

# Medical Vocabulary and Anatomy

3-0-3

Date: 05/19/2011

**COURSE NUMBER:** AHS 104

**PREREQUISITE(S):** ENG 032 and RDG 032 or placement

**CO-REQUISITE(S):** none

**COURSE DESCRIPTIONS:** This course introduces the fundamental principles of medical terminology and includes a survey of human anatomy and physiology.

**TEXTBOOK(S):** Thibodeau, Gary and Patton, Kevin. Structure And Function Of The Body. 13<sup>th</sup> Edition. St. Louis: Mosby, Inc., 2007. ISBN#978032303635X (this includes the access code)

**REFERENCE(S):** NA

**OTHER REQUIRED MATERIALS, TOOLS, AND EQUIPMENT:** Access to Blackboard  
Computer with Internet access, Internet Explorer 5.0 or higher or other current browser, Java, word processing software (must be able to save Word format), and anti-virus software.

**METHOD OF INSTRUCTION:** This course will cover information about the structure and function of the human body. The online format is designed for the independent learner. Only those students with basic computer skills who are highly motivated and disciplined should enroll in this course.

The course material is organized according to body systems. The material provided on line is supplemental to the required text. The course schedules and guidelines will help the student progress through the course. The course has a schedule with specific due dates for assignments and tests. The Blackboard portion of the course will become available to the student the first day of the semester. The internet format allows the student some flexibility in "class attendance". Attendance is essential to successful completion of this

course. Therefore it is suggested the student log into the course a minimum of three times per week.

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|-------------------------------|----|---|-----|---|---|
| <b><u>GRADING SYSTEM:</u></b> | 94 | - | 100 | = | A |
|                               | 85 | - | 93  | = | B |
|                               | 75 | - | 84  | = | C |
|                               | 70 | - | 74  | = | D |
|                               | 69 | - | 0   | = | F |

In order to pass AHS 104, an overall grade of 75% must be achieved.

|   |              |            |
|---|--------------|------------|
| <b><u>GRADE<br/>CALCULATION<br/>METHOD:</u></b> | Module Tests | 70%        |
|   | Assignments  | 15%        |
|   | Final Exam   | <u>15%</u> |
|   |              | 100%       |

**CONFIDENTIALITY:** All students' e-mail addresses may be available to other students in the class. Although some assignments in an online course may encourage or require peer communication, the instructor will make every effort to protect the confidentiality of any personal communication (for example, grades). However, you should recognize that e-mail and other electronic media are not secure; there is no guarantee of the privacy of your e-mail or other personal information.

**APPROPRIATE  
ONLINE BEHAVIOR:** The use of Spartanburg Community College's website, e-mail service or course management software for creation and/or distribution of material not pertaining to course participation is prohibited and is grounds for dismissal according to College policy under "disruptive behavior." Such actions, include, but are not limited to:

- Inappropriate use of email and discussion boards for:
  - ✓ Harassment
  - ✓ Unlawful solicitation
  - ✓ "Spamming"
  - ✓ "Flaming"
- Use of online editing tools within the course management software to:
  - ✓ Create offensive material
  - ✓ Link to inappropriate materials

**ATTENDANCE  
POLICY:** An electronic e-mail is required from each student to the instructor by the end of the drop/add period. At this time the

Instructor will drop the student from the course if it is not received.

Instructors maintain attendance records. However, it is the student's responsibility to withdraw from a course. A student who stops attending the online class and fails to initiate a withdrawal will remain on the class roster. *With this in mind, for every assignment, test or exam not completed while still enrolled in the course the student will receive a grade of zero and the final course grade will be calculated accordingly.*

Withdrawal Policy: During the first 75% of the course, a student may initiate withdrawal and receive a grade of W. A student cannot initiate a withdrawal during the last 25% of the course. Extenuating circumstances require documentation and approval by the appropriate department head and academic dean.

**ACADEMIC  
CONDUCT:**

ACADEMIC DISHONESTY: Students are expected to uphold the integrity of the College's standard of conduct, specifically in regards to academic honesty. All forms of academic dishonesty including, but not limited to, cheating on assignments/tests, plagiarism, collusion, and falsification of information will call for disciplinary action. Disciplinary action imposed may include one or more of the following: written reprimand, loss of credit for assignment/test, termination from course, and probation, suspension, or expulsion from the College. For further explanation of this and other conduct codes, please refer to the Student Handbook.

**CLASS/LAB  
PROCEDURES:**

All course information concerning assignments, quizzes, and tests can be located on the course **HOME PAGE** under the **START HERE** icon. Important dates for the course work will be available on a course schedule as well on the course calendar.

**Assignments**

A variety of assignment will be completed in the course to assist the student's comprehension of the chapter contents. Assignments will be located under the appropriate module link. Assignments will be submitted electronically in the Blackboard portion of the course. Any assignment not received by the due date and time will receive a grade of zero (0). Technology is not an excuse for late submission of an assignment.

### **Tests**

All module tests will be administered in the Testing Center (E-3) on the central campus of Spartanburg Community College. If the student would like to take the tests at the SCC Cherokee County Campus or Tyger River Campus, an e-mail request must be sent to the instructor within the first two weeks of the course.

Testing Lab hours can be located through the Testing Center link on the SCC Online Webpage.

Course tests will be available in the Testing Center for two days according to the schedule.

If a test is not taken during the specified time frame, the student will receive a grade of zero (0).

All students must take a comprehensive final exam in the SCC Testing Center on the designated dates on the course schedule. If the final exam is not taken according to the schedule, the student will receive a grade of zero (0).

If the student does not reside in the SCC service area, the student must contact the instructor to discuss a potential alternate testing site. Arrangements must be initiated by the student during the first week of the semester.

### **ACCOMMODATIONS:**

Students who need special accommodations in this class because of a documented disability should notify Student Disability Services. You may contact Student Disability Services by calling, (864) 592-4811, toll-free 1-800-922-3679; via email through the Spartanburg Community College web site at [www.sccsc.edu/SDS/](http://www.sccsc.edu/SDS/); or by visiting the office located in the Dan Lee Terhune Student Services Building, room 112 of the Spartanburg Community College campus. By contacting Student Disability Services early in the semester, students with disabilities give the College an opportunity to provide necessary support services and appropriate accommodations.

### **COURSE COMPETENCIES & OBJECTIVES:**

**Upon satisfactory completion of this course, the student will be able to:**

- I. Describe the body's organizational structure.
  1. Define anatomy and physiology.
  2. List the levels of organization in proper sequence.
  3. Identify the major body cavities and relative

terminology.

4. List the major systems of the body and the organs associated with each.
5. Define and use in relationships the terminology relative to body positions, planes, sections, and regions.
6. Describe the balance of body functions.

II. Describe the chemistry of life.

1. Define atom, element, molecule, and compound.
2. Describe the structure of the atom.
3. Compare and contrast ionic and covalent types of chemical bonds.
4. Distinguish between organic and inorganic chemical compounds.
5. Describe the chemical characteristics of water.
6. Explain the concept of pH.
7. Discuss the general characteristics of these organic molecules: carbohydrates, lipids, proteins, and nucleic acids.

III. Describe the cell.

1. Identify the general structure of a cell.
2. Identify the basic function of the major components of the cell.
3. Explain how substances move through the cell membrane.
4. Describe the basics of protein synthesis.
5. Define and describe mitosis or cell reproduction.

IV. Describe the general characteristics of tissues.

1. Identify the general characteristics, location, and function of epithelial tissue.
2. Identify the general characteristics, location, and function of connective tissue.
3. Identify the general characteristics, location, and function of muscle tissue.
4. Identify the general characteristics, location, and function of nerve tissue.

V. Describe the integumentary system including accessory organs, functions, and disorders.

1. Name the largest organ in the body.
2. Identify the major types of membranes.
3. List the general functions of the skin layers.
4. Identify the accessory organs of the skin.

5. Identify primary functions of the skin.
6. Describe the classification of burns.

VI. Describe the anatomy and physiology of the skeletal system.

1. Describe the major functions of the skeletal system.
2. Describe bone formation and growth.
3. Identify the types of bone found in the skeleton.
4. Describe the general structure of a long bone.
5. Identify the parts and function of the parts of long bones.
6. Differentiate between the axial skeleton and appendicular skeleton.
7. Identify the bones of the skeleton.
8. Differentiate between true ribs, false ribs, and floating ribs.
9. Identify the types of joints.
10. Differentiate between the male and female skeleton.

VII. Describe the anatomy and physiology of the muscular system.

1. Identify the types of muscle in the body.
2. Describe the structure of a skeletal muscle.
3. Identify the three major functions of skeletal muscles.
4. Describe the major events that occur during muscle fiber contraction.
5. Explain "threshold stimulus" and "all-or-none" response.
6. Differentiate between isotonic and isometric muscle contractions.
7. Recognize how the locations of skeletal muscles are related to the movements they produce.
8. Identify the location of the major skeletal muscles of each body region.
9. Identify the most common types of movement produced by skeletal muscles.

VIII. Describe the anatomy and physiology of the nervous system.

1. Identify the functions of the nervous system.
2. Identify the major divisions of the nervous system.
3. Identify a neuron and distinguish between sensory neurons and motor neurons (how an impulse is transmitted).
4. Identify the three layers of meninges.
5. Identify the three main sections of the brain and the

- divisional fissures.
  - 6. Identify the function and lobes of the cerebrum.
  - 7. Describe the formation and function of cerebrospinal fluid.
  - 8. List the divisions of the peripheral nervous system.
  - 9. Identify the number of cranial nerves.
  - 10. List the divisions of the autonomic nervous system.
- IX. Describe the anatomy and physiology of the general and special senses.
- 1. Differentiate sense organs as general or special.
  - 2. Explain the basic differences between general and special sense organs.
  - 3. Describe how a stimulus is converted into a sensation.
  - 4. Identify the parts of the ear and the function of each part.
  - 5. Identify the parts of the eye and the function of each part.
  - 6. Identify anatomical structures related to the production of tears.
  - 7. Describe colorblindness and night blindness.
  - 8. Identify the chemical receptors and their functions.
- X: Describe the anatomy and physiology of the endocrine system and specific hormones produced. \_
- 1. Identify exocrine and endocrine glands.
  - 2. Locate specific endocrine glands.
  - 3. Name the hormones and their functions when given the names of the major glands.
  - 4. Explain the relationship between the endocrine system and other body systems.
  - 5. Explain how hormone secretions are regulated by feedback mechanisms.
- X. Describe the general characteristics of blood and its major functions.
- 1. List the three main types of blood cells.
  - 2. Identify the function of the three types of blood cells.
  - 3. Identify the general characteristics of blood.
  - 4. Identify the function of blood.
  - 5. Explain how red blood cell production is controlled.
  - 6. List the major components of blood plasma.
  - 7. Identify the functions of the major components of blood plasma.
  - 8. Explain hemostasis and include in the explanation

how it is achieved.

9. Recognize the process of blood coagulation.
10. Explain the basis for blood typing and how it is used to avoid adverse reactions during a transfusion.
11. Name one complication which may result between an Rh negative mother and an Rh positive fetus.

XII. Describe the anatomy and physiology of the circulatory system.

1. Label the structures of the heart.
2. Identify the flow of blood through the heart.
3. Identify the three tissue layers of the heart wall.
4. Identify the process of oxygenation of the myocardium.
5. Identify the process of diastole and systole (cardiac cycle).
6. Identify the "normal" heart rate.
7. Recognize the production of heart sounds.
8. Name three types of blood vessels.
9. Identify the function of each type of blood vessel.
10. Identify the difference between arteries and veins.
11. Identify the largest artery of the body and its branches.
12. Identify the following systemic arteries and the areas they supply:
  1. carotid
  2. brachial
  3. radial
  4. femoral
13. Identify the following systemic veins:
  1. jugular
  2. median cubital
  3. subclavian
  4. great saphenous
14. Recognize the portal system including its function.
15. Differentiate between pulmonary and systemic circulation.
16. Differentiate between systolic and diastolic blood pressure.

XIII. Describe the anatomy and physiology of the lymphatic system.

1. Describe the functions of the lymphatic system.
2. List the primary structures of the lymphatic system.
3. Identify the major lymph vessels and the area they drain.

4. Differentiate between nonspecific and specific immunity, inherited and acquired immunity, and active and passive immunity.
5. Discuss the major types of immune system molecules and indicate how antibodies and complement function.

XIV. Describe the anatomy and physiology of the respiratory system.

1. Name the two basic functions of the respiratory system.
2. Name the organs of the respiratory system.
3. Identify the location of the respiratory organs.
4. Describe the significance of the alveoli.
5. Describe the process of respiration.
6. Identify the following volumes:
  - a. tidal volume
  - b. vital capacity
  - c. expiratory reserve volume
7. Identify the difference between exchange of gases in the lungs and exchange of gases in the tissues.
8. Recognize various types of breathing.

XV. Describe the anatomy and physiology of the digestive system.

1. Define the terms digestion and absorption.
2. List the functions of each organ of digestion.
3. Identify the related organs of the digestive system.
4. Describe the structure of the wall of the alimentary canal.
5. List the enzymes secreted by various digestive organs and the purpose of each.
6. List the digestive juices and their function

XVI. Describe the anatomy and physiology of the urinary system.

1. Identify the function of the urinary system.
2. Locate urinary organs.
3. Identify the function of each organ in the urinary system.
4. List the normal constituents of urine.
5. Recognize a nephron and explain the function of its major parts.
6. Identify how glomerular filtrate is produced and describe its composition.
7. Recognize the role of tubular reabsorption in the formation of urine.

8. Recognize the role of tubular secretion in urine formation.

XVII. Describe the anatomy and physiology of the reproductive system.

1. Locate the organs and accessory organs of the male reproductive system.
2. Identify the function of each male reproductive organ/accessory organ.
3. Identify the path followed by sperm cells from the site of formation to the outside of the body.
4. Recognize how hormones control the activities of the male reproductive system.
5. Identify the function of each female reproductive organ/accessory organ.
6. Identify the path followed by an egg cell after ovulation.
7. Identify the sequence of events occurring during the menstrual cycle.
8. Recognize how hormones control the activities of the female reproductive system.