for it.** Also, you will not be allowed to take the associated lab practical exam.

**Lab Practical & Lecture Exams:** ABSOLUTELY NO MAKE-UP FOR LAB PRACTICALS AND EXAMS!!!

**Final Exam:** The final exam is comprehensive. It consists of 100 multiple choice questions.

- **Class Participation:** You are expected to actively participate in taking notes, in all forms of class discussion including answering instructor questions. It will help to maximize the effect of learning when you become actively involved in thinking, understanding and sharing your knowledge.

- **Classroom Behavior:** You are expected to behave in an adult manner while in class. Inappropriate class behaviors include sleeping, working on other class assignments and talking incessantly. **Persistent talking among classmates during lecture will not be tolerated.** A student may be asked to leave the classroom at the discretion of the instructor. Please be considerate enough to turn off cell phone or set it to silent mode. 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.

**Extra Credit:** Extra credit points may be offered during the semester for class participation, at the discretion of the instructor. If these points are earned, they will be added to the total points earned, not the final.

**College Policies and Procedures:**
For Institution Policies, please refer to the Richland website
For Institution Policies, please visit the Richland website [www.richlandcollege.edu/syllabipolicies](http://www.richlandcollege.edu/syllabipolicies)

**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) regularly to check if you are on track.
DCCCD Catalog Course Description: This is the second course of a two-course sequence. Structure and function as related to the human circulatory, respiratory, urinary, digestive, reproductive, and endocrine systems are studied. Emphasis is placed on the interrelationships of these systems. This is a transferable course intended for those seeking to complete a Bachelor's Degree. (3 Lec., 3 Lab.)

Pre-requisites:
BIOL 2401. 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.

DCCCD Catalog Course Description:
This is the second course of a two-course sequence. Study of the structure and function of human anatomy, including the neuroendocrine, digestive, urinary, reproductive, respiratory, and circulatory systems. Emphasis is placed on the interrelationships of these systems. Content may be either integrated or specialized. This is a transferable course intended for those seeking to complete a Bachelor's Degree. (3 Lec., 3 Lab.)

ACGM COURSE DESCRIPTION AND LEARNING OUTCOMES:
Anatomy and Physiology II is the second part of a two-course sequence. It is a study of the structure and function of the human body including the following systems: endocrine, cardiovascular, immune, lymphatic, respiratory, digestive (including nutrition), urinary (including fluid and electrolyte balance), and reproductive (including human development and genetics). Emphasis is on interrelationships among systems and regulation of physiological functions involved in maintaining homeostasis. The lab provides a hands-on learning experience for exploration of human system components and basic physiology. Systems to be studied include endocrine, cardiovascular, immune, lymphatic, respiratory, digestive (including nutrition), urinary (including fluid and electrolyte balance), and reproductive (including human development and genetics).

Learning Outcomes
Upon successful completion of this course lecture part, students will:
1. Use anatomical terminology to identify and describe locations of major organs of each system covered.
2. Explain interrelationships among molecular, cellular, tissue, and organ functions in each system.
3. Describe the interdependency and interactions of the systems.
4. Explain contributions of organs and systems to the maintenance of homeostasis.
5. Identify causes and effects of homeostatic imbalances.
6. Describe modern technology and tools used to study anatomy and physiology.

Upon successful completion of this course lab part, students will:
1. Apply appropriate safety and ethical standards.
2. Locate and identify anatomical structures.
3. Appropriately utilize laboratory equipment, such as microscopes, dissection tools, general lab ware, physiology data acquisition systems, and virtual simulations.
4. Work collaboratively to perform experiments.
5. Demonstrate the steps involved in the scientific method.
6. Communicate results of scientific investigations, analyze data and formulate conclusions.
7. Use critical thinking and scientific problem-solving skills, including, but not limited to, inferring, integrating, synthesizing, and summarizing, to make decisions, recommendations, and predictions.

Course Objectives
Biology 2402 is recommended as required or elective courses for biology majors, pre-medical students, pre-dental students, nursing students, and others who are in the allied health professions. The specific objectives of Biol 2402 are to:
• Learn basic anatomical and physiological terminology.
• Learn the human structure at cellular, tissue, and system level (endocrine, circulatory, respiratory, digestive, urinary, reproductive systems for Biol 2402), and be able to identify major structures at human models and animal dissections.
• Understand how body systems are interrelated to maintain the homeostasis as a whole.
• Learn the concepts and mechanisms of normal physiological processes in endocrine, circulatory, respiratory, digestive, urinary, reproductive systems, and explain how those processes are impaired under abnormal conditions.
• Perform relevant lab activities or tests to apply the learned physiological principles in professional cases.
• Discuss the relevance of specific anatomical structures or their related functions to clinical applications to better understand the relationship between structure and function.

