

Course Syllabus

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MARIAN UNIVERSITY

Indianapolis

BIO 226 General Human Physiology 5 Credits

Semester and Year: First Five-Weeks, Summer 2023

Email: Contact via Canvas email

Prerequisite: None, but BIO 225 and CHE 100 are strongly recommended

Course Description: The content of this course will provide a full description of all the essential aspects of human physiology. This course is designed to provide all the essential physiological content required for anyone going forward into a health profession.

Required Textbook(s):

Human Physiology, 2/E, Derrickson, 2017, Wiley Publishers

Loose-Leaf – ISBN: 9781119497783 (includes access code)

OR

Stand Alone Access Code- ISBN: 9781119497752 (includes access to e-text)

Textbook Resources: WileyPLUS

You **MUST** purchase an “Access Code” to **WileyPLUS** for the course. Many of your assignments are linked to WileyPLUS content within the course

There are two options to purchase an access code:

1. When purchasing the textbook new from the bookstore an access code is also included.
2. Directly from WileyPLUS. When you attempt to access your first WileyPLUS assignment on Canvas you will be prompted to purchase (or enter your already purchased) an access code. When you


purchase the access code you will also be given access to the e-text.

WileyPLUS Integration Access:

Upon initial introduction to the Canvas course, you will need to establish an account with the WileyPLUS platform. You may do so by following the below instructions:

1. Click the Wiley Course Resources link in the Canvas course
2. Follow WileyPLUS prompts to establish an account
3. Upon accessing the WileyPLUS platform, view the Getting Started with WileyPLUS resource to familiarize yourself with the platform and its resources

Additional Resources:

The Mother Teresa Hacklemeier Memorial Library at Marian University provides various databases [https://www.marian.edu/current-students/library_\(Links to an external site.\)](https://www.marian.edu/current-students/library_(Links to an external site.)) 
(<https://www.marian.edu/current-students/library>)

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

Course Outcomes:

The content of this course will provide a full description of all the essential aspects of human physiology. This course is designed to provide all the essential physiological content required for anyone going forward into a health profession.

Course Learning Objectives

Utilize appropriate use of medical terminology associated with the physiology of each organ system

Analyze important concepts including cell structure, protein synthesis, enzyme kinetics, energy production, cell metabolism, and membrane transport

Methods of Assessment

Article Summary 1, 2, 3, & 4,
Discussion: Black Market,
Discussion: Umbilical Cord Blood

Chapter Assessments 1-5, Enzyme
Activity Lab, Lab Exam 1, Final
Exam

Determine the responses of neurophysiology including the propagation of an action potential, the role of ions and the release of neurotransmitters in this process

Chapter Assessment 7, Action Potentials Lab, Lab Exam 1, Final Exam

Differentiate similarities and differences between the functioning of the sympathetic and parasympathetic nervous system

Chapter Assessment 10, Final Exam

Outline the response of stimuli to the sensory receptors and function of the sense organs associated with each of the special senses

Discussion: Special Senses, Chapter Assessment 9, Final Exam

Analyze muscle structure, stimulation of the muscle from a neuron, and the role of muscle tissue contractile proteins during a muscle contraction

Chapter Assessment 11, Recruitment & Isotonic & Isometric Contractions Lab, Lab Exam 1, Final Exam

Classify the components of the circulatory system including arteries, veins, and the heart and how they function

Chapter Assessment 14 & 15, Effect of Exercise on Cardiac Output Lab, Lab Exam 1, Final Exam

Describe the function of formed elements and proteins in blood

Chapter Assessment 16, Hematocrit & Hemoglobin Concentration and Blood Typing Lab, Lab Exam 1, Final Exam

Analyze the exchange processes of the respiratory and urinary systems

Chapter Assessment 18 & 19, Respiratory Volumes Lab, Lab Exam 2, Final Exam

Demonstrate how the mechanisms of the respiratory and urinary systems contribute to pH balance of the blood

Discussion: Acid-Base Balance, Chapter Assessments 18 & 19, Acid-Base Balance Lab, Lab Exam 2, Final Exam

Analyze the process of digestion of carbohydrates, proteins and lipids	Chapter Assessment 21, Blood Glucose Regulation Lab, Lab Exam 2, Final Exam
Describe the role of the endocrine system in communication and relate it to the nervous system as a means by which it directs the functioning of the human body	Chapter Assessment 13, Homeostatic Imbalances of Thyroid Function Lab, Lab Exam 2, Final Exam
Analyze the connections between the components of the immune system and its importance in the immunological response	Chapter Assessment 17, Final Exam
Relate the functions of the male and female reproductive systems to their associated anatomical structures	Chapter Assessment 23, Discussion: Umbilical Cord Blood, Final Exam

Teaching Strategies:

Audios, discussion, assigned readings, web-based lab activities, & assignments.

Lectures:

All questions on the lecture exam will deal with material covered in the online lectures, presentations and reading assignments. Therefore, it is greatly to your advantage to utilize all resources available to you.

Laboratory:

All questions on the laboratory exam will pertain to material covered in the online computer simulations found on the PowerPhys lab activities. Therefore, it is greatly to your advantage to work through the computer simulations in their entirety. To help you prepare for the online computer simulations if you read through the pages associated with the computer simulation and the “Lab Intro/Review” sheets linked to each of the Modules PRIOR to attempting the simulation.

Assignments & Assessment Methods:

Methods of Evaluation

The **lecture contribution** to the overall grade is determined based on the following point total:

5 points: One Assignment Zero-Scavenger Hunt. This is a “quiz” that is taken at the start of the course to help you learn to navigate the course and become familiar with content. This is meant to be a fun activity and can be completed as many times as you wish.

270 points: Eighteen 15-point chapter Adaptive Practices (AP's). These are assigned for each chapter and help you gain a mastery of important concepts from each of the chapters.

The AP's may be completed as many times as you wish (up until the due date) to improve your score. Your most recent score will be recorded in the gradebook at the due date NOT the overall best scoring attempt.

Point allotment for this assignment is as follows:

Points for each adaptive practice will be according to the percentage of proficiency of the assignment.

81% - 100% = 15/15 points

61% - 80% = 11.25/15 points

41%-60% = 9/15 points

0%-40% = 0/15 points

100 points: Four 25-point Discussion questions. Students are expected to make an initial post responding to the discussion question prompt and then make (2) replies to classmates. A rubric is attached to each discussion question to help you understand the grading criteria.

100 points: Four 25-point Article Summary assignments. Students are expected to write a summary of a peer edited article related to material covered within the module that the Article Summary is assigned. Be sure to review the grading rubric before starting on your Article Summary. The rubric describes all of the elements you will need to include in the Article Summary.

360 points: Eighteen 20-point chapter assessments (quizzes). Each quiz consists of 20 primarily multiple-choice or T/F questions. **You will have 40 minutes to complete each of the chapter assessments.**

100 points: One 100-point Final Exam. This exam will be cumulative and composed of approximately 2-3 questions from each chapter covered in the course. The Final Exam will consist of 50 primarily multiple-choice or T/F questions. **You will have 60 minutes to complete the Final Exam.**

1. The **laboratory contribution** to the overall grade is determined based on the following point total:

50 points: Two 25-point exams will be given. These tests will have 25 multiple-choice questions worth one point each. **You will have 40 minutes to complete the lab exam.**

135 points: Nine 15-point PowerPhys lab report pdf's. The review sheets may also be completed as you are working through your PowerPhys lab stimulation. These sheets are meant to outline important material from the simulations that may be found later on your lab exams. **You will only need to answer the questions found on the "Lab Handout" document when completing the PowerPhys lab activity "Lab Report"**. Once you complete the entire PowerPhys lab activity and the results/discussion questions indicated in the "Lab Handout" document, you will then save a pdf of the lab and submit it for grading.

Grading Scale

Proposed Grading Scale: Total points = 1120


93% - 100%	= A
90% - 92.9%	= A-
87% - 89.9%	= B+
83% - 86.9%	= B
80% - 82.9%	= B-
77% - 79.9%	= C+
73% - 76.9%	= C
70% - 72.9%	= C-
67% - 69.9%	= D+
60% - 66.9%	= D
00% - 59.9%	= F

Course Policies:

Academic Integrity:

The search for truth, the transmission of knowledge, and the facilitation of moral development are the avowed goals of institutions of higher education around the world. Members of the Marian University community are expected to maintain the highest level of honesty in every phase of their academic lives and to help create and promote an ethical atmosphere in which the goals of the University can be fully realized. All Marian University students are responsible for knowing and avoiding academically dishonest behaviors.

Plagiarism (using the ideas and/or words of someone else without proper reference) and other forms of cheating are not tolerated. *Students guilty of plagiarism or other forms of cheating are subject to disciplinary action that may include failure in the course or expulsion from the University.* For more details on plagiarism, see reference materials posted in the Introduction module. Thus, be sure to properly cite and reference all sources used.

Plagiarism is defined in detail in the [Code of Student Rights and Responsibilities](https://www.marian.edu/docs/default-source/campus-life/codeofstudentrightsandresponsibilities.docx?sfvrsn=14)  (<https://www.marian.edu/docs/default-source/campus-life/codeofstudentrightsandresponsibilities.docx?sfvrsn=14>) under Section 8: Academic Conduct Procedures, as well as an extended description of academic dishonesty.

Late Policy & Due Date Extensions: Acceptance of work submitted past the due date or requests of due date extensions, including exams, may be considered in the event of unforeseen, documented hardships, such as medical emergencies, documentable technical issues, death of a loved one, etc. However, simply forgetting, time zone differences, going on vacation, or not performing a well as intended are not acceptable excuses.

Exam Retakes: Exams retakes are different than requesting and being granted an extension on an exam. There are no exam retakes allowed in this course. Once you open an exam, you're stating that you have prepared adequately for the exam and you're accepting the results of the exam.

Extra Credit: There is no extra credit in this course.

Withdrawal:

It is the responsibility of the student to know and follow the University policies on academic integrity and class withdrawal.

Students with Disabilities:

Students with disabilities who have proper documentation must contact the Director of Academic Support Services in the Counseling and Consultation Services office to set up a documentation review. If after the review, accommodations are deemed appropriate, an accommodation plan will be developed. As per the ADA (Americans with Disabilities Act) no accommodations can be provided until this process is complete.

Accommodation/Accessibility Statement: Marian University, through policy and practice, is committed to providing equitable access to learning opportunities for all students. If you experience, or anticipate experiencing, barriers to your education due to a disability please contact the Personalized Learning Center by emailing plc@marian.edu (<mailto:plc@marian.edu>) or calling **317.955.6540** to start a conversation.


Although a student may request an accommodation at any time, it is best to initiate the accommodation process as early as possible as it may take time to complete the interactive process and accommodations will not be implemented retroactively. If a reasonable accommodation is determined, a Course Accommodation Letter will be created at the Personalized Learning Center for the student to provide to their faculty members with information related to their accommodations. Faculty will not set up disability-related accommodations without a current semester Course Accommodation Letter.











Faculty, Staff or Student questions or concerns regarding the accommodation process can be sent to [plc@marian.edu \(mailto:plc@marian.edu\)](mailto:plc@marian.edu) or Mandie Greiwe, [agreiwe@marian.edu \(mailto:agreiwe@marian.edu\)](mailto:agreiwe@marian.edu), Director of the Personalized Learning Center.











Diversity & Inclusion Statement: Marian's Adult and Online Programs (MAP) at Marian University is a collaborative academic community committed to fostering a diverse and inclusive community across the intersections of race, ethnicity, religion, sexual orientation, gender identity, age, disability status, socio-economic background, political perspective, culture, immigration status, and national origin. Online programs is committed to creating a safe and just environment of respect for students, faculty, and staff following our shared Franciscan values.










****Any changes to this syllabus will be communicated to the student.**









Course Summary:







Date	Details	Due
Tue May 9, 2023	 Submit: Assignment Zero-Course Scavenger Hunt (https://marian.instructure.com/courses/3717412/assignments/40848396)	due by 11:59pm








Date	Details	Due
Fri May 12, 2023	 PowerPhys: Enzyme Activity Lab https://marian.instructure.com/courses/3717412/assignments/40848385	due by 11:59pm
	 Submit Chapter 1: Adaptive Practice https://marian.instructure.com/courses/3717412/assignments/40848427	due by 11:59pm
	 Submit Chapter 3: Adaptive Practice https://marian.instructure.com/courses/3717412/assignments/40848440	due by 11:59pm
	 Submit Chapter 4: Adaptive Practice https://marian.instructure.com/courses/3717412/assignments/40848442	due by 11:59pm
	 Submit Chapter 5: Adaptive Practice https://marian.instructure.com/courses/3717412/assignments/40848445	due by 11:59pm
Sat May 13, 2023	 Discuss: Welcome and Introductions! (Initial posts due on Wednesdays) https://marian.instructure.com/courses/3717412/assignments/40848316	due by 11:59pm
Sun May 14, 2023	 Take: Chapter 1 Assessment https://marian.instructure.com/courses/3717412/assignments/40848493	due by 11:59pm
	 Take: Chapter 2 Assessment https://marian.instructure.com/courses/3717412/assignments/40848502	due by 11:59pm
	 Take: Chapter 3 Assessment https://marian.instructure.com/courses/3717412/assignments/40848505	due by 11:59pm
	 Take: Chapter 4 Assessment https://marian.instructure.com/courses/3717412/assignments/40848508	due by 11:59pm
	 Take: Chapter 5 Assessment https://marian.instructure.com/courses/3717412/assignments/40848511	due by 11:59pm









