

# NORTH CENTRAL TEXAS COLLEGE

## COURSE SYLLABUS

<i>Course Title:</i>	BIOL 2402 Human Anatomy & Physiology II				
<i>Course Prefix &amp; Number:</i>	BIOL 2402	<i>Section Number:</i>	120 121	<i>Semester/Year:</i>	Summer II 2017
<i>Semester Credit Hours:</i>	4	<i>Lecture Hours:</i>	48	<i>Lab Hours:</i>	32
<i>Course Description (NCTC Catalog):</i>					
<p>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.</p>					
<i>Course Prerequisite(s):</i>					
<i>Required or Recommended Course Materials:</i>					
<p>REQUIRED:</p> <ul style="list-style-type: none"> <li>▪ Fundamentals of Anatomy &amp; Physiology 10th ed by Martini, Nath, and Bartholomew</li> <li>▪ NCTC AII Lab Manual – may be purchased in the campus bookstore</li> </ul> <p>RECOMMENDED</p> <ul style="list-style-type: none"> <li>▪ Gloves for dissections – gloves will not be provided for students in the lab; students must bring their own gloves if they wish to wear gloves during dissections; students will be required to participate in dissections</li> </ul>					

### INSTRUCTOR INFORMATION

<i>Name of Instructor:</i>	Sherry Smith
<i>Campus/Office Location:</i>	Gainesville Campus Room 419
<i>Telephone Number:</i>	940-668-7731 ext. 4350
<i>E-mail Address:</i>	<a href="mailto:sherrysmith@nctc.edu">sherrysmith@nctc.edu</a>

### OFFICE HOURS

Monday	Tuesday	Wednesday	Thursday	Friday
<b>BY APPOINTMENT ONLY DURING SUMMER SESSIONS</b>				

**STUDENT LEARNING OUTCOMES** (From Academic Course Guide Manual/Workforce Education Course Manual/NCTC Catalog)

*At the successful completion of this course the student will be able to:*

**Lecture Learning Outcomes**

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.

**Lab Learning Outcomes**

Upon successful completion of this course, 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.

**GRADING CRITERIA**

<i># of Graded Course Elements</i>	<i>Graded Course Elements</i>	<i>Percentage or Point Values</i>
24	<b>Unit Homework Assignments</b> - Each of the 4 lecture units will have 6 unit homework assignments (10 pts each); the lowest two unit assignments per each unit will be dropped; students may earn a maximum of 50 pts per unit from their top 5 unit homework assignments in each unit	200 pts
14	<b>Attendance Quizzes</b> (10 pts each) – Attendance quiz codes will be given to students who attend lecture to complete an online attendance quiz; 14 attendance quizzes will be administered; the lowest 4 will be dropped- The instructor will compare the attendance sign-in sheet with the submissions. Students who submit a quiz with attending will be given a 0. Students may earn a max 100 pts from attendance quizzes	100 pts

5	<p><b>Lecture Exams</b> - 4 Unit Exams will be administered (100 pts each); the one lowest unite exam is dropped; Exams will be administered on the computer in a proctored environment and will include a variety of question types to include but not limited to: multiple choice, true-false, multiple select, matching, short answer/essay</p> <p>A Comprehensive Final Exam (100 pts) will be administered – if a student scores higher on the comprehensive final it may replace the students lowest Lecture Unit Exam</p> <p>STUDENTS ARE NOT PERMITTED TO USE ANY AIDS OR RESOURCES ON THE EXAMS.</p>	400 pts
3	<p><b>Lab Exams</b> – 3 Lab Exams will be administered (75 pts each) - Exams will be administered on the computer in a proctored environment and will consist of fill-in-the-blank questions</p> <p>STUDENTS ARE NOT PERMITTED TO USE ANY AIDS OR RESOURCES ON THE EXAM.</p>	225 pts
20	<p><b>Lab Follow-Up Quizzes</b> - Students will submit 20 lab follow-up quizzes (5 pts each) in CANVAS; the five lowest assignments will be dropped; Quiz codes will be given in lab to students who attend the lab session. The instructor will compare the attendance sign-in sheet with the submissions. Students who submit a quiz with attending will be given a 0.</p>	75 pts

