

COURSE SYLLABUS

COURSE TITLE:	Anatomy and Physiology II	PREFIX & NUMBER:	BIO 211
LECTURE HOURS:		LAB HOURS:	
(Summer)	4.5	(Summer)	4.5
(Fall & Spring)	3.0	(Fall & Spring)	3.0
CONTACT HOURS:			
(Summer)	9.0		
(Fall & Spring)	6.0	CREDIT HOURS:	4.0

CATALOG DESCRIPTION:

This course is a continuation of BIO 210 and includes the study of blood, heart, circulatory, lymphatic, respiratory, digestive, urinary and reproductive systems. Development and inheritance also are presented.

Prerequisites: BIO 210, recent college chemistry and/or biology strongly recommended; medical terminology strongly recommended.

TEXTBOOKS AND OTHER REQUIRED MATERIALS:

- Martini. (2006). *Fundamentals of Anatomy and Physiology* (7th or 8th ed.). Benjamin/Cummings. For help with online resources, contact the publisher's representative, Susan Coughlin, phone: 971-3679.
- *InterActive Physiology 9-System Suite CD* (comes with new textbook). For help with using or to separately purchase this CD, contact the publisher's representative, Susan Coughlin (see above).
- **Computer access** that can run: (1) the *InterActive Physiology CD*, above, and (2) CampusCruiser from its website, link at www.tridenttech.edu. Beyond online help for TTC CampusCruiser, contact Harvey Byrd, phone: 574-6212, Bldg.200/Rm.221. **Online lectures** have more requirements, and online students must contact their instructor by the semester's first day (listed next to each online section in the current "On Course").
- Marieb & Mitchell. (2009). *Human Anatomy and Physiology Laboratory Manual: Fetal Pig Version* (9th ed.). Benjamin/Cummings.
- Seiger (2009). *Study guide to Accompany Fundamentals of Anatomy and Physiology* (8th ed.). In a 2006 study, students that regularly practiced problems from the study guide increased their performance by 7-10%.
- Additional support materials are also in the TTC Bookstore; e.g., flashcards, anatomy coloring books, etc.
- **Learning Center**, Bldg. 920/Rm. 211, phone: 574-6409 – For help more effectively studying from textbooks or other reading strategies, please call and make an appointment with a specialist at the learning center. Free tutors are often available for help with BIO 211 concepts, just call to make an appointment.

DISSECTION EQUIPMENT:

Each student is responsible for securing instruments for the dissecting of preserved materials (sheep heart, fetal pig, ox eye). This requirement may be met by individual or group (not more than three students) purchase of instrument kits. In addition, each student must supply his/her own lab coat or other overgarment (such as a large shirt). Students are required to purchase safety glasses and latex gloves to provide protection during laboratory dissections.

CORE COMPETENCIES

All courses approved for the general education core curriculum develop a student's critical thinking and/or communication skills. Students will demonstrate achievements by assessments on the departmental final exam and on testing developed by individual instructors.

This course develops critical thinking skills through instructions that emphasize the understanding of the scientific disciplines of human anatomy and physiology. The student will demonstrate ability to:

- apply standard scientific methods and interpret laboratory observations and data;
- make inferences, predictions or interpretations justified by data and observations;
- apply anatomy and physiology concepts to solving clinical case studies;
- explain relevance of findings to anatomical principles, physiological principles, or expected results;
- identify key assumptions of anatomy and physiology;

This course develops communication skills through instruction that emphasizes presentation of anatomical and physiological ideas in discipline specific, appropriate, and clear language. The student will demonstrate ability to:

- explain concepts of anatomy and physiology, using clear, appropriate, well-reasoned, and precise terminology in keeping with established professional usage
- discuss relevant implications, consequences, and uses for anatomical and physiological principles.

COURSE OBJECTIVES:

Upon the successful completion of this course, the student should be able to, either orally or in writing, and without the use of outside references, complete each of the following objectives.

1. Describe the organs and processes involved in the chemical and mechanical digestion of carbohydrates, lipids and proteins.
2. Describe the structure of the lungs and the mechanics of breathing, exchange of respiratory gases and the regulation of respiration.
3. Describe the composition and functions of the blood, structure of the heart and blood vessels, and the regulation of blood pressure and flow.
4. Describe the organization of the lymphatic system and its role in providing immunity against disease.
5. Describe the structure and function of the urinary organs in the elimination of wastes and in homeostasis of body fluid.
6. Identify the major reproductive structures of the human body and describe the function of each in controlling male and female physiology.
7. Identify the various receptors of the general and special senses and describe their functions.