Date	Details	Due
Thu May 18, 2023	 Submit Chapter 2: Adaptive Practice https://marian.instructure.com/courses/3717412/assignments/40848437 (1 student)	due by 11:59pm
	 Submit Chapter 3: Adaptive Practice https://marian.instructure.com/courses/3717412/assignments/40848440 (1 student)	due by 11:59pm
	 Take: Chapter 1 Assessment https://marian.instructure.com/courses/3717412/assignments/40848439 (1 student)	due by 11:59pm
	 Take: Chapter 2 Assessment https://marian.instructure.com/courses/3717412/assignments/40848438 (1 student)	due by 11:59pm
	 Submit Chapter 2: Adaptive Practice https://marian.instructure.com/courses/3717412/assignments/40848437	due by 11:59pm
	 Submit Chapter 4: Adaptive Practice https://marian.instructure.com/courses/3717412/assignments/40848442 (1 student)	due by 11:59pm
	 Submit Chapter 5: Adaptive Practice https://marian.instructure.com/courses/3717412/assignments/40848445 (1 student)	due by 11:59pm
	 Take: Chapter 3 Assessment https://marian.instructure.com/courses/3717412/assignments/40848444 (1 student)	due by 11:59pm
	 Take: Chapter 4 Assessment https://marian.instructure.com/courses/3717412/assignments/40848443 (1 student)	due by 11:59pm
	 Take: Chapter 5 Assessment https://marian.instructure.com/courses/3717412/assignments/40848441 (1 student)	due by 11:59pm







Date	Details	Due
Fri May 19, 2023	 PowerPhys: Action Potentials Lab https://marian.instructure.com/courses/3717412/assignments/40848376	due by 11:59pm
	 Submit Chapter 10: Adaptive Practice https://marian.instructure.com/courses/3717412/assignments/40848399	due by 11:59pm
	 Submit Chapter 7: Adaptive Practice https://marian.instructure.com/courses/3717412/assignments/40848448	due by 11:59pm
	 Submit Chapter 9: Adaptive Practice https://marian.instructure.com/courses/3717412/assignments/40848451	due by 11:59pm
Sat May 20, 2023	 Discuss: Special Senses (Initial posts due on Wednesdays) https://marian.instructure.com/courses/3717412/assignments/40848313	due by 11:59pm
Sun May 21, 2023	 Submit: The Nervous System Article Summary Assignment https://marian.instructure.com/courses/3717412/assignments/40848465	due by 11:59pm
	 Take: Chapter 10 Assessment https://marian.instructure.com/courses/3717412/assignments/40848466	due by 11:59pm
	 Take: Chapter 7 Assessment https://marian.instructure.com/courses/3717412/assignments/40848514	due by 11:59pm
	 Take: Chapter 9 Assessment https://marian.instructure.com/courses/3717412/assignments/40848518	due by 11:59pm










Date	Details	Due
	 PowerPhys: Effect of Exercise on Cardiac Output Lab (https://marian.instructure.com/courses/3717412/assignments/40848382)	due by 11:59pm
	 PowerPhys: Hematocrit and Hemoglobin Concentration and Blood Typing Lab (https://marian.instructure.com/courses/3717412/assignments/40848388)	due by 11:59pm
	 PowerPhys: Recruitment and Isotonic and Isometric Contractions Lab (https://marian.instructure.com/courses/3717412/assignments/40848393)	due by 11:59pm
Fri May 26, 2023	 Submit Chapter 11: Adaptive Practice (https://marian.instructure.com/courses/3717412/assignments/40848402)	due by 11:59pm
	 Submit Chapter 14: Adaptive Practice (https://marian.instructure.com/courses/3717412/assignments/40848409)	due by 11:59pm
	 Submit Chapter 15: Adaptive Practice (https://marian.instructure.com/courses/3717412/assignments/40848412)	due by 11:59pm
	 Submit Chapter 16: Adaptive Practice (https://marian.instructure.com/courses/3717412/assignments/40848415)	due by 11:59pm
Sat May 27, 2023	 Discuss: Umbilical Cord Blood (Initial posts due on Wednesdays) (https://marian.instructure.com/courses/3717412/assignments/40848310)	due by 11:59pm

