

SAULT COLLEGE
of Applied Arts and Technology
Sault Ste. Marie

COURSE OUTLINE

Anatomy, Basic Physiology, Terminology
and Pharmacology
for

Medical Secretarial students

SPR 219-3

revised

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ANATOMY, BASIC PHYSIOLOGY, TERMINOLOGY AND PHARMACOLOGY
for
Medical Secretaries

SPR 219-3

COURSE DESCRIPTION

The course includes normal anatomy, basic physiology and microbiology as applied to the human body. It also includes information of common drugs, illnesses associated with the human body, and the use of the CPS (compendium of pharmaceuticals & specialties)

It is designed to enable the medical secretary to become competent in the terminology with which he/she will be using in his/her employment.

GENERAL OBJECTIVES

1. To gain a basic understanding of the way in which the normal human body is constructed and designed to function.
2. To gain a basic understanding of the role of microorganisms in health and disease.
3. To gain some information of pharmacology, the use of CPS (generic and trade names) of commonly used drugs.
4. To gain an adequate level of competency in spelling, pronouncing and applying terminology associated with the human body in health and disease.
5. To know the meaning and use of components in building a medical vocabulary (prefixes, suffixes, roots, combining forms, Greek and Latin verbal and adjectival derivatives. To know use of medical word book.
6. To have the student understand body functions by systems.
7. To teach the student to associate medical terms with body systems and functions.

MARKS

- A - consists of 85 - 100%, no failures and all assignments completed
- B - consists of 70 - 84%, and all assignments completed
- C - consists of 60 - 69%, and all assignments completed
- I - any mark below a C

TEXTS

1. Learning Medical Terminology - Young and Austrin (C.V. Mosby Co.) - fourth edition
2. Student's Workbook for Learning Medical Terminology - Young and Austrin - second edition (C.V. Mosby Co.)
3. Encyclopedia and dictionary of medicine and nursing - Miller/Keane
4. Medical Word Book - Sheila B. Sloane

MARKS CONSIST OF:

1. A short test or assignment at the end of each unit.
2. A final test at the end of each semester.
3. Term marks and final test - total mark out of 100%.

ANATOMY, BASIC PHYSIOLOGY, TERMINOLOGY AND PHARMACOLOGY
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COURSE REGULATIONS

1. If a student is unable to be present for a test, please notify the teacher involved before the test takes place.
2. Failure to notify the teacher will result in a mark of zero (0) on the test.
3. Tests will be rescheduled for those students at the teacher's discretion.
4. It is the responsibility of the student to discuss with the teacher the necessity of rescheduling the test.
5. There will be no make-up period for tests or the Mid-term test but there will be a make-up period for the Final or end-of-term test.

SPECIFIC OBJECTIVES

Unit 1 - Introduction to Medical Terminology

- A
 - 1. specific suggestions for learning medical terminology.
 - 2. pronouncing of medical terms.
 - 3. plurals for medical terms.
 - 4. spelling accurately of medical terms.
 - 5. to know the various sciences devoted to the study of the body and the cure of disease.
 - 6. to know and be familiar with the various medical specialities.
- B To know the meaning and use of components in building a medical vocabulary.
 - 1. prefix
 - 2. suffixs
 - 3. Greek and Latin verbal derivatives
 - 4. Greek and Latin adjectival derivatives
 - 5. Roots, and combining forms
 - a) external anatomy
 - b) internal anatomy
 - c) body fluids
 - d) body substances
 - e) colors
 - f) numerals

Unit 2 Structure of the Human Body

- 1. to know the classification and characteristics of living matter,
- 2. to know the structure of a typical cell.
 - a) composition of cells
 - b) meaning of mitosis - chromosomes
 - c) to know how osmosis, diffusion, and filtration affect the cells and therefore the body
 - d) to know the meaning of electrolytes and metabolism
- to spell, pronounce and state the meaning of anatomical terms relating to the body.
 - a) positions and directions
 - b) anatomic planes and postures
 - c) body regions and cavities
 - thorax and abdomen
 - posterior trunk
 - head
 - d) to know the organization of the viscera into systems
- To use the anatomical terms correctly and appropriately in written and verbal communications.
- To know the four main groups of tissue classification (tissues, organs, systems).
- To know the two types of abnormal growth and the common terms associated with each tumor (malignant and benign)
- To know the names of different membranes.
- Glossary pertaining to unit #, structure of body.

SPECIFIC OBJECTIVE

Unit 3 - Introduction to Pharmacology and Microbiology

1. To know the basic functions of drugs and side effects.
2. To know the major routes of administration of drugs.
3. To know the action of drugs in the body.
4. To know how to use the CPS.
5. To know how the meaning of Trade names and Generic names.
6. To know the meaning of prescription.
7. To know the common symbols used in charting and lab requisitions.
8. To know some drugs which are used to prevent illness.
9. To know some drugs which are used as diagnostic aids.
10. To know the terms commonly associated with disease.

Microbiology

1. To know the meaning of infection.
2. To know the common terms describing micro-organisms.
3. To know the basic concepts of microbial control.
4. To know some common antiseptics, disinfectants and anti-infective drugs.
5. To know the meaning of immunity, vaccines and serums.

Unit 4 - The Skeletal System

1. To know the composition, structure and blood supply of bone.
2. To know the development and growth of bone.
3. To know the main function and classification of bone.
4. To know the structural descriptive terms of bones:
 - a) skull
 - b) vertebral column
 - c) ribs
 - d) sternum
 - e) upper extremity
 - f) lower extremity
5. To be able to spell, pronounce and label a diagram of the skeleton.
6. To know the main function of joints.
7. To know the structure and classification of joints, (types of movements)
8. To know what bursae are.
9. To describe "briefly" the common disorders of bones and joints.
10. To know the glossary of unit #4 (skeletons)
 - a) bones and related anatomic terms
 - b) cartilage related anatomic terms
 - c) joints and related anatomic terms
 - d) diseases, tumors, surgical procedures, and description terms

SPECIFIC OBJECTIVES

Unit 5 - The Muscular System

1. To know the classification and composition of muscle cells.
 - a) voluntary striated, or skeletal, muscle
 - b) involuntary unstriated, or visceral, muscle
 - c) cardiac, or heart, muscle
2. To know the allied muscular structures (the 3 main attachment for muscles)
3. To know how muscles work.
4. To know the different types of movement of muscles.
5. To know the meaning of "muscle tonus".
6. To know how muscles are named.
7. To be able to locate the more important muscles of the body.
 - a) muscles of head, face, neck
 - scalp muscles
 - facial muscles
 - neck muscles
 - b) muscles of upper extremities
 - muscles of the shoulder
 - muscles of the upper limbs
 - c) muscles of the back, thorax, and abdominal wall
 - muscles of the back
 - muscles of the thoracic wall
 - muscles of the pelvis
 - d) muscles of the lower extremities
 - muscles of the hip and thigh
 - muscles of the leg and foot
8. To be able to spell and pronounce the most commonly used groups of major muscles.
9. To describe briefly the common disorder of muscles.
10. Glossary of unit 5 (muscular system)
 - a) muscles and related anatomic terms.
 - b) diseases, tumors, surgical procedure and descriptive terms.

Unit 6 - Integumentary System

1. To know the structure and composition of the skin.
2. To know the functions of the integument.
3. To briefly describe the accessories of the integumentary system.
 - hair
 - nails
 - sweat and sebaceous glands
 - breasts and lactation
4. Briefly describe common disorders of the integument.
5. Glossary of unit #6 (Integumentary System)
 - a) skin and breast, with related anatomic terms
 - b) diseases, tumors, and description terms of the skin
 - c) diseases, tumors, surgical procedures and descriptive terms of the breast

SPECIFIC OBJECTIVES

Unit 7 - Circulatory and Lymphatic Systems

- Circulatory System:
- To know the functions and constituents of blood.
 - To know the 4 blood types and the Rh factor.
 - To know the mechanism of clotting.
 - To be aware of the "Common Blood Tests" utilized for diagnosis.
e.g. terminology WCB, RBC ECT
 - To know the meaning of
 - a) homeostasis
 - b) normal body temperature
 - c) abnormal body temperature
 - 6. To know the effects of heat and cold on the body.
 - 7. To briefly describe the common disorders of the blood.
 - 8. To know the structure and function of the heart.
 - 9. To be able to label a basic diagram of the heart.
 - 10. To know the blood vessels of the heart and trace the circulation of it.
 - 11. To be aware of the very complex "conduction system" of the heart.
 - 12. To know the names of major blood vessels and their role in circulation that is the:
 - a) structure of arteries, veins and capillaries
 - b) function of arteries, veins and capillaries
 - 13. To briefly describe the common disorders of the heart.
 - 14. To briefly describe the common disorders of the blood vessels.
 - 15. To know what the Pulmonary Circulation is (basic function) and components.
 - 16. To know what the Systemic Circulation is (basic function) and components.
 - 17. To know what the Portal System is (basic function and components).,
 - 18. To know the meaning of "blood pressure."
 - 19. To know how to take a T.P.R. and B.P. and record the same.

B

Lymphatic or Lymph Vascular System

- 1. To know the major lymph vessels and glands.
- 2. To know the lymphoid organs.
- 3. To know the function and composition of the lymphatic system.
- 4. Briefly describe the common disorders of the lymphatic system.
- 5. Glossary of Unit 7 (cir. & lymph system)
 - a) blood, heart, vessels, lymphatics, and related anatomic terms
 - b) diseases, tumors, surgical procedures and descriptive terms
 - c) diseases, tumors and surgical procedures of the spleen

SPECIFIC OBJECTIVESUnit 8 - Respiratory System

1. To know the functions and structures of the respiratory system.
 - a) nose
 - b) pharynx
 - c) larynx
 - composition and structure of larynx
 - d) vocal cords
 - e) trachea
 - f) bronchi
 - g) lungs
 - h) mediastinum
 - i) diaphragm
2. To know the basic process of breathing-the meaning of respiration.
3. To be able to label a diagram of the respiratory system.
4. To know the terms for
 - a) abnormal respiration
 - b) common surgical procedures of the respiratory system
5. Briefly describe the common disorders of the respiratory system.
6. Glossary of Unit #8 (Respiratory system)
 - a) lungs, pharynx, larynx, trachea, and related anatomic terms
 - b) nose and paranasal sinuses
 - c) diseases, tumors, surgical procedures and descriptive terms

Unit 9 - Gastrointestinal System

1. To know the structures and locations of the various parts of the digestive system.
 - a) mouth
 - b) pharynx
 - c) esophagus
 - d) stomach
 - e) small intestines
 - f) pancreas
 - g) liver
 - h) biliary system
 - i) gallbladder
 - j) large intestines
 - k) abdominal cavity
2. To know the basic functions of each part of the digestive system.
3. To be able to label a diagram of the digestive system.
4. To know the mechanism of swallowing and the digestive process.
5. To know the importance of the common vitamins, minerals, carbohydrates, fats, proteins, and water within the body.
6. To briefly describe the common disorders of the digestive system.
7. To know the common terminology associated with dentistry.
8. To label a diagram of the upper and lower arches of the mouth.
9. Glossary of Unit #9
 - a) gastrointestinal organs and related anatomic terms
 - b) diseases, tumors, surgical procedures and descriptive terms

SPECIFIC OBJECTIVES

Unit 10 - Urinary System

1. To know the basic function and structure of the urinary system:
 - a) kidneys
 - b) ureters
 - c) urinary bladder
 - d) urethra
2. To be able to label a diagram of the urinary system.
3. To know the constituents of normal and abnormal urine.
4. To briefly describe the common disorders of the urinary system.
5. Glossary of Unit #10
 - a) urinary tract organs and related anatomic terms.
 - b) diseases, tumors, surgical procedures, and descriptive terms of the urinary tract.

Unit 11 - The Reproductive System

1. To know the structure and function of the male reproductive system.
 - a) testes (testicles)
 - b) epididymis
 - c) vas deferens, (ductus deferens)
 - d) spermatic cord
 - e) seminal vesicles
 - f) ejaculatory duct
 - g) prostate gland
 - h) bulbourethral glands (cowper's glands)
 - i) urethra
 - j) penis
 - k) scrotum
2. To briefly describe some common disorders of the male reproductive system.
3. To know the structure and function of the female reproductive system.
 - a) ovaries
 - b) uterus (womb)
 - c) fallopian tubes (uterine tubes)
 - d) vagina
 - e) external genitalia
4. To briefly describe some common disorders of the female reproductive system.
5. To understand the menstrual cycle.
6. To know the meaning of menarche and menopause.
7. To know terms associated with pregnancy, development of the fetus and childbirth (parturition).
8. To briefly describe some common disorders of pregnancy, e.g. "toxic E crampsia."
9. Glossary of Unit #11.
 - a) male reproductive organs
 - b) female reproductive organs and related anatomic terms
 - c) pregnancy and related anatomic terms
 - d) diseases, tumors, surgical procedures and descriptive terms of the reproductive organs

SPECIFIC OBJECTIVESUnit 12 - Endocrine System

1. To know the difference between exocrine and endocrine glands.
2. To know the names, location and basic function of the endocrine glands.
 - a) thyroid
 - b) parathyroid
 - c) pituitary gland (also called hypophysis)
 - d) adrenal glands (suprarenial glands)
 - e) gonads
 - f) pineal gland (epiphysis cerebri)
 - g) thymus
 - h) pancreas
 - i) intestinal glands
3. To know the definition of hormones.
4. To know the more prominent specific hormone for each endocrine gland.
5. To know the functions of hormones.
6. To briefly describe the common disorders of the endocrine glands.
7. Glossary of Unit #12
 - a) endocrine glands and related anatomic terms
 - b) diseases, tumors, surgical procedures, and descriptive terms

Unit 13 - The Nervous System

1. To know the anatomic classification and basic function of the nervous system.
2. To know the anatomic classification and basic function of the nervous system.
 - a) Central Nervous System
 - meninges
 - brain
 - functional areas of the cerebral cortex
 - cerebrospinal fluid
 - electroencephalograph
 - b) Peripheral Nervous System
 - reflex action
 - cranial nerves
 - spinal cord (structure)
 - c) Autonomic Nervous System
 - sympathetic
 - parasympathetic
3. To know the anatomy and physiology of a typical neuron.
4. To know the basic structure and main functions of the brain.
5. To know the basic structure and main function of the spinal cord.
6. To know the basic structure and main function of the meninges.
7. To know the function of cerebrospinal fluid.
8. To describe briefly the common disorders of the brain and spinal cord.
9. To be familiar with the name and number of cranial nerves.
10. To be familiar with the name and number of the spinal nerves.
11. To know the main function of the autonomic nervous system.
12. To describe briefly the common disorders of nerves.
13. Glossary for unit #13.
 - a) brain, spinal cord, and related anatomic terms
 - b) nerve structures and related anatomic terms
 - c) nervous system
 - d) cranial nerves
 - e) spinal nerves (peripheral)
 - f) diseases, tumors, surgical procedures, and descriptive terms.

SPECIFIC OBJECTIVESUnit 14 - Special Senses

1. To be aware of the various senses and sensory mechanisms.
 - a) smell - nose
 - b) taste
 - c) sight - structure of eye
 - d) hearing - ear
 - leustrachian tube
 - mechanism of hearing
 - e) touch
2. To know the basic structure and function (physiology) of the eye.
3. To briefly describe the common disorders of the eye.
4. To know the basic structure and function (physiology) of the ear.
5. To briefly describe the common disorders of the ear.
6. To know the basic physiology of the senses of taste, smell, thirst, hunger, pressure, temperature, touch, pain and position.
7. Glossary for Unit #11.
 - a) nose and related anatomic terms
 - b) eye and related anatomic terms
 - c) ear and related anatomic terms
 - d) diseases, tumors, surgical procedures and descriptive terms of the eye
 - e) diseases, tumors, and descriptive terms of the ear
 - f) terms referring to smell