Biology 123.501 / Bio 123.500 – Human Biology (online)

Instructor: Dr. Robert Wiggers, Dept. Biology
Office: Room 204 Miller Science Building, 468-2147, rwiggers@sfasu.edu
Office Hours: MWF 11:00 – 12:00; 2:00 – 3:00 or by appointment
Supp. Materials: Access to MasteringBiology website; Access to D2L

Course Description: Three semester hours, three hours lecture per week. Biological principles for non-science majors. Study of the evolution of man, organ systems, and the human organism. May not be used to meet graduation requirements of students majoring in the College of Sciences and Mathematics.

Pre-requisites: TSI compliance in English & Reading
Co-requisite: BIO 123L

Program Learning Outcomes: There are no specific program learning outcomes for this major addressed in this course. It is a general education core curriculum course and / or a service course.

General Education Core Curriculum Objectives / Outcomes:
- Core Objective 1. Critical Thinking: to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information. (SLO's 2 – 6)
- Core Objective 2. Communication Skills: to include effective development, interpretation and expression of ideas through written, oral and visual communication. (SLO – 5)
- Core Objective 3. Empirical and Quantitative Skills: to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions. (SLO – 3)

Student Learning Outcomes:
- SLO – 1: Demonstrate an understanding of the scientific process by designing experiments that address a testable hypothesis (CO #1)
- SLO – 2: An understanding of the basic human organ systems, including their anatomy and physiology, their control, and their function in the whole organism context (CO #1)
- SLO – 3: Use quantitative reasoning to interpret and draw conclusions from data collected during laboratory exercises and supplemental readings in lecture (CO #1 & #3)
- SLO – 4: An understanding of how humans interact with and impact the ecosystem (CO #1)
- SLO – 5: Be able to present collected scientific data in a meaningful and clear fashion, in both written and oral form (CO #1 & #2)

What you need for this course:
- Access to D2L: It is here that you will find the course units, content modules, and exams.
- Mastering Biology website access: this is a publisher supported website. You will be required to complete homework assignments corresponding to each D2L content module on this website. Instructions for accessing Mastering Biology and establishing an account can be found on the D2L within the "Introductory Material" module. Once you have established an account, you will have access to the homework assignments.
Course Description:

BIO 123 is a biological principles course for non-science majors. Human Biology Lab (BIO 123L) is a co-requisite with BIO 123. This course is designed to give you an introduction to human biology, both at the cellular and organismal level. I have broken down all content modules into one of three broad categories:

1. **Molecules to Organs (Unit 1):** We begin with material describing the various types of molecules required for a cell to function properly. You will be introduced to the components of a cell and their function. Important processes that allow a cell to survive, grow, and divide will be introduced. When you are finished with this material, you will
   - Be able to describe the basic types of biological molecules and their function
   - Be able to describe the components of a cell, their function, and cellular processes
   - Be able to list and describe the different types of cells and their function
   - Be able to describe how the body is organized

2. **Organ Systems (Unit 2, Unit 3, and Unit 4, content modules 1 & 2).** You will be introduced to the human body's (11) different organ systems. When you are finished with this material, you will
   - Be able to describe the structure and function of all human organ systems
   - Be able to discuss some of the basic disorders that may arise in each organ system

3. **Organismal Biology (Unit 4, content modules 3 & 4, Unit 5):** You will be introduced to the processes that allow the human organism to function as a whole and interact with our environment. When you are finished with this material you will
   - Be able to properly use biological terminology as it pertains to the whole organism
   - Be able to list and describe the processes involved in the central dogma
   - Be able to describe the processes involved in human reproduction & Inheritance
   - Be able to discuss evolutionary theory and how it pertains to human evolution.

The topic list on the next pages shows this in more detail
The topic list below shows how the (3) broad topics are distributed among the online course units and content modules. More detailed assignments are given in the semester calendar.

