I. CATALOG INFORMATION

A. Discipline: ANATOMY AND PHYSIOLOGY

B. Subject Code and Number: ANPH M01

C. Course Title: Human Anatomy & Physiology

D. Credit Course units:

Units: 6

Lecture Hours per week: 4

Lab Hours per week : 6

Variable Units : No

E. Student Learning Hours:

Lecture Hours:

Classroom hours: 70 - 70

Laboratory/Activity Hours:

Laboratory/Activity Hours 105 - 105

Total Combined Hours in a 17.5 week term: 175 - 175

F. Non-Credit Course hours per week

G. May be taken a total of: [X] 1 [ ] 2 [ ] 3 [ ] 4 time(s) for credit

H. Is the course co-designated (same as) another course: No [X] Yes [ ]
If YES, designate course Subject Code & Number:

I. Course Description:

Introduces the structures and the relationships of human body parts. Explores how the functioning of human body parts are related to their structures. Combines the study of anatomy and physiology which allows students to effectively integrate the study of structure with functioning of the system. Utilizes themes of hierarchical structural organization and the maintenance of homeostasis to form the framework for the study of the human system at both macroscopic and microscopic levels. Examines the structure/function relationship through the required dissection of a fetal pig in the laboratory portion. Utilizes a human cadaver to demonstrate the principles of the anatomy of the human body.

J. Entrance Skills

*Prerequisite: No [X] Yes [ ] Course(s)

*Corequisite: No [X] Yes [ ] Course(s)

Limitation on Enrollment: No [X] Yes [ ]

Recommended Preparation: No ☐ Yes ☒ Course(s)
BIOL M02A or BIOL M02AH or CHEM M11

Other: No ☒ Yes ☐

K. Other Catalog Information:

Course Credit Limitation:
1. MC, CSU and UC - ANPH M01 and ANAT M01 combined: maximum credit, one course
2. MC, CSU and UC - ANPH M01 and PHSO M01 or PHSO M01H combined: maximum credit, one course.

II. COURSE OBJECTIVES

Upon successful completion of the course, a student will be able to:

		Methods of evaluation will be consistent with, but not limited by, the following types or examples.
1	use appropriate anatomical terminology to describe systems, parts, and positions.	Quizzes Written exams Homework
2	relate the structure of the human body to the functioning of the system and classify system parts structurally and functionally.	Quizzes Written exams Homework Identification of structures on anatomical models Identification of structures on a human cadaver and/or dissected fetal pig Physiology laboratory simulations Physiology experiments Lab practical exams
3	describe how body systems maintain homeostasis in the organism and predict how the system responds to an imbalance to restore homeostasis.	Quizzes Written exams Homework Physiology laboratory simulations Physiology experiments Lab practical exams
4	describe chemical principles and structures that form the basis of cellular metabolism.	Quizzes Written exams Homework

5	describe and distinguish roles/functions of the major classes of biomolecules in living cells.	Quizzes Written exams Homework Physiology lab simulations
6	describe cell structure and function and how cells communicate with one another.	Quizzes Written exams Homework Physiology laboratory simulations
7	identify the tissues that comprise the organs of the human body.	Quizzes Written exams Homework Identification of organ tissues on prepared slides Lab practical exams
8	describe the major organ systems at the cellular, tissue, and organ level.	Quizzes Written exams Homework Identification of structures on anatomical models Identification of structures on a human cadaver and/or dissected fetal pig Identification of organ tissues on prepared slides Physiology laboratory simulations Physiology experiments Lab practical exams
9	identify the structural parts of each organ system and relate structure to the functioning of the system.	Quizzes Written exams Homework Identification of structures on anatomical models Identification of structures on a human cadaver and/or dissected fetal pig Physiology laboratory simulations Physiology experiments Lab practical exams
10	describe how human systems change over the lifespan of the individual and due to disease.	Quizzes Written exams Homework Physiology laboratory lab simulations Physiology experiments