**OVERALL COURSE GRADES ARE DETERMINED AS FOLLOWS:**

A = 900 + total points

B = 800 – 899 total points

C = 700 – 799 total points

D = 600 – 699 total points

F = 0 – 599 total points

**EXTRA CREDIT IS NOT GIVEN**

- Bonus questions are made available on laboratory and lecture exams. These will be the students ONLY opportunity to acquire extra points in the course
- Extra Credit assignments are not given to ANY student for ANY reason

**MAKE-UP WORK AND EXAMS ARE NOT PERMITTED**

Students must contact the instructor immediately upon encountering issues (computer failure, course availability, etc.) if it is expected to interfere with upcoming deadlines.

Grades **WILL NOT** be given out over the phone or via personal email, nor will grades be discussed with any individual other than the student. All grades will be recorded in CANVAS, so students can monitor their grades using CANVAS grades.

**COURSE SUBJECT OUTLINE (Major Assignments, Due Dates, and Grading Criteria)**

<b>LECTURE UNIT 1</b>	<b>LECTURE UNIT 1 TOPICS COVERED</b>	
	<ul style="list-style-type: none"> <li>• The Endocrine System                             <ul style="list-style-type: none"> <li>○ Classes of hormones and Mechanisms of hormone action</li> <li>○ Hormones and hormone action of the pituitary gland, thyroid gland, parathyroid gland, adrenal glands, pancreas</li> <li>○ Organs that have secondary endocrine functions and their hormones</li> <li>○ Hormone interaction to produce coordinated physiological responses</li> </ul> </li> <li>• Blood                             <ul style="list-style-type: none"> <li>○ Functions of blood</li> <li>○ Components of blood (characteristics and functions); plasma and formed elements</li> <li>○ Blood types and blood typing</li> <li>○ Hemostasis</li> </ul> </li> <li>• The Heart                             <ul style="list-style-type: none"> <li>○ Structure and function of the heart</li> <li>○ Flow of blood through the heart</li> <li>○ The conducting system of the heart</li> <li>○ Cardiac cycle</li> <li>○ Cardiodynamics</li> </ul> </li> <li>• Blood Vessels and Circulation                             <ul style="list-style-type: none"> <li>○ Structure and function of blood vessels</li> <li>○ Capillary exchange</li> <li>○ Regulation of cardiovascular activity and Cardiovascular system response to stress</li> <li>○ Systemic and pulmonary circuits</li> <li>○ Fetal circulation and cardiovascular changes at birth</li> </ul> </li> </ul>	
	<b>UNIT 1 Assignments</b>	<b>DUE DATES</b>
	<b>UNIT 1 Unit Homework</b> <b>6 assignments (10 pts each) – two lowest dropped (50 pts Max)</b>	<b>July 16, 2017 @ 11:59 pm</b> <b>Submitted in CANVAS</b>
<b>UNIT 1 LECTURE EXAM</b> <b>Administered on the computer in a proctored environment (100 pts)</b>	<b>July 18, 2017</b> <b>Location TBA</b>	
<b>LECTURE UNIT 2</b>	<b>LECTURE UNIT 2 TOPICS COVERED</b>	
	<ul style="list-style-type: none"> <li>• The Lymphatic System                             <ul style="list-style-type: none"> <li>○ Structures and organs of the lymphatic system</li> <li>○ Innate immunity and Adaptive immunity</li> </ul> </li> <li>• The Respiratory System                             <ul style="list-style-type: none"> <li>○ Functions and structural organization of the respiratory system</li> <li>○ External respiration, internal respiration, pulmonary ventilation</li> <li>○ Mechanics of breathing</li> <li>○ Regulation of respiratory function</li> </ul> </li> </ul>	
	<b>UNIT 2 Assignments</b>	<b>DUE DATES</b>
	<b>UNIT 2 Unit Homework</b> <b>6 assignments (10 pts each) – two lowest dropped (50 pts Max)</b>	<b>July 23, 2017 @ 11:59 pm</b> <b>Submitted in CANVAS</b>
<b>UNIT 2 LECTURE EXAM</b> <b>Administered on the computer in a proctored environment (100 pts)</b>	<b>July 25, 2017</b> <b>Location TBA</b>	

