

# Biology 5 (BIOL 5) Human Biology

## COURSE AND CONTACT INFORMATION

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| <b>Course:</b> BIOL 5<br>sections 50765 and 53773 | <b>Class meetings:</b><br>Lecture: TUES/THURS 5:00 – 6:15 PM in MATH/SCI 204<br>Lab: TUES 6:30 – 9:20 PM in LFS 17 (section 50765 ONLY)<br>THURS 6:30 – 9:20 PM in LFS 17 (section 53773 ONLY) |
| <b>Instructor:</b> Karen Marks                    | <b>Contact:</b> karen.marks@reedleycollege.edu or 559-494-3000 ext 3288  |
| <b>Office:</b> LFS 13                             | <b>Office Hours:</b><br>Mon/Wed: 12:00 – 1:30 PM<br>Tues: 3:30 – 4:30 PM<br>Thurs: 12:00 – 1:00 PM   |

### **Catalog Description:**

This course is an introductory human biology course that examines science and societal issues. This course emphasizes the structure of the human body and the functional interrelationships of the body's systems: integument, circulatory, digestive, respiratory, urinary, skeletal, muscular, nervous, endocrine, reproductive, and genetics.

### **Prerequisites:**

*None. ADVISORIES: English 1A and Mathematics 201. (A, CSU-GE, UC, I)*

Human Biology is an introductory general biology course which satisfies the general science requirements focused on students entering allied health or science careers and is a prerequisite for other advanced science courses (BIOL 20, 22, 31.)

### **Student Learning Outcomes:**

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

1. demonstrate knowledge regarding the process of science and society, microscopy, and the cell
2. identify human body levels of organization and homeostatic mechanisms
3. demonstrate knowledge of the chemical basis of life
4. evaluate scientific literature and current biological achievements
5. apply the principles of genetics to humans and understand the outcome of normal and abnormal DNA
6. describe the basic cellular, molecular and gross anatomy of tissues, organs and organ systems and explain the basic function of those tissues and organs that relate to the integument, circulation, digestive, respiratory, urinary, skeletal, muscular, nervous, endocrine, reproduction, genetics, and evolution
7. identify and recall fundamental structures from anatomical models and slides using correct nomenclature and language

### **Course Objectives:**

In the process of completing this course, students will:

1. read, analyze, evaluate, and discuss scientific method, the cell, and human levels of organization
2. learn the periodic table of the elements, the chemistry of the carbon atom, and the chemical structure of humans
3. analyze and interpret data on the homeostatic mechanisms within the human body
4. learn the cell's structure, function, and the cell cycle in relation to the multicellular human body

5. observe and document the structure and function of the human body by examining human body systems including: circulatory, digestive, respiratory, urinary, skeletal, muscular, nervous, sensory, endocrine, and reproduction
6. review classical and molecular genetics and learn the processes of replication, transcription, and translation
7. perform experiments, observe, and record data
8. study evolution
9. discuss social issues between humans and science
10. develop a vocabulary to effectively communicate information related to anatomy and physiology.
11. summarize the levels of structural organization important to the human anatomy

### **Required Materials:**

1. Mader, Sylvia S. and Michael Windelspecht, *Human Biology*, 16<sup>th</sup> edition. 2018. CONNECT ACCESS.
2. Reedley College BIOL 5 – Human Biology Lab Manual
3. Scantron #882-E for lecture tests (x6)
4. Facial mask \*COVID-19 REQUIREMENT\*

### **Optional Materials:**

1. Rubber gloves, protective clothing (for dissection labs)

### **CLASS ATTENDANCE AND DROP/ADD POLICY**

Regular attendance is vital for your success. Students who often miss class rarely pass! Don't become part of that statistic!

I reserve the right to drop students (both enrolled and waitlisted) based on the following policy:

1. Student misses the first lecture OR the first lab without cause.
2. Student misses 2 class meetings (lecture or lab) in the first three weeks without cause.

***Adding the Class:*** If there are open slots on the roster, students will be added to the course in order of the waitlist, followed by drop-ins. Students may only officially add with an add code. *In order to receive an add code, you must follow the same attendance policy listed above.*

***Cancelled Classes:*** If I must cancel a class meeting, you will be notified both on the door of the classroom with an official form as well as with a message sent from me via Canvas. I will NEVER leave a handwritten notice on the door.