		Written and oral reports about human diseases
11	describe the relationship between the organ systems and their integration to form a coordinated, functional, whole organism.	Quizzes Written exams Homework Viewing of human cadaver and/or dissected fetal pig Physiology laboratory simulations Physiology experiments Lab practical exams
12	analyze clinical symptoms and relate them to the physiological malfunction.	Quizzes Written exams Homework Physiology laboratory simulations
13	examine histological preparations to identify structural features of different human cells and tissue types.	Identification of human cells and organ tissues on prepared slides
14	demonstrate appropriate dissection techniques and identify anatomical structures in a dissected specimen.	Dissection of a fetal pig and other non-human mammalian specimens
15	demonstrate an understanding of the scientific method, and analyze physiological experiments/data.	Quizzes Written exams Homework

III. COURSE CONTENT

Estimated %	Topic	Learning Outcomes
Lecture (must total 100%)		
4.00%	Introduction to homeostasis and anatomical terminology	1, 2, 3
4.00%	Histology	7, 13
5.00%	Integumentary system	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14
6.00%	Skeletal system	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15

6.00%	Muscular system	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
6.00%	Endocrine system	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
7.00%	Lymphatic system Immunity	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
6.00%	Respiratory system	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
6.00%	Digestive system	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
6.00%	Metabolism Nutrition Energy regulation	3, 4, 5, 6, 12
6.00%	Reproductive system Development	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14
5.00%	Biochemistry	5, 6
7.00%	Cell structure and function Membrane structure and function Metabolism Growth and reproduction	5, 6
7.00%	Nervous system Sensory system	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
8.00%	Urinary system Balance of fluids, electrolytes, and pH	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
8.00%	Cardiovascular system	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
3.00%	Scientific method and interpretation of physiological experiments/data	15

Lab (must total 100%)		
5.00%	Laboratory safety and rules/regulations for human cadaver usage and fetal pig dissection	14
6.00%	Brightfield microscopy	7, 13
15.00%	Histology	13
5.00%	Integumentary system	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14
7.00%	Skeletal system	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
7.00%	Muscular system	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
7.00%	Nervous system	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
7.00%	Sensory system	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
6.00%	Endocrine system	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
7.00%	Respiratory system	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
7.00%	Digestive system	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
7.00%	Urinary system	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
7.00%	Reproductive system	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14,

		15
7.00%	Cardiovascular system	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15

IV. TYPICAL ASSIGNMENTS

A. Writing assignments

Writing assignments are required. Possible assignments may include, but are not limited to:	
1	written analyses of case studies.
2	completed lab reports.
3	written evaluation of data generated from physiology laboratory experiments and/or simulations.

B. Appropriate outside assignments

Appropriate outside assignments are required. Possible assignments may include, but are not limited to:	
1	research using appropriate anatomical/physiological literature from the library and the Internet on such topics as the function of blood pressure and the effect of elevated levels on the cardiovascular system.
2	survey popular press for articles relating to physiology/anatomy.

C. Critical thinking assignments

Critical thinking assignments are required. Possible assignments may include, but are not limited to:	
1	interpret and analyze data generated from physiology laboratory experiments and/or simulations.
2	compare and contrast fetal pig vs. adult human anatomy.
3	evaluate relationship of structure vs. function in the studies of organ systems.

V. METHODS OF INSTRUCTION

Methods of instruction may include, but are not limited to:

☐ Distance Education – When any portion of class contact hours is replaced by distance education delivery mode (Complete DE Addendum, Section XV)

☒ Lecture/Discussion

☒ Laboratory/Activity

☒ Other (Specify) Onsite dissection of fetal pig and other mammalian organs
Use of human cadaver for observation and learning
Use of prepared slides of organ and tissue specimens
Use of physiology laboratory simulations
Use of physiology equipment such as stethoscopes

☐ Optional Field Trips

☐ Required Field Trips

VI. METHODS OF EVALUATION

Methods of evaluation may include, but are not limited to:

☒ Essay Exam	☒ Classroom Discussion	☒ Skill Demonstration
☒ Problem Solving Exam	☒ Reports/Papers/ Journals	☒ Participation
☒ Objective Exams	☒ Projects	☒ Other (specify)

Case studies

VII. REPRESENTATIVE TEXTS AND OTHER COURSE MATERIALS

Marieb, Elaine, and Katja Hoehn. Anatomy and Physiology. 6th ed. Pearson, 2017.

Marieb, Elaine, and Lori Smith. Human Anatomy and Physiology Lab Manual, Fetal Pig Version. 13th ed. Pearson, 2019.

Kreiger, Paul A. A Visual Analogy Guide to Human Anatomy and Physiology. 3rd ed. Morton , 2017.

Amerman, Erin. Exploring Anatomy and Physiology in the Laboratory. 3rd ed. Morton, 2017.

PhysioEx 9.1 Laboratory Simulations in Physiology with 9.1 Update CD-ROM. Benjamin Cummings, 2014 ed.

VIII. STUDENT MATERIALS FEES

☒ No ☐ Yes

IX. PARALLEL COURSES

College	*Course Number*	*Course Title*	*Units*
Bakersfield College	BIOL B18	Essentials of Human Anatomy and Physiology	4
CSU Fresno	BIOL 33	Introductory Human Anatomy and Physiology	5
CSU Fullerton	BIOL/KNES 210	Human Anatomy and Physiology	3
Irvine Valley College	BIO 21	Human Anatomy and Physiology	4

X. MINIMUM QUALIFICATIONS

Courses Requiring a Masters Degree:
Master's degree in any biological science OR bachelor's degree in any biological science AND master's degree in biochemistry, biophysics, or marine science OR the equivalent.

XI. ARTICULATION INFORMATION

A. Title V Course Classification:

1. This course is designed to be taken either:

☐ Pass/No Pass only (no letter grade possible); or
☒ Letter grade (P/NP possible at student option)

2. Degree status:
   Either [X] Associate Degree Applicable; or [ ] Non-associate Degree Applicable

B. Moorpark College General Education:

1. Do you recommend this course for inclusion on the Associate Degree General Education list?
   Yes: [X] No: [ ] If YES, what section(s)?

   [X] A1 - Natural Sciences - Biological Science
   [ ] A2 - Natural Sciences - Physical Science
   [ ] B1 - Social and Behavioral Sciences - American History/Institutions
   [ ] B2 - Social and Behavioral Sciences - Other Social Behavioral Science
   [ ] C1 - Humanities - Fine or Performing Arts
   [ ] C2 - Humanities - Other Humanities
   [ ] D1 - Language and Rationality - English Composition
   [ ] D2 - Language and Rationality - Communication and Analytical Thinking
   [ ] E1 - Health/Physical Education
   [ ] E2 - PE or Dance
   [ ] F - Ethnic/Gender Studies

C. California State University(CSU) Articulation:

1. Do you recommend this course for transfer credit to CSU? Yes: [X] No: [ ]

2. If YES do you recommend this course for inclusion on the CSU General Education list?
   Yes: [X] No: [ ] If YES, which area(s)?

   A1 [ ] A2 [ ] A3 [ ] B1 [ ] B2 [X] B3 [X] B4 [ ]

   C1 [ ] C2 [ ] D1 [ ] D2 [ ] D3 [ ] D4 [ ] D5 [ ]

   D6 [ ] D7 [ ] D8 [ ] D9 [ ] D10 [ ] E [ ]

D. University of California (UC) Articulation:

1. Do you recommend this course for transfer to the UC? Yes: [X] No: [ ]

2. If YES do you recommend this course for the Intersegmental General Education Transfer Curriculum (IGETC)? Yes: [X] No: [ ]

   IGETC Area 1: English Communication

   [ ] English Composition
   [ ] Critical Thinking-English Composition
   [ ] Oral Communication

   IGETC Area 2: Mathematical Concepts and Quantitative Reasoning

   [ ]

- [ ] Mathematical Concepts

IGETC Area 3: Arts and Humanities

- [ ] Arts
- [ ] Humanities

IGETC Area 4: Social and Behavioral Sciences

- [ ] Anthropology and Archaeology
- [ ] Economics
- [ ] Ethnic Studies
- [ ] Gender Studies
- [ ] Geography
- [ ] History
- [ ] Interdisciplinary, Social & Behavioral Sciences
- [ ] Political Science, Government & Legal Institutions
- [ ] Psychology
- [ ] Sociology & Criminology

