



**BIOL 2114: Anatomy & Physiology II**  
**COURSE SYLLABUS**  
**Summer 2018: Tuesday Lecture**

**COURSE INFORMATION**

Credit Hours/Minutes: 3/2250  
Class Location: Gillis Building, Room 729  
Class Meets: 8:05 AM - 12:55 PM (Tuesday Lecture)  
Course Reference Number (CRN): 60032

**INSTRUCTOR CONTACT INFORMATION**

Instructor Name: Sadia Ajohda  
Office Location: Gillis Building, Office 723  
Office Hours: 7am-1pm, 3pm-4pm Mondays and (&) 7am-8pm Tuesdays, Wednesdays, & Thursdays  
Email Address: [Sadia Ajohda \(sajohda@southeasterntech.edu\)](mailto:sajohda@southeasterntech.edu)  
Phone: 912-538-3216  
Fax Number: 912-538-3156  
Tutoring Hours: By appointment

**SOUTHEASTERN TECHNICAL COLLEGE'S (STC) CATALOG AND HANDBOOK**

Students are responsible for all policies and procedures and all other information included in Southeastern Technical College's [Catalog and Handbook \(http://www.southeasterntech.edu/student-affairs/catalog-handbook.php\)](http://www.southeasterntech.edu/student-affairs/catalog-handbook.php).

**REQUIRED TEXT**

<sup>1</sup>Principles of Anatomy and Physiology, Tortora/Grabowski, 14<sup>th</sup> Edition, John Wiley & Sons, Inc.  
<sup>2</sup>Anatomy & Physiology Lab Workbook, **BIO 2114** First Edition; Southeastern Technical College, 2017

**REQUIRED SUPPLIES**

Ink pens, highlighter, and any other supplies deemed necessary by instructor.

**COURSE DESCRIPTION**

Continues the study of the anatomy and physiology of human body. Topics include: endocrine system, cardiovascular system, blood and lymphatic system, immune system, respiratory system, digestive system, urinary system, and reproductive system. Lab experience supports the classroom learning.

**MAJOR COURSE COMPETENCIES**

1. Body Organization and Chemical Basis of Life
2. Cell Structure and Function
3. Tissue Classifications

4. The Integumentary System
5. The Skeletal System
6. The Muscular System
7. The Nervous and Sensory Systems

**PRE-REQUISITE: BIOL 2113 AND 2113L**

**CO-REQUISITE: BIOL 2114L**

## **COURSE OUTLINE**

### **THE ENDOCRINE SYSTEM**

1. Discuss the functions of the endocrine system in maintaining homeostasis.
2. Contrast the endocrine and nervous systems.
3. Discuss how hormones work.
4. Discuss the control of endocrine organs.
5. Describe the role of the hypothalamus in endocrine control.
6. Describe the location, hormones, and functions of the following endocrine glands: pituitary, thyroid, parathyroid, adrenal, pancreas, ovaries, testes, pineal, and thymus.
7. Describe endocrine disorders of hypo and hypersecretion.

### **THE CARDIOVASCULAR SYSTEM (The Heart)**

1. Describe the anatomy of the heart and heart wall.
2. Describe the flow of blood through the heart including the pulmonary and systemic circuits.
3. Explain the structural and functional features of the conduction system of the heart and electrocardiogram (EKG) tracings
4. Describe the principal events of the cardiac cycle.
5. Contrast the sounds of the heart and their clinical significance.
6. Calculate cardiac output and discuss factors that affect it.
7. List the risk factors involved in heart disease.

### **Blood Vessels and their routes**

1. Contrast the structure and function of the various types of blood vessels.
2. Explain how the venous blood is returned to the heart.
3. Explain blood pressure and pulse.
4. Discuss the factors that affect blood pressure.
5. Contrast the clinical significance of systolic, diastolic, and pulse pressure.
6. Discuss the mechanism of capillary exchange.
7. Describe blood flow through systemic and pulmonary circuits. Identify the principal arteries and veins of the systemic, pulmonary, and hepatic portal circulations.
8. Describe unique aspects of fetal circulation.
9. Explain the effects of exercise on the cardiovascular system.
10. Describe significant cardiovascular diseases including coronary artery disease and congestive heart failure.

