ANATOMY AND PHYSIOLOGY I  
BIOL 2401.63002  
TUESDAY & THURSDAY – LECTURE – 8:00-9:20AM, LAB H121 – 9:30-10:50AM  
SYLLABUS SPRING 2019  

LECTURE: MS. SILVA  
OFFICE: H-128  
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OFFICE PHONE (214) 860-8839  

COURSE DESCRIPTION: This course examines cell structure and function, tissues, and the skeletal, muscular, and nervous systems. Emphasis is on structure, function, and the interrelationships of the human systems. This is a transferable course intended for those seeking to complete a Bachelor's Degree. Credit hours - 4. Contact hours - 3 Lecture, 3 Lab.

COURSE PREREQUISITES: Biology 1406

MATERIALS REQUIRED FOR INSTRUCTION:

REQUIRED:  
- Scantrons - Five 882E, Dissecting gloves  
- Notebook & dividers

SUGGESTED:  

COURSE OBJECTIVES: This course is divided into 4 units. All objectives are decided by the district curriculum committee and are based on The Texas Higher Education Coordinating Board (THECB) criteria. These objectives are measurable and/or observable and will be evaluated. Upon successful completion of this course, the listed lecture topics and laboratory activities will be mastered by the student and the student will be able to (orally or in writing) discuss the following:

<table>
<thead>
<tr>
<th>LECTURE TOPICS</th>
<th>LABORATORY ACTIVITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Chemistry, Organic Chemistry, &amp; Biochemistry</td>
<td>Demonstrated use of a microscope</td>
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<tr>
<td>Cell Replication, Protein Synthesis, Transcription, Translation</td>
<td>Application &amp; conversion of the metric system</td>
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<tr>
<td>Metabolism</td>
<td>Demonstrated understanding of osmosis &amp; diffusion</td>
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<tr>
<td>Anatomical Orientation</td>
<td>Identification of the phases of the cell cycle and mitosis</td>
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<tr>
<td>Tissues</td>
<td>Application of Anatomical Orientation terms</td>
</tr>
<tr>
<td>Integumentary/Skin</td>
<td>Identification of the integumentary system</td>
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<tr>
<td>Articulations/Joints</td>
<td>Identification of selected tissues</td>
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<tr>
<td>Skeletal system</td>
<td>Identification of selected bones, bone parts, &amp; joints</td>
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<tr>
<td>Muscular system</td>
<td>Identification of selected cat and human muscles</td>
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<tr>
<td>Nervous system</td>
<td>Identification of neural tissue</td>
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<tr>
<td>Related endocrine functions</td>
<td>Dissection of mammalian brain and eye</td>
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<td>Examination of the special senses</td>
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</tbody>
</table>

STUDENT LEARNING OUTCOMES:

1. Students will be able to follow and explain the sequence of events in the following biological processes: diffusion, osmosis, cellular respiration, mitosis, DNA replication, protein synthesis (transcription and translation), muscle contraction and neural impulse conduction.

2. Students will be able to demonstrate the proper use of scientific equipment and technology to carry out a scientific investigation including the proper use of the microscope and metric conversions.

3. Students will be able to collect data, analyze data and apply that knowledge to interpret test results and evaluate a mock patient for a possible disease.

4. Students will correctly identify specimen, articulations, designated bones and bone parts, neural tissue, and designated muscles on both the human and cat.

5. Students will present an oral and written assignment to the class over a global health care issue.

CORE OBJECTIVES

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

CLASS PROCEDURES – Successful completion of this course should be accomplished if you do the following:

1. Participation: attend and actively participate in lecture/lab (read the class notes before class, take notes, & sketch diagrams during class, ask questions, & study the notes after class daily)

2. Use eCampus: print material, answer all lecture quizzes after the lectures & utilize all the lecture and lab review material.

3. Create your own study guides for the lecture and lab exams: Use lab manual and textbook, lectures, and internet information and images.

4. Notebook: the notebook should have all course material organized and available. Ex. a table of contents, dividers, course material, & study guides

5. Assignments: To receive credit for your work, you must have YOUR NAME, COURSE & SECTION, STUDENT ID#, DATE, AND INSTRUCTOR'S NAME ON ALL ASSIGNMENTS, and it must handed in by the deadline. LATE WORK IS NOT ACCEPTED.

