

Clackamas Community College
Online Course/Outline Submission System

Show changes since last approval in red

Section #1 General Course Information

Department: Sciences

Submitter

First Name: Barry

Last Name: Kop

Phone: 3355

Email: barryk

Course Prefix and Number: BI - 232

Credits: 4

Contact hours

Lecture (# of hours): 33

Lec/lab (# of hours):

Lab (# of hours): 33

Total course hours: 66

For each credit, the student will be expected to spend, on average, 3 hours per week in combination of in-class and out-of-class activity.

Course Title: Human Anatomy & Physiology II

Course Description:

Lab course covering structure function of the muscular, cardiovascular, lymphatic and respiratory systems. Animal organ dissection required.

Type of Course: Lower Division Collegiate

Is this class challengeable?

Yes

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

Yes

Check which General Education requirement:

✓ Science & Computer Science

Is this course part of an AAS or related certificate of completion?

No

Are there prerequisites to this course?

Yes

Pre-reqs: Pass BI-231 with a C or better

Have you consulted with the appropriate chair if the pre-req is in another program?

No

Are there corequisites to this course?

No

Are there any requirements or recommendations for students taken this course?

No

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: Yes

When do you plan to offer this course?

- ✓ **Summer**
- ✓ **Fall**
- ✓ **Winter**
- ✓ **Spring**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes**Student Learning Outcomes:**

Upon successful completion of this course, students should be able to:

1. demonstrate, in and outside of a laboratory setting, general knowledge of the anatomical and physiological components comprising the body tissues, the muscular, cardiovascular, lymphatic and respiratory systems, in particular; (SC1) (SC2)
 2. demonstrate, in and outside of a laboratory setting, an awareness of the basic anatomical components and associated physiological interrelationships among these various body systems; (SC1) (SC2)
 3. properly use vocabulary associated with the anatomy and physiology of the human body, (SC1)
 4. apply, analyze, synthesize, and evaluate physiological principles as applied to systems of the human organism in the healthcare context; (SC1) (SC2) (SC3)
 5. relate the course material to the ethical and sociological implications of health and its impact on society. (SC2) (SC3)
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**AAOT/ASOT GENERAL EDUCATION OUTCOMES
COURSE OUTLINE MAPPING CHART**

Mark outcomes addressed by the course:

- Mark "C" if this course completely addresses the outcome. Students who successfully complete this course are likely to have attained this learning outcome.
- Mark "S" if this course substantially addresses the outcome. More than one course is required for the outcome to be completely addressed. Students who successfully complete all of the required courses are likely to have attained this learning outcome.
- Mark "P" if this course partially addresses the outcome. Students will have been exposed to the outcome as part of the class, but the class is not a primary means for attaining the outcome and assessment for general education purposes may not be necessary.

As a result of completing the AAOT/ASOT general education requirements, students will be able to:

WR: Writing Outcomes

1. Read actively, think critically, and write purposefully and capably for academic and, in some cases, professional audiences.
2. Locate, evaluate, and ethically utilize information to communicate effectively.
3. Demonstrate appropriate reasoning in response to complex issues.

SP: Speech/Oral Communication Outcomes

1. Engage in ethical communication processes that accomplish goals.
2. Respond to the needs of diverse audiences and contexts.
3. Build and manage relationships.

MA: Mathematics Outcomes:

1. Use appropriate mathematics to solve problems.
2. Recognize which mathematical concepts are applicable to a scenario, apply appropriate mathematics and technology in its analysis, and then accurately interpret, validate, and communicate the results.

AL: Arts and Letters Outcomes

1. Interpret and engage in the Arts & Letters, making use of the creative process to enrich the quality of life.
2. Critically analyze values and ethics within range of human experience and expression to engage more fully in local and global issues.

SS: Social Science Outcomes

1. Apply analytical skills to social phenomena in order to understand human behavior.
2. Apply knowledge and experience to foster personal growth and better appreciate the diverse social world in which we live.

SC: Science or Computer Science Outcomes

- S** 1. Gather, comprehend, and communicate scientific and technical information in order to explore ideas, models, and solutions and generate further questions.
- S** 2. Apply scientific and technical modes of inquiry, individually, and collaboratively, to critically examine the influence of scientific and technical knowledge on human society and the environment.

S

3. Assess the strengths and weaknesses of scientific studies and critically examine the influence of scientific and technical knowledge on human society and the environment.

CL: Cultural Literacy Outcome

1. Identify and analyze complex practices, values, and beliefs and the culturally and historically defined meanings of difference.

