Cerro Coso College

Course Outline of Record Report

10/11/2021

BIOLC125 : Survey of Anatomy and Physiology

General Information

Author:	-
Course Code (CB01) :	BIOLC125
Course Title (CB02) :	Survey of Anatomy and Physiology
Department:	Science
Proposal Start:	Fall 2013
TOP Code (CB03) :	(1260.00) Health Professions, Transfer Core Curriculum
SAM Code (CB09) :	Possibly Occupational
Distance Education Approved:	Yes
Course Control Number (CB00) :	CCC000529198
Curriculum Committee Approval Date:	04/15/2016
Board of Trustees Approval Date:	06/09/2016
External Review Approval Date:	01/09/2012
Course Description:	This course is an introductory anatomy and physiology course for students in health career programs. Emphasis is on the structure and function of human cells, tissues, organs, and organ systems. Human development and heredity are also covered. The laboratory component provides a hands-on approach to learning anatomical structures and their physiology. Not open to students who have completed BIOL 121.
Submission Type:	New Course
Author:	No value

Faculty Minimum Qualifications

Master Discipline Preferred:	• Biological Sciences
Alternate Master Discipline Preferred:	• Biological Sciences
Bachelors or Associates Discipline Preferred:	No value
Additional Bachelors or Associates Discipline Preferred:	No value

Course Development Options

Basic Skills Status (CB08)

Course is not a basic skills course.

☐ Allow Students to Gain Credit by Exam/Challenge

Course Special Class Status (CB13)

Course is not a special class.

Allowed Number of Retakes

0

Grade Options

- Letter Grade Methods
- Pass/No Pass

Course Prior To College Level (CB21)

Not applicable.

Rationale For Credit By Exam/Challenge

No value

Retake Policy Description

Type:|Non-Repeatable Credit

☑ Allow Students To Audit Course

Course Support Course Status (CB26)

No value

Associated Programs

☑ Course is part of a program (CB24)

Associated Program	Award Type	Active
CC Liberal Arts: Mathematics & Science	A.A. Degree Major	Summer 2018 to Fall 2020
CSU General Education (CSU GE Breadth)	Certificate of Achievement	Fall 2020
Intersegmental General Education Transfer Curriculum Certificate of Achievement	Certificate of Achievement	Fall 2020
Liberal Arts: Mathematics & Science Associate in Arts Degree	A.A. Degree Major	Fall 2020
CSU General Education (CSU GE Breadth) (In Development)	Certificate of Achievement	Fall 2021
Intersegmental General Education Transfer Curriculum Certificate of Achievement (In Development)	Certificate of Achievement	Fall 2021

Transferability & Gen. Ed. Options

Course General Education Status (CB25)

No value

Transferability

Transferable to both UC and CSU

Transferability Status

Approved

Cerro Coso General Education Requirements	Categories	Status	Approval Date	Comparable Course

Area 1.1	Natural Science Life Sciences	Approved	No value	No Comparable Course defined.

CSU General Education Certification	Categories	Status	Approval Date	Comparable Course
Area B.2	Scientific Inquiry & Quantitative Reasoning Life Science	Approved	No value	No Comparable Course defined.
Area B.3	Scientific Inquiry & Quantitative Reasoning Laboratory	Approved	No value	

Intersegmental General Education Transfer Curriculum	Categories	Status	Approval Date	Comparable Course
Area 5.B	Physical & Biological Sciences Biological Science	Approved	No value	No Comparable Course defined.
Area 5.C	Physical & Biological Sciences Laboratory/Activity	Approved	No value	

Units and Hours:

Summary

Minimum Credit Units (CB07)	4
Maximum Credit Units (CB06)	4
Total Course In-Class (Contact) Hours	108
Total Course Out-of-Class Hours	108
Total Student Learning Hours	216
Faculty Load	0

Credit / Non-Credit Options

Course Credit Status (CB04)

Credit - Degree Applicable

Course Non Credit Category (CB22)

Credit Course.