### **THE BLOOD AND LYMPHATIC SYSTEM**

1. Discuss Components and functions of blood, lymph, interstitial fluid, and the lymphatic system.
2. List the components of plasma and their functions.
3. List the characteristics and functions of formed elements.
4. List the lymphoid cells including lymphocytes thymus cells (T cells) and bone marrow cells (B cells), plasma cells, macrophages & reticular cells.
5. Lymphoid organs including lymph nodes, bone marrow, spleen, thymus, tonsils and nodule aggregates.

6. Identify the stages involved in hemostasis.
7. Explain the blood grouping systems: Type A, Type B, and Type O (ABO). Describe Rhesus (Rh) blood grouping systems as well.
8. Discuss causes of anemia.
9. Describe selected blood disorders and tests.

#### **THE IMMUNE SYSTEM (Resistance)**

1. Discuss the basic properties of immunity.
2. Discuss innate and adaptive immunity.
3. Explain the process of cellular immunity and the role of thymus cells (T-cells).
4. Explain the process of humoral immunity and the role of bone marrow cells (B-cells) and antibodies.
5. Discuss the difference between primary and secondary responses.
6. Describe types of active and passive immunity.
7. Describe selected immune disorders.

#### **THE RESPIRATORY SYSTEM (characteristics and functions)**

1. Identify the organs of the respiratory system and describe their functions.
2. Contrast internal and external respiration and explain the role of the alveolar-capillary membrane.
3. Describe the events involved in pulmonary ventilation and discuss the significance of pleura.
4. Explain the mechanism of oxygen and carbon dioxide transport in the blood.
5. Describe the various factors that control the rate of respiration.
6. Define selected disorders of the respiratory system

#### **THE DIGESTIVE SYSTEM (functions and processes)**

1. Identify the organs of the gastrointestinal tract and the accessory organs of digestion and their functions in digestion.
2. Identify the general histological layers of the digestive organs and explain how the layers are modified to accommodate the function of each organ.
3. Describe the mechanical movements of the gastro intestinal (GI) tract.
4. Identify the major digestive secretions and their functions.
5. List the enzymes involved in the breakdown of carbohydrates, fats, and proteins.
6. Describe the process of absorption of fats, carbohydrates, and proteins.
7. Define the processes involved in the formation of feces and defecation.
8. Describe common disorders of the digestive system.
9. Discuss carbohydrate, fat, and protein metabolism.
10. Discuss metabolic rate and the role of the liver in metabolism.
11. Describe the absorptive and post-absorptive states.

#### **THE URINARY SYSTEM (functions and processes)**

1. Identify the external and internal gross anatomical features of the kidneys.
2. Discuss the formation of urine explaining the microscopic anatomy of the nephron and its basic functions of filtration, reabsorption, and secretion.
3. Discuss the role of the kidney in maintaining blood pressure and the function of the juxtaglomerular apparatus.
4. Explain the role of key hormones on the kidney and their role in water and electrolyte balance.
5. Discuss the role of the kidney in homeostasis of potential of Hydrogen (pH).
6. Discuss the components of urine.
7. Discuss the structure and physiology of the ureters, urinary bladder, and urethra.
8. Describe disorders of the urinary system.

#### **THE REPRODUCTIVE SYSTEM (male and female)**

1. Explain the structure and functions of the male reproductive organs and the pathway of sperm.
2. Discuss the processes of spermatogenesis and spermatogenesis in the male.

3. Describe the normal composition of semen and the role of the accessory sex glands in production of semen.
4. Discuss the role of hormones in the male reproductive system.
5. Explain the structure and functions of the female reproductive organs and the pathway of the egg and zygote.
6. Discuss the process of oogenesis.
7. Discuss the principal events of the menstrual and ovarian cycles and explain all hormones involved.
8. Discuss the physiology of sexual intercourse.
9. Discuss examples of male and female reproductive diseases.