IGETC Area 5: Physical and Biological Sciences (mark all that apply)

- [ ] Physical Science Lab or Physical Science Lab only (none-sequence)
- [ ] Physical Science Lecture only (non-sequence)
- [X] Biological Science
- [ ] Physical Science Courses
- [ ] Physical Science Lab or Biological Science Lab Only (non-sequence)
- [ ] Biological Science Courses
- [ ] Biological Science Lab course
- [ ] First Science course in a Special sequence
- [ ] Second Science course in a Special Sequence
- [X] Laboratory Activity
- [ ] Physical Sciences

IGETC Area 6: Language other than English

- [ ] Languages other than English (UC Requirement Only)
- [ ] U.S. History, Constitution, and American Ideals (CSU Requirement ONLY)
- [ ] U.S. History, Constitution, and American Ideals (CSU Requirement ONLY)

XII. REVIEW OF LIBRARY RESOURCES

A. What planned assignment(s) will require library resources and use?

The following assignments require library resources:
Research, using the Library's print and online resources, the anatomical and/or

physiological changes of organ systems, such as the digestive system, during disease pathogenesis.

B. Are the currently held library resources sufficient to support the course assignment?

YES: [X] NO: [ ]

If NO, please list additional library resources needed to support this course.

XIII. PREREQUISITE AND/OR COREQUISITE JUSTIFICATION

ANPH M01: Not Applicable

XIV. WORKPLACE PREPARATION

ANPH M01: Not Applicable

XV. DISTANCE LEARNING COURSE OUTLINE ADDENDUM

ANPH M01: Not Applicable

XVI. GENERAL EDUCATION COURSE OUTLINE ADDENDUM

General Education Division of Learning [check all applicable boxes]:

- [X] Natural Sciences
  - [X] Biological Science
  - [ ] Physical Science
- [ ] Social and Behavioral Sciences
  - [ ] American History/Institutions
  - [ ] Other Social Science
- [ ] Humanities
  - [ ] Fine or Performing Arts
  - [ ] Other Humanities
- [ ] Language and Rationality
  - [ ] English Composition
  - [ ] Communication and Analytical Thinking
- [ ] Health/Physical Education
- [ ] Ethnic/Women's Studies

Check either Option 1 or Option 2

[X] **OPTION #1:** Moorpark College has already received approval from the CSU and/or UC systems for this course to fulfill a GE requirement. Note: This option applies only to technical revisions and updated courses.

[ ] **OPTION #2:** Moorpark College has not received approval from the CSU and/or UC systems for this course to fulfill a GE requirement. This option applies to all new and substantively revised courses.

XVII. STUDENT MATERIALS FEE ADDENDUM

ANPH M01: Not Applicable

XVIII. REPEATABILITY JUSTIFICATION TITLE 5, SECTION 55041

ANPH M01: Not Applicable

XIX. CURRICULUM APPROVAL

Course Information:

Discipline: ANATOMY AND PHYSIOLOGY

Discipline Code and Number: ANPH M01

Course Revision Category: Outline Update

Course Proposed By:

Originating Faculty Beth Miller 08/31/2018

Faculty Peer: Melia Tabbakhian 09/02/2018

Curriculum Rep: Beth Miller 09/08/2018

Department Chair: Jazmir Hernandez 09/06/2018

Division Dean: Carol Higashida 09/10/2018

Approved By:

Curriculum Chair: Jerry Mansfield 02/08/2019

Executive Vice President: _____

Articulation Officer: Letrisha Mai 01/17/2019

Librarian: Mary LaBarge 01/14/2019

Implementation Term and Year: Fall 2014

Approval Dates:

Approved by Moorpark College Curriculum Committee: 02/05/2019

Approved by Board of Trustees (if applicable): _____

Approved by State (if applicable): 02/25/2019