Outcomes Assessment Strategies:

:

Major Topic Outline:

1. Muscular system.
 - a. Introduction.
 - a1. Functions of muscle tissue.
 - a2. Characteristics of muscle tissue.
 - a3. Role of connective tissue.
 - b. Comparison of skeletal, cardiac, and smooth muscle
 - b1. Location.
 - b2. Cellular structure and appearance.
 - b3. Rate of contraction.
 - b4. Nervous control.
 - c. Subdivisions of muscle tissue.
 - d. Skeletal muscle physiology.
 - d1. Cell membrane structure.
 - d2. Sarcoplasmic reticulum.
 - d3. Actin, myosin, troponin, tropomyosin.
 - d4. Review of properties of irritability and conductivity as applied to muscle tissue including the chemistry of these properties.
 - d5. Review of nerve transmission to muscle.
 - d6. Sliding filament theory of muscle contraction.
 - d7. Energy relationships in muscle contraction.
 - e. Twitch contraction.
 - e1. Latent period.
 - e2. Contraction phase.
 - e3. Relaxation phase.
 - e4. Refractory period.
 - e5. Treppe.
 - e6. Summation.
 - e7. Tetany.
 - f. Motor unit and recruitment.
 - g. Comparison of slow-twitch fatigue-resistant fibers, fast-twitch fatigable fibers, and fast-twitch fatigue-resistant fibers.
 - h. Comparison of single-unit smooth muscle and multi-unit smooth muscle.
 - i. Dissection, identification attachments and actions of muscles.
 - i1. Muscles of facial expression.
 - i2. Muscles of the head and neck.
 - i3. Muscles of the anterior trunk.
 - i4. Muscles of the abdominal wall.

- i5. Superficial and deep muscles of the posterior trunk and shoulder.
- i6. Muscles of the arm and forearm.
- i7. Muscles of the rump.
- i8. Anterior, posterior, and anterolateral muscles of the thigh and leg.
- 2. Cardiovascular system.
 - a. Blood.
 - a1. Functions.
 - a2. Components.
 - b. Vessels.
 - b1. Histology.
 - b2. Structure and function .
 - b3. Identification.
 - c. Heart.
 - c1. Location.
 - c2. Membranes.
 - c3. Vessels associated with the heart.
 - c4. Chambers of the heart.
 - c5. Valves.
 - c6. Coronary circulation.
 - c7. Cardiac cycle.
 - c8. Sympathetic and parasympathetic control.
 - c9. Conduction system of the heart.
 - d. Special areas of circulation.
 - d1. Systemic.
 - d2. Coronary.
 - d3. Hepatic portal.
 - d4. Pulmonary.
 - d5. Fetal - structure, function and fate of.
 - e. Cardiac physiology.
 - e1. Comparison of skeletal and cardiac muscle myograms.
 - e2. Absolute and relative refractory periods of cardiac muscle and their biochemical cause.
 - e3. Cardiac cycle.
 - f. Blood flow, blood pressure, hypertension and hypotension.
 - f1. Blood flow.
 - f2. Blood pressure.
 - g. Capillary dynamics.
 - g1. Fluid compartments.
 - g2. Starling's law of the capillary.
- 3. Lymphatic system.
 - a. Functions.
 - b. Components.
 - b1. Diffuse tissue.
 - b2. Nodules.
 - b3. Lymphatic organs.
 - c. Vessels.
 - c1. Capillaries - comparison to blood capillaries.
 - c2. Lymph veins and lymphatics.
 - d. Lymph.
 - d1. Composition.
 - d2. Movement of fluid.
 - d3. Relationship to edema.
- 4. Respiratory sytem.
 - a. Anatomy and physiology.
 - a1. Nose.
 - a2. Pharynx.
 - a3. Larynx.
 - a4. Trachea.
 - a5. Primary and secondary bronchi.
 - a6. Bronchioles.
 - a7. Lungs.
 - b. Pulmonary ventilation.
 - b1. Pressure/volume relationships.

- b2. Role of diaphragm and intercostal muscles.
- b3. Surfactant.
- b4. Respiratory volumes.
- c. External respiration.
 - c1. Partial pressure.
 - c2. pO₂ and pCO₂.
 - c3. Pressure gradients.
 - c4. Gas solubilities.
 - c5. Respiratory membrane.
 - c6. Surface area.
 - c7. Alveolar airflow-blood flow coupling.
- d. Internal respiration.
- e. Transportation of respiratory gases.
 - e1. Oxygen.
 - e2. Carbon dioxide.
- f. Control of respiration.
 - f1. Neural.
 - f2. Chemical.

Does the content of this class relate to job skills in any of the following areas:

- | | |
|--------------------------------------|-----------|
| 1. Increased energy efficiency | No |
| 2. Produce renewable energy | No |
| 3. Prevent environmental degradation | No |
| 4. Clean up natural environment | No |
| 5. Supports green services | No |

Percent of course: 0%

Section #2 Course Transferability

Concern over students taking many courses that do not have a high transfer value has led to increasing attention to the transferability of LDC courses. The state currently requires us to certify that at least one OUS school will accept a new LDC course in transfer. Faculty should communicate with colleagues at one or more OUS schools to ascertain how the course will transfer by answering these questions.

1. Is there an equivalent lower division course at the University?
2. Will a department accept the course for its major or minor requirements?
3. Will the course be accepted as part of the University's distribution requirements?

If a course transfers as an elective only, it may still be accepted or approved as an LDC course, depending on the nature of the course, though it will likely not be eligible for Gen Ed status.

Which OUS schools will the course transfer to? (Check all that apply)

Identify comparable course(s) at OUS school(s)

How does it transfer? (Check all that apply)

:

Provide evidence of transferability: (minimum one, more preferred)

First term to be offered:

Next available term after approval

:
