

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information**Department:**Sciences**Submitter**

First Name: Michael

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Course Prefix and Number:BI - 120

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:Introduction to Human Anatomy and Physiology**Course Description:**

This laboratory course is designed to serve the students in the Career Technical Programs: Medical Assistant and Clinical Laboratory Assistant Students as part of their core curriculum. Material covered includes the structure and function of the human body. Basic chemistry and cell structures are covered, as well as the organization of tissues, organs, and organ systems. Correlations can then be made between this material and disease states commonly encountered in the practice of these fields. Animal organ dissection required.

Type of Course:Lower Division Collegiate

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

Yes

Check which General Education requirement:

Writing

Science & Computer Science

Mathematics

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

No

Are there prerequisites to this course?

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?

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?

✓ **Fall**

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. understand the relationship between anatomy and physiology in various human body systems (SC-1),
 2. properly use vocabulary associated with the anatomy and physiology of the human body (SC-1),
 3. demonstrate, in and outside of a laboratory setting, the basics of chemistry that effect cellular processes (SC-1), (SC-2);
 4. demonstrate, in and outside of a laboratory setting, cell, tissue and membrane structure and function (SC-1), (SC-2);
 5. demonstrate, in and outside of a laboratory setting, general anatomical and physiological details of the following organ systems: skin, skeletal, muscular, nervous, endocrine, cardiovascular, lymphatic, immune, respiratory, digestive, urinary, and reproductive (SC-1), (SC-2);
 6. relate the course material to the ethical and sociological implications of health and disease and their impact on society (SC-2), (SC-3).
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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.

- P** 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.

- P** 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. Orientation.
 - a. Definitions of anatomy and physiology and how they are related.
 - b. Life functions and the organ systems that accomplish these functions.
 - c. Homeostasis.
 - d. Negative Feedback.
 - e. Planes of division and directional terms.
 - f. Body cavities, their subdivisions and contents.
2. Basic chemistry and the cell.
 - a. Characteristics of water and its importance to homeostasis.
 - b. pH, buffers and homeostasis.
 - c. Building blocks, structure and functions of carbohydrates, lipids, proteins & nucleic acids.
 - d. Enzymes, their function and factors influencing their activity.
 - e. ATP.
 - f. Cell structure and the cell membrane.
 - g. Movement of materials through the cell membrane.
 - h. Limits of cell size and surface area/volume ratio.
3. Tissues, membrane and skin.
 - a. DNA replication and mitosis.
 - b. Major tissue types and how they differ structurally and functionally.
 - c. The different membranes and their locations in the body.
 - d. Subdivision of the skin and their functions.
 - d1. Functions of sebaceous and sweat glands and hair.
 - d2. Temperature feedback loop, the skin, and homeostasis.
 - e. Skin diseases/disorders.
 - e1. Burns.
 - e2. Skin cancer.
4. Skeletal system.
 - a. Functions of the skeletal system.
 - b. Classification of bones.
 - c. Bone tissue structure.
 - d. Axial and appendicular skeleton.
 - e. Fetal development of bones.
 - f. Joint types and their functionality.
 - g. Skeletal diseases/disorders.
 - g1. Bone fractures.
 - g2. Osteoporosis.
5. Muscular system.

- a. Types of muscle tissue, their location and function.
 - a1. Skeletal.
 - a2. Cardiac.
 - a3. Smooth.
- b. All or none hypothesis of muscle contraction.
- c. Relationship of nerves to muscles.
- d. The sliding filament theory of muscle contraction.
- e. Sources of energy for muscle contraction.
- f. Basic body movements.
- g. Muscular diseases/disorders.
 - g1. Muscle strain.
 - g2. Contractures.
- 6. The nervous system.
 - a. Functions of the nervous system.
 - b. Organization of the nervous system.
 - b1. Neurons and their classification and functions.
 - b2. Neuroglia.
 - c. Nerve impulse physiology.
 - d. The synapse and neurotransmitters.
 - e. Reflexes.
 - f. The central nervous system structures and functions.
 - f1. Hemispheres and lobes of cerebrum.
 - f2. Diencephalon, brain stem, and cerebellum.
 - f3. The meninges, blood brain barrier and cerebrospinal fluid.
 - g. The peripheral nervous system structures and functions.
 - h. The autonomic nervous system structures and functions.
 - i. Nervous system diseases/disorders.
 - i1. Alzheimer disease.
 - i2. Stroke.
- 7. Endocrine system.
 - a. Organization of the endocrine system.
 - b. Characteristics and general functions of hormones.
 - c. Negative feedback loops for homeostasis of calcium, glucose, and body temperature.
 - d. The source, target, and action of the hormones of the endocrine system.
 - e. Endocrine system disease/disorders.
 - e1. Growth Hormone imbalances.
 - e2. ADH imbalances.
 - e3. Thyroid Hormone imbalances.
 - e4. Insulin deficiency.
- 8. Blood.
 - a. Blood function, properties, and composition.
 - a1. Red blood cell structure and function.
 - a2. White blood cell types and functions.
 - b. Blood typing.
 - b1. ABO.
 - b2. Rh.
 - c. Hemostasis.
 - d. Blood imbalances/disorders.
 - d1. Anemia.
 - d2. Thrombosis.
 - d3. Embolus.
 - d4. Hemophilia.
 - d5. Sickle Cell Anemia.
- 9. Cardiovascular system.
 - a. Structure and functioning of the heart.
 - b. Cardiovascular pathway.
 - c. The heartbeat's relation to heart structure.
 - d. Comparison and contrast of arteries, veins and capillaries.
 - e. Specific blood vessels and pathways.
 - f. Capillary function.
 - g. Physiology of circulation.
 - g1. Pulse.

- g2. Blood pressure.
- g3. Factors affecting blood pressure.
- h. Cardiovascular diseases/disorders.
- h1. Hypertension.
- H2. Coronary artery disease.
- 10. The lymphatic system.
 - a. Organization of the lymphatic system.
 - b. Composition of lymph and the function of the lymph nodes.
- 11. The immune system.
 - a. Non-specific and specific body defenses.
 - b. Importance of phagocytes.
 - c. The role of B cells, T cells and plasma cells.
 - d. The relationship of antigens and antibodies.
 - e. Active and passive immunity.
 - f. Immune system diseases/disorders.
 - f1. Allergic reactions
 - f2. HIV
- 12. The respiratory system.
 - a. The organs of the respiratory system and their functions.
 - b. Mechanics of breathing.
 - c. Respiratory physiology.
 - c1. Inspiration.
 - c2. Expiration.
 - d. Nervous system control of rate and depth of respiration.
 - e. Respiratory diseases/disorders.
 - e1. Asthma.
 - e2. COPD.
- 13. The digestive system.
 - a. Physical digestion of food.
 - b. Chemical digestion of food.
 - c. Organs of the system and their functions.
 - d. Peristalsis and segmentation.
 - e. Enzymes, their substrates, and products.
 - f. Modifications to digestive tract to increase absorption.
 - g. The relationship between bile, emulsification and fat digestion.
 - h. Digestive diseases/disorders.
 - h1. Peptic Ulcers.
 - H2. Gastroesophageal reflux disease.
- 14. The urinary system.
 - a. Functions of the urinary system.
 - b. Complete pathway of urine from.
 - c. Blood supply to the kidney.
 - d. Structure and function of the nephron.
 - e. Filtration, reabsorption and tubular secretion as urine forming processes.
 - f. Nitrogen waste and its source.
 - g. Role of aldosterone and antidiuretic hormone in changing the volume and composition of the blood.
 - h. The kidney in acid-base balance.
 - i. Urinary system diseases/disorders.
 - i1. Kidney failure.
 - I2. Urinary Tract Infection.
- 15. The reproductive system.
 - a. Male reproductive system.
 - a1. Anatomical structures.
 - a2. Production of sperm.
 - a3. Male hormonal control.
 - b. Female reproductive system.
 - b1. Anatomical structures.
 - b2. Ovarian cycle/egg production.
 - b3. Female hormonal control.

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

:
