

Medical Physiology Syllabus

Course Information

Course title: Medical Physiology
Course number: DPPP 370
Course discipline: Physiology

Course Description

This is a one-semester course with a virtual laboratory designed to fulfill the physiology prerequisite for individuals applying for admission to health professions programs. These may include, but are not limited to, graduate programs in dietetics, nursing, physical therapy, physician assistant, nurse anesthesia, pharmacy, veterinary medicine, dental medicine and medicine.

Course Goals

This course will provide students with the fundamental knowledge of human physiology that will serve as an essential foundation for their future professional studies. The physiology of all organ systems will be covered, with emphasis on the central concept of homeostasis. Core concepts of cellular chemistry, function, and signaling mechanisms will also be included. Clinical scenarios will be incorporated throughout the course where appropriate to assist students in correlating basic physiology with the pathophysiologic outcomes they may encounter in the clinical setting.

Prerequisite: College level general biology

Instructor Information

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The Research Institute at Nationwide Children's Hospital
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Office Hours

Office hours by request – We are happy to meet with you by phone or in person (depending on location) at any time that is mutually convenient. To set up a meeting time with any of the instructors, please email him/her your request with 2-3 alternative meeting times, and the instructor will get back to you as soon as possible with a specific time to meet.

Technology Assistance

If you have a problem with Blackboard or your software, please make sure that you email comdistancetechhelp@une.edu or call us at (207) 602-2335 or (207) 602-2689.

Textbooks

The cost of the textbook and laboratory software is included in the course fee. The textbook and software will be mailed to the student after registration in the course.

Vander's Human Physiology: The mechanisms of body function.
Widmaier, E, Raff, H., and Strang, K
McGraw - Hill Higher Education
11th edition/ 2008
ISBN # 007814678X (textbook + Ph.I.L.S software)

Ph.I.L.S (Physiology Interactive Lab Simulations) 3.0
McGraw-Hill
2008

Course Requirements

The course consists of 17 modules, each of which covers one chapter in the textbook. Each module includes a reading assignment and slide presentation with audio. The modules are divided into four units; an exam must be completed at the end of each unit (**refer to the Exam/Lab Policies section below.**)

Fifteen computer-simulated laboratories will be distributed amongst the units, as indicated on the following schedule. **The lab printouts and post-quiz results for all the labs within a unit must be turned in with the unit exam to the exam proctor (refer to the Exam/Lab Policies section).**

How to Begin

Complete the modules and laboratories in the order presented below. When you have completed each unit, arrange to take the unit exam and turn in the

laboratory printouts and post-lab quiz results (see 'Exam / Lab Policies' below).

Course schedule

UNIT 1

Reading/Slide Presentation	Laboratory	Instructor
Chapter 1 – Homeostasis: A Framework for Human Physiology	NO LAB	Dr. Nordlie
Chapter 2 – Chemical Composition of the Body	NO LAB	Dr. Nordlie
Chapter 3 – Cell Structure and Protein Function	NO LAB	Dr. Nordlie
Chapter 4 – Movement of Molecules Across Cell Membranes	Ph.I.L.S Lab #1: Varying Extracellular Concentration	Dr. Nordlie
Chapter 5 – Control of Cells by Chemical Messengers	NO LAB	Dr. Nordlie

EXAM 1

UNIT 2

Reading/Slide Presentation	Laboratory	Instructor
Chapter 6 – Neuronal Signaling and the Structure of the Nervous System	Ph.I.L.S Labs 8: Resting Potential and External [K ⁺] Ph.I.L.S Labs 9: Resting Potential and External [Na ⁺]	Dr. Johnson
Chapter 7 – Sensory Physiology	Ph.I.L.S Labs 10: The Compound Action Potential	Dr. Johnson
Chapter 8 – Consciousness, The Brain, and Behavior	Ph.I.L.S Labs 15: Temporal Summation of EPSP's	Dr. Johnson
Chapter 9 – Muscle	Ph.I.L.S Lab #4: Stimulus-Dependent Force Generation	Dr. Wold
Chapter 10 – Control of Body Movement	Ph.I.L.S Lab #6: Principles of Summation and Tetanus	Dr. Johnson

EXAM II

UNIT 3

Reading/Slide Presentation	Laboratory	Instructor
Chapter 12 – Cardiovascular Physiology	Ph.I.L.S Lab #20: Starling's Law of the Heart Ph.I.L.S Lab #23: The Meaning of Heart Sounds	Dr. Wold
Chapter 13 – Respiratory Physiology	Ph.I.L.S Lab #34: Altering Airway Volume Ph.I.L.S Lab #36 (Deep Breath and Cardiac Function)	Dr. Norton
Chapter 14 – The Kidneys and Regulation of Water and Inorganic Ions	Ph.I.L.S Lab #31 (pH and Hb-oxygen binding)	Dr. Johnson

EXAM III

UNIT 4

Reading/Slide Presentation	Laboratory	Instructor
Chapter 11 – The Endocrine System	Ph.I.L.S Lab #17: Thyroid Function	Dr. Nordlie
Chapter 15 – The Digestion and Absorption of Food	Ph.I.L.S Lab #37: Glucose Transport	Dr. Wold
Chapter 16 – Regulation of Organic Metabolism and Energy Balance	Ph.I.L.S Lab #2: Size and Basal Metabolic rate	Dr. Wold
Chapter 17 – Reproduction	<i>NO LAB</i>	Dr. Johnson

EXAM IV

Grading

The student will receive a letter grade for this course, which will be officially recorded by the Registrar of the University of New England. The course grade will be determined as follows:

Four (4) Unit exams (125 points each) = 500 points
(85% of the final grade)

Fifteen (15) laboratories (5 points each) = 75 points
(15% of the final grade)

Total = 575 points

Grades will be assigned as follows:

A = 540-575 points (94-100%); **A-** = 518-539 points (90-93.9%); **B+** = 500-517 points

(87-89.9%); **B** = 483-499 points (84-86.9%); **B-** = 460-482 points (80-83.9%); **C+** = 443-459 points (77-79.9%); **C** = 403-442 points (70-76.9%).