## **GENERAL EDUCATION CORE COMPETENCIES**

STC has identified the following general education core competencies that graduates will attain:

- a) The ability to utilize standard written English.
- b) The ability to solve practical mathematical problems.
- c) The ability to read, analyze, and interpret information.

## **STUDENT REQUIREMENTS**

Students are responsible for the policies and procedures in the Southeastern Technical College's (STC's) Catalog and Handbook. During an examination, students are required to place all textbooks and personal property on the floor or counter located in the back or to the side of the classroom. Students are to be seated with an empty seat between each student. No talking is allowed once the test begins. **Students found with cell phone or any other communication device (including smart watches) during a test will be considered cheating and given a grade zero for the test. This applies to students who have completed/submitted test while testing is still in progress.**

## **ATTENDANCE GUIDELINES**

Class attendance is a very important aspect of a student's success. Being absent from class prevents students from receiving the full benefit of a course and also interrupts the learning process. Southeastern Technical College considers both tardiness and leaving early as types of absenteeism. Responsibility for class attendance rests with the student. Regular and punctual attendance at all scheduled classes is required for student success. Students will be expected to complete all work required by the instructor as described in the individual course syllabus.

Instructors have the right to give unannounced quizzes/assignments. Students who miss an unannounced quiz or assignment will receive a grade of 0. Students who stop attending class, but do not formally withdraw, may receive a grade of F and face financial aid repercussions in upcoming semesters.

Instructors are responsible for determining whether missed work may be made up and the content and dates for makeup work is at the discretion of the instructor.

## **ADDITIONAL ATTENDANCE PROVISIONS FOR HEALTH SCIENCES**

Requirements for instructional hours within Health Science and Cosmetology programs reflect the rules of respective licensure boards and or accrediting agencies. Therefore, these programs have stringent attendance policies. Each program's attendance policy is published in the program's handbook and or syllabus which specify the number of allowable absences. All provisions for required make-up work in the classroom or clinical experiences are at the discretion of the instructor.

Attendance is counted from the first scheduled class meeting of each semester. To receive credit for a course a student must attend at least ninety percent (90%) of the scheduled instructional time. Time and or work

missed due to tardiness or absences must be made up at the convenience of the instructor. Any student attending less than the required scheduled instructional time (90%) may be dropped from the course as stated below in the Withdrawal Procedure.

Tardy means arriving after the scheduled time for instruction to begin. Early departure means leaving before the end of the scheduled time. Three (3) tardies or early departures equal one (1) absence for the course.

**For this class, which meets one (1) day a week for nine (9) weeks, the maximum number of days a student may miss is ONE (1) day during the semester.**

#### **FINAL EXAMINATION:**

A comprehensive final examination will be given at the end of the semester. There will be **no make-up exam** for the final examination. Failure to take the final examination on the specified date will result in a grade of zero. The final exam will include all chapters covered.

#### **LEARNING OBJECTIVE ASSIGNMENTS:**

Students are required to read each chapter and complete **learning objectives (LO)** for each chapter. Learning objectives (LO) are found on Southeastern Technical College's (STC's) **Material Drive (M Drive)**. All completed learning objectives should be **hand written** in blue ink and turned in EACH WEEK in lab report. Additional Assignments are stipulated in the Lesson Plan and can be found on STC's M. Drive as well. All assignments are due on dates delineated on Lesson Plan.

#### **GROUP PROJECT/PRESENTATION:**

Students will work in small groups of three to five students per group and give an educational Power Point presentation on a disease or disorder that affects certain body systems related to chapters we will cover in this course. List of topics to choose from along with guidelines for arrangement, content, requirements, and rubric for Power Point presentations are provided on southeastern Technical College's (STC's) Material Drive (M Drive). Presentations should be fifteen to twenty minutes long. Please ensure presentations are within time limit. Do not exceed twenty minutes or do not present less than fifteen minutes. Presentation grade will be affected if presentation is over or under time limit. You are required to include visual aid or short video clips or any materials/media that will enhance presentation. However, video clips should not exceed three to four minutes. Each presentation should not exceed two video clips. Points will be deducted for additional video clips. Group members should have **equal participation** for this project. The week before presentations, instructor will ask all group members for feedback on equal participation. Feedback on equal participation includes but not limited to the following: participating at group meetings during Lecture and Lab or out of class meetings, corresponding and communicating in a timely manner with group members to provide information on assigned portion of project, and providing pertinent information regarding assigned portion of project. The week of Presentation (date indicated on lesson plan), **all presentations should be submitted to instructor and saved on Instructor's Computer (Desktop) prior to the designated presentation day.**