Date	Details	Due
Sun May 28, 2023	 Submit: Muscle Article Summary Assignment (https://marian.instructure.com/courses/3717412/assignments/40848462)	due by 11:59pm
	 Take: Chapter 11 Assessment (https://marian.instructure.com/courses/3717412/assignments/40848469)	due by 11:59pm
	 Take: Chapter 14 Assessment (https://marian.instructure.com/courses/3717412/assignments/40848475)	due by 11:59pm
	 Take: Chapter 15 Assessment (https://marian.instructure.com/courses/3717412/assignments/40848478)	due by 11:59pm
	 Take: Chapter 16 Assessment (https://marian.instructure.com/courses/3717412/assignments/40848481)	due by 11:59pm
	 Take: Lab Exam 1 (https://marian.instructure.com/courses/3717412/assignments/40848294)	due by 11:59pm

Date	Details	Due
Fri Jun 2, 2023	 PowerPhys: Acid-Base Balance Lab (https://marian.instructure.com/courses/3717412/assignments/40848373)	due by 11:59pm
	 PowerPhys: Homeostatic Imbalances of Thyroid Function Lab (https://marian.instructure.com/courses/3717412/assignments/40848391)	due by 11:59pm
	 PowerPhys: Respiratory Volumes Lab (https://marian.instructure.com/courses/3717412/assignments/40848395)	due by 11:59pm
	 Submit Chapter 13: Adaptive Practice (https://marian.instructure.com/courses/3717412/assignments/40848405)	due by 11:59pm
	 Submit Chapter 17: Adaptive Practice (https://marian.instructure.com/courses/3717412/assignments/40848418)	due by 11:59pm
	 Submit Chapter 18: Adaptive Practice (https://marian.instructure.com/courses/3717412/assignments/40848421)	due by 11:59pm
	 Submit Chapter 19: Adaptive Practice (https://marian.instructure.com/courses/3717412/assignments/40848424)	due by 11:59pm

Date	Details	Due
Sun Jun 4, 2023	 Submit: Endocrine and Immune System Article Summary Assignment (https://marian.instructure.com/courses/3717412/assignments/40848459)	due by 11:59pm
	 Take: Chapter 13 Assessment (https://marian.instructure.com/courses/3717412/assignments/40848472)	due by 11:59pm
	 Take: Chapter 17 Assessment (https://marian.instructure.com/courses/3717412/assignments/40848486)	due by 11:59pm
	 Take: Chapter 18 Assessment (https://marian.instructure.com/courses/3717412/assignments/40848489)	due by 11:59pm
	 Take: Chapter 19 Assessment (https://marian.instructure.com/courses/3717412/assignments/40848491)	due by 11:59pm
Fri Jun 9, 2023	 PowerPhys: Blood Glucose Regulation Lab (https://marian.instructure.com/courses/3717412/assignments/40848379)	due by 11:59pm
	 Submit Chapter 21: Adaptive Practice (https://marian.instructure.com/courses/3717412/assignments/40848430)	due by 11:59pm
	 Submit Chapter 23: Adaptive Practice (https://marian.instructure.com/courses/3717412/assignments/40848434)	due by 11:59pm

Date	Details	Due
Sat Jun 10, 2023	 Discuss: Acid Base Balance (Initial posts due on Wednesdays) (https://marian.instructure.com/courses/3717412/assignments/40848306)	due by 11:59pm
	 Submit: Digestive and Reproductive Systems Article Summary Assignment (https://marian.instructure.com/courses/3717412/assignments/40848456)	due by 11:59pm
	 Take: Chapter 21 Assessment (https://marian.instructure.com/courses/3717412/assignments/40848497)	due by 11:59pm
	 Take: Chapter 23 Assessment (https://marian.instructure.com/courses/3717412/assignments/40848501)	due by 11:59pm
	 Take: Final Exam (https://marian.instructure.com/courses/3717412/assignments/40848520)	due by 11:59pm
	 Take: Lab Exam 2 (https://marian.instructure.com/courses/3717412/assignments/40848298)	due by 11:59pm

Date	Details	Due
	 Final Exam: Version 2 (https://marian.instructure.com/courses/3717412/assignments/40848339)	
	 Module 1 Self-Assessment (https://marian.instructure.com/courses/3717412/assignments/40848343)	
	 Module 2 Self-Assessment (https://marian.instructure.com/courses/3717412/assignments/40848347)	
	 Module 3 Self-Assessment (https://marian.instructure.com/courses/3717412/assignments/40848351)	
	 Module 4 Self-Assessment (https://marian.instructure.com/courses/3717412/assignments/40848355)	
	 Module 5 Self-Assessment (https://marian.instructure.com/courses/3717412/assignments/40848358)	
	 Module 6 Self-Assessment (https://marian.instructure.com/courses/3717412/assignments/40848361)	
	 Module 7 Self-Assessment (https://marian.instructure.com/courses/3717412/assignments/40848364)	
	 Module 8 Self-Assessment (https://marian.instructure.com/courses/3717412/assignments/40848367)	