<b>LECTURE UNIT 3</b>	<b>LECTURE UNIT 3 TOPICS COVERED</b>	
	<ul style="list-style-type: none"> <li>• The Digestive System <ul style="list-style-type: none"> <li>○ Structure and function of the digestive tract, pancreas, liver, and gallbladder</li> <li>○ Process of digestion</li> </ul> </li> <li>• Metabolism and Energetics <ul style="list-style-type: none"> <li>○ Carbohydrate, lipid, and protein metabolism</li> <li>○ Nutrition (food groups, vitamins, minerals, etc)</li> <li>○ Metabolic rate</li> <li>○ Thermoregulation</li> </ul> </li> </ul>	
	<b>UNIT 3 Assignments</b>	<b>DUE DATES</b>
	<b>UNIT 3 Unit Homework</b> <b>6 assignments (10 pts each) – two lowest dropped (50 pts Max)</b>	<b>July 30, 2017 @ 11:59 pm</b> <b>Submitted in CANVAS</b>
<b>UNIT 3 LECTURE EXAM</b> <b>Administered on the computer in a proctored environment (100 pts)</b>	<b>August 1, 2017</b> <b>Location TBA</b>	
<b>LECTURE UNIT 4</b>	<b>LECTURE UNIT 4 TOPICS COVERED</b>	
	<ul style="list-style-type: none"> <li>• The Urinary System <ul style="list-style-type: none"> <li>○ Functional organization of the urinary system</li> <li>○ Process of urine formation</li> <li>○ Regulatory mechanisms controlling urine production and concentrations</li> <li>○ Transport of urine to the bladder</li> <li>○ Micturation</li> </ul> </li> <li>• Fluid, Electrolyte, and Acid-Base Balance <ul style="list-style-type: none"> <li>○ Homeostatic mechanisms that regulate ion concentrations, volume, and pH of extracellular fluids</li> </ul> </li> <li>• The Reproductive System <ul style="list-style-type: none"> <li>○ Structure and function of male and female reproductive organs</li> <li>○ Spermatogenesis and oogenesis</li> <li>○ Hormonal regulation of the female cycle</li> <li>○ Male and female sexual function</li> </ul> </li> <li>• Development and Inheritance <ul style="list-style-type: none"> <li>○ Process of fertilization</li> <li>○ Events occurring during prenatal development</li> <li>○ Process of labor and delivery</li> <li>○ Feature and physiological changes of postnatal stages of life</li> <li>○ Basic principles of genetics</li> </ul> </li> </ul>	
	<b>UNIT 4 Assignments</b>	<b>DUE DATES</b>
	<b>UNIT 4 Unit Homework</b> <b>6 assignments (10 pts each) – two lowest dropped (50 pts Max)</b>	<b>August 6, 2017 @ 11:59 pm</b> <b>Submitted in CANVAS</b>
<b>UNIT 4 LECTURE EXAM</b> <b>Administered on the computer in a proctored environment (100 pts)</b>	<b>August 9, 2017</b> <b>Location TBA</b>	
<b>LECTURE ATTENDANCE QUIZZES</b>		<b>DUE DATES</b> <b>Submitted in CANVAS</b>
	<b>July 10 Attendance Quiz (10 pts)</b>	<b>July 11, 2017 @ 9:30 am</b>
	<b>July 11 Attendance Quiz (10 pts)</b>	<b>July 12, 2017 @ 9:30 am</b>

