



Syllabus for Bio 7 Human Physiology

Course Information

Semester & Year: Spring 2023

Course ID & Section #: BIOL-7-E4956 (054956)

Instructor's name: Ralph Reiner

Day/Time of required meetings: Lectures: Mon Wed 8:30 am – 9:55 am ; Lab: Mon 10:05 am – 1:15 pm

Location: Lectures: HU 112; Lab SC 104

Course units: 4

Instructor Contact Information

Office location: SC 104

Office hours: Wed 10 am-noon, Other times by appointment

Phone number: (Science Div. Office) (707) 476-4211; (cell) (707) 499-8619

Email address: ralph-reiner@redwoods.edu

Catalog Description

An organ system approach to the study of Human Physiology. Special emphasis is given to molecular and cellular mechanisms responsible for homeostasis. Labs include experiments on human subjects as well as computerized simulations of complex physiological processes. NOTE: This course is required for application to the nursing program.

Course Student Learning Outcomes

1. Illustrate how the integration and regulation of organ systems affects the maintenance of homeostasis in the human body.
2. Relate the key functions of major organ systems with the cellular and molecular mechanisms that enable these functions.
3. Analyze example of disease processes and relate them to aberrations of normal physiological function.
4. Utilize the process of science to design and carry out physiological experiments, analyze resulting data, and relate results to physiological principles.

Prerequisites/co-requisites/ recommended preparation

Pre-reqs: BIOL-1 (or BIOL-3), BIOL-6, CHEM-2 (or CHEM-1a)

Bio 7

Text: Anatomy and Physiology: OpenStax College (free online Text)

Spring 2023

<https://openstax.org/details/books/anatomy-and-physiology>

Ralph Reiner

Tentative Lecture Schedule

Date	Lecture	Sections in Text
Mon Jan 16	Holiday	
	18 Introduction; Homeostasis; Feedback; Cells	1.5, 3.1, 3.6
Mon	23 Skin; Healing; Cooling	5.4
	25 Neurons; Membrane Potentials	12.2, 12.3
Mon	30 Channels, Receptors, Nerve Impulse	12.4
Feb	1 Synapse: Function and Features	12.5
Mon	6 Central Nervous System	13.2
	8 Autonomic Nervous System	13.4, 15.1
Mon	13 Autonomic Nervous System	15.2, 15.4
	15 Endocrine System: Mechanism of Action	17.1, 17.2
Mon	20 Holiday	
	22 1st Lecture Exam (through 2/13)	
Mon	27 Hypothalamus; Pituitary; Thyroid	17.3, 17.4
Mar	1 Thyroid; Parathyroid	17.4, 17.5
Mon	6 Parathyroid; Pancreas	17.5, 17.9

8	Pancreas	17.9
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Spring Break

Mon	20	Adrenal Glands	17.6
22		Muscle Function: Skeletal Muscle	10.1, 10.2

Mon	27	Skeletal Muscle Contraction	10.3
	29	Sources of Energy for Contraction	10.6

Mon	Apr	3	Kidneys; Counter Current Mechanism	25.1, 25.4
		5	2nd Lecture Exam (through 3/29)	

Mon	10	Urine Formation	25.5, 25.6, 25.9
	12	Hypertonic & Hypotonic Urine; Acidosis; Alkalosis	25.10, 26.4

(over)

Mon	Apr	17	Reproductive Physiology: Female Cycle	27.2
		19	Pregnancy, Parturition, and Lactation	27.2

Mon	24	Respiration	22.4
	26	Hemoglobin; O ₂ and CO ₂ Transport	22.5, 22.6

Mon	May	1	Heart; Blood; Hemoglobin	19.2, 19.4
		3	Hemostasis; Circulation	18.5

Final Exam: Monday May 8, 2023 8:30-10:30 am

Bio 7 Lab Sheets posted in Canvas in the Modules for each Week

Spring 2023

R. Reiner Tentative Lab Schedule

Date			Lab Topic
Mon	Jan	16	Holiday
Mon		23	Buffers
Mon		30	Osmosis and Cell membrane Integrity
Mon	Feb	6	Cutaneous Receptors and Somatic Reflexes
Mon		13	Selected Cranial Nerve Function
Mon		20	Holiday
Mon		27	Eye tests
Mon	Mar	6	Ear: Hearing, Equilibrium; plus Taste
Spring Break			
Mon		20	EKG (ECG); Heart Sounds; Blood Pressure
Mon		27	Spirometry; Peak Flow and FEVt; CO ₂ Production

Mon	Apr	3	Urine: Composition and Tests
Mon		10	The Kidney and Homeostasis
Mon		17	Data Analysis of "The Kidney and Homeostasis" Also, Review for the Lab Exam
Mon		24	Lab Exam
Mon	May	1	Review for Lecture Exam

Bio 7 Human Physiology

R. Reiner

General Information

This course is designed to provide students, particularly students of the health professions, with an introduction to Human Physiology. Included is the study of the function of all the organ systems that make up the human body. Special emphasis is given to the role of each system in maintaining homeostasis.