GRADING SYSTEM AND POLICY:

<p>Grading is accomplished by combining all points which you have earned for lecture exams, quizzes, laboratory assignments/practicals and converting this sum to a percentage score. Typically examination points will be generated according to the following scheme.</p> <p>(See attendance policies.)</p> <p>Fall/Spring Semester:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 80%;"></th> <th style="text-align: right; width: 20%;">Points</th> </tr> </thead> <tbody> <tr> <td>Lecture: 4 Exams (100 pts each).....</td> <td style="text-align: right;">400</td> </tr> <tr> <td>Quizzes:.....</td> <td style="text-align: right;">200</td> </tr> <tr> <td style="padding-left: 20px;">Lab (100 pts.); Lec (100 pts.)</td> <td></td> </tr> <tr> <td>Lab Practicals: 2 Practicals (100 pts each)</td> <td style="text-align: right;">200</td> </tr> <tr> <td>Final: 1 Comprehensive Final.....</td> <td style="text-align: right;"><u>150</u></td> </tr> <tr> <td>Total</td> <td style="text-align: right;">950</td> </tr> </tbody> </table> <p>Fall/Spring - 950 points</p> <table style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="text-align: right;">950</td> <td style="text-align: center;">-</td> <td style="text-align: right;">860</td> <td style="text-align: center;">=</td> <td style="text-align: center;">A</td> <td style="text-align: center;">=</td> <td style="text-align: right;">91%</td> </tr> <tr> <td style="text-align: right;">859</td> <td style="text-align: center;">-</td> <td style="text-align: right;">765</td> <td style="text-align: center;">=</td> <td style="text-align: center;">B</td> <td style="text-align: center;">=</td> <td style="text-align: right;">81%</td> </tr> <tr> <td style="text-align: right;">764</td> <td style="text-align: center;">-</td> <td style="text-align: right;">670</td> <td style="text-align: center;">=</td> <td style="text-align: center;">C</td> <td style="text-align: center;">=</td> <td style="text-align: right;">71%</td> </tr> <tr> <td style="text-align: right;">669</td> <td style="text-align: center;">-</td> <td style="text-align: right;">613</td> <td style="text-align: center;">=</td> <td style="text-align: center;">D</td> <td style="text-align: center;">=</td> <td style="text-align: right;">65%</td> </tr> <tr> <td style="text-align: right;">612</td> <td style="text-align: center;">-</td> <td style="text-align: right;">0</td> <td style="text-align: center;">=</td> <td style="text-align: center;">F</td> <td></td> <td></td> </tr> </tbody> </table>		Points	Lecture: 4 Exams (100 pts each).....	400	Quizzes:.....	200	Lab (100 pts.); Lec (100 pts.)		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The grade “I” represents incomplete work and is a temporary grade. In those rare instances where the grade of “I” may be requested, two conditions must be met: 1) Documented evidence of a family or medical emergency at the end of the term; 2) Student must be passing the course. A student with an incomplete must satisfactorily complete the course requirements by mid-term of the following semester (or Summer term) or the grade will be changed to an F.

Make-up Test Policy:

Test make-ups are strongly discouraged and will not generally be allowed unless the student can properly justify his/her absence with **WRITTEN JUSTIFICATION**. Make-ups that are allowed usually will be in essay form (not objective) and will be administered at the convenience of the Instructor. No more than one make-up is allowed. There are **NO MAKE-UPS** for the laboratory Practical and there is **NO EXTRA CREDIT** in this course. It is the student’s responsibility to seek out the Instructor to attempt a justified make-up within 1 week of the original test date.

NOTE:

At any time in the semester/term a student may determine how well he or she is progressing by dividing the number of points earned by the number of points attempted and multiplying the result by 100. For example, if a student has earned a total of 257 points by taking the first two lecture tests (worth 200 points) and the first lab practical (worth 100 points), the student's average grade would be 85.6% according to the following calculation.

$$\frac{\text{Points earned } 257}{\text{Points attempted } 300} \times 100 = .856 \times 100 = 85.6\%$$

LECTURE PREPARATION:

Specific course objectives are provided at the beginning of each chapter. These objectives are a type of instructional guide and should be referred to continually. The Campus Cruiser e-mail is the primary means of communication throughout the college. Please refer to your Campus Cruiser e-mail for additional information and instructions. Tentative lecture and lab schedules are attached to this syllabus. Assigned readings should be completed **PRIOR** to attending lecture or lab.

LABORATORY PREPARATION:

The laboratory schedule should be referred to regularly to determine what to read prior to arriving at lab each week. Laboratory exercises and answer sheets in the back of the laboratory manual should be completed by the end of each laboratory period. Much of the laboratory work is self-paced with oversight from the instructor. The laboratory textbook is the major information resource for lab exercises and the student will do well to read ahead in the lab text as well as the lecture text.

A laboratory practical exam will be given at midterm and at the end of the term. There will be **NO** make-up for a missed laboratory practical exam.

Proper care of the equipment is essential in the Biology department. The equipment may be expensive or difficult to replace. Students who fail to take care of equipment may be subject to disciplinary action and/or be barred from participation in laboratory.

As stated in the Student Handbook, children are prohibited from classes and labs.

For your safety, if you have a medical condition that results in seizures, blackout, etc. (e.g. from epilepsy, diabetes) please inform your instructor before the first laboratory session. This information will be kept confidential. If you wish to seek accommodations due to a disability, please contact Services for Students with Disabilities, Building 410, Room 210.

ACCOMMODATIONS FOR STUDENTS WITH SPECIAL NEEDS:

The College will make reasonable accommodations for persons with documented disabilities. Students should notify the Counselor for Students with Disabilities (located in Counseling and Career Development, Building 410, Room 210) and their instructors of any special needs. Instructors should be notified on the first day of classes.