Non-Credit Characteristic

No Value

Course Classification Status (CB11)

Credit Course.

Funding Agency Category (CB23)

Not Applicable.

Cooperative Work Experience Education Status (CB10)

☐ Variable Credit Course

Weekly Student Hours

Course Student Hours

	In Class	Out of Classs
Lecture Hours	3	6
Laboratory Hours	3	0
Activity Hours	0	0

Course Duration (Weeks)	18
Hours per unit divisor	0
Course In-Class (Contact) Hours	
Lecture	0
Laboratory	0
Activity	0
Total	108
Course Out-of-Class Hours	
Lecture	0
Laboratory	0
Activity	0
Total	108

Time Commitment Notes for Students

No value

Faculty Load

Extra Duties: 0

Faculty Load: 0

Units and Hours: - Weekly Specialty Hours

Activity Name	Type	In Class	Out of Class
No Value	No Value	No Value	No Value

Pre-requisites, Co-requisites, Anti-requisites and Advisories

Prerequisite

ENGLC070 - Introductory Composition

In BIOL 125, students are expected to read a college-level textbook, journal articles, and assigned internet readings with sufficient comprehension to be able to identify central points of reading materials (both explicit and implied), and to distinguish facts from opinions, identifying bias and drawing inferences. Students are also expected to be able to write summaries of assigned readings, answer homework questions using paragraph-length responses in clear and error-free prose, and complete lab reports. ENGL C070 provides the student with the requisite reading and writing skills to meet these expectations.

Entrance Skills

Entrance Skills	Description
No value	No value

Limitations on Enrollment

Limitations on Enrollment	Description
No value	No value

Specifications

Methods of Instruction

Methods of Instruction	Written work
Rationale	No value
Methods of Instruction	Problem Solving
Rationale	No value
Methods of Instruction	Skills Development and Performance
Rationale	No value
Methods of Instruction	Presentations (by students)
Rationale	No value
Methods of Instruction	Outside reading
Rationale	No value
Methods of Instruction	Performance
Rationale	No value
Methods of Instruction	Instruction through examination or quizzing

Rationale	No value
Methods of Instruction	Library
Rationale	No value
Methods of Instruction	Lecture
Rationale	No value
Methods of Instruction	Laboratory
Rationale	No value
Methods of Instruction	In-class writing
Rationale	No value
Methods of Instruction	Discussion
Rationale	No value
Methods of Instruction	Group Work
Rationale	No value
Methods of Instruction	Audiovisual
Rationale	No value
Methods of Instruction	Case Study
Rationale	No value
Methods of Instruction	Computational Work
Rationale	No value
Methods of Instruction	Demonstration
Rationale	No value

Assignments

- **Textbook readings (e.g. Outline Chapter 1 or answer some questions about the material); assigned problems from text or additional resources (e.g. Punnet squares for genetics); complete Internet-based assignments; prepare for assigned quizzes and exams; write lab reports and complete lab worksheets.**

Methods of Evaluation	Rationale
Homework	Homework Assignments: Students are asked to assimilate the assigned reading material. Example: Read chapter 2. Student should read chapter two and assimilate material. Method of material assimilation is not prescribed. It is suggested that students outline chapters, answer study questions in the text, utilize on-line materials provided by the text publisher, and form study groups.
Tests	Quizzes: Quizzes covering topics from lecture material and reading assignments are given. Example: A quiz covering sub atomic particles and bonds is given to assess students' understanding of these concepts.
Tests	Exams: Exams covering the material covered in lecture and reading assignments are given to assess student learning. Example: Exam one covers the scientific method, chemistry of life, biological molecules, cell biology, energy flow in biological systems, and cellular respiration. The exam can be but is not limited to multiple choice, true/false, short answer and essay.
Other	Practical exams: Lab exams evaluate the students' ability to identify anatomical structures, and to explain and apply physiological concepts learned from laboratory exercises. Example: Students are assessed on their ability to name structures in dissected specimens.

Equipment

No Value

Textbooks

Author	Title	Publisher	Date	ISBN
	VanPutte,C.L., Regan, J.L., and Russo, A.F.. (2015) Seeleys' Essentials of Anatomy and Physiology, 9th, McGraw Hill			

Other Instructional Materials

Description	Manuals: Patton, K.T., VanPutte, C.L., Regan, J.L., and Russo, A.F.. (2012-01-17 00:00:00.0) Laboratory Manual: Seeleys' Essentials of Anatomy and Physiology, McGraw Hill
Author	
Citation	Survey of Anatomy and Physiology

Materials Fee

No

Learning Outcomes and Objectives

Course Objectives

No value

CSLOs

Recognize and use appropriate terminology to effectively communicate information related to anatomy and physiology. Expected SLO Performance: 70.0

Science Liberal Arts: Mathematics & Science AA Degree	Describe the nature of science, the methods applied in scientific investigations, and the value of those methods in developing a rigorous understanding of the physical world.

Identify and describe anatomical structures and explain the physiological functions of body systems. Expected SLO Performance: 70.0

Describe the principles of homeostasis and the use of feedback loops to regulate physiological processes in the human body. Expected SLO Performance: 70.0

Apply a basic understanding of anatomy and physiology in the comprehension of disease and health disorders. Expected SLO Performance: 70.0

Science Liberal Arts: Mathematics & Science AA Degree	Apply algebraic, graphical, numerical, and other methods to solve applied problems in the areas of mathematics, natural sciences, computer graphics, and computer animation.

Use the scientific method and the philosophy of science to analyze components of experiments and carry out physiological exercises safely. Expected SLO Performance: 70.0

Social Science PLOs for CSU GE COA	Communicate scientific results by applying the appropriate scientific method, including experimental and empirical methodologies characteristic of science and modern methods and tools used in scientific inquiry through the use of graphs, oral communications, and writings.
Social Science IGETC PLOs	Communicate scientific results by applying the appropriate scientific method, including experimental and empirical methodologies characteristic of science and modern methods and tools used in scientific inquiry through the use of graphs, oral communications, and writings.

Outline

Course Outline

A. An Overview Of Anatomy And Physiology
1. Anatomy
2. Physiology
3. Structure And Functional Organization
4. Homeostasis
5. Terminology And The Body Plan

B. The Chemistry Of Life
1. Basic Chemistry
2. Chemical Reactions
3. Acids And Bases
4. Inorganic Chemistry
5. Organic Chemistry

C. Cell Structures And Their Functions
1. Functions Of The Cell
2. Cell Structure
3. Movement Through The Cell
4. Cell Metabolism
5. Protein Synthesis
6. Cell Division
7. Differentiation

D. Tissues Glands And Membranes
1. Epithelial Tissue
2. Functions Of Epithelia
3. Connective Tissue
4. Muscle Tissue
5. Nervous Tissue
6. Membranes
7. Inflammation
8. Tissue Repair

E. The Integumentary System
1. Functions Of The Integumentary System
2. Hypodermis
3. Skin
4. Accessory Skin Structures
5. Physiology Of The Integumentary System
6. Effects Of Aging On The Integumentary System
7. The Integumentary System As A Diagnostic Aid
8. Burns
9. Skin Cancer

F. The Skeletal System: Bones And Joints
1. Functions Of The Skeletal System
2. Connective Tissue
3. General Features Of Bone
4. General Considerations Of Bone Anatomy
5. Axial Skeleton
6. Appendicular Skeleton
7. Articulations

G. The Muscular System
1. Functions Of The Muscular System
2. Characteristics Of Skeletal Muscle
3. Smooth Muscle And Cardiac Muscle
4. Skeletal Muscle Anatomy

H. The Nervous System
1. Functions Of The Nervous System
2. Division Of The Nervous System
3. Cells Of The Nervous System
4. Propagation Of Action Potentials
5. Central Nervous System
6. Peripheral Nervous System
7. Autonomic Nervous System

I. The Senses
1. General Senses
2. Special Senses
3. Olfaction
4. Taste
5. Vision
6. Hearing And Balance

J. The Endocrine System
1. Functions Of The Endocrine System
2. Chemical Signals
3. Receptors
4. Hormones
5. The Endocrine Glands And Their Hormones
6. Other Hormones

K. Blood
1. Functions Of Blood
2. Composition Of Blood
3. Plasma
4. Formed Elements
5. Preventing Blood Loss
6. Blood Grouping
7. Diagnostic Blood Tests

L. The Heart
1. Functions Of The Heart
2. Size, Form And Location Of The Heart
3. Anatomy Of The Heart
4. Histology Of The Heart
5. Electrical Activity Of The Heart
6. Cardiac Cycle
7. Heart Sounds
8. Regulation Of Heart Function

M. Blood Vessels And Circulation
1. Functions Of The Peripheral Circulation
2. General Features Of Blood Vessel Structure
3. Blood Vessels Of The Pulmonary Circulation
4. Blood Vessels Of The Systemic Circulation: Arteries
5. Blood Vessels Of The Systemic Circulation: Veins
6. The Physiology Of Circulation
7. Local Control Of Blood Vessels
8. Nervous Control Of Blood Vessels
9. Regulation Of Arterial Pressure

N. The Lymphatic System And Immunity
1. The Lymphatic System
2. Immunity
3. Innate Immunity
4. Adaptive Immunity
5. Immune Interactions
6. Immunotherapy
7. Acquired

O. Respiratory System
1. Functions Of The Respiratory System
2. Anatomy Of The Respiratory System
3. Ventilation And Lung Volumes
4. Gas Exchange
5. Gas Transport In The Blood
6. Rhythmic Ventilation
7. Modification Of Ventilation
8. Respiratory Adaptations To Exercise

P. The Digestive System
1. Functions Of The Digestive System
2. Anatomy And Histology Of The Digestive System
3. Movements And Secretions In The Digestive System
4. Digestion, Absorption, And Transport

Q. Nutrition, Metabolism, And Body Temperature Regulation
1. Nutrition
2. Metabolism
3. Body Temperature Regulation

R. Urinary System And Fluid Balance
1. Functions Of The Urinary System
2. Urinary System
3. Urine Production
4. Regulation Of Urine Concentration And Volume
5. Urine Movement
6. Body Fluid Compartments
7. Regulation Of Extracellular Fluid Composition
8. Regulation Of Acid-Base Balance

S. The Reproductive System
1. Functions Of The Reproductive System
2. Formation Of Sex Cells
3. Male Reproductive System
4. Physiology Of Male Reproduction
5. Female Reproductive System
6. Physiology Of Female Reproduction

T. Development, Heredity, And Aging
1. Prenatal Development
2. Parturition
3. The Newborn
4. Lactation
5. The First Year Following Birth
6. Life Stages
7. Aging
8. Death
9. Genetics

Lab Outline

A. An Overview of Anatomy and Physiology
1. Anatomy
2. Physiology
3. Structure And Functional Organization
4. Homeostasis
5. Terminology And The Body Plan

B. The Chemistry of Life
1. Atoms and Molecules
2. Chemical Bonds
3. Biological Macromolecules

C. Cell Structures and Their Functions
1. Cell Structure
2. Cell Metabolism
3. Cell Division

D. Tissues Glands and Membranes
1. Epithelial Tissue
2. Functions Of Epithelia
3. Connective Tissue
4. Muscle Tissue
5. Nervous Tissue

6. Membranes

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1. Functions Of The Integumentary System
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4. Accessory Skin Structures
5. Physiology Of The Integumentary System

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1. Functions Of The Skeletal System
2. Connective Tissue
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4. General Considerations Of Bone Anatomy
5. Axial Skeleton
6. Appendicular Skeleton
7. Articulations

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3. Smooth Muscle And Cardiac Muscle
4. Skeletal Muscle Anatomy