Structure of the Course:

Four Semester Units of Credit consisting of three (+) hours of lecture per week and one three-hour laboratory per week.

Spring Semester 2023

Lectures MW 8:30 am-9:55 am HU 112

Lab M 10:05 am-1:15 pm SC 104

Prerequisites: Satisfactory completion of Biology 1 Introductory Biology (or equivalent), Biology 6 Human Anatomy (or equivalent), and Chemistry 2 (or equivalent)

Textbook and Laboratory Manual:

Text: Human Anatomy and Physiology from OpenStax (a free online text)

The textbook for this class is available for free online, in web view and PDF format! You can also purchase a print version, if you prefer, via the campus bookstore or from OpenStax on Amazon.com

Link to the text: <https://openstax.org/details/books/anatomy-and-physiology>

The OpenStax text is heavy on the Anatomy and lighter on the Physiology. If you want a different Physiology textbook (preferably one titled Human Physiology), try Amazon or other websites that sell used texts. You don't need an expensive text and there are many decent used ones available.

Lab Text: there is no official lab manual. All the lab sheets necessary for the lab exercises will be posted on Canvas and should be printed as needed for the lab each week.

Course Evaluation and Grading:

Two lecture Exams @ 100 points each = 200 points total

One lecture final exam = 100 points = 100 points total

Laboratory write-ups = 100 % points total

One laboratory exam = 100 points total

(Note: The final course grade depends on the total points earned, as stated below. However, all the above grading criteria must be completed for a passing grade in the course. Thus, if one of the exams is missed or at least 75% of the laboratory write-ups are not turned in, a satisfactory evaluation cannot be given and the student will not receive a passing grade in the course.)

Lecture exams will cover lecture material and will consist mainly of essay questions. Each lab write-up will be discussed at the beginning of the lab. The lab exam will include written questions relating to experiments performed in the lab and the **significance** of the experiments. **Be sure to contact the instructor in advance if there is any problem with respect to attendance in the lab period or attendance when there is a test.**

Email: school: ralph-reiner@redwoods.edu

home: rreiner99@gmail.com

Phone: school: 707-476-4211 (Science Office) (but it is better to call or text me on my cell phone)

cell phone: 707-499-8619

Final course grades are based on the percentage of the total possible points earned. Percentages for the respective letter grades are as follows:

A = 93-100 %, A- = 90-92 %, B+ = 88-89 %, B = 83-87 %,

C+ = 78-79 %, C = 70-77 %, D = 60-69 %, F < 60%

Academic Integrity: Any student observed cheating will receive a zero grade for that assignment.

Office Hours:

I can meet for office hours after the completion of the lab on Mondays or after lecture on Wednesdays. Other times can be arranged if necessary.

If you have a disability or believe you might benefit from disability related services and may need accommodations, please see me or contact Disabled Students Programs and Services. Contact DSPS for requests for alternative media.

Emergency Procedures

Please review the campus evacuation sites, including the closest site to this classroom (posted by the exit of each room) and access www.redwoods.edu/safety.asp for information on campus Emergency Procedures.

During an evacuation:

- Be aware of all marked exits from your area and building. Know the routes from your work area to the nearest exits.
- Once outside, move to the nearest evacuation point outside your building.
- Keep streets and walkways clear for emergency vehicles and personnel.
- Do not leave campus, unless it has been deemed safe by the Incident Commander or campus authorities. (Be aware that CR's lower parking lot and 101 frontage road are within the Tsunami Zone).

RAVE - College of the Redwoods has implemented an emergency alert system. Everyone is entered already to receive a message at their CR email address. In the event of an emergency on campus, you can also elect to receive an alert through your personal email, and/or phones at your home, office, and cell. This emergency alert system will be available to all students, staff, and other interested parties.