### **LATE ASSIGNMENTS AND MAKE-UP POLICY**

Each student will be allowed FIVE (5) 1 week extension passes for the semester. These passes can be used on *almost* any assignment and give you an extra 7 calendar days past the original deadline to complete the assignment, no questions asked. Passes can be used on: lab reports, quizzes, homework assignments, and writing assignments. Passes CANNOT be used on: case study presentations, lecture exams, lab exams, or final exams.

For paper assignments, submit your assignment to me *in person* within 1 week of the original deadline. If I am not in my office, you may slip it under my office door or ask one of the other biology faculty in the office to place it on my desk. For online assignments, you must request the extension via email or Canvas message. Remember that the extension is only good for 7 days from the deadline, NOT from your email. Lecture and lab exams can only be made up when a student has a *documented* reason for missing the original exam time.

## TESTS AND EVALUATION

| Assignment Description                 | Points Possible |
|--|-----------------|
| 4 Lecture Exams (75 points each)       | 300             |
| 1 Writing Assignment                   | 75              |
| 1 Case Study Presentation              | 75              |
| 10 Quizzes (5 points each)             | 50              |
| Connect Readings                       | 50              |
| In Class and Canvas Assignments        | 50              |
| Lab Review Sheets/Activities           | 140             |
| Lab Practical Quiz                     | 20              |
| 2 Lab Practical Exams (40 points each) | 80              |
| 1 Lecture Final                        | 160             |
| Total Points Possible                  | 1000            |

To calculate your grade, total all points earned and divide that number by the total points available (1,000). **Course grades are non-negotiable**; Instructor reserves the right to curve individual tests and/or assignments. **FINAL GRADES WILL NOT BE CURVED OR ROUNDED.**

The final course grade is based on:

| Percent Range | Grade |
|---------------|-------|
| 90-100        | A     |
| 80-89.99      | B     |
| 70-79.99      | C     |
| 60-69.99      | D     |
| Less than 60  | F     |

Lecture exams may be any combination of multiple-choice, true-false, matching, fill in the blank, short-answer and essay questions based on the main objectives of each chapter. Write neatly! If I can't read it, I can't grade it!

Lab exams will be practical based on the work done in the laboratory. They may include multiple choice, true-false, matching, and short answer questions.

Lecture final exam will be comprehensive. Since this course is a prerequisite for all other Biology classes, it is important that you retain as much knowledge as possible from this course to ease your way in the following semesters.

Quizzes are given online on Canvas/Connect and will open one week prior to the deadline. Material may include multiple-choice, true-false, and matching questions.

Lab reviews will be collected at the end of each laboratory period where a laboratory exercise was conducted. These should be complete before you leave the lab period unless directed otherwise. Lab reviews should be done as you complete the lab itself. Failure to participate in labs will result in a reduced score.

**Case Study** will be assigned around the 6<sup>th</sup> week of class. At this time, the class will be broken up into groups of between 3-4 students. Each group of students will be assigned a 'patient' with an example disease. At the conclusion of the semester, each group will give a 10-15 presentation to the class describing their patient's disease, and the appropriate courses of treatment. Specific directions will be given both in class as well as put on Canvas.

**Writing Assignment** will be assigned around the 5-6<sup>th</sup> week of class. The writing assignment is an individual assignment. Directions for this assignment will be discussed in class and information can also be found on Canvas.

**Extra Credit** I do not offer extra credit. Rather, I offer "extra opportunity" in that you have 5 opportunities to turn in regular assignments up to a week late without penalty should you need extra time. You also have multiple attempts on quizzes to help you as well. I want you to focus on and master the regular content, not hope for bonus points at the end if you need it.

***\*\* I reserve the right to make changes in this syllabus with notification \*\****

### **CANVAS**

All lecture and lab handouts, lecture notes, course schedules, and announcements are available at <https://scccd.instructure.com/login/ldap>. If you have technical difficulties and need help with Canvas, you can call the Canvas helpline at (559) 499-6070.

### **Behavioral Standards**

Please respect other students, the laboratory materials, and me. Disruptive behavior that interferes with the teaching and learning processes will be cause for appropriate penalties as described under "College Policies" below.

**LECTURE:** Please do not bring food or open drinks into lectures since we use a lab classroom for our lecture times. Phones should stay out of sight and in off, silent, or vibrate mode. Laptops and tablets are okay, provided they are not a distraction for other students. Please show general courtesy to me, other students, and the classroom itself.