<table>
<thead>
<tr>
<th>D2L Unit</th>
<th>D2L Content Module</th>
<th>Book Chapters</th>
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</thead>
<tbody>
<tr>
<td>Molecules to Organs: (25%) of course material</td>
<td>Content Module 1: Chemistry of Living Things</td>
<td>2</td>
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<tr>
<td>Unit 1</td>
<td>Content Module 2: Structure &amp; Function of Cells</td>
<td>3</td>
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<td></td>
<td>Content Module 3: From Cells to Organ Systems</td>
<td>4</td>
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<tr>
<td>Unit 2</td>
<td>Content Module 1: The Skeletal System</td>
<td>5</td>
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<td></td>
<td>Content Module 2: The Muscular System</td>
<td>6</td>
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<td></td>
<td>Content Module 3: The Nervous System: Integration &amp; Control</td>
<td>11</td>
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<td></td>
<td>Content Module 4: Sensory Mechanisms</td>
<td>12</td>
</tr>
<tr>
<td>Organ Systems: (50%) of course material</td>
<td>Content Module 1: Blood</td>
<td>7</td>
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<tr>
<td>Unit 3</td>
<td>Content Module 2: Heart &amp; Blood Vessels</td>
<td>8</td>
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<tr>
<td></td>
<td>Content Module 3: The Immune System &amp; Mechanisms of Defense</td>
<td>9</td>
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<td></td>
<td>Content Module 4: The Respiratory System: Exchange of Gases</td>
<td>10</td>
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<td>Content Module 5: The Digestive System &amp; Nutrition</td>
<td>14</td>
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<tr>
<td>Unit 4</td>
<td>Content Module 1: The Urinary System</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Content Module 2: The Endocrine System</td>
<td>13</td>
</tr>
<tr>
<td>Organismal Biology: (25%) of course material</td>
<td>Content Module 3: Cell Reproduction &amp; Differentiation</td>
<td>17</td>
</tr>
<tr>
<td>Unit 4</td>
<td>Content Module 4: Human Reproduction &amp; Development</td>
<td>16 &amp; 21</td>
</tr>
<tr>
<td>Unit 5</td>
<td>Content Module 1: Genetics &amp; Inheritance</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>Content Module 2: Cancer: Uncontrolled Cell Division &amp; Differentiation</td>
<td>18</td>
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<tr>
<td></td>
<td>Content Module 3: Evolution &amp; The Origins of Life</td>
<td>22</td>
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Note that unit 4 has content modules that cover both “Organ Systems” and some of “Organismal Biology”.

Wiggers, Bio 123.500 and BIO 123. 501, online p.3
Determination of Bio 123 Grade

Your performance in BIO 123 will be assessed by the means of:

(1). Exams: After the completion of each unit, you will take an exam over the covered content modules. Information necessary to successfully complete this exam will come from information in the D2L content modules, your reading of the textbook, and knowledge gained from completing the assigned homework on Mastering Biology. While the exam will become visible on the date the unit opens (see semester calendar), you will not be able to access the exam until you complete ALL content module activities within the unit. You are considered to have completed all the content module activities when the content module checklist is completed – in other words, you must check off all activities on each checklist before you can actually open and take the exam. Your scores on these exams will be averaged to give you an "Exam Average". Remember, although you are required to score a 100% on the "Syllabus Quiz" to proceed through the course, it will not factor in to this "Exam Average". If you are unable to take an exam due to a University recognized excused absence (illness with Dr. s note, family emergency, on a University sponsored trip) you have 24 hours, from the closure time of the exam, to notify me and provide evidence of an approved absence. In this case, a make-up period will be defined for you to take the exam.

(2). Homework: These are online exercises accessed through the "Mastering Biology" website that accompanies the text. There is a homework assignment that covers each content module and the due dates are listed in the semester calendar. The grading policy regarding homework is given on the website, but in a nutshell:

- You have unlimited attempts on a question, however, every incorrect answer (before your final correct response) on a multiple choice, T/F, or matching question, will result in a 2% reduction in the points received for that question. Incorrect responses on short answer questions will not result in any loss of points (this avoids misspellings or mis-interpretations); if there are any issues with the short answer questions Mastering Biology routes them to me to manually check them.
- You will be able to go back and look at all the homework as you study for quizzes.

Your scores on the homework assignments, excluding the introductory assignment, will be averaged to give you a "Homework Average".

The "Exam Average" and "Homework Average" will count equally in the determination of your BIO 123 grade:

\[
Biology\ 123\ grade = \frac{(exam\ average) + (homework\ average)}{2}
\]

Determination of BIO 123 and BIO 123L Common Grade

A single common grade will be assigned for both BIO 123 and BIO 123L. This grade will be determined by combining the grades earned in BIO 123, BIO 123L, and then assigning this single common grade for both courses. Shown below is how the grades earned in BIO 123 and BIO 123L will be combined:

\[
Biology\ 123\ common\ grade = \frac{(2)(BIO\ 123\ grade) + (BIO\ 123L\ grade)}{3}
\]

You will note that BIO 123 contributes 67% of the common grade while BIO 123L contributes 33%. Letter grades will be assigned on the following basis:

<table>
<thead>
<tr>
<th>Percentage Grade</th>
<th>Letter Grade assigned as Common Grade</th>
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<tbody>
<tr>
<td>90 – 100%</td>
<td>A</td>
</tr>
<tr>
<td>80 – 89%</td>
<td>B</td>
</tr>
<tr>
<td>70 – 79%</td>
<td>C</td>
</tr>
<tr>
<td>60 – 69%</td>
<td>D</td>
</tr>
<tr>
<td>0 – 59%</td>
<td>F</td>
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</tbody>
</table>
Expectations for Students in BIO 123 online

1. **Technical Preparation:** The technical nature of the course demands preparation on your part. Students should submit all assignments early enough to account for technical difficulties. In the event of a technical catastrophe (e.g., the university's main fiber optic line gets severed, a hurricane floods telecommunications hubs in Houston, the D2L server goes down, etc.—all of these things have happened), please do not inundate the Biology Department with phone calls. I will communicate with the class as soon as is technically possible.

2. **Technology Requirement:** As you have elected to enroll in an online course, it is your responsibility to acquire a consistent, stable, dependable computer and internet connection with which to complete the assignments for the course by the deadlines indicated on the Semester Calendar. It is not the responsibility of the instructor to provide additional time for assignments or exams or an alternative means of completing the course due to technological issues on your part. Just as it is your responsibility to acquire and maintain adequate transportation to attend a face-to-face course, it is your responsibility to secure the technological means to participate in and complete this course. If you are having technical issues with D2L, please call the student help line at 936-468-1919 or e-mail at d2l@sfasu.edu. Live support is available from 8 am CST to 5 pm CST, Monday through Friday. Additional information can be found on the SFA online website. It is your responsibility to ensure you are able to access Mastering Biology. For technical issues, please contact their student support services from the Mastering Biology website.

3. **This course is not self-paced.** It is your responsibility to read and analyze the information in each module, participate in the module activity, and complete any pertinent assignments by the due date(s). This course demands a high degree of student involvement. You are not sitting in a lecture hall listening to me three hours each week. Instead, you must discipline yourself to (a) devote the time you normally would spend in the classroom to being logged in to this online class and digesting the week's material, and (b) study a respectable amount in addition to the "in-class" time. Most universities recommend that for every hour a student spends learning in the classroom, he/she spend three hours studying outside of class. Thus, as this is a three-hour course, you should expect to spend roughly nine hours a week reading, analyzing, synthesizing, studying, and completing assignments. Online learning is far more active than traditional lectures and requires much more self-discipline.

4. **You should be logging onto D2L on a regular basis.** In addition to the detailed course calendar, all assignments are entered into the D2L calendar.

5. **Due dates are firm.** Late assignments are not accepted. Once an assignment or exam is closed, it will not be re-opened (see excused absence explanation above regarding make-up exams).

**E-mail Policy:**

I will be periodically communicating with you via e-mail. I use your D2L accounts & addresses for this purpose. It is your responsibility to check your e-mail regularly and, if you have your D2L account forwarded to some secondary account, to be certain this is not full and can receive messages. I check my e-mail once a day between 8 and 8:30 am when I arrive at my desk. I will answer e-mails as quickly as is feasible. E-mail should be considered a form of professional communication; as such, all e-mail messages should contain proper spelling and grammar. If I can't figure out what you are asking, I can't help you (this happens more often than you might expect). I do not check e-mail in the evenings or weekends.

**Phone Policy:**

If you wish to speak with me via phone, do so during office hours as I cannot return all phone calls.
Academic Integrity

Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism.

Definition of Academic Dishonesty
Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one's paper without giving the author due credit. Please read the complete policy.

Withheld Grades
Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average.

The circumstances precipitating the request must have occurred after the last day in which a student could withdraw from a course. Students requesting a WH must be passing the course with a minimum projected grade of C. Please read the complete policy.

Students with Disabilities
To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, see the disability services web page.

Acceptable Student Behavior
Behavior should not interfere with the instructor's ability to conduct the class (online or face to face) or the ability of other students to learn from the instructional program (see the Student Conduct Code). Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may have their access restricted or suspended and may be subject to judicial, academic or other penalties. This prohibition applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate / inappropriate in an instructional program. Students who do not log on to D2L regularly or who perform poorly on class projects / exams may be referred to the Early Alert Program. This program provides recommendations for resources or other assistance that is available to help SFA students succeed.