

ARTICULATION AGREEMENT

DATE DRAFTED: May 17, 2018

VALID ACADEMIC YEAR(S): 2018-19

LMC COURSE: BIOS-030 Introduction to Anatomy and Physiology

HIGH SCHOOL COURSE: Anatomy & Physiology

School: Heritage High School

Address: 101 American Ave., Brentwood, CA 94513

A. COLLEGE COURSE DESCRIPTION: This course is designed to cover basic anatomy and physiology. Fundamentals of body structure and function and the elegant interrelationships between body organs and how they perform will be explored. All of the systems of the body, including very basic microscopic anatomy and simple physiological chemistry will be covered in this one semester course.

B. UNITS: 4

C. PRE-REQUISITES: NA

D. REQUIRED CONTENT FOR ARTICULATION:

Content areas covered in the one year course:

1. Introduction to Anatomy and Physiology
 - a. The Birth of Modern Medicine
 - b. Inductive and Deductive method of study, Experimental Design, Peer Review
 - c. Anatomical Positions and Planes, Terminology for directional terms, body cavities and regions.
 - d. Homeostasis and feedback loops
 - e. Organ systems overview
2. Biochemistry Review
 - a. Review of atoms, molecules
 - b. Metabolism, Catabolic and Anabolic reactions in the body
 - c. Membrane Transport concepts, Osmosis and Diffusion
 - d. Protein structure and Enzyme Functions
3. Integumentary System
 - a. Skin Structure and Organization of skin layers
 - b. Histology of Epidermal, Dermal and Hypodermal skin cells
 - c. Glands, Hair, Nails, and Skin Disorders
 - d. Skin Cancer
4. Tissues and Organs of the Skeletal System
 - a. Histology and Organization of Bone cells
 - b. Physiology of Osseous Tissue
 - c. Bone Development
 - d. Bone Disorders

5. Skeletal System
 - a. Anatomical Features of Bone
 - b. Skull bones
 - c. Appendicular Bones
 - d. Hip, Vertebral, and Thoracic Bones

6. Muscular System
 - a. Anatomy and Histology of Muscles
 - b. Nerve Muscle Relationship, Sliding Filament theory of Muscle Contraction
 - c. Whole Muscle Behavior
 - d. Muscle Metabolism
 - e. Naming muscles, Muscles of the Appendicular Regions
 - f. Muscles of the Trunk
 - g. Muscles of the Head, Neck, and Face.

7. Nervous System
 - a. Nervous Tissue Organization, CNS, PNS, and Autonomic Systems
 - b. Anatomy and Histology of Nervous Tissue
 - b. Histology of Supporting Nervous Tissues
 - c. Nerve Regeneration
 - d. Synaptic Action of Nerves
 - e. Spinal Cord Structure, Organization and Physiology
 - f. Brain Structure, Organization and Physiology
 - g. Disorders of the Nervous System

8. Sensory Organs
 - a. Properties and Types of Sensory Receptors
 - b. Sense of Touch and General Senses
 - c. Chemical Senses of Taste and Smell
 - d. Hearing and Equilibrium and Vision
 - e. Projection Pathways for the above Senses

9. Endocrine System
 - a. Overview of the Endocrine System
 - b. Glands, Hormones, and their Actions
 - c. Stress and the Endocrine System
 - d. Disorders due to Endocrine Malfunctions

10. Circulatory System
 - a. Gross Anatomy of the Heart
 - b. Anatomy and Physiology of the Major Veins and Arteries
 - c. Capillary Exchange
 - c. Blood Pressure and its Control
 - d. Cardiac Conduction System and Cardiac Muscle
 - e. Cardiac Cycle, Cardiac Output and VO₂Max

11. Respiratory System
 - a. Gross Anatomy of the Lungs
 - b. Gas Exchange and Transport
 - c. Pulmonary Capacity
 - d. Respiratory Disorders

12. Urinary System
 - a. Functions of the Urinary System
 - b. Anatomy of the Kidney
 - c. Physiology of Glomerular Filtration
 - d. Tubular Resorption and Secretion and Water Homeostasis
 - e. Acid-Base and Electrolyte Balance

