



BIOL 2114: Anatomy & Physiology II
COURSE SYLLABUS
Lecture - Tuesday
Spring 2017

Semester: Spring 2017
Course Title: Anatomy & Physiology II
Course Number: BIOL 2114
Credit Hours/ Minutes: 3 / 2250
Class Location: RMTC 842
Class Meets: 2:00-4:30PM
CRN: 40012

Instructor: Erica M. Harrison
Office Hrs: 7:30-10:00 MTWR
Office Location: Room 901 HSA
Email Address: eharrison@southeasterntech.edu
Phone: 912-538-3188
Fax Number: 912-538-3156
Tutoring Hours: By Appointment.

REQUIRED TEXTS:

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¹Principles of Anatomy and Physiology, Tortora/Grabowski, 14th Edition, John Wiley & Sons, Inc.

²Exercises for the Anatomy & Physiology Laboratory, Erin Amerman, 2nd Edition, Morton Publishing Inc.

³A Photographic Atlas for the Anatomy and Physiology Laboratory, 7th Edition, Morton Publishing Inc.

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. 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 EDUCATION CORE COMPETENCIES: STC has identified the following general education core competencies that graduates will attain:

1. The ability to utilize standard written English.
2. The ability to solve practical mathematical problems.
3. The ability to read, analyze, and interpret information.

All students pursuing a degree, a diploma, or a Technical Certificate of Credit with a General Education component will be required to pass the General Education Competency Exams prior to graduation.

Pre-requisite: BIOL 2113 and 2113L

Co-requisites: BIOL 2114L

COURSE OUTLINE

Competency	After completing this section, the student will be able to:	Hours		
		Class	D.Lab	P.Lab/ O.B.I.
THE ENDOCRINE SYSTEM		4	0	3
Functions	Discuss the functions of the endocrine system in maintaining homeostasis.			
	Contrast the endocrine and nervous systems.			
	Explain the general mechanisms by which hormones work.			
	Discuss the control of endocrine organs.			
	Describe the role of the hypothalamus in endocrine control.			
Endocrine hormones	Describe the location, hormones, and functions of the following endocrine glands: pituitary, thyroid, parathyroid, adrenal, pancreas, ovaries, testes, pineal, and thymus.			
Endocrine disorders	Describe endocrine disorders of hypo- and hypersecretion.			
THE CARDIOVASCULAR SYSTEM		7	0	6
The heart	Describe the anatomy of the heart and heart wall.			
	Describe the flow of blood through the heart including the pulmonary and systemic circuits.			
	Explain the structural and functional features of the conduction system of the heart and EKG tracings.			
	Describe the principal events of the cardiac cycle.			
	Contrast the sounds of the heart and their clinical significance.			
	Calculate cardiac output and discuss factors that affect it.			
	List the risk factors involved in heart disease.			
Vessels and their routes	Contrast the structure and function of the various types of blood vessels.			
	Explain how the venous blood is returned to the heart.			
	Explain blood pressure and pulse.			
	Discuss the factors that affect blood pressure.			
	Contrast the clinical significance of systolic, diastolic, and pulse pressure.			
	Discuss the mechanism of capillary exchange.			
	Describe blood flow through systemic and pulmonary circuits. Identify the principal arteries and veins of the systemic, pulmonary, and hepatic portal circulations.			
	Describe unique aspects of fetal circulation.			
Cardiovascular disease	Explain the effects of exercise on the cardiovascular system.			
	Describe significant cardiovascular diseases including coronary artery disease and congestive heart failure.			
THE BLOOD AND LYMPHATIC SYSTEM		4	0	2
Components and functions	Discuss the function and physical characteristics of blood, lymph, and interstitial fluid, and the lymphatic system.			
	List the components of plasma and their functions.			
	List the characteristics and functions of formed elements.			
	List the lymphoid cells including lymphocytes (T and B cells), plasma cells, macrophages and reticular cells.			