A grade of 70% (403 points) is the lowest possible passing grade.

Exam / Lab Policies

Students will take an exam at the end of each of the four (4) units, and will complete all labs, including post lab quizzes that are assigned in the units (these are the Ph.I.L.S. laboratory exercises and are provided on CD, and can be completed on your computer.) All lecture exams will be closed book. All lecture exams must be proctored, and can be taken at UNE or as a distance exam. Please bring your completed, printed labs to your exam, as a **printed copy of the required labs for that unit, including post-lab quiz results, must be turned in to the exam proctor when the unit exam is taken. If you choose to use Proctor U (see below) to take your exams, please mail in your required labs for that exam to Dr. David Johnson at about the same time as you take the exam, using the address listed above under ‘instructor information’.** If you wish to take the exam at the University of New England in Biddeford, Maine, contact Ms. Angela Morse for an appointment at COMDistance@une.edu or (207) 602-2494.

Examinations and Proctors

Exam Procedures

Students can either take their final proctored exam online using Proctor U or at the campus of the University of New England.

Online Exams

The University of New England has contracted with [ProctorU.com](https://proctoru.com) to provide students in DPPP370 the most convenient, at home, on line exam proctoring system. This system provides a simple, no cost to the student, secure, on line proctor for all of your exams. This system allows the student to take all of the exams at home and on their own schedule. Please see system requirements to ensure you have the necessary computer setup to use ProctorU. Upon enrollment into DPPP370 students will register with ProctorU and establish a login name and password. This will give you access to all of ProctorU's services. When ready, students will schedule their exams with ProctorU **one week** prior to taking that exam. Upon the exam day and hour, students will log in to proctor U and click on “exams”. Following the procedures outlined at ProctorU's web site, the student will log in to Blackboard, open the appropriate exam and the proctor will then allow student access to that exam.

Tech Requirements:

- PC: Windows XP, Windows Vista or Windows 7 with 256 MB of RAM or higher
- Mac: Mac OS10 or higher
- A web cam with 640x480 video pixel resolution
- Headphones or working speakers connected to the computer

- A microphone connected to the computer (we recommend having a web cam that has a built in microphone)
- A high speed internet connection (minimum 768 Kbps/128 Kbps)
- A web browser with Adobe Flash Player installed. (Google Chrome recommended for ProctorU website)
- Authority to allow remote access to your computer and screen by one of our proctors

You will need to register with Proctor U to take the exam at least 1 week prior to when you would like to schedule the exam.

For further instructions on taking online exams visit, [Online Learning's Proctor U](#) site.

Written Proctored Exam

Students may take the exam at the University of New England College of Osteopathic Medicine's Campus. The exam is offered the first Saturday of every month. If the first Saturday of the month is a holiday, the exam will take place on the second Saturday of the month.

Students wishing to take a paper version of the exam close to home with an approved proctor can do so with the permission of the instructor. Please contact us for information at comdistance@une.edu or (207) 602-2494.

Withdrawal from the Course and Refunds

Enrollment in the course begins the day the payment is processed. Students may withdraw from the course during the first 28 days after date of enrollment. In this case a "Withdraw (W)" will be entered on the official transcript. The withdrawal date will be the date that written notice of the withdrawal such as email, fax or letter is received by the University of New England; *verbal notification is not sufficient*. During this 28 day withdraw period, a percentage of the student's tuition, but not the registration or laboratory fees, will be refunded according to the following schedule: 100% of tuition refunded for withdrawal within 14 calendar days; 66% of tuition refunded for withdrawal from 15 to 21 calendar days; 33% of tuition refunded for withdrawal from 22 to 28 calendar days. No refund will be made after 29 calendar days.

After the 28-day withdrawal period, students may still withdraw from the course at any time they wish before taking the final exam. In this instance, either a "Withdraw Pass (WP)" or a "Withdraw Fail (WF)" will be entered on the student's transcript depending on the student's academic standing, based on the quiz grades taken up to the time the student withdraws. Again, the University of New England must be notified in writing of the withdrawal.

Notification that the course materials have been received, and all requests for withdrawal, should be directed to:

All requests for withdrawals should be directed to:

Ms. Angela Morse
Biomedical Sciences Department
COM Distance Education
University of New England
11 Hills Beach Road
Biddeford ME 04005
Phone: (207)-602-2494
Fax: (207)-602-5931
amorse@une.edu

Course Extensions

1. Courses in the CDE program are equivalent to one semester courses designed to be completed in 16 weeks
2. Many students are nontraditional students who have elected on on-line course for its flexibility. Therefore students may complete the course in less than 16 weeks or they may take as long as 8 months.
3. Enrollment in the course will begin on the day that the payment is processed
4. Students for whom a grade has not been posted for course by 32 weeks (8 months) will be flagged by the administrative staff. An e-mail will be sent to the instructor asking him/her to contact the student and determine what the best option is for the student based upon the student's needs.

Transcripts

Due to the Family Privacy Act, official transcripts may only be requested by the student. This may be done online by going to the University of New England Registrar's website at <http://www.une.edu/registrar/upload/transcript.pdf> and following the directions on the page. Fill in and sign the request and either mail or fax it to the University Campus address on the form.