#### **MAKEUP GUIDELINES**

Students will be allowed to make-up **one** lecture examination, EXCLUDING the final examination, due to an **excused absence** approved by the instructor. **Any other lecture exam missed will result in an automatic grade of zero.** There will be one day designated for the make-up Lecture exam. It will be scheduled at the end of the semester. Failure to take a make-up exam on the specified date will result in a grade of zero.

#### **EVALUATION PROCEDURES**

**In order to sit for the final exam, a student must maintain a Lecture Test and Lab Test Average of seventy percent (70%) or above prior to the date of the scheduled final exam.** Grades of 69.9% will not be rounded

up. If the student has below a 70% average, the student will be given a letter grade based on tests average. Assignments, lab reports, or presentation grades are not included in tests averages, only tests grades.  
THERE WILL BE NO DROP GRADE FOR LECTURE OR LAB.

### **SPECIAL NEEDS**

Students with disabilities who believe that they may need accommodations in this class based on the impact of a disability are encouraged to contact [Helen Thomas \(hthomas@southeasterntech.edu\)](mailto:hthomas@southeasterntech.edu), 912-538-3126, to coordinate reasonable accommodations.

### **SPECIFIC ABSENCES**

Provisions for Instructional Time missed because of documented absences due to jury duty, military duty, jury duty, or required job training will be made at the discretion of the instructor.

### **PREGNANCY**

Southeastern Technical College does not discriminate on the basis of pregnancy. However, we can offer accommodations to students who are pregnant that need special consideration to successfully complete the course. If you think you will need accommodations due to pregnancy, please advise me and make appropriate arrangements with [Helen Thomas \(hthomas@southeasterntech.edu\)](mailto:hthomas@southeasterntech.edu), 912-538-3126.

### **WITHDRAWAL PROCEDURE**

Students wishing to officially withdraw from a course(s) or all courses after the drop or add period and prior to the 65% portion of the semester (date will be posted on the school calendar) must speak with a Career Counselor in Student Affairs and complete a Student Withdrawal Form. A grade of "W" (Withdrawn) is assigned when the student completes the withdrawal form from the course.

Students who are dropped from courses due to attendance (see your course syllabus for attendance policy) after drop/add until the 65% point of the semester will receive a "W" (withdrew) for the course. Abandoning a course(s) instead of following official withdrawal procedures may result in a grade of "F" (Failing 0-59) being assigned.

After the 65% portion of the semester, the student will receive a grade for the course. (Please note: A zero will be given for all missed assignments.)

There is no refund for partial reduction of hours. Withdrawals may affect students' eligibility for financial aid for the current semester and in the future, so a student must speak with a representative of the Financial Aid Office to determine any financial penalties that may be assessed due to the withdrawal. All grades, including grades of 'W' (withdrew), will count in attempted hour calculations for the purpose of Financial Aid.

**Remember - Informing your instructor that you will not return to his/her course does not satisfy the approved withdrawal procedure outlined above.**

### **ACADEMIC DISHONESTY POLICY**

The Southeastern Technical College Academic Dishonesty Policy states that all forms of academic dishonesty, including but not limited to cheating on tests, plagiarism, collusion, and falsification of information, will call for discipline. The policy can also be found in the Southeastern Technical College Catalog and Handbook.

## PROCEDURE FOR ACADEMIC MISCONDUCT

The procedure for dealing with academic misconduct and dishonesty is as follows:

### 1. First Offense

Student will be assigned a grade of "0" (zero) for the test or assignment. Instructor keeps a record in course or program files and notes as first offense. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus. The Registrar will input the incident into Banner Web for tracking purposes.