Competency	After completing this section, the student will be able to:	Hours		
		Class	D.Lab	P.Lab/ O.B.I.
	Discuss lymphoid organs including lymph nodes, bone marrow, spleen, thymus, tonsils and nodule aggregates.			
Clotting	Identify the stages involved in hemostasis.			
Blood types	Explain the ABO and Rh blood grouping systems.			
Blood diseases and disorders	Discuss causes of anemia.			
	Describe selected blood disorders and tests.			
THE IMMUNE SYSTEM		3	0	2
Resistance	Discuss the basic properties of immunity.			
	Discuss innate and adaptive immunity.			
	Explain the process of cellular immunity and the role of T-cells.			
	Explain the process of humoral immunity and the role of B-cells and antibodies.			
	Discuss the difference between primary and secondary responses.			
	Describe types of active and passive immunity.			
Immune system diseases and disorders	Describe selected immune disorders.			
THE RESPIRATORY SYSTEM		5	0	3
Respiratory system characteristics and functions	Identify the organs of the respiratory system and describe their functions.			
	Contrast internal and external respiration and explain the role of the alveolar-capillary membrane.			
	Describe the events involved in pulmonary ventilation and discuss the significance of pleura.			
	Explain the mechanism of oxygen and carbon dioxide transport in the blood.			
	Describe the various factors that control the rate of respiration.			
Respiratory disorders	Define selected disorders of the respiratory system.			
THE DIGESTIVE SYSTEM		5	0	6
Digestive system functions and processes	Identify the organs of the gastrointestinal tract and the accessory organs of digestion and their functions in digestion.			
	Identify the general histological layers of the digestive organs and explain how the layers are modified to accommodate the function of each organ.			
	Describe the mechanical movements of the GI tract.			
	Identify the major digestive secretions and their functions.			
	List the enzymes involved in the breakdown of carbohydrates, fats, and proteins.			
	Describe the process of absorption of fats, carbohydrates, and proteins.			
	Define the processes involved in the formation of feces and defecation.			
Digestive disorders	Describe common disorders of the digestive system.			
General metabolism	Discuss carbohydrate, fat, and protein metabolism.			

Competency	After completing this section, the student will be able to:	Hours		
		Class	D.Lab	P.Lab/ O.B.I.
	Discuss metabolic rate and the role of the liver in metabolism.			
	Describe the absorptive and post-absorptive states.			
THE URINARY SYSTEM		5	0	4
Urinary system functions and processes	Identify the external and internal gross anatomical features of the kidneys.			
	Discuss the formation of urine explaining the microscopic anatomy of the nephron and its basic functions of filtration, reabsorption, and secretion.			
	Discuss the role of the kidney in maintaining blood pressure and the function of the juxtaglomerular apparatus.			
	Explain the role of key hormones on the kidney and their role in water and electrolyte balance.			
	Discuss the role of the kidney in homeostasis of pH.			
	Discuss the components of urine.			
	Discuss the structure and physiology of the ureters, urinary bladder, and urethra.			
Urinary system disorders	Describe disorders of the urinary system.			
THE REPRODUCTIVE SYSTEM		7	0	4
Male system	Explain the structure and functions of the male reproductive organs and the pathway of sperm.			
	Discuss the processes of spermatogenesis and spermiogenesis in the male.			
	Describe the normal composition of semen and the role of the accessory sex glands in production of semen.			
	Discuss the role of hormones in the male reproductive system.			
Female system	Explain the structure and functions of the female reproductive organs and the pathway of the egg /zygote.			
	Discuss the process of oogenesis.			
	Discuss the principal events of the menstrual and ovarian cycles and explain all hormones involved.			
	Discuss the physiology of sexual intercourse.			
Reproductive system disorders and disease	Discuss examples of male and female reproductive diseases.			

STUDENT RESPONSIBILITIES/REQUIREMENTS

In order to be successful in this class, each student should study a minimum of 2 hours per day. Before arriving to class, the student should come to class prepared by reading the assigned chapters, learning the bold faced vocabulary terms for each assigned chapter, and answering the study questions for each chapter. Failure to comply with these suggestions will make it impossible to understand the lecture material and will result in unsuccessfulness in the course. This course contains a lot of information and you must keep up on a daily basis.