FOR STUDENTS IN DISTANCE-LEARNING SECTIONS WITH AN ONLINE COMPONENT:

The student needs to confirm that he/she is actively involved in this course by contacting the instructor at least once a week. Methods of contact may include (but not limited to) posting/receiving emails, participating in online discussions or chat rooms, and completing and submitting course assignments. Please see the instructor's addendum for any additional instructions and participation requirements.

ELECTRONIC COMMUNICATION DEVICES IN CLASSROOMS:

To minimize classroom disruptions and protect the integrity of test-taking situations, activated electronic communication devices such as pagers and telephones are generally not permitted in classrooms at Trident Technical College. The only exception to this policy will be for on-call emergency personnel (police, fire, EMS), who will be required to notify their classroom instructor of their need for such devices at the beginning of the term and provide documentation verifying their occupation. However, on-call emergency personnel may not leave a testing situation; communicate by electronic means and return to complete an examination. In these cases, instructors should make arrangements for re-testing.

ATTENDANCE POLICY:

Before attending classes, you must meet all prerequisites and officially register for all courses. Prompt and regular attendance is your responsibility. You are responsible for all material covered and all assignments made in class. Any time you are absent from a class, laboratory or other scheduled events, it is your responsibility to make satisfactory arrangements for any make-up work permitted by the instructor.

An absence is defined as nonattendance for any reason, including illness, emergency or official leave. If you arrive late to class, you may not be allowed into the classroom and may be considered absent for that period. If you leave before the instructor dismisses class, you may also be considered absent. All class sessions are important. Any time you miss a class you increase your risk of making a failing grade. For example, some departments or individual instructors will count your class participation as a substantial percentage of your grade. Of course, if you are not in class, you will not get the necessary points for your class participation.

If you quit coming or participating in the course and do not officially withdraw by the withdrawal date for each semester, you will receive a grade of F or U. Your instructor cannot assign a grade of W. If you receive financial aid or veterans' aid, your aid may be revised as a result of any changes in your course schedule.

FACULTY AVAILABILITY:

Your instructor is available to you outside of class for academic assistance. Full-time faculty maintains and post regularly scheduled office hours. Part-time faculty is accessible in a variety of ways, which may include conferences before and after class or by appointment, telephone conferences, and E-mail. The phone number for contacting your instructor is provided on your syllabus addendum or cover sheet.

**LECTURE AND LAB SCHEDULE
9-WEEK SESSION**

Week	Lecture Chapter	Lab Exercise
1	17 Sensory Function	24 Vision 25 Equilibrium and Hearing 26 Taste/Olfaction
2	19 Blood 20 The Heart	29 Blood 30 Anatomy of the Heart 31 Conduction System of the Heart
3	20 The Heart 21 Blood Vessels	32 Anatomy of Blood Vessels
4	21 Blood Vessels 22 The Lymphatic System and Immunity	33 Cardiovascular Physiology 35 Lymphatic System
5	22 The Lymphatic System and Immunity	First Laboratory Practical Exam
6	23 The Respiratory System 24 The Digestive System	36 Anatomy of Respiratory System 38 Anatomy of the Digestive System
7	24 The Digestive System 25 Metabolism and Energetics	40 Anatomy of the Urinary System 42 Anatomy of the Reproductive System
8	26 The Urinary System 27 Fluid, Electrolyte & Acid-Base Balance 28 The Reproductive System	43 Physiology of Reproductive System 45 Principles of Heredity
9	28 The Reproductive System 29 Development and Inheritance	Second Laboratory Practical Exam

***LECTURE AND LAB SCHEDULES ARE TENTATIVE AND ARE SUBJECT TO CHANGE
WITH APPROVAL FROM THE DEPARTMENT HEAD OF BIOLOGICAL SCIENCES***

**LECTURE AND LAB SCHEDULE
14-WEEK SESSION**

Week	Lecture Chapter	Lab Exercise
1	17 Sensory Function	24 Vision 25 Equilibrium and Hearing 26 Taste/Olfaction
2	19 Blood	29 Blood
3	20 The Heart	30 Anatomy of the Heart 31 Conduction System of the Heart
4	21 Blood Vessels	32 Anatomy of Blood Vessels
5	22 The Lymphatic System and Immunity	33 Cardiovascular Physiology
6	22 The Lymphatic System and Immunity	35 Lymphatic System
7	23 The Respiratory System	First Laboratory Practical Exam
8	24 The Digestive System	36 Anatomy of Respiratory System 37 Respiratory System Physiology
9	24 The Digestive System 25 Metabolism and Energetics	38 Anatomy of the Digestive System
10	25 Metabolism and Energetics	40 Anatomy of the Urinary System
11	26 The Urinary System	42 Anatomy of the Reproductive System
12	27 Fluid, Electrolyte and Acid-Base Balance	43 Physiology of Reproduction
13	28 The Reproductive System	45 Principles of Heredity
14	29 Development and Inheritance	Second Laboratory Practical Exam

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