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BIOH 370.01: Human Anatomy and Physiology for Health Professions II

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BIOH 370 Syllabus Spring 2022

Human Anatomy and Physiology for Health Professions II
MWF, 11-11:50, North Underground Lecture Hall 101

Course Information:

Instructor: Dr. Bret Tobalske
Email: bret.tobalske@mso.umt.edu
Office: HS208
Phone: 406-243-6631
Office Hours: M, F 12:10-1 & by appointment

Zoom link: <https://umontana.zoom.us/j/4198571277>

Audio and video of lectures will be recorded live.

General Course Information:

Human Anatomy and Physiology is a 3-credit lecture-based, two-semester sequence course (BIOH 365 and BIOH 370). The lecture focuses primarily on physiological and functional processes whereas the laboratory (BIOH 366 and BIOH 371) focuses on anatomical structure using prosected cadavers, laboratory specimens, animal organ dissection, models, simple physiological experiments and computer simulations. This lecture course is co-required for the associated laboratory course.

This course predominately serves students majoring in biology, pre-medical, pre-nursing, pre-physical therapy, other pre-health care professions and health and human performance.

The two-semester sequence is divided as follows:

BIOH 365/366	BIOH 370/371
Body Plan & Organization	Endocrine System
Homeostasis	Cardiovascular System
Cell Biology Review/Metabolism	Lymphatic System & Immunity
Histology	Respiratory System
Integumentary System	Digestive System
Skeletal System & Articulations	Metabolism
Muscular System	Urinary System
Nervous System	Fluid/Electrolytes & Acid/Base Balance
Special Senses	Reproductive System

Required Prerequisites:

College Chemistry: CHMY 121N (CHEM 151N): Intro to General Chemistry -or- CHMY 141N (CHEM 161N): College Chemistry
College Biology: BIOB 160N (Principles of Biology) -or- BIOH 112 (Introduction to Human Form and Function I)-or- BIOH 113 (Introduction to Human Form and Function II).

Recommended Prerequisites:

BIOB 260: Cellular and Molecular Biology, BIOB272: Genetics and Evolution

To advance to BIOH370 and BIOH371 for the Spring semester, you must earn a grade of C- or higher in BIOH365 and BIOH366.

Required Course Materials (Included with your course registration fees):

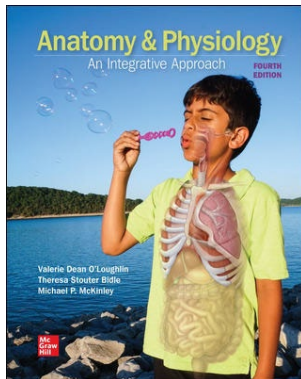
All-inclusive access (you'll get your code from the RedShelf link on the Moodle page). There is an option to buy or rent a paper copy of the book.

Anatomy and Physiology, an Integrative Approach, 4th edition. McKinley, O'Loughlin, Bidle. McGraw Hill, 2022.

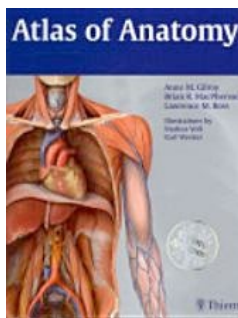
For the Anatomy Physiology Revealed (the online cadaver dissection tool),

Log in at: www.aprevealed.com

Follow the set-up instructions on screen or click the "**my Course Content**" button



Optional Course Materials:



Atlas of Anatomy by Anne M. Gilroy, Brian R. MacPherson, Lawrence M. Ross - Thieme (2008) –ISBN-978-1-60404-062-1 or any related edition.

Computers and Course Website Information

Students are expected to be familiar with computers and the Internet. Students are responsible for their own software and computer equipment maintenance and setup as recommended by the University of Montana.

Class-Specific Computer Requirements:

- Students must download and review posted course materials and other assignments. Students are expected to have a 'back up plan' if personal computers become compromised.
- The University of Montana maintains several [computer labs](#) on campus:
- Students are expected to download copies of course information from the Moodle website and to check email for class announcements.
- **For technical support for using Moodle, please [contact UM IT](#) support:**

Course Goals:

Upon successful completion of this two-course sequence, you will have conceptual and practical information regarding the anatomy and physiology of humans.

Course Objectives:

- 1) Gain an appreciation for the complementarity of anatomical form with physiological function.
- 2) Understand how the body systems work to maintain homeostasis.
- 3) Use critical thinking skills to predict the consequences of homeostatic imbalances on human form and function.