### 2. Second Offense

Student is given a grade of "WF" (Withdrawn Failing) for the course in which offense occurs. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus indicating a "WF" (withdrawn Failing) has been issued as a result of second offense. The Registrar will input the incident into Banner Web for tracking purposes.

### 3. Third Offense

Student is given a grade of "WF" (Withdrawn Failing) for the course in which the offense occurs. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus indicating a "WF" (Withdrawn Failing) has been issued as a result of third offense. The Vice President for Student Affairs, or designee, will notify the student of suspension from college for a specified period of time. The Registrar will input the incident into Banner for tracking purposes.

## STATEMENT OF NON-DISCRIMINATION

The Technical College System of Georgia and its constituent Technical Colleges do not discriminate on the basis of race, color, creed, national or ethnic origin, sex, religion, disability, age, political affiliation or belief, genetic information, disabled veteran, veteran of the Vietnam Era, spouse of military member or citizenship status (except in those special circumstances permitted or mandated by law). This school is in compliance with Title VI of the Civil Rights Act of 1964, which prohibits discrimination on the basis of race, color, or national origin; with the provisions of Title IX of the Educational Amendments of 1972, which prohibits discrimination on the basis of gender; with the provisions of Section 504 of the Rehabilitation Act of 1973, which prohibits discrimination on the basis of handicap; and with the American with Disabilities Act (ADA).

The following individuals have been designated to handle inquiries regarding the nondiscrimination policies:

<b>American With Disabilities Act (ADA)/Section 504 - Equity- Title IX (Students) – Office of Civil Rights (OCR) Compliance Officer</b>	<b>Title VI - Title IX (Employees) – Equal Employment Opportunity Commission (EEOC) Officer</b>
Helen Thomas, Special Needs Specialist Vidalia Campus 3001 East 1 <sup>st</sup> Street, Vidalia Office 108 Phone: 912-538-3126 Email: <a href="mailto:hthomas@southeasterntech.edu">Helen Thomas</a> <a href="mailto:hthomas@southeasterntech.edu">hthomas@southeasterntech.edu</a>	Blythe Wilcox, Director of Human Resources Vidalia Campus 3001 East 1 <sup>st</sup> Street, Vidalia Office 138B Phone: 912-538-3147 Email: <a href="mailto:bwilcox@southeasterntech.edu">Blythe Wilcox</a> <a href="mailto:bwilcox@southeasterntech.edu">bwilcox@southeasterntech.edu</a>

## ACCESSIBILITY STATEMENT

Southeastern Technical College is committed to making course content accessible to individuals to comply with the requirements of Section 508 of the Rehabilitation Act of Americans with Disabilities Act (ADA). If you find a problem that prevents access, please contact the course instructor.

## GRIEVANCE PROCEDURES

Grievance procedures can be found in the Catalog and Handbook located on Southeastern Technical College's website.

## ACCESS TO TECHNOLOGY

Students can now access Blackboard, Remote Lab Access, Student Email, Library Databases (Galileo), and BannerWeb via the mySTC portal or by clicking the Current Students link on the [Southeastern Technical College \(STC\) Website \(www.southeasterntech.edu\)](http://www.southeasterntech.edu).

## TECHNICAL COLLEGE SYSTEM OF GEORGIA (TCSG) GUARANTEE/WARRANTY STATEMENT

*The Technical College System of Georgia guarantees employers that graduates of State Technical Colleges shall possess skills and knowledge as prescribed by State Curriculum Standards. Should any graduate employee within two years of graduation be deemed lacking in said skills, that student shall be retrained in any State Technical College at no charge for instructional costs to either the student or the employer.*

## GRADING POLICY

Assessment/Assignment	Percentage
Chapter Tests	60%
Learning Objectives Assignment	5%
Group Presentation	5%
Comprehensive Final Exam	30%
<b>TOTAL</b>	<b>100%</b>

## GRADING SCALE

Letter Grade	Range
A	90-100
B	80-89
C	70-79
D	60-69
F	0-59

## DISCLAIMER STATEMENT

Instructor reserves the right to change the syllabus and/or lesson plan as necessary. The official copy of the syllabus is located on the STC M Drive and will be discussed on the first day of class. The syllabus displayed in advance of the semester in any location is for planning purposes only.

