

**Course Number:** BIOL 2301 and 2101 – Lecture (3) and Laboratory (1) credit

**Course Description:**

The complementary branches of Science – anatomy and physiology – provide the conceptual knowledge for understanding the human body. Anatomy is specific to body parts and their relation to each other. Anatomy is a concrete subject in that the parts being studied can be felt and seen. Physiology studies the function of those body parts and how their function sustains all of life's processes. These two fields of science complement each other well due to the direct correlation between human structure and function.

Instructor:	Dr. Zacher
Office:	Room 312
Office Hours:	7 – 8am
Contact Information:	mzacher@pi-isd.net

**Learning Outcomes:**

1. Describe the structure and function of the human body.
2. Describe the five levels of organization that make up the body-chemical, cellular, tissue, organ and system.
3. Identify the body at the cellular and chemical levels of organization and define the various biological processes that occur at the cellular level.
4. Identify the structure and function of the epidermal and dermal layers of the skin. Also identify the role of skin in health and disease.
5. Identify bones, types of cartilage, and joints of the skeletal system, and identify the microscopic structure of bone and cartilage.
6. Identify the major muscles and explain contraction at the anatomical physiological and chemical levels.
7. Identify the major components of the nervous system. Also identify the structure and function of various cell types and physiological aspects of nerve impulse transmission, regeneration, and reflex arc.
8. Identify the principal components of the ear and eye. Describe the process of transforming mechanical stimulus into electrical impulses using ear and eye anatomy

**Core Objectives:**

1. Critical Thinking – to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
2. Communication Skills – to include effective development, interpretation and expression of ideas through written, oral and visual communication
3. Empirical and Quantitative Skills – to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions
4. Teamwork – to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal

## Course Lecture Topics

Unit	Topic/Lecture/Event	Resources to View & Measurable Activities
1	The Human Body: An Orientation Chemistry Comes Alive	Exams 1 and 2 (LO 1)
2	Cells: The Living Units	Exam 3 (LO 2 & 3)
3	Tissue: The Living Fabric The Integumentary System	Exams 4, 5 and 6 (LO 2 & 4) Midterm Exam
4	Bones and Skeletal Tissue The Skeleton Joints	Exams 7