LOS MEDANOS COLLEGE

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: Physiology

School: Deer Valley High School
Address: 4700 Lone Tree Way, Antioch, CA 94531

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:**
Online resources: https://drive.google.com/drive/u/1/folders/0B7hsa0Y3ftULVDRrb2FqVDUtMzQ
Intro Unit (Chapters 1, 3)

- Basic anatomy, functions of life, body systems & anatomical terminology
- Cell anatomy, hierarchy of structure, organelles, microscopes
- Cell division for growth & cancer

Tissue & Integument Unit (Chapters 4, 5)

- Four basic tissue types
- Microscopic anatomy of skin, hair, nails

Digestion / Metabolism Unit (Chapters 2, 23, 24)

- Anatomy of the digestive system (dissection w/ respiratory system)
- Enzymes of the digestive system (pepsin / egg lab)
- Nutrition, macronutrients, vitamins, minerals (analyzing Burger King menu)
- Cellular respiration

Bone & Skeletal Unit (Chapters 6, 7, 8)

- Bones of the skeleton (diagrams, identifying vertebrae, forensic skeleton lab)
- Structure of bone, osteons, bone strength (paper model, bone microscopy, bone strength lab)
- Joints

Endocrine Unit (Chapters 16, 27)

- Hormones
- Regulation of menstrual cycle

Muscular Unit (Chapters 9, 10)

- Muscles of the body (diagrams, pig forelimb dissection, video analysis)
- Sliding filament theory (muscle microscopy)
- Muscle design (mechanical advantage lab)
- Oxidative / glycolytic muscles

Neurophysiology & Special Senses Unit (Chapters 11, 15)

- Membrane potentials (model neuron lab)
- Synapses (Microsoft Excel simulation)
- Neural networks
- Special senses (diagrams, pinhole camera lab, chemical senses lab)

Neuroanatomy Unit (Chapters 12, 13, 14)

- Brain areas (diagrams, pig CNS dissection)
- Cranial & spinal nerves (diagrams, pig CNS dissection)
- Autonomic nervous system

Transport Unit (Chapters 17, 18, 19, 25)

- Cellular transport
- Heart, arteries, veins (diagrams, heart valve lab)
- Urinary system (diagrams, modeling kidney filtration activity)

Respiratory Unit (Chapter 22)

- Respiratory anatomy (diagrams, respiratory volumes lab, pig dissection)
- Partial pressures (measuring O_2 lab)
- Larynx, voice production (larynx lab)

Immune Unit (Chapter 21)

- Specific, nonspecific defenses (blood microscopy lab)
- Viruses vs. bacteria (bacterial plating lab)

E. REQUIRED COMPETENCIES (PERFORMANCE OBJECTIVES) FOR ARTICULATION

•Explain how the properties of atoms, molecules and ions affect human biology

• Describe the structure and function of human organs

• Explain how the microstructure of organs influences their function

• Describe how your nervous system gathers, integrates and acts on information

• Explain how your organ systems maintain homeostasis

• Describe how your immune system protects you from pathogens and disease

• Explain how cells communicate with each other within the human body

F. METHODS FOR END OF COURSE ASSESSMENT:

Category %	Quarter Grade	Grading Period %	Semester Grade
Assignments	60%	First Quarter	40%
Test	40%	Second Quarter	40%
		Final Exam	20%

- Assignments are generally scored on a 10-point rubric. Tests are scored by percent. The quarter grade is based on a cumulative weighted average where an A represents 88-100%, a B represents 77-87%, a C represents 66-76%, a D represents 50-65% and an F represents less than 50%.

G. PROCEDURES AND/OR CRITERIA FOR COURSE ARTICULATION:

1. Complete the Physiology course at Deer Valley 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 CCCCD (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

Marieb, Elaine, Hoehn, Katja. (2012) Human anatomy & physiology /Boston Pearson, 2012

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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 21, 2018)

Denise Speer Date
Faculty, Los Medanos College

HIGH SCHOOL/ROP/DISTRICT SIGNATURES

Kenneth Gardner
Kenneth Gardner (May 30, 2018)

Ken Gardner Date
Principal, Deer Valley High School

Michael V. Santos
Michael V. Santos (Jun 1, 2018)

Mike Santos Date
AUSD Director of Program Improvement

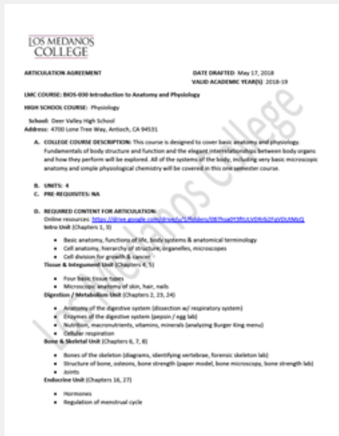
Andy Cannon
Andy Cannon (Jun 1, 2018)

Andy Cannon Date
AUSD Director of Curriculum, Instruction & Assessment

William Corning
William Corning (May 30, 2018)

Will Corning Date
Faculty, Deer Valley 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



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DVHS BIOS-030 Articulation 2018-19 FINAL

Adobe Sign Document History 06/01/2018

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Status:	Signed
Transaction ID:	CBJCHBCAABAAO1YKFUBBHEIu5YSG0fCxPeK48Wf4H_t4

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