13. Digestive System
 - a. Anatomy of the Digestive Processes
 - b. Pathway and Physiology of Digestion from Mouth, Esophagus, Stomach, Liver, Gallbladder, Pancreas, Small and Large Intestines.
 - c. Functions of Acids, Bases, Enzymes and Bacteria in the digestive Processes

14. Lymphatic and Immune System
 - a. Components of the Non-Specific Immune Response
 - b. Cellular and Humoral Immunity
 - c. Immune System Disorders

15. Reproductive System
 - a. Basic Anatomy of male and female Reproductive Organs
 - b. Physiology of Hormone Roles in Various Ages

E. REQUIRED COMPETENCIES (PERFORMANCE OBJECTIVES) FOR ARTICULATION

HHS Anatomy and Physiology is a lab based course dedicated to the study of human body systems. Students will through lecture, experimentation, projects, and inquiry, develop an understanding of the structures and functions of human organ systems. Students will learn gross and microscopic anatomy which will lead to understanding the relationships between the anatomy and the physiology of the human body. Students will:

- Learn gross and microscopic anatomy
- Understand the relationships between anatomy and the physiology of the human body.
- Learn simple physiological chemistry

F. METHODS FOR END OF COURSE ASSESSMENT:

Grades:

Test and Quizzes	70%
Work	30%
A	90 – 100
B	80 – 89
C	70 – 79
D	60 – 69
F	59 and Below

* A semester grade of “A” will relieve you from midterm/final

G. PROCEDURES AND/OR CRITERIA FOR COURSE ARTICULATION:

1. Complete the Physiology course at Heritage High School with a grade of “B” or better.
2. Complete the LMC “Credit by Exam” procedure with a grade of “B” or better.
3. Apply for admission at Los Medanos College.
4. Register for CATEMA for electronic submission of college credit **OR** obtain copy of high school transcript and articulation agreement and submit to the LMC Office of Admissions & Records.
5. Upon completion of the above, the student will receive on his/her LMC and CCCC (California Community College District) transcripts the unit credit for LMC’s BIOS-030 “Introduction to Anatomy and Physiology” course. Transcripts will note *Credit by Exam.

H. TEXTBOOKS OR OTHER SUPPORTING MATERIALS

Anatomy & Physiology: The Unity of Form and Function Saladin 4th ed

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COLLEGE SIGNATURES

Kevin P. Horan

Kevin P. Horan (May 29, 2018)

Kevin Horan Date
LMC Vice President of Instruction & Student Services

Ryan Pedersen

Ryan Pedersen (May 23, 2018)

Ryan Pedersen Date
LMC Interim Dean of Math & Physical Sciences

Durwynne Hsieh

Durwynne Hsieh (May 21, 2018)

Durwynne Hsieh Date
LMC Biology Department Chair

Denise M. Speer

Denise M. Speer (May 27, 2018)

Denise Speer Date
Faculty, Los Medanos College

HIGH SCHOOL/ROP/DISTRICT SIGNATURES

Carrie J. Wells

Carrie J. Wells (May 29, 2018)

Carrie Wells Date
Principal, Heritage High School

Erik Faulkner

Erik Faulkner (May 30, 2018)

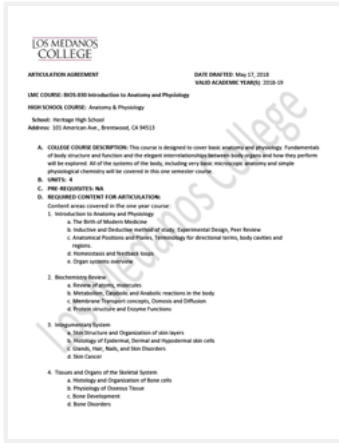
Erik Faulkner Date
LUHSD Asst. Superintendent, Educational Services

Don Sanders

Don Sanders (May 30, 2018)

Don Sanders Date
Faculty, Heritage High School

Cc: LMC Director of Admissions and Records
LMC K-12 Senior Program Coordinator
LMC Pathways Counselor/LMC CTE Counselor
School District Educational Services Dept.
High School Principal
High School CATEMA Contact













HHS BIOS-030 Articulation 2018-19 FINAL


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05/30/2018


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