



Biology (BIOL) 230

Human Physiology (Revision 11)

Status:

Replaced with new revision, see the [course listing](#) for the current revision

Delivery mode:

Individualized study online with **eText**, and a **Home Lab** as well as a **Virtual Lab**. BIOL 230 has a **lab exemption**. This course is charged a **lab fee**

Credits:

6

Area of study:

Science

Prerequisites:

No prerequisite courses. However, knowledge of human anatomy is strongly recommended.

Precluded:

BIOL 235. (BIOL 230 may not be taken for credit if credit has already been obtained for BIOL 235; exceptions need Course Coordinator approval.)

Challenge:

BIOL 230 is not available for challenge.

Faculty:

[Faculty of Science and Technology](#) 

Overview

Biology 230: Human Physiology is a six credit, university level course that covers all major aspects of the physiology of the human body, including basic anatomy, fundamental organic chemistry, cellular structure and function, and the integration, organization, and control of the organism's body systems. After completing this course, you will have acquired an understanding of physiology, physiological adaptations to special conditions, and some of the physiological factors in disease processes.

This is an introductory biology course. There are no pre-requisites to enroll in this course. However, we strongly recommend that students have very good knowledge of basic chemistry and biology (Chemistry 30 and Biology 30 or their equivalents provide a good background), and a solid knowledge of human anatomy.

This course will be accepted as a "science lab" course toward a degree at AU because it includes extended laboratory activities. If you are completing your program with an institution other than AU, find out if your home university/program will accept this course as a "science lab" course.

Outline

Unit 1

- Chapter 1: An Introduction to Physiology
- Chapter 2: Chemical Composition of the Body
- Chapter 3: Cell
- Chapter 4: Metabolism

Unit 2

- Chapter 5: Transport Across the Plasma Membrane
- Chapter 6: Cell Signaling
- Chapter 7: The Nervous System and Neuronal Excitability
- Chapter 8: The Central Nervous System

Unit 3

- Chapter 9: Sensory Systems
- Chapter 10: Autonomic and Somatic Nervous Systems
- Chapter 11: Muscle
- Chapter 12: Control of Body Movement

Unit 4

- Chapter 13: The Endocrine System
- Chapter 14: The Cardiovascular System: The Heart
- Chapter 15: The Cardiovascular System: Blood Vessels and Hemodynamics

Unit 5

- Chapter 16: The Cardiovascular System: The Blood
- Chapter 17: The Immune System
- Chapter 18: The Respiratory System
- Chapter 19: The Urinary System

Unit 6



- Chapter 20: Fluid, Electrolyte, and Acid–Base Homeostasis
- Chapter 21: The Digestive System
- Chapter 22: Metabolic Adaptations, Energy Balance, and Temperature Regulation
- Chapter 23: The Reproductive Systems

Learning outcomes

Once you have completed this course successfully, you should be able to

- Develop a vocabulary of terminology to communicate information effectively for topics related to human physiology.
- Recognize and explain the principle of homeostasis and how feedback systems control the physiological processes in the human body.
- Understand and explain the physiological connections within and between the systems of the human body.
- Recognize the systems' functions, and recognize and explain the principle of homeostasis applied to all eleven systems of the human body.
- Use anatomical knowledge to predict physiological responses and use knowledge of physiology to predict the variations of anatomical structures.
- Synthesize ideas and understand how changes to anatomy and physiology could result in situations of homeostatic imbalance.
- Demonstrate laboratory procedures used to evaluate physiological functions of each organ system and interpret graphs of anatomical and physiological data.

Evaluation

The passing grade for this course is **D (50 percent)** . To **receive credit**  for BIOL 230, you must also achieve a minimum grade of 50 percent on each quiz, each exam, and the lab assignment. You do not need to achieve 50 percent on the other three assignments, but you do need to **submit them all** in order to receive credit. **Please note that the Home Lab Kit must be received by AU before your transcript will be released.** The weighting of the composite grade is as follows:

Activity	Weight
Assignments 1–3	12%

Activity	Weight
Lab Assignment	10%
Quizzes 1–6	24%
Midterm Examination 1	18%
Midterm Examination 2	18%
Final Exam	18%
Total	100%

The **midterm and final examinations** for this course must be requested in advance and written under the supervision of an AU-approved exam invigilator. Invigilators include either ProctorU or an approved in-person invigilation centre that can accommodate online exams. Students are responsible for payment of any invigilation fees. Information on exam request deadlines, invigilators, and other exam-related questions, can be found at the **Exams and grades** [↗](#) section of the Calendar.

To learn more about assignments and examinations, please refer to Athabasca University's **online Calendar** [↗](#).

Materials

Derrickson, B. (2017). *Human physiology*. Hoboken, NJ: John Wiley & Sons.








eText

Registration in this course includes an electronic textbook. For more information on **electronic textbooks** [↗](#), please refer to our **eText Initiative site** [↗](#).

A customized version of the textbook is also available as a PDF file on the course home page.

Important links

- › [Academic advising](#) 
- › [Program planning](#) 
- › [Request assistance](#) 
- › [Support services](#) 
- › [Lab dates and locations](#) 

Athabasca University reserves the right to amend course outlines occasionally and without notice. Courses offered by other delivery methods may vary from their individualized study counterparts.

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View [previous revision](#) 