Students are responsible for the policies and procedures in the STC E-Catalog. 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 their cell phone or any other personal communication device during the test will be considered cheating and be given a zero for the test. This includes taking a phone out after the student has completed an exam but other students are still testing.**

Students are expected to exhibit professional behavior at all times. Each student must show respect and concern for fellow students and for the instructor. Insubordination will not be tolerated, and disciplinary measures will be enacted. **No cell phones or pagers are allowed to be turned on or operated in the classroom.** Personal phone calls must be handled **after class**. Watches with alarms should not be programmed to sound during class.

No EATING/DRINKING IS ALLOWED IN LAB OR CLASSROOMS!!!

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.

Students will not be withdrawn by an instructor for attendance; however, all instructors will keep records of graded assignments and student participation in course activities. The completion dates of these activities will be used to determine a student's last date of attendance in the event a student withdraws, stops attending, or receives an F in a course.

Definitions

Scheduled Instructional Time

Scheduled instructional time is explained by the instructor during the course orientation as listed on the course syllabus. The scheduled time will be maintained until all work is completed or until the end of the course.

Tardy or Early Departure

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 involved.**

Traditional Attendance Addendum: For this class which meets 1 day a week for 16 weeks the maximum number of days a student may miss is 2 days during the semester.*

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, 912-538-3126, hthomas@southeasterntech.edu, to coordinate reasonable accommodations.

Specific Absences: Provisions for Instructional Time missed because of documented absences due to jury duty, military duty, court 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, (912) 538-3126, hthomas@southeasterntech.edu.

WITHDRAWAL PROCEDURE: Students wishing to officially withdraw from a course(s) or all courses after the drop/add period and prior to the 65% portion of the semester (March 20th) must speak with a Career Counselor in Student Affairs and complete a Student Withdrawal Form. A grade of "W" 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" for the course. Abandoning a course(s) instead of following official withdrawal procedures may result in a grade of 'F' 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 also 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', 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 STC Academic Dishonesty Policy states *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 *STC Catalog and Student Handbook.*

Procedure for Academic Misconduct

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

--First Offense--

Student will be assigned a grade of "0" for the test or assignment. Instructor keeps a record in course/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 for tracking purposes.

--Second Offense--

Student is given a grade of "WF" 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" has been issued as a result of second offense. The Registrar will input the incident into Banner for tracking purposes.

--Third Offense--

Student is given a grade of "WF" 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" 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.

EVALUATION PROCEDURES

In order to sit for the final exam, a student must maintain a Lecture Test and Lab Test Average of 70 or above prior to the date of the scheduled final. 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.

THERE WILL BE NO DROP GRADE FOR LECTURE OR LAB.

Lecture Examinations: 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. *(NOTE: There will be no make-up opportunity for missed lab exams)*

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.

Assignments: Students are required to read each chapter and complete learning objectives for each chapter. Learning objectives are found on the M Drive. All completed learning objectives should be hand written and turned in EACH WEEK in lab report. Additional Assignments are stipulated in the Lesson Plan and can be found on the M. Drive as well. All assignments are due on dates delineated on Lesson Plan.

Group Project/Presentation: Students will work in small groups (3-5 people/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 STC's "M" drive. Presentations should be 15-20 minutes long. Please ensure presentations are within time limit. Do not exceed 20 minutes or do not present less than 15 minutes. Points will be deducted 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 3-4 minutes. Each presentation should not exceed 2 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/Lab or out of class meetings, corresponding/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.**

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:

ADA/Section 504 - Equity- Title IX (Students) - OCR Compliance Officer	Title VI - Title IX (Employees) - EEOC Officer
Helen Thomas, Special Needs Specialist Vidalia Campus 3001 East 1 st Street, Vidalia Office 108 Phone: 912-538-3126 hthomas@southeasterntech.edu	Blythe Wilcox, Director of Human Resources Vidalia Campus 3001 East 1 st Street, Vidalia Office 138B Phone: 912-538-3147 bwilcox@southeasterntech.edu

GRIEVANCE PROCEDURES: Grievance procedures can be found in the Catalog and Handbook located on STC’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 STC website at www.southeasterntech.edu.

GRADING SCALE:

Grading Scale:		
A	Excellent	100 – 90
B	Good	89 – 80
C	Satisfactory	79 – 70
D	Poor	69 – 60
F	Failing	59 - 0

Each Students final grade for the course will be calculated in the following manner...

(Chapter Tests.)x 0.60 = _____
 (Learning Objectives).....x 0.05 = + _____
 (Group Presentation).....x 0.05 = + _____
 (Comprehensive Final).....x 0.30 = + _____

Numerical Course Grade.....=

TCSG GUARANTEE/WARRANTY STATEMENT:

The Technical College System of Georgia guarantees employer 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 COMPONENTS:

Chapter Tests	
Learning Objectives	5%
Group Presentation	5%
Comprehensive Final Exam	30%

****Disclaimer Statements****

******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 other than the course you are enrolled in (folder on M Drive) is for planning purposes only.*****

BIOL 2114 Lecture Lesson Plan (TUESDAY)
Subject to change at the Instructor's discretion

Date	Lecture Chapter(s) & Content	Tests (Chapters)	Competency Area
1/10	Intro to Course, Syllabus, Outline, Regulation, etc.	<ul style="list-style-type: none"> Read Chapters before coming to Lecture and complete Learning Objectives (on M Drive). 	*CC 1,2 **GCC a-d
1/17	Chapter 18: Endocrine System	Due each lab day & place in lab report.	*CC 1,2 **GCC a-d
1/24	Chapter 19: Cardio. Sys. Blood Chapter 20: Cardio. Sys. Heart		*CC 1-5 **GCC a-d
1/31	Lecture Test # 1 Chapter 21: Cardio. Sys. Blood Vessels	Lecture Test #1 (Ch: 18-19)	*CC 1-5 **GCC a-d
2/7	LAB Test #1 Chapter 22: Lymphatic System	Lab Test #2 (Ch: 19,19,20,21)	*CC 1-6 **GCC a-d
2/14	Lecture Test # 2 Chapter 23: Respiratory System Chapter 24: Digestive System	Lecture Test #2 (Ch: 20-21)	*CC 5-8 **GCC a,c,d
2/21	Lecture Test # 3 Chapter 25: Metabolism and Nutrition	Lecture Test #3 (Ch: 22-23)	*CC 5-8 **GCC a,c,d
2/28	LAB Test #2 Chapter 26: Urinary System Anatomy	LAB Test #2 (Ch: 22-23)	*CC 5,6 **GCC a-d
3/7	Lecture Test # 4 Chapter 27: Fluid and Electrolyte Balance	Lecture Test #4 (Ch: 24-25)	*CC 1-8 **GCC a-d
3/14	Lecture Test # 5 Chapter 28: Reproductive System	Lecture Test #5 (Ch: 26-27)	*CC 1-8 **GCC a-d
3/21	Presentations	Presentations: Groups of 2-3 students. 15-20 minutes. Visual aid required. Printed power point (handout-3 slides/pg) to place in lab notebook. Instructions on M-Drive	*CC 1-8 **GCC a-d
3/28	LAB Test #3 Research assignment assigned	LAB Test #3 (Ch: 24-25)	
4/4	LAB Test #4 /Make up day	LAB Test #4 (Ch:26-28)	*CC 1-8 **GCC a-d
4/11	MAKE UP EXAM DAY	No formal class if you're not making up a lecture exam	
4/18	Notebook submission day	Notebooks must be submitted this day! No exceptions!	*CC 7-9 **GCC a-d
4/25	Research Assignment due		*CC 7-9 **GCC a-d
4/27	FINALS-LAB & LECTURE	Comprehensive: all chapters (18-28) Lab and Lecture	*CC 7-9 **GCC a-d

COURSE COMPETENCY AREAS (CC):

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 EDUCATION CORE COMPETENCIES (GC)

Southeastern Technical College 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.
- d) The ability to effectively utilize basic computer skills.