**Summer 2018 (TUESDAY LECTURE) Lesson Plan**  
**Subject to change at Instructor's discretion**

Date	Chapters (Chs.)/Content	Assignments	Competency Area
5/15	Introduction to Course, Syllabus, Outline, Policies/Procedures, emergency plan & rules/regulation.  Ch. 18: Endocrine System Ch. 19: Cardio System: Blood Ch. 20: Cardio System: The Heart	<ul style="list-style-type: none"> <li>• Read Chapters (Chs.) before Lecture and complete (LO) Learning Objectives from STC's Material Drive (M Drive).</li> <li>• LO for each chapter due lab days (place in lab report).</li> </ul> REMINDER: <b>Complete before next Lab day.</b> Print and complete to turn in from M. Drive located in "Assignments" and "Lab" folders: <ol style="list-style-type: none"> <li>1. Blood/Circulation Worksheet</li> <li>2. Heart Dissection Worksheet</li> </ol>	C: 1,2,3 G: a-c
5/22	Ch. 21: Cardio: Blood Vessels Ch. 22: Lymphatic System Ch. 23: Respiratory System	Complete Learning Objectives: M Drive	C: 3-5 G: a-c
5/29	<b>LECTURE TEST # 1</b> <b>LAB TEST #1</b> Ch. 24: Digestive System Ch. 25: Metabolism and Nutrition Ch. 26: Urinary System Anatomy	Lecture Test #1 (Chapters: 18, 19, 20 & 21) Lab Test #1 (Chapters:18, 19, 20 & 21)  Complete Learning Objectives: M Drive	C: 6,7 G: a-c
6/5	<b>LECTURE TEST # 2</b> <b>LAB TEST #2</b> Ch. 27: Fluid and Electrolyte Chapter 28: Reproductive System	<u>Lecture</u> Test #2 (Chapters: 22 & 23) Lab Test #2 (Chapters 22 & 23)  Complete Learning Objectives: M Drive	C: 7,8 G: a-c
6/12	<b>LECTURE TEST #3</b> <b>LAB TEST #3</b>  Group Work - Presentations	Lecture Test #3 (Chapters: 24 & 25) Lab Test #3 (Chapters: 24 & 25)	
6/19	<b>LECTURE TEST # 4</b> <b>LAB TEST #4</b>  <b>Power Point/Group Presentation</b>	Lecture Test #4 (Chapters: 26 -27) Lab Test #4 (Chapters: 26 - 28)  Print Power Point (3 slides per pg.) Place in Lab Report.	C: 1-8 G: a-c
6/26	Finals Review: M Drive Assignment <b>due</b> & All Learning Objectives <b>due</b>	<b>Place all assignments in lab report.</b>	C: 1-8 G: a-c
7/3	Break – Student Holiday	Break	
7/10	<b>FINALS: LAB &amp; LECTURE</b>	<b>FINALS-LAB (ALL CHAPTERS)</b> <b>FINALS-LECTURE (ALL CHAPTERS)</b>	C: 1-8 G: a-c
7/17	Check Offs	Portion of Lab Report grade will be deducted, if all assignments are not submitted.	C: 1-8 G: a-c

**COMPETENCY AREAS (C):**

- 1) The Endocrine System
- 2) The Cardiovascular System
- 3) The Blood and Lymphatic System
- 4) The Immune System
- 5) The Respiratory System
- 6) The Digestive System
- 7) The Urinary System
- 8) The Reproductive System

**GENERAL CORE EDUCATIONAL COMPETENCIES (G):**

- a) The ability to utilize standard written English.
- b) The ability to solve practical mathematical problems.
- c) The ability to read, analyze, and interpret information.