**LAB:** You will be given a Safety Rules sheet to sign in the lab, which delineates further safety procedures that you **MUST** follow. We use many models throughout the course. These are expensive and limited in supply. Be careful when using these. Preserved animal specimens should be treated with the same respect you would give to a live animal. Please remember to clean up the lab after every exercise, as areas left dirty or messy at the end of the period will result in those student groups being **docked 5 points** for every offense. **No food, open beverages are allowed in the lab at any time.** Food and/or liquids in the laboratory is **never** allowed and may result in deduction of points or being asked to leave.

**Punctuality:** Please be on time to all scheduled class times. I understand that in rare instances, students may be late. However, students who routinely disrupt the class by walking in late may face point deductions.

**Children/Visitors In Class:** In order to promote a positive learning environment, please make arrangements for your child's care while class is in session. Do not bring children to class. Adult visitors must have prior authorization to stay in the classroom. Unauthorized visitors will be asked to leave. This is for safety purposes, as we may discuss/show content not suitable for children and/or use hazardous materials.

**Technology/Cell Phones:** I am aware that emergencies arise, so place your electronics on silent or vibrate mode during class. Distracting cell phone users will be asked to leave the class. Use of tablets and laptops are fine, provided they are not a distraction to other students. If you are using either, please sit in the rear of the classroom when possible. No technological devices (phones, laptops, tablets, smart watches, etc.) may be used during any type of exam.

**Dress code:** In order to participate in lab activities, wearing long pants (or equivalent) and shoes with closed toes are required. Individuals who do not comply with the lab dress code will be asked to leave the classroom but are welcome to return once in proper lab attire.

*\*\*\*COVID-19 SPECIAL DRESS CODE\*\*\*: Per current state regulations, ALL students, regardless of vaccination status, MUST properly wear a mask in the classroom. Masks may be made available to you if you occasionally forget, but it is generally YOUR responsibility to come to class with one on. If you do not have a mask, YOU CANNOT STAY IN CLASS, PERIOD. Regular masks can be worn in lecture, however in lab you must wear an N95 or KN95 mask. You will be provided with one, possibly a second if supplies are available. Additional N95/KN95 masks will NOT be handed out should you lose or forget it.*

**Drops:** You have until March 11 to drop the class. If you elect to do so, drop the class yourself. Do not assume you have automatically been dropped. After March 11 you must be assigned a grade by state law, whether you attend class or not.

**Tutoring:** Tutors are available in the tutorial center. If you have not had a biology class since high school, working with a tutor will get you up to speed. The tutors are former students who know how to study for the class. "With this statement on my course syllabus, I am referring each of my enrolled students in need of academic support to tutorial services. Referral reason: Mastering the content, study skills, and basic skills of this course is aided by the use of trained peer tutors".

### **College Policies**

The university has several policies that you will be expected to adhere to in my course. The **Policy on Students with Disabilities, the University Honor Code, the Policy on Cheating and Plagiarism, a statement on copyright, and the university computer requirement**, portions of which are below, can all be found in the College Catalog (Policies and Regulations) and Class Schedule.

### **Cheating and Plagiarism:**

**I DO NOT TOLERATE CHEATING. PERIOD. Most of you are entering into the healthcare field and could harm or seriously injure other human beings if you do not know the basic information in this course.** The College policy reads, "Cheating is the actual or attempted practice of fraudulent or deceptive acts for the purpose of improving one's grade or obtaining course credit; such acts also include assisting another student to do so. Typically, such acts occur in relation to examinations. However, it is the intent of this definition that the term 'cheating' not be limited to examination situations only, but that it includes any and all actions by a student that are intended to gain an unearned academic advantage by fraudulent or deceptive means." Cheating includes, but is not limited to, copying others' work, knowingly and willfully allowing someone to copy your work, plagiarism, giving false excuses for deadline extensions/exemptions, and using/possessing test or question banks.

Any student caught cheating or plagiarizing will be given a zero on the assignment and may be subject to disciplinary action by the dean. Electronics of any kind are not permitted during exams and will result in an automatic zero for that exam.

### **DSP&S Students:**

Students with diagnosed disabilities should contact the Disabled Students Programs and Services' (DSP&S). Please give me a copy of the letter you receive from DSP&S detailing class accommodations you may need. If you require accommodation for test-taking please make sure I have the letter no less than three days before the test. If you have a need for an academic accommodation or materials in alternate media (i.e., Braille, large print, electronic text, etc.) per the Americans with Disabilities Act (ADA) or Section 504 of the Rehabilitation Act, please contact me as soon as possible.

