BIOL-105: HUMAN BIOLOGY

Effective Term
Fall 2025

CC Approval
02/07/2025

AS Approval
02/13/2025

BOT Approval
02/20/2025

COCI Approval
04/30/2025

SECTION A - Course Data Elements

CB04 Credit Status
Credit - Degree Applicable

Discipline

Minimum Qualifications	And/Or
Biological Sciences (Master's Degree)	

Subject Code
BIOL - Biology
Course Number
105

Department
Biology (BIOL)

Division
Science and Engineering (SE)

Full Course Title
Human Biology

Short Title
Human Biology

CB03 TOP Code
0401.00 - Biology, General

CB08 Basic Skills Status
NBS - Not Basic Skills

CB09 SAM Code
E - Non-Occupational

Rationale
Update Math recommendation to match Chem 110 language since Chem 110 is now a pre/co-requisite. Remove English requirement since English 90 is no longer offered.
Additional update of common course numbering course change.

SECTION B - Course Description

Catalog Course Description
A survey of human biology focusing on anatomy, physiology, cell development, tissues, organs, and organ systems. The course also covers molecular biology, genetics, human evolution, and diversity. Laboratories include microscopic observations, experiments, and

animal dissections. This course is specifically designed for health occupations students as a prerequisite to Human Anatomy and Human Physiology, but is also designed for non-majors.

SECTION C - Conditions on Enrollment

Open Entry/Open Exit
No

Repeatability
Not Repeatable

Grading Options
Letter Grade or Pass/No Pass

Allow Audit
Yes

Requisites

Prerequisite(s)
Completion of CHEM-110 and Intermediate Algebra, MATH-93 or STAT-C1000 with a minimum grade of C or appropriate placement.

Corequisite(s)
Concurrent enrollment in or previous completion of CHEM-110 with a minimum grade of C.

Requisite Justification

Requisite Description
Course Not in a Sequence

Subject
CHEM
Course #
110

Level of Scrutiny
Content Review

Upon entering this course, students should be able to:
1. Use of metric measurements.
2. Familiarity with atomic structure and bonding.
3. Conceptual understanding of reduce reactions.

SECTION D - Course Standards

Is this course variable unit?
No

Units
4.00

Lecture Hours
54.00

Lab Hours
54.00

Outside of Class Hours
108

Total Contact Hours
108

Total Student Hours
216

Distance Education Approval

Is this course offered through Distance Education?
Yes

Online Delivery Methods

DE Modalities	Permanent or Emergency Only?
Hybrid	Permanent
Entirely Online	Permanent
Online with Proctored Exams	Permanent

SECTION E - Course Content

Student Learning Outcomes

	Upon satisfactory completion of the course, students will be able to:
1.	Demonstrate a fundamental understanding of the anatomy and physiology of the major organ systems in humans.
2.	Demonstrate a basic understanding of the scientific method.

Course Objectives

	Upon satisfactory completion of the course, students will be able to:
1.	Apply scientific methodology to the study of human biology.
2.	Apply basic principles of chemistry to human biology.
3.	Describe the structure and function of cells and the processes of cell division (mitosis and meiosis).
4.	Identify the major microscopic and macroscopic structural features of the human body.
5.	Provide examples of the relationship between anatomical structures and body functions.
6.	Identify the organ systems of the body and their major components and functions.
7.	Describe the fundamental mechanisms of heredity and perform basic genetics calculations.
8.	Describe some commonly encountered pathological and genetic conditions.
9.	Discuss the function of the immune system in health and disease.

Course Content

The course content is drawn primarily from contemporary texts used in the field of human biology. This is supplemented with current articles from scientific journals. The lectures emphasize body function (physiology), while laboratory work focuses on structure (anatomy). Cell division and genetics are covered in both lecture and laboratory.