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.
<table>
<thead>
<tr>
<th>WEEK</th>
<th>LECTURE TOPIC</th>
<th>CH.</th>
<th>LAB TOPIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan 22</td>
<td>Endocrine System</td>
<td>18</td>
<td>Safety &amp; Check-in</td>
</tr>
<tr>
<td>Jan 28</td>
<td>Blood</td>
<td>19</td>
<td>Functional Anatomy of the Endocrine Glands</td>
</tr>
<tr>
<td>Feb 04</td>
<td>Heart</td>
<td>20</td>
<td>Blood</td>
</tr>
<tr>
<td></td>
<td>Anatomy of the Heart</td>
<td></td>
<td>(Pig Heart Dissection – Bring Gloves)</td>
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<tr>
<td>Feb 11</td>
<td>LECTURE EXAM 1</td>
<td>21</td>
<td>Conduction System of the Heart and Electrocardiography</td>
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<tr>
<td></td>
<td>(Ch 18-20) (Tuesday)</td>
<td></td>
<td>Human Cardiovascular Physiology</td>
</tr>
<tr>
<td>Feb 18</td>
<td>Blood Vessels &amp; Circulation</td>
<td>22</td>
<td>Anatomy of Blood Vessions</td>
</tr>
<tr>
<td></td>
<td>Lymphatic System &amp; Immunity</td>
<td></td>
<td>Mink Dissection (Endocrine, Blood Vessels) – Bring Gloves</td>
</tr>
<tr>
<td>Feb 25</td>
<td>Lymphatic System &amp; Immunity</td>
<td>23</td>
<td>NO LAB</td>
</tr>
<tr>
<td>Mar 04</td>
<td>Respiratory System</td>
<td>23</td>
<td>LAB PRACTICAL 1</td>
</tr>
<tr>
<td>Mar 11</td>
<td>No Class – Spring Break</td>
<td>24</td>
<td>No Lab – Spring Break</td>
</tr>
<tr>
<td>Mar 18</td>
<td>LECTURE EXAM 2 (Ch 21, 22,23) (Tuesday)</td>
<td>24</td>
<td>Lymphatic System</td>
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<tr>
<td></td>
<td>Digestive System</td>
<td></td>
<td>Anatomy of the Respiratory System</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Respiratory System Physiology</td>
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<tr>
<td>Mar 25</td>
<td>Digestive System</td>
<td>26</td>
<td>Anatomy of Digestive System</td>
</tr>
<tr>
<td></td>
<td>Urinary System</td>
<td></td>
<td>Mink Dissection (Respiratory &amp; Digestive) – Bring Gloves</td>
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<tr>
<td>Apr 01</td>
<td>Urinary System</td>
<td>26</td>
<td>LAB PRACTICAL 2</td>
</tr>
<tr>
<td>Apr 08</td>
<td>LECTURE EXAM 3 (Ch 24, 26) (Tuesday)</td>
<td>28</td>
<td>Anatomy of the Urinary System</td>
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<tr>
<td></td>
<td>Reproductive System</td>
<td></td>
<td>(Pig Kidney Dissection – Bring Gloves)</td>
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<tr>
<td>Apr 15</td>
<td>Reproductive System</td>
<td>28</td>
<td>Urinalysis</td>
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<tr>
<td></td>
<td>Development &amp; Inheritance</td>
<td></td>
<td>Anatomy of the Reproductive System</td>
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<tr>
<td>Apr 22</td>
<td>Development &amp; Inheritance</td>
<td>28</td>
<td>Physiology of Reproduction</td>
</tr>
<tr>
<td>Apr 29</td>
<td>Fluid &amp; Electrolyte Balance</td>
<td>27</td>
<td>Survey of Embryonic Development</td>
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<tr>
<td></td>
<td>Metabolism</td>
<td></td>
<td>Principles of Heredity</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Mink Dissection (Urinary, Reproductive) – Bring Gloves</td>
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<tr>
<td>May 06</td>
<td>Metabolism</td>
<td>29</td>
<td>LAB PRACTICAL 3</td>
</tr>
<tr>
<td>May 13</td>
<td>FINAL EXAM (Ch 25, 27, 28,29 + Cumulative)</td>
<td></td>
<td>May 16th, Thursday, 12.30pm – 02.20pm</td>
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</tbody>
</table>