Course outcomes are based on the Human Anatomy and Physiology (HAPS)

Learning Objectives:

- 1) Demonstrate understanding of chemical and biological principles and knowledge that serve as the foundation for understanding human anatomy and physiology.
- 2) Understand and analyze cellular processes governing development, growth and normal function of the human body.
- 3) Understand the processes involved with maintaining homeostasis and anticipate what may occur when homeostatic balance mechanisms are lost.
- 4) Demonstrate practical knowledge of human gross and microscopic anatomy using human cadavers and prepared histological slides.
- 5) Identify structures in the body and analyze their relationship with other structures.
- 6) Describe development, regeneration and normal function of body systems
- 7) Understand the cellular and physiological mechanisms that drive tissue formation and function.
- 8) Employ the scientific process for understanding principles of anatomy and physiology.
- 9) Analyze A&P observations and data and determine the potential physiological consequences.

Course Information:

Teaching methods: Although the class size is large, whenever possible we will interact to explore questions. Of particular interest will be case studies of pathological conditions. I will post to the UOnline (Moodle) page PDF versions of the PowerPoint slides that I use during class presentations.

Student Responsibilities:

- 1) Students are expected to complete the required reading and assignments prior to class meeting times.
- 2) Students are expected to log on to the course Moodle site regularly to download course materials and read updated course announcements.
- 3) Students are expected to use a CONNECT account in order to complete online assessments throughout the semester. Failure to purchase an online account will result in forfeiture of points earned through the online platform. No makeup points from failure to complete the online assessments are available.
- 4) Students are expected to monitor their email and online platforms for important course announcements.
- 5) Regular attendance in lectures and laboratory is strongly recommended for successful completion of the course.
- 6) If absence from lecture is necessary due to illness, it is your responsibility to obtain notes from another student.
- 7) Students are expected to be respectful to each other, the teaching staff and Dr. Tobalske. Students who fail to do so will be disciplined as described in the student conduct code.

Students with Disabilities:

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and the Office for Disability Equity (ODE). If you anticipate or experience barriers based on disability, please contact the ODE at: (406) 243-2243, ode@umontana.edu, or visit www.umt.edu/disability for more information. Retroactive accommodation requests will not be honored, so please, do not delay. Dr. Tobalske will work with you and the ODE to implement an effective accommodation, and you are welcome to contact Dr. Tobalske privately if you wish.

Students with disabilities who would like reasonable accommodations must provide documentation to both Dr. Tobalske and the lab instructor the first week of class so that appropriate arrangements can be made. In the event that students decide after the semester begins that they would like to disclose their disability and request accommodations, students must provide documentation at least 10 days prior to the upcoming assessment so that instructors may prepare appropriately. It is the responsibility of students to make sure they understand the types of modifications available to them in both the lecture and laboratory courses prior to assessments.

Cultural Leave Policy:

UM has a Cultural and Ceremonial Leave Policy: "Cultural or ceremonial leave allows excused absences for cultural, religious, and ceremonial purposes to meet the student's customs and traditions or to participate in related activities. To receive an authorized absence for a cultural, religious or ceremonial event the student or their advisor (proxy) must submit a formal written request to the instructor. This must include a brief description (with inclusive dates) of the cultural event or ceremony and the importance of the student's attendance or participation. Authorization for the absence is subject to approval by the instructor. Appeals may be made to the Chair, Dean or Provost. The excused absence or leave may not exceed five academic calendar days (not including weekends or holidays). Students remain responsible for completion or make-up of assignments as defined in the syllabus, at the discretion of the instructor."

Disruptive behavior

Students who are being disruptive in lecture in any manner including not wearing masks (when mask wearing is mandated by UM) will be asked to leave the classroom. Such behaviors impact the learning of other students in the classroom and will not be tolerated. Re-admittance to class is at the discretion of the instructor.

Evaluation Methods:

Your course grade will be determined by your performance in the course according to the following evaluation methods:

Grading System:

Final Grades will be based upon a total of 450 points. I will compute the grade using two methods: including all exam scores (method 1) or dropping the lowest exam score and then doubling the value of the next lowest exam score (method 2). I will always assign the higher grade between the two methods.

Lecture Graded Activity	# of points toward grade
Lecture Exams (4x80 pts)	320
SmartBook	65
Case Studies	65
Lecture Total	450

Grades will be rounded. (i.e. if a student earns 83.49%, their grade will round to 83% or a B-; if a student earns 83.50% their grade will be rounded to 84% or a B):	
Grade	Percent of Total Points
A	94-100%
A-	90-93%
B+	87-89%
B	84-86%
B-	80-83%
C+	77-79%
C	74-76%
C-	70-73%
D+	67-69%
D	64-66%
D-	60-63%
F	59% and below

Assessment:

Exams will be multiple choice format, using scantrons.