1. LECTURE OUTLINE
    a. Scientific method
    b. Organization of the human body and the concept of homeostasis
    c. Biological chemistry
    d. Cell biology including cell structure, cell division, cellular metabolism, DNA structure and replication, and protein synthesis
    e. Tissues
    f. Skin and the integumentary system
    g. The musculoskeletal system
    h. The nervous system including function, organization, integration, and physiology of neurons
    i. Endocrine system
    j. Cardiovascular system
    k. Composition and function of blood
    l. Body defenses and immunity
    m. Respiratory system
    n. Digestive system and enzymes
    o. Urinary system and osmoregulation

p. Reproduction
q. Human genetics

2. LABORATORY OUTLINE
   a. Laboratory safety
   b. Use of the light microscope
   c. Metric system and measurements
   d. Cell structure and division
   e. Biological chemistry and nutrition
   f. Body tissues
   g. Introduction to animal dissection
   h. Digestive system
   i. Blood and the cardiovascular system
   j. Skeletal system
   k. Human genetics

Methods of Instruction

Methods of Instruction

Types	Examples of learning activities
Lecture	Lecture covering topics in course ontent with images
Discussion	Group discussion of relevant research and topics

Instructor-Initiated Online Contact Types

Announcements/Bulletin Boards
Chat Rooms
Discussion Boards
E-mail Communication
Telephone Conversations
Video or Teleconferencing

Student-Initiated Online Contact Types

Chat Rooms
Discussions
Group Work

Course design is accessible

Yes

Methods of Evaluation

Methods of Evaluation

Types	Examples of classroom assessments
Exams/Tests	Lecture examinations will consist of objective questions in a variety of formats including short answer, multiple choice, and essay questions. Lab examinations involve identifying microscopic and macroscopic structures and relating them to their functions.
Quizzes	Quizzes will be short examinations dealing with both lecture material and laboratory exercises.
Homework	Homework assignments will include solving Medelian genetic calculations, chemistry problem sets,and keeping a food diary to perform a nutritional analysis of the student's diet.
Lab Activities	Students will perform laboratory exercises including using microscopes to examine and identify cellular structures and tissues; dissections of preserved animal specimens; identification of skeletal bones. Students will keep an organized lab notebook of their observations of anatomical, physiological, and genetic exercises performed in the laboratory. The lab notebook will be evaluated by the laboratory instructor.

Assignments

Reading Assignments
Selected readings from the required textbook and laboratory manual. For example: 1. Read chapter 1 from "Biology of Humans" covering the scientific method. 2. Read exercise 1 in the laboratory manual and summarize the procedures to be performed in lab.

Writing Assignments
Writing assignments are graded on scientific accuracy, organization, and correct use of English grammar and spelling. For example: 1. Laboratory notebook 2. Dietary analysis 3. Genetic problem set 4. Chemistry problem set

Other Assignments
-

SECTION F - Textbooks and Instructional Materials

Material Type
Textbook

Author
Goodenough and McGuire

Title
Biology of Humans: Concepts, Applications, and Issues

Edition/Version
6th

Publisher
Pearson Prentice Hall

Year
2017

Material Type
Textbook

Author
Mader and Windelspecht

Title
Human Biology

Edition/Version
14th

Publisher
McGraw Hill

Year
2016

Material Type
Textbook

Author
Johnson, M.

Title
Human Biology: Concepts and Current Issues

Edition/Version
9th

Publisher
Pearson

Year
2022

Material Type
Other required materials/supplies

Description
A lab fee may be required.

Course Codes (Admin Only)

ASSIST Update
Yes

CB00 State ID
CCC000590096

CB10 Cooperative Work Experience Status
N - Is Not Part of a Cooperative Work Experience Education Program

CB11 Course Classification Status
Y - Credit Course

CB13 Special Class Status
N - The Course is Not an Approved Special Class

CB23 Funding Agency Category
Y - Not Applicable (Funding Not Used)

CB24 Program Course Status
Program Applicable

Allow Pass/No Pass
Yes

Only Pass/No Pass
No