Registration is necessary in order to receive emergency alerts. Please go to <https://www.GetRave.com/login/Redwoods> and use the "Register" button on the top right portion of the registration page to create an account. During the registration process you can elect to add additional information, such as office phone, home phone, cell phone, and personal email. Please use your CR email address as your primary Registration Email. Your CR email address ends with "redwoods.edu."

Accessibility

College of the Redwoods is committed to making reasonable accommodations for qualified students with disabilities. If you have a disability or believe you might benefit from disability-related services and accommodations, please contact your instructor or [Disability Services and Programs for Students](#) (DSPS). Students may make requests for alternative media by contacting DSPS based on their campus location:

- Eureka: 707-476-4280, student services building, 1st floor
- Del Norte: 707-465-2324, main building near library
- Klamath-Trinity: 530-625-4821 Ext 103

If you are taking online classes DSPS will email approved accommodations for distance education classes to your instructor. In the case of face-to-face instruction, please present your written accommodation request to your instructor at least one week before the needed accommodation so that necessary arrangements can be made. Last minute arrangements or post-test adjustments usually cannot be accommodated.

Student Support

Good information and clear communication about your needs will help you be successful. Please let your instructor know about any specific challenges or technology limitations that might affect your participation in class. College of the Redwoods wants every student to be successful.

Evaluation & Grading Policy

Final course grades are based on the percentage of the total possible points earned. Percentages for the respective letter grades are as follows:

A = 93-100 %; A- = 90-92 %; B+ = 88-89 %; B = 83-87 %; B- = 80-82 %;

C+ = 78-79 %; C = 70-77%; D = 60-69%; F <60%

There will be two lecture exams worth 100 points each.

There will be one lecture exam worth 100 points

There will be laboratory write-ups worth a total of 100 % points total

There will be on Laboratory exam worth 100 points

All of the above grading criteria must be completed for a passing grade in the course

Admissions deadlines & enrollment policies

Fall 2022 Dates

- *Classes begin: 8/20/22*
- *Last day to add a class: 8/26/22*
- *Last day to drop without a W and receive a refund: 9/02/22*
- *Labor Day Holiday (all campuses closed): 09/05/22*
- *Census date: 9/06/22 or 20% into class duration*
- *Last day to petition to file P/NP option: 09/16/22*
- *Last day to petition to graduate or apply for certificate: 10/27/22*
- *Last day for student-initiated W (no refund): 10/28/22*
- *Last day for faculty-initiated W (no refund): 10/28/22*
- *Veteran's Day (all campuses closed): 11/11/22*
- *Fall Break (no classes): 11/21/22 – 11/25/22*
- *Thanksgiving Holiday (all campuses closed): 11/23/22 – 11/25/22*
- *Final examinations: 12/10/22 – 12/16/22*
- *Semester ends: 12/16/22*
- *Grades available for transcript release: approximately 01/06/23*

Academic dishonesty

In the academic community, the high value placed on truth implies a corresponding intolerance of scholastic dishonesty. In cases involving academic dishonesty, determination of the grade and of the student's status in the course is left primarily to the discretion of the faculty member. In such cases, where the instructor determines that a student has demonstrated academic dishonesty, the student may receive a failing grade for the assignment and/or exam and may be reported to the Chief Student Services Officer or designee. The Student Code of Conduct ([AP 5500](#)) is available on the College of the Redwoods website. Additional information about the rights and responsibilities of students, Board policies, and administrative procedures is located in the [College Catalog](#) and on the [College of the Redwoods website](#).

Disruptive behavior

Student behavior or speech that disrupts the instructional setting will not be tolerated. Disruptive conduct may include, but is not limited to: unwarranted interruptions; failure to adhere to instructor's directions; vulgar or obscene language; slurs or other forms of intimidation; and physically or verbally abusive behavior. In such cases where the instructor determines that a student has disrupted the educational process, a disruptive student may be temporarily removed from class. In addition, the student may be reported to the Chief Student Services Officer or designee. The Student Code of Conduct ([AP 5500](#)) is available on the College of the Redwoods website. Additional information about the rights and responsibilities of students, Board policies, and administrative procedures is located in the [College Catalog](#) and on the [College of the Redwoods website](#).

Inclusive Language in the Classroom

College of the Redwoods aspires to create a learning environment in which all people feel comfortable in contributing their perspectives to classroom discussions. It therefore encourages instructors and students to use language that is inclusive and respectful.

Setting Your Preferred Name in Canvas

Students have the ability to have an alternate first name and pronouns to appear in Canvas. Contact [Admissions & Records](#) to request a change to your preferred first name and pronoun. Your Preferred Name will only be listed in Canvas. This does not change your legal name in our records. See the [Student Information Update form](#).