6. Exams: Lecture exams must be taken on or before the exam deadline. MAKE UP EXAM POLICY: In the event of a missed exam the instructor must be notified within 24 hours of the scheduled exam. If the faculty is not notified the student will receive a zero.
EVALUATION PROCEDURES: THE FINAL GRADE IS BASED UPON THE FOLLOWING:
70% LECTURE EXAMS
25% LAB EXAMS
5% ASSIGNMENTS (LATE WORK IS NOT ACCEPTED)

1. LECTURE & LABORATORY: ATTENDANCE IS MANDATORY
   - Attendance is taken at the beginning of each class period. Instructions are given at the beginning of each lab and WILL NOT be repeated.
   - Instructor Attendance Policy: Students are expected to attend every class and have the responsibility to inform the instructor when an absence occurs. If you must leave class early, you should inform the instructor prior to the start of class.
   - Prohibited behavior: Eating and/or drinking and open-toed shoes are not allowed in the classroom/lab at any time.
   - Dissections and labs using chemicals require gloves, lab coat, and goggles. Please purchase gloves before class.
   - Material safety data sheets (MSDS), required by the Occupational, Safety, and Health Administration (OSHA) are available for all students to observe upon request.
   - Technology: Please be courteous and respectful. Do not have your cell phones out during class (leave them on vibrate). Texting is not allowed in class. Also, when using your computer in class, please do not check social media until after class.
   - Due to insurance and district policy children are not allowed in the laboratory or unsupervised on campus at any time.

2. STUDY MATERIAL: Print all unit material before unit begins.
   - Notes: Print the lectures. The exams will strongly reflect the information from your notes, lectures, and discussions.
   - Lecture Quizzes: PLEASE PRINT OUT ALL QUIZZES ON ECAMPUS and bring to class. Quizzes will be reviewed during class.
   - Lab Material & Reviews: print off all lab material
   - Reviews: Print off both the lecture and lab reviews for each unit. The review vocabulary list should be utilized to develop your study guides. If you know the review information, you should do very well on the test.

3. LECTURE EXAMS:
   - Several lecture exams will be given in the Testing Center (S-2101), the final lecture exam will be administered in the classroom. The Testing Center’s hours are posted on the lab doors or you may call 214-860-8571 for open hours. When using the Testing Center, you will need a student I.D., #2 pencils, and the proper Scantron form (#882E). You MUST use the proper Scantron form.
   - Exams must completed by the deadline on the course calendar. MAKE-UP POLICY: if an exam is missed the instructor must be notified within 24 hours of the deadline.
   - Curves: to receive a curve, you must turn in an organized notebook with the follow:
     - Unit 1 – Unit I material, Unit I study guide, and a degree plan.
     - Unit 2 – Unit II material, Unit II study guide, and degree timeline (guide on the internet)
     - Unit 3 – Unit III material, Unit III study guide, and Loss of the Curve – answer mock interview question
     - Failure to turn in the notebook and marking on the exams will result in the loss of the class curve on your exam. In addition, unexcused absences, habitual lateness, missing deadlines, and lack of participation can also result in the loss of the class curve.

4. LAB EXAMS: Laboratory examinations are given in class. Lab exams MUST be taken during the scheduled lab exam time. There is a one-hour time limit for lab exams.

5. GRADE POSTING: Grades will be posted on eCampus. eCampus: Go to the website: http://ecampus.dcccd.edu. Your login is an “e” and your seven digit student identification number (example: e1234567). Your password will be the same as your login. It is strongly suggested that you change your password. If you are having difficulties please let me know. Final grades will be on eConnect.

6. INTERNET/RESEARCH ASSIGNMENT: 5% ASSIGNMENTS
   - Assignment – Case Study. Further instructions will be posted on eCampus.
   - Writing Assignment – Family Survey. Further instructions will be posted on eCampus.