## TENTATIVE SCHEDULE

Please bring your textbook to lecture and your textbook and lab manual to every lab. This is very important! We will try to follow this schedule as best as possible, however if need be some items may be moved up/pushed back as needed (such as lectures). If there are any changes to deadlines (quizzes, assignments, exams), I will make both an announcement in class, as well as send out a Canvas message relaying such changes.

| Week | Dates              | Lecture (Book Chapter)   | Lab (Manual Chapter)   |
|------|--------------------|--|--|
| 1    | Tu 1/11<br>Th 1/13 | Introduction/Syllabus<br>Exploring Life and Science (1)<br>Chemistry of Life (2)   | <b>Laboratory Safety</b><br>Lab 1 : Introduction to<br>Microscopy  |
| 2    | Tu 1/18<br>Th 1/20 | Chemistry of Life (2)<br>Cell Structure and Function (3)   | Lab 2: Biological Molecules  |
| 3    | Tu 1/25<br>Th 1/27 | DNA Biology and Technology (22)<br>Chromosome Inheritance (19)   | Lab 3: Cell Structure and<br>Function                              |
| 4    | Tu 2/1<br>Th 2/3   | <b>Tuesday: Lecture Exam 1 (Modules 1-2)</b><br>Cancer (20)  | Lab 4: DNA, Transcription and<br>Translation                       |
| 5    | Tu 2/8<br>Th 2/10  | Genetic Inheritance (21)<br>Organization and Regulation of Body System<br>Organ Systems (4)  | <b>LAB PRACTICAL 1</b><br>Lab 5: Mitosis and Meiosis               |
| 6    | Tu 2/15<br>Th 2/17 | Organization and Regulation of Body System<br>Organ Systems (4)<br>Cardiovascular System: Heart and Blood<br>Vessels (5)<br><b>*Term Paper Assigned*</b> | Lab 6: Genetics and Inheritance                                    |
| 7    | Tu 2/22<br>Th 2/24 | Cardiovascular System: Heart and Blood<br>Vessels (5)<br>Cardiovascular System: Blood (6)  | Lab 7: Histology   |
| 8    | Tu 3/1<br>Th 3/3   | <b>Tuesday: Lecture Exam 2 (Modules 3-5)</b><br>Biology of Infectious Disease (8)  | Lab 8: Cardiovascular System                                       |
| 9    | Tu 3/8<br>Th 3/10  | Lymphatic System and Immunity (7)<br>Digestive System (9)  | Lab 9: Homeostasis, Digestive,<br>Respiratory, and Urinary Systems |
| 10   | Tu 3/15<br>Th 3/17 | Respiratory System (10)<br>Urinary System (11)   | <b>LAB PRACTICAL 2</b>   |

|    |                        |  |  |
|----|------------------------|--|--|
| 11 | Tu 3/22<br>Th 3/24     | Urinary System (11)<br>Skeletal System (12)                              | Lab 10: Musculoskeletal System             |
| 12 | Tu 3/29<br>Th 3/31     | <b>Tuesday: Lecture Exam 3 (Modules 6-7)</b><br>Muscular System (13)     | Lab 11: Nervous System and Senses          |
| 13 | Tu 4/5<br>Th 4/7       | Nervous System (14)<br>Senses (15)                                       | Lab 12: Pig dissections                    |
|    | <b>4/11 –<br/>4/15</b> | <b>NO CLASS, SPRING BREAK</b>  |  |
| 14 | Tu 4/19<br>Th 4/21     | Senses (15)<br>Endocrine System (16)                                     | Lab 13: Endocrine and Reproductive Systems |
| 15 | Tu 4/26<br>Th 4/28     | <b>Tuesday: Lecture Exam 4 (Modules 8-9)</b><br>Reproductive System (17) | <b>LAB PRACTICAL 3</b>                     |
| 16 | Tu 5/3<br>Th 5/5       | Development and Aging (18)<br>Human Evolution (23)                       | Lab 14: Human Evolution                    |
| 17 | Tu 5/10<br>Th 5/12     | Human Evolution (23)<br><b>Exam Review</b>                               | <b>Case Study Presentations</b>            |
| 18 | Tu 5/17                | <b>Both sections @ 5 PM<br/>Final Exam (Modules 1-10)</b>                |  |

### Important Dates

- JANUARY 21 Last day to drop a class for full refund (no “W” on transcript)
- JANUARY 28 Last day to add/drop a class (no “W” on transcript)
- MARCH 11 Last day to drop with a “W”. **\*\*GRADES ASSIGNED AFTER THIS DATE\*\***
- FINAL EXAMINATION: Tuesday, 5/17 at 5 PM in lecture classroom