	July 12 Attendance Quiz (10 pts)	July 13, 2017 @ 9:30 am	
	July 13 Attendance Quiz (10 pts)	July 14, 2017 @ 9:30 am	
	July 17 Attendance Quiz (10 pts)	July 18, 2017 @ 9:30 am	
	July 19 Attendance Quiz (10 pts)	July 20, 2017 @ 9:30 am	
	July 20 Attendance Quiz (10 pts)	July 21, 2017 @ 9:30 am	
	July 24 Attendance Quiz (10 pts)	July 25, 2017 @ 9:30 am	
	July 26 Attendance Quiz (10 pts)	July 27, 2017 @ 9:30 am	
	July 27 Attendance Quiz (10 pts)	July 28, 2017 @ 9:30 am	
	July 31 Attendance Quiz (10 pts)	August 1, 2017 @ 9:30 am	
	August 2 Attendance Quiz (10 pts)	August 3, 2017 @ 9:30 am	
	August 3 Attendance Quiz (10 pts)	August 4, 2017 @ 9:30 am	
	August 7 Attendance Quiz (10 pts)	August 8, 2017 @ 9:30 am	
<b>LABORATORY ASSIGNMENTS</b>		<b>DUE DATES</b>	
		Submitted in CANVAS	
		<b>Section 110</b>	<b>Section 111</b>
<b>Lab Follow-Up Quizzes</b>	July 10, 2017 1) Endocrine System (5 pts Max)	7-11-17 @ 8:00 am	7-11-17 @ 12:00 pm
	July 11, 2017 2) Blood (5 pts Max)	7-12-17 @ 8:00 am	7-12-17 @ 12:00 pm
	July 12, 2017 3) Anatomy of the Heart (HUMAN) (5 pts Max) 4) Anatomy of the Heart (SHEEP) (5 pts Max)	7-13-17 @ 8:00 am	7-13-17 @ 12:00 pm
	July 13, 2017 5) Electrocardiography (5 pts Max)	7-14-17 @ 8:00 am	7-14-17 @ 12:00 pm
	July 17, 2017 6) Blood Vessels Part 1 (HUMAN) (5 pts Max) 7) Blood Vessels Part 1 (CAT) (5 pts Max)	7-18-17 @ 8:00 am	7-18-17 @ 12:00 pm
	July 18, 2017 8) Blood Vessels Part 2 (HUMAN) (5 pts Max) 9) Blood Vessels Part 2 (CAT) (5 pts Max)	7-19-17 @ 8:00 am	7-19-17 @ 12:00 pm
	July 19, 2017 10) Heart Sounds, Blood Pressure, and Pulse (5 pts Max)	7-20-17 @ 8:00 am	7-20-17 @ 12:00 pm
	July 25, 2017 11) Anatomy of the Respiratory System (HUMAN) (5 pts Max) 12) Anatomy of the Respiratory System (CAT) (5 pts Max)	7-26-17 @ 8:00 am	7-26-17 @ 12:00 pm
	July 26, 2017 13) Physiology of the Respiratory System (5 pts Max)	7-27-17 @ 8:00 am	7-27-17 @ 12:00 pm
	July 27, 2017 14) The Anatomy of the Digestive System (HUMAN) (5 pts Max) 15) The Anatomy of the Digestive System (CAT) (5 pts Max)	7-28-17 @ 8:00 am	7-28-17 @ 12:00 pm
	July 31, 2017 16) The Physiology of the Digestive System (5 pts Max)	8-1-17 @ 8:00 am	8-1-17 @ 12:00 pm