7. INSTITUTIONAL POLICIES: www.mountainviewcollege.edu/syllabipolicies
# UNIT #1 SUMMARY

**LECTURE NOTES:** STUDY THE UNIT 1 LECTURE NOTES ON ECAMPUS

**SUPPORT INFORMATION:** TEXTBOOK CHAPTERS 2 & 3

**LECTURE EXAM 1:** CHEMISTRY, BIOCHEMISTRY, CELLS, MEMBRANE FUNCTION, MITOSIS, DNA, RNA, PROTEIN SYNTHESIS. PURCHASE ONE #882ES SCANTRON

**LABORATORY EXAM:** SAFETY, MICROSCOPE, METRIC PROBLEMS, OSMOSIS, MITOSIS, MEMBRANE FUNCTION, CELLS, PROTEIN SYNTHESIS... EXAM ANSWER SHEET WILL BE PROVIDED. SHORT ANSWER AND CALCULATIONS. YOU WILL NEED A CALCULATOR. 30 TOTAL QUESTIONS

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# UNIT #2 SUMMARY

**LECTURE NOTES:** STUDY THE UNIT 2 LECTURE NOTES ON ECAMPUS

**SUPPORT INFORMATION:** TEXTBOOK CHAPTERS 1, 4, 5, & 6

**LECTURE EXAM 2:** ANATOMICAL ORIENTATION, ANATOMICAL TERMINOLOGY, INTEGUMENTARY SYSTEM, TISSUES & SKELETAL SYSTEM, PURCHASE ONE #882ES SCANTRON.

**LABORATORY EXAM 2:** UNDER CONSTRUCTION. ANATOMICAL ORIENTATION, ANATOMICAL TERMINOLOGY, INTEGUMENTARY SYSTEM, TISSUES, SKELETAL SYSTEM. PURCHASE ONE #882ES SCANTRON. 68 QUESTIONS