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1. Functions Of The Nervous System
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1. General Senses
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2. Hormones
3. The Endocrine Glands And Their Hormones

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2. General Features Of Blood Vessel Structure
3. Blood Vessels Of The Pulmonary Circulation
4. Blood Vessels Of The Systemic Circulation
5. The Physiology Of Circulation
6. Nervous Control Of Blood Vessels
7. Regulation Of Arterial Pressure

N. The Lymphatic System and Immunity
1. The Lymphatic System
2. Immunity

O. Respiratory System
1. Functions Of The Respiratory System
2. Anatomy Of The Respiratory System
3. Ventilation And Lung Volumes
4. Gas Exchange
5. Gas Transport In The Blood
6. Rhythmic Ventilation
7. Modification Of Ventilation

P. The Digestive System
1. Functions Of The Digestive System
2. Anatomy And Histology Of The Digestive System
3. Movements And Secretions In The Digestive System
4. Digestion, Absorption, And Transport

Q. Nutrition, Metabolism, And Body Temperature Regulation

R. Urinary System And Fluid Balance
1. Functions Of The Urinary System
2. Urinary System
3. Urine Production
4. Regulation Of Urine Concentration And Volume
5. Urine Movement
6. Body Fluid Compartments

S. The Reproductive System
1. Functions Of The Reproductive System
2. Formation Of Sex Cells
3. Male Reproductive System
4. Physiology Of Male Reproduction
5. Female Reproductive System
6. Physiology Of Female Reproduction

T. Development, Heredity, and Aging
1. Prenatal Development
2. Genetics

U. Laboratory Experiments
1.Experiments and Exercises in Anatomy
    a. Simulations
    b. Dissections
2. Experiments in Physiology
    a. Simulations
    b. Physical Assessments (Blood Pressure, Blood Sugar)

Delivery Methods and Distance Education

Delivery Method: Please list all that apply -Face to face -Online (purely online no face-to-face contact) -Online with some required face-to-face meetings ("Hybrid") -Online course with on ground testing -iTV – Interactive video = Face to face course with significant required activities in a distance modality -Other

Face 2 Face true
Hybrid true

Rigor Statement: Assignments and evaluations should be of the same rigor as those used in the on-ground course. If they are not the same as those noted in the COR on the Methods of Evaluation and out-of-class assignments pages, indicate what the differences are and why they are being used. For instance, if labs, field trips, or site visits are required in the face to face section of this course, how will these requirements be met with the same rigor in the Distance Education section?

The hybrid course will only be taught with an onsite lab. For lecture, distance students complete equivalent work online (exercises, quizzes). Exam will be conducted onsite. In the online class, there is an additional component of sharing their experiences with the class in online discussions.

Effective Student-Instructor Contact: Good practice requires both asynchronous and synchronous contact for effective contact. List the methods expected of all instructors teaching the course. -Learning Management System -Discussion Forums -Moodle Message -Other Contact -Chat/Instant Messaging -E-mail -Face-to-face meeting(s) -Newsgroup/Discussion Board -Proctored Exam -Telephone -iTV - Interactive Video -Other (specify)

discussion forums
email
proctored

Software and Equipment: What additional software or hardware, if any, is required for this course purely because of its delivery mode? How is technical support to be provided?

none.

Accessibility: Section 508 of the Rehabilitation Act requires access to the Federal government's electronic and information technology. The law covers all types of electronic and information technology in the Federal sector and is not limited to assistive technologies used by people with disabilities. It applies to all Federal agencies when they develop, procure, maintain, or use such technology. Federal agencies must ensure that this technology is accessible to employees and the public to the extent it does not pose an "undue burden". I am using -iTV—Interactive Video only -Learning management system -Publisher course with learning management system interface.

itv
learning management system
publisher

Class Size: Good practice is that section size should be no greater in distance ed modes than in regular face-to-face versions of the course. Will the recommended section size be lower than in on-ground sections? If so, explain why.

For safety reasons, onsite science labs need to capped at 24.