



COURSE OUTLINE : BIOL 115

D Credit – Degree Applicable

COURSE ID 005078

Cyclical Review: May 2019

Revision: October 2021

COURSE DISCIPLINE : BIOL

COURSE NUMBER : 115

COURSE TITLE (FULL) : Human Biology

COURSE TITLE (SHORT) : Human Biology

ACADEMIC SENATE DISCIPLINE: Biological Science

CATALOG DESCRIPTION

BIOL 115 is an introductory course covering biological principles as they apply to the human body. The central theme is the structure and function of the human organism. Topics covered include the scientific method and the characteristics of life, homeostasis and the human internal environment, basic body directional terminology, and the organization and functions of the human body including cells, tissues, the major body systems, heredity and aging, and selected major human conditions and diseases. A weekly laboratory allows students the opportunity to gain practical experience in the techniques necessary to study the health sciences.

Total Lecture Units:3.00

Total Laboratory Units: 1.00

Total Course Units: 4.00

Total Lecture Hours:54.00

Total Laboratory Hours: 54.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 108.00

Total Out-of-Class Hours: 108.00

Recommended Preparation: ENGL 100 or ESL 151.



ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1	ESL	151	Reading And Composition V	read and critically analyze various academic readings;	Yes
2	ESL	151	Reading And Composition V	summarize readings;	Yes
3	ESL	151	Reading And Composition V	organize fully-developed essays in both expository and argumentative modes;	Yes
4	ESL	151	Reading And Composition V	revise writing to eliminate errors in syntax, and grammatical constructions;	Yes
5	ENGL	100	Writing Workshop	read, analyze, and evaluate contemporary articles and stories for the comprehension of difficult content and the identification of main ideas and (topic-based) evidence;	Yes
6	ENGL	100	Writing Workshop	write compositions (e.g., summaries and argumentative essays) that are easy to read and follow, though some errors in grammar, mechanics, spelling, or diction may exist;	Yes

EXIT STANDARDS

- 1 Identify the body systems, their organs and functions;
- 2 describe the structure and functions of the cell and its organelles;
- 3 recognize the primary tissues of the human body and their relationship to body organs;
- 4 explain the homeostatic mechanisms of human organ systems;
- 5 describe the cause and effect of selected major diseases and conditions of the humanbody;
- 6 describe the scientific method and apply it to the homeostasis of the human body;
- 7 correctly use basic body directional terminology;
- 8 explain the effects of heredity, development and aging on homeostasis.

STUDENT LEARNING OUTCOMES

- 1 correctly apply the basic terminology needed to study the human body, describe the structure and function of the cellular organelles and tissues, and apply this knowledge to the concept of homeostasis;
- 2 identify and describe the basic anatomy and physiology of the various organ systems of the human body, focusing on relationships to the normal aging process, some relevant major diseases and/or pathological conditions.



COURSE CONTENT WITH INSTRUCTIONAL HOURS

COURSE OUTLINE : BIOL 115

D Credit – Degree Applicable

COURSE ID 005078

Cyclical Review: May 2019

Revision: October 2021

	Description	Lecture	Lab	Total Hours
1	<p>The Human Organism</p> <ul style="list-style-type: none"> • The organization of the human body (structure and function) • The scientific method, homeostasis, and the characteristics of life • Human body directional terminology 	3	3	6
2	<p>Cells and Tissues</p> <ul style="list-style-type: none"> • Basic body chemistry (inorganic and organic molecules) • Cell structure and function • Cell organelles, and the cellular aspects of aging • Human body tissues and histology 	7	7	14
3	<p>The Integumentary System and Its Disorders</p> <ul style="list-style-type: none"> • Integumentary system functions • The skin and subcutaneous tissue • Accessory skin structures • Selected pathologies and aging 	3	2	5
4	<p>The Human Skeleton (Support) and Muscles (Movement)</p> <ul style="list-style-type: none"> • Skeletal system functions and bone formation • The axial and appendicular skeleton • Joints and the effects of aging on the skeletal system • Muscular system functions • Skeletal muscle characteristics • Smooth and cardiac muscle • Skeletal muscle anatomy • Muscle contraction and the effects of aging on muscle 	10	10	20



5	<p>The Nervous System, Senses and Human Behavior</p> <ul style="list-style-type: none"> • Nervous system divisions and functions • Nervous tissue • The central and peripheral nervous systems • Sensory and motor functions • The autonomic nervous system • The special senses • The enteric nervous system • The effects of aging on the nervous system 	8	9	17
6	<p>Digestion and Diet</p> <ul style="list-style-type: none"> • Anatomy and histology of the digestive system • Digestion, absorption, and transport • Effects of aging on digestion 	5	4	9
7	<p>Respiration and Its Disorders</p> <ul style="list-style-type: none"> • Anatomy of the respiratory system • Ventilation and respiratory volumes • Gas exchange and transport • Respiratory adaptations to exercise and aging 	3	4	7



8	<p>Circulation, Lymphatics and Immunity</p> <ul style="list-style-type: none"> • The composition and function of blood • Blood grouping • Anatomy and histology of the heart • Electrical activity of the heart, the cardiac cycle and heart sounds • Heart regulation and the aging heart (cardiovascular disease) • Blood vessel structure, histology and function • Blood vessels of the systemic circulation (arteries and veins) • Physiology of circulation and blood pressure • Aging blood vessels • Anatomy and function of the lymphatic system • Innate, adaptive and acquired Immunity • Effects of aging on the lymphatic and Immune systems 	7	7	14
9	<p>Reproduction and Development</p> <ul style="list-style-type: none"> • The male and female reproductive systems structure and function • Formation of gametes • Traits, chromosomes, sex determination, life stages and genetics • Effects of aging on the reproductive system 	4	3	7
10	<p>The Endocrine System and Homeostasis</p> <ul style="list-style-type: none"> • Endocrine glands and their hormones • Aging and the endocrine system 	2	2	4
11	<p>The Urinary System and Excretion</p> <ul style="list-style-type: none"> • Anatomy and physiology of the kidneys • Urine production • Regulation and the kidneys • Urine movement, storage and micturition 	2	3	5
				108



COURSE OUTLINE : BIOL 115
D Credit – Degree Applicable
COURSE ID 005078
Cyclical Review: May 2019
Revision: October 2021

OUT OF CLASS ASSIGNMENTS

- 1 laboratory reports (e.g., label directional terminology worksheet; label human brain diagram);
- 2 assigned readings from the textbook.

METHODS OF EVALUATION

- 1 laboratory reports;
- 2 laboratory quizzes;
- 3 laboratory practical exam;
- 4 midterm exams;
- 5 final exam.

METHODS OF INSTRUCTION

- Lecture
- Laboratory
- Studio
- Discussion
- Multimedia
- Tutorial
- Independent Study
- Collaboratory Learning
- Demonstration
- Field Activities (Trips)
- Guest Speakers
- Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	ISBN	Date
Seeley's Essentials of Anatomy & Physiology	Required	WCB/McGraw-Hill	10	print	VanPutte, C., J. Regan, and A. Russo	978-1-259-86464-3	2019