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# UNIT #3 SUMMARY

**LECTURE NOTES:** STUDY THE UNIT 3 LECTURE NOTES ON ECAMPUS

**SUPPORT INFORMATION:** TEXTBOOK CHAPTERS 8, 1, & 10

**LECTURE EXAM 3:** ARTICULATIONS & MUSCULAR SYSTEM, ARTICULATIONS. PURCHASE ONE #882ES SCANTRON.

**LABORATORY EXAM 3:** JOINT MOVEMENT & MUSCULAR SYSTEM. PURCHASE ONE #882ES SCANTRON. 64 QUESTIONS

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# UNIT #4 SUMMARY

**LECTURE NOTES:** STUDY THE UNIT 4 LECTURE NOTES ON ECAMPUS

**SUPPORT INFORMATION:** TEXTBOOK CHAPTERS 12, 13, 14, & 16

**LECTURE EXAM 4:** NERVOUS SYSTEM. PURCHASE ONE #882ES SCANTRON.

**LABORATORY EXAM 4:** NEURON, SPINAL CORD, SPINAL MENINGES, BRAIN, CRANIAL NERVES, SPECIAL SENSES (EYE, EAR, TONGUE, NOSE). PURCHASE ONE #882ES SCANTRON. 68 TOTAL QUESTIONS
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<thead>
<tr>
<th>TUESDAY</th>
<th>THURSDAY</th>
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<tbody>
<tr>
<td>1/22 LEC: ORIENTATION</td>
<td>1/24 LEC: CHEMISTRY</td>
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<tr>
<td>LAB: LAB SAFETY &amp; MSDS VIDEO, <a href="http://www.texashotjobs.org">http://www.texashotjobs.org</a></td>
<td>LAB: METRICS, HANDOUT AND MICROSCOPE RULES AND REVIEW</td>
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<tr>
<td>1/29 LEC: BIOCHEMISTRY/ORGANIC CHEMISTRY &amp; CELLS</td>
<td>1/31 CENSUS DATE: 2/4</td>
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<tr>
<td>LAB: MICROSCOPE RULES, LABELING, FOCUSING, STORAGE</td>
<td>LEC: CELL CYCLE</td>
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<td>LAB: MEMBRANE FUNCTION, NOTEBOOK CHECK-OFF</td>
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<tr>
<td>2/5 LEC: MITOSIS, DNA &amp; RNA INTRODUCTION</td>
<td>2/7 LEC: DNA &amp; RNA &amp; PROTEIN SYNTHESIS</td>
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<tr>
<td>LAB: MITOSIS</td>
<td>LAB: PROTEIN SYNTHESIS—HANDOUT ASSIGNMENT</td>
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<tr>
<td>Complete all quizzes and check with study group</td>
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<tr>
<td>2/12 UNIT I LAB EXAM – IN CLASS</td>
<td>2/14 UNIT I LECTURE EXAM – IN CLASS</td>
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<tr>
<td>2/19 LEC: INTRO TO ANATOMICAL ORIENTATION/TISSUES</td>
<td>2/21 LEC: TISSUES</td>
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<tr>
<td>LAB: ANATOMICAL ORIENTATION</td>
<td>LAB: TISSUE SLIDES</td>
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<tr>
<td>2/26 LEC: INTEGUMENTARY SYSTEM</td>
<td>2/28 HOLIDAY</td>
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<tr>
<td>LAB: TISSUE SLIDES, INTEGUMENTARY SYSTEM, &amp; SKELETAL DIAGRAMS</td>
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<td>ASSIGNMENT: DUE</td>
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<tr>
<td>3/5 LEC: SKELETAL SYSTEM I</td>
<td>3/7 LEC: SKELETAL SYSTEM II</td>
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<tr>
<td>LAB: SKELETAL SYSTEM ID– MODELS</td>
<td>LAB: SKELETAL SYSTEM ID– MODELS, NOTEBOOK CHECK-OFF</td>
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<tr>
<td>SPRING BREAK 3/11-3/15</td>
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<td>UNIT II LECTURE EXAM – TESTING CENTER</td>
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<tr>
<td>3/26 LEC: ARTICULATIONS/JOINTS</td>
<td>3/28 LEC: MUSCLE TERMS</td>
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<tr>
<td>LAB: JOINTS; CONTINUE SKELETAL ID</td>
<td>LAB: MUSCLE DIAGRAMS</td>
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<tr>
<td>HW: BEGIN MUSCLE DIAGRAMS</td>
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<tr>
<td>4/2 LEC: MUSCLE SYSTEM I</td>
<td>4/4 LEC: MUSCLE SYSTEM II</td>
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<tr>
<td>LAB: DISSECTION - MUSCLE ID, NOTEBOOK CHECK-OFF</td>
<td>LAB: DISSECTION - MUSCLE IDENTIFICATION</td>
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<tr>
<td>4/9 LEC: MUSCLE SYSTEM II</td>
<td>4/11 UNIT III LAB EXAM 4/12</td>
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<tr>
<td>LAB: MOCK TISSUE, BONES &amp; MUSCLE EXAM,</td>
<td>UNIT III LECTURE EXAM – TESTING CENTER</td>
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<tr>
<td>HW: MUSCLE CONTRACTION PROCESS PAPER &amp; QUIZZES</td>
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<td>4/16 LEC: NERVOUS SYSTEM I – CNS AND PNS</td>
<td>4/18 LEC: NERVOUS SYSTEM II - NEURONS, SPINAL CORD, &amp; SPINAL NERVES</td>
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<tr>
<td>LAB: DIAGRAMS &amp; MODELS</td>
<td>LAB: BRAIN AND EYE DIAGRAMS &amp; MODELS</td>
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<td>LAST DAY TO WITHDRAW WITH A “W” 4/17/19</td>
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<tr>
<td>LAB: BRAIN &amp; EYE DISSECTION</td>
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<tr>
<td>4/30 LEC: CRANIAL NERVES</td>
<td>5/2 LEC: SPECIAL SENSES</td>
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<tr>
<td>LAB: SENSORY LAB, NOTEBOOK CHECK-OFF</td>
<td>LAB: LAB REVIEW</td>
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<tr>
<td>5/7 LEC: BRAIN</td>
<td>5/9 LEC: QUIZZES</td>
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<tr>
<td>LAB: MODELS</td>
<td>LAB: MOCK LAB EXAM</td>
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<tr>
<td>5/14 UNIT IV - LAB EXAM</td>
<td>5/16 UNIT IV LECTURE EXAM - IN CLASS</td>
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