No outside materials other than a calculator are permitted during exams. Cell phones must be set in airplane mode and a calculator app is the only allowable function.

Smartbook adaptive homework assignments are graded based on mastery percent completion of the assignments. That means if you successfully master the material prior to the due date, you will receive 100% completion. If you miss an assignment you cannot make up the work. If you do not complete an assignment in its entirety, you will receive credit only for the work you complete.

Pathophysiology is a fascinating topic, central to careers in Health Professions. Every one to two weeks, we will explore a case study that is relevant to human health. These will generally involve supplemental reading which will be assigned using UOnline or McGraw-Hill Connect, and you will submit your answers to these case studies via the same websites. Responses will be due at some point after our in-class discussion of the case study. Points available per case study will vary from 5 to 10, and will be assigned on a binomial scale: credit = maximum points, no-credit = 0 points.

Make-up Assignments:

NO "make-up" opportunities on missed assignments are available.

Assessment Review/Grade Disputes

Lecture Exam keys will be posted online after all students have completed the exam. It is the student's responsibility to review the exam keys and understand how they may have missed points. *Any disputes regarding test items or examination grades must be communicated by email or in person.* Under no circumstances will examination grades be reconsidered after this window. If a dispute should arise regarding the answer to a lecture or laboratory examination or other assessment item, the judgment of the faculty member will be final. Due to grading deadlines, the grade dispute window will be announced in with regard to the final lecture exam.

Exam Policy:

With the exception of the final exam, early exams may be arranged to accommodate valid time conflicts. The validity of the time conflict will be evaluated on a case-by-case basis. If you miss an exam, the final exam becomes more heavily weighed.

Correspondence

An official UM student email address must be used for all correspondence.

Undergraduate Peer Leaders:

There are several peer leaders who will be teaching assistants in lab.

Students interested in becoming a peer leader for future BIOH366 and BIOH371 courses may apply for a limited number of peer advisor positions in the Spring (the deadline is typically March 15). To be eligible to become a peer advisor, students must earn a grade of B or higher in BIOH365 and BIOH370 and must fill out an application. Promising candidates will be invited for an interview. Peer leaders are undergraduate students who enroll in BIOH480 or BIOH481 for assisting in laboratory instruction. Peer leaders also participate in cadaver dissection. Interested candidates are encouraged to talk with Dr. Tobalske, laboratory instructor and their current peer advisors.

COVID-19 Safety Protocols

- 1) Review the University of Montana policies and suggestions surrounding Covid-19. They can be found at the following link:
https://www.umt.edu/coronavirus/coronavirus_faqs.php
- 2) Presently, mask use is required in class.
- 3) You must wear a face mask in indoor rooms including lecture and lab.

Class Schedule and Assigned Readings in Textbook (Subject to Revision; There will be other assigned readings for Case Studies)

Week	Dates	Topic	Readings (Textbook)
1	Jan. 19, 21	Endocrine System Friday 21 No Class	Chapter 17
2	Jan. 24, 26, 28	Endocrine System	Chapter 17
3	Jan 31, Feb. 2, 4	Cardiovascular System: Blood	Chapter 18
4	Feb. 7, 9, 11	Cardiovascular System: Heart	Chapter 19
5	Feb. 14, 16 18	Exam 1 Cardiovascular System: Circulation	(Ch. 17,18,19) Chapter 20
6	Feb. 21, 23, 25	Monday, No Class, President's Day Lymphatic System	Chapter 21
7	Feb. 28, Mar. 2, 4	Immune System	Chapter 22
8	Mar. 7, 9, 11	Respiratory System	Chapter 22
9	Mar. 14, 16, 18	Exam 2 Digestive System	(Ch. 20,21,22) CH 26
10	Mar. 21-25	No Classes – Spring Break	
11	Mar. 28, 30, Apr. 1	Digestive System Nutrition and Metabolism	Chapter 26 Chapter 27
12	Apr. 4, 6, 8	Urinary System	Chapter 24
13	Apr. 11, 13, 15	Exam 3 Fluids and Electrolytes	(Ch. 26,27,24) Chapter 25
14	Apr. 18, 20, 22	Fluids and Electrolytes	Chapter 25
15	Apr. 25, 27, 29	Reproductive System	Chapter 28
16	May 2, 4, 6	Development, Pregnancy, Heredity	Chapter 29
17	May 13 (Friday)	Exam 4 ONLINE 10:10-12:10	(Ch. 25,28,29, some cumulative)