Canvas Information

This class will use Canvas to post all the information needed for the class. Students are encouraged to access the class on Canvas regularly to note any recent announcements or to access newly uploaded material.

Log into Canvas at <https://redwoods.instructure.com>

Password is your 8 digit birth date. This can then be changed to a password of your choice.

For tech help, email its@redwoods.edu or call 707-476-4160

Canvas Help for students: <https://webapps.redwoods.edu/tutorial/>

Canvas online orientation workshop: [Canvas Student Orientation Course \(instructure.com\)](#)

Community College Student Health and Wellness

Resources, tools, and trainings regarding health, mental health, wellness, basic needs and more designed for California community college students, faculty and staff are available on the California Community Colleges [Health & Wellness website](#).

[Wellness Central](#) is a free online health and wellness resource that is available 24/7 in your space at your pace.

Students seeking to request a counseling appointment for academic advising or general counseling can email counseling@redwoods.edu.

Emergency procedures / Everbridge

College of the Redwoods has implemented an emergency alert system called Everbridge. In the event of an emergency on campus you will receive an alert through your personal email and/or phones.

Registration is not necessary in order to receive emergency alerts. Check to make sure your contact information is up-to-date by logging into WebAdvisor <https://webadvisor.redwoods.edu> and selecting 'Students' then 'Academic Profile' then 'Current Information Update.'

Please contact Public Safety at 707-476-4112 or security@redwoods.edu if you have any questions. For more information see the [Redwoods Public Safety Page](#).

In an emergency that requires an evacuation of the building anywhere in the District:

- Be aware of all marked exits from your area and building
- Once outside, move to the nearest evacuation point outside your building
- Keep streets and walkways clear for emergency vehicles and personnel

Do not leave campus, unless it has been deemed safe by the campus authorities.

Eureka Campus Emergency Procedures

Please review the [campus emergency map](#) for evacuation sites, including the closest site to this classroom (posted by the exit of each room). For more information on Public Safety go to the [CR Police Department- Public Safety](#). It is the responsibility of College of the Redwoods to protect life and property from the effects of emergencies within its own jurisdiction.

In the event of an emergency:

1. Evaluate the impact the emergency has on your activity/operation and take appropriate action.
2. Dial 911, to notify local agency support such as law enforcement or fire services.
3. Notify Public Safety 707-476-4111 and inform them of the situation, with as much relevant information as possible.
4. Public Safety shall relay threat information, warnings, and alerts through the Everbridge emergency alert system, Public address system, and when possible, updates on the college website, to ensure the school community is notified.
5. Follow established procedures for the specific emergency as outlined in the College of the Redwoods Emergency Procedure Booklet, (evacuation to a safe zone, shelter in place, lockdown, assist others if possible, cooperate with First Responders, etc.).
6. If safe to do so, notify key administrators, departments, and personnel.
7. Do not leave campus, unless it is necessary to preserve life and/or has been deemed safe by the person in command.

Student Support Services

The following online resources are available to support your success as a student:

- [CR-Online](#) (Comprehensive information for online students)
- [Library Articles & Databases](#)
- [Canvas help and tutorials](#)
- [Online Student Handbook](#)

[Counseling](#) offers assistance to students in need of professional counseling services such as crisis counseling.

Learning Resource Center includes the following resources for students

- [Academic Support Center](#) for instructional support, tutoring, learning resources, and proctored exams. Includes the Math Lab & Drop-in Writing Center
- [Library Services](#) to promote information literacy and provide organized information resources.
- [Multicultural & Diversity Center](#)

Special programs are also available for eligible students include

- [Extended Opportunity Programs & Services \(EOPS\)](#) provides services to eligible income disadvantaged students including: textbook award, career academic and personal counseling, school supplies, transportation assistance, tutoring, laptop, calculator and textbook loans, priority registration, graduation cap and gown, workshops, and more!
- The TRiO Student Success Program provides eligible students with a variety of services including trips to 4-year universities, career assessments, and peer mentoring. Students can apply for the program in [Eureka](#) or in [Del Norte](#)
- The [Veteran's Resource Center](#) supports and facilitates academic success for Active Duty Military, Veterans and Dependents attending CR through relational advising, mentorship, transitional assistance, and coordination of military and Veteran-specific resources.
- Klamath-Trinity students can contact the CR KT Office for specific information about student support services at 530-625-4821