BIOL G120: HEALTH AND DISEASE

Item	Value
Curriculum Committee Approval Date	11/02/2021
Top Code	041000 - Anatomy and Physiology
Units	3 Total Units
Hours	90 Total Hours (Lecture Hours 36; Lab Hours 54)
Total Outside of Class Hours	0
Course Credit Status	Credit: Degree Applicable (D)
Material Fee	Yes
Basic Skills	Not Basic Skills (N)
Repeatable	No
Grading Policy	Standard Letter (S)
Local General Education (GE)	• GWC Physical Universe*** (GB1)
California General Education Transfer Curriculum (Cal-GETC)	• Cal-GETC 5B Biological Sciences (5B) • Cal-GETC 5C Laboratory Activity (5C)
Intersegmental General Education Transfer Curriculum (IGETC)	• IGETC 5B Biological Sciences (5B) • IGETC 5C Laboratory Activity (5C)
California State University General Education Breadth (CSU GE-Breadth)	• CSU B2 Life Science (B2) • CSU B3 Laboratory Activity (B3)

Course Description

This course is an introduction to the study of human anatomy and physiology with a comprehensive study of diseases which affect humans. Diseases will be studied from historical and contemporary points of view, with particular references to causes, means of transmission, and normal and abnormal functioning of the body. Transfer Credit: CSU; UC.

Course Level Student Learning Outcome(s)

1. Course Outcomes
2. Apply a variety of methods to solve problems.
3. Apply critical thinking and analytical skills to correctly interpret data.
4. Describe the four major types of tissues and examples of each.
5. Formulate the major components of the immune system and how they work together to defend the body from pathogens.
6. Identify the eleven major systems of the body and the major diseases that affect these systems.

Course Objectives

- 1. Identify the major organs of the body and tell how each organ functions within a normal individual.
- 2. Describe the symptoms of the major diseases of each organ system and tell how they affect the normal functioning of the body.
- 3. Explain how diseases are contracted and what factors are most important in putting a patient at risk of contracting or spreading the disease.
- 4. Describe in detail the major diseases that affect the population of the United States at this time in history.
- 5. Explain the role of the immune system in disease prevention and as a cause of disease.
- 6. Perform simple clinical tests used in the diagnosis of disease using instruments used in the study of pathology and the diagnosis of disease, such as the microscope, audiometer, sphygmomanometer, stethoscope, and spirometer.
- 7. Explain what diseases are likely to affect each of the major structures of the body.
- 8. Identify histological sections of the major organs in their healthy and diseased state, and to identify the diseases involved.
- 9. Identify the major organisms and diseases they cause.

Lecture Content

Introduction to the course Scientific nomenclature Types of diseases Causitive factors of diseases The organization of the human body, cells, tissues and the body systems. The immune system Its role in defenses against diseases and causes of allergies Diseases affecting the immune system. The respiratory system The normal anatomy and functioning of the respiratory system. The diseases that impair the functioning of the respiratory system. The digestive system The normal anatomy and functioning of the disgestive system. The diseases that impair the functioning of the digestive system. The circulatory system The normal anatomy and functioning of the circulatory system. The diseases that impair the functioning of the circulatory system. The excretory system The normal anatomy and functioning of the excretory system. The diseases that impair the functioning of the excretory system. The nervous system The normal anatomy and functioning of the nervous system. The diseases that impair the functioning of the nerovus system. The integumentary system and the senses. The normal anatomy and functioning of the integumentary system The special senses The diseases that impair the functioning of the integumentary system. The diseases that impact the sensory system. The skeletal and muscular system The normal anatomy and functioning of the skeletal and muscluar systems. The diseases that impair the functioning of the skeletal and muscular systems. The endocrine system The normal anatomy and functioning of the endocrine system. The disease s that impair the functioning of the endocrine system. The reproductive system The normal anatomy and functioning of the reproductive system. The diseases that impair the functioning of the reproductive system. Genetics and hereditary A review of genetics Hereditary diseases

Lab Content

Introduction to the course Review scientific nomenclature Metric system Body systems overview using lab models Microscopy of tissues Principles of the periodic table Basic chemistry Atomic structure Ionic and covalent bonds Introduction to macromolecules The respiratory system Anatomy of the respiratory system with lab models Spriromentry The digestive system Anatomy of the gastrointestinal system with lab models Digestion of starch and proteins The circulatory system Anatomy of the circulatory system with lab models Blood pressure using stethoscope and sphygmomanometer The urinary system Anatomy of the urinary system with lab models Histology slides Urinalysis The nervous system Anatomy of the nervous system with lab models

Histology slides The integumentary system and the special senses Anatomy of the integumentary system with lab models Otoscopy Opthalmoscopy The skeletal and muscular systems Anatomy of the skeletal system and muscular system with lab modles Histology slides The endocrine system Anatomy of the endocrine system with lab models Histology slides Diabetes The reproductive system Anatomy of the reproductive system with lab models Genetics and diseases of hereditity Lab models Case study

Method(s) of Instruction

- Lecture (02)
- DE Live Online Lecture (02S)
- DE Online Lecture (02X)
- Lab (04)
- DE Live Online Lab (04S)
- DE Online Lab (04X)

Reading Assignments

Assigned material in the textbook. Handouts of lecture notes. Assigned reading of recent advances in medicine from current journals.

Writing Assignments

1.Report on a disease.2.Essay questions of assigned readings.3.The performance of simple clinical tests used in the diagnosis of diseases.4.The use of the microscope and its care.5.Interpreting the results of clinical tests.6.Solving of simple genetics problems.

Out-of-class Assignments

Research a disease using the library database. Summarize current journal article.

Demonstration of Critical Thinking

1.Identification of histological sections as to their tissue of origin and presence of diseased conditions.2.Identification of disease causing organisms.3.Identification of the major organs of the body.4.Be able to tell what diseases are likely to attach each of the major organs of the body.5.Describe preventive measures to avoid getting diseases.6.Genetic problems for calculation of probability of contracting a trait.

Required Writing, Problem Solving, Skills Demonstration

1.Report on a disease.2.Essay questions of assigned readings.3.The performance of simple clinical tests used in the diagnosis of diseases.4.The use of the microscope and its care.5.Interpreting the results of clinical tests.6.Solving of simple genetics problems.

Eligible Disciplines

Biological sciences: Masters degree in any biological science OR bachelors degree in any biological science AND masters degree in biochemistry, biophysics, or marine science OR the equivalent. Masters degree required. Nursing: Masters degree in nursing OR bachelors degree in nursing AND masters degree in health education or health science OR the equivalent OR the minimum qualifications as set by the Board of Registered Nursing, whichever is higher. Masters degree required.

Textbooks Resources

1. Required Cohen, B.J, Hull, K.L. Memmlers The Human Body in Health and Disease, 14 ed. Wolters Kluwer, 2019

Manuals Resources

1. Barlett. Human Life Science Lab Manual, 3 ed., Kendall Hunt , 01-01-2020

Other Resources

1. Handouts of lecture notes and laboratory procedures.