	<b>August 2, 2017</b> 17) The Urinary System (HUMAN) (5 pts Max) 18) The Urinary System (CAT) (5 pts Max)	<b>8-3-17 @</b> 8:00 am	<b>8-3-17 @</b> 12:00 pm
	<b>August 3, 2017</b> 19) Anatomy of the Reproductive System Part 1 (5 pts Max)	<b>8-4-17 @</b> 8:00 am	<b>8-4-17 @</b> 12:00 pm
	<b>August 7, 2017</b> 20) Anatomy of the Reproductive System Part 2 (5 pts Max)	<b>8-7-17 @</b> 8:00 am	<b>8-7-17 @</b> 12:00 pm
<b>Lab Exams</b>	<b>Lab Exam 1 (Endocrine system, Heart, Electrocardiography, Blood vessels, Heart Sounds, Blood pressure, and Pulse)</b> Administered on the computer in a proctored environment (75 pts)	<b>7-24-17 @</b> 8:00 am	<b>7-24-17 @</b> 12:00 pm
	<b>Lab Exam 2 (Respiratory System (anatomy and physiology), and the Digestive System (anatomy and physiology))</b> Administered on the computer in a proctored environment (75 pts)	<b>8-1-17 @</b> 8:00 am	<b>8-1-17 @</b> 12:00 pm
	<b>Lab Exam 3 (Urinary System and Reproductive System)</b> Administered on the computer in a proctored environment (75 pts)	<b>8-9-17 @</b> 8:00 am	<b>8-9-17 @</b> 12:00 pm
<b>Lecture Final Exam</b>	<b>OPTIONAL COMPREHENSIVE FINAL EXAM – (100 pts)</b> Students may replace their one lowest unit exam if the score on the final exam is higher. Administered on the computer in a proctored environment	<b>August 10, 2017</b> Location TBA	

### **ATTENDANCE POLICY**

Regular and punctual attendance is expected of all students in all classes for which they have registered. All absences are considered to be unauthorized unless the student is absent due to illness or emergencies as determined by the instructor. It is the student responsibility to provide documentation as to the emergency for approval and judgement by the faculty member. Approved college sponsored activities are the only absences for which a student should not be held liable and only when provided by a college official ahead of the absence. Valid reasons for absence, however, do not relieve the student of the responsibility for making up required work. Students will not be allowed to make up an examination missed due to absence unless they have reasons acceptable to the instructor. A student who is compelled to be absent when a test is given should petition the instructor, in advance if possible, for permission to postpone the exam. Student will be dropped from a class by the Registrar upon recommendation of the instructor who feels the student has been justifiably absent or tardy a sufficient number of times to preclude meeting the course's objectives. Persistent, unjustified absences from classes or laboratories will be considered sufficient cause for College officials to drop a student from the rolls of the College. From Board Policy FC (LOCAL)

Last day to withdraw from a course with a "W" is August 2, 2017.

## **ADDITIONAL ATTENDANCE COURSE SPECIFIC POLICIES:**

### Lecture Attendance:

Students are expected to be punctual to the course. Students will be signing an attendance roster throughout the semester. Students should sign the roster as they enter the classroom. Students arriving late will not be permitted to sign the attendance roster and will therefore not receive credit for attendance.

Students should come to class prepared having read the material prior to class. This will enhance the students understanding of the subject matter.

Students should have their phones turned off at the beginning of class. Laptop computers and other technology should only be utilized to aid in taking notes. Students observed texting, emailing, playing games, etc. will be asked to leave the classroom without credit for attendance that day

***THE INSTRUCTOR RETAINS THE RIGHT TO DROP STUDENTS FROM THE COURSE WHO HAVE EXCESSIVE ABSENCES OR FAIL TO MEET THE ATTENDANCE REQUIREMENTS OF THE COURSE.***

### Laboratory Attendance:

Laboratory attendance is **REQUIRED**. Students who cannot attend the laboratory will be required to drop the course. Students should be punctual; chronic tardiness is unacceptable. Students are expected to remain in the laboratory for the duration of the scheduled class period. Students who have schedule conflicts need to drop and enroll at a later date when they are able to attend the course for the duration of the scheduled period. **DO NOT ASK TO ARRIVE LATE AND LEAVE EARLY.** Those who are late or leave early will not receive credit for laboratory attendance that day.

### Expectations for Laboratory Attendance/Behavior:

1. You must be punctual. A roll sheet will be signed each time you attend lab. You must be present at the beginning of lab to sign the roll sheet.
2. TURN OFF ALL CELLULAR PHONES before entering the lab.
3. NO FOOD OR DRINK will be permitted in the laboratory. Students will store food or drink in their bags or leave them in their vehicle.
4. STUDENTS ARE TO BE PREPARED WHEN THEY ARRIVE! (You should have the proper materials for class and should have the material ready for the day. Do not arrive and then ask to go retrieve or print the necessary materials.
5. You must attend the lab section in which you are enrolled.
6. Students are expected to clean their lab tables and area before exiting the room. Laboratory items (models, microscopes, etc.) should be returned to their proper locations neatly. ***Students who choose to leave their lab bench unclean will not receive credit for the daily attendance quiz.***

## **DISABILITY SERVICES (Office for Students with Disabilities)**

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The Office for Students with Disabilities (OSD) provides support services for students with disabilities, students enrolled in technical areas of study, and students who are classified as special populations (i.e. single parents).

Support services for students with disabilities might include appropriate and reasonable accommodations, or they may be in the form of personal counseling, academic counseling,



career counseling, etc. Furthermore, OSD Counselors work with students to encourage self-advocacy and promote empowerment. The Counselors also provides resource information, disability-related information, and adaptive technology for students who qualify.

If you feel you have needs for services that the institution provides, please reach out to either Wayne Smith (940) 498-6207 or Yvonne Sandman (940) 668-3300. Alternative students may stop by Room 170 in Corinth or Room 111 in Gainesville.

**CORE CURRICULUM FOUNDATIONAL COMPONENT AREA** (For classes in the Core)

- |   |   |
|---|---|
| <input type="checkbox"/> Communication                        | <input type="checkbox"/> Government/Political Science   |
| <input type="checkbox"/> Mathematics                          | <input type="checkbox"/> Social and Behavioral Sciences |
| <input checked="" type="checkbox"/> Life and Physical Science | <input type="checkbox"/> Component Area Option          |
| <input type="checkbox"/> Language, Philosophy & Culture       |   |
| <input type="checkbox"/> Creative Arts                        |   |
| <input type="checkbox"/> American History                     |   |

**REQUIRED CORE OBJECTIVES** (For classes in the Core)

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Critical Thinking          | <input checked="" type="checkbox"/> Teamwork     |
| <input checked="" type="checkbox"/> Communication              | <input type="checkbox"/> Personal Responsibility |
| <input checked="" type="checkbox"/> Empirical and Quantitative | <input type="checkbox"/> Social Responsibility   |

**COURSE TYPE**

- Academic General Education Course (from ACGM but not in NCTC Core)  
 Academic NCTC Core Curriculum Course  WECM Course

**STUDENT HANDBOOK**

Students are expected to follow all rules and regulations found in the student handbook and published online.

**ACADEMIC DISHONESTY**

Scholastic dishonesty shall include, but is not limited to cheating, plagiarism, academic falsification, intellectual property dishonesty, academic dishonesty facilitation and collusion. Faculty members may document and bring charges against a student who is engaged in or is suspected to be engaged in academic dishonesty. See Student Handbook, "Student Rights & Responsibilities: Student Conduct ([FLB(LOCAL)]".

Consequences for academic dishonesty may include:

- 1) The student will receive a failing grade ("0") on the assignment.
- 2) A "Scholastic Dishonesty Report Form" will be submitted regarding the incidence.
- 3) Student may be dropped from the course with a failing grade (letter grade of "F").

**QUESTIONS, CONCERNS, or COMPLAINTS**

Name of Chair/Coordinator:	Dr. Lisa Bellows
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Telephone Number:	940-668-4252
E-mail Address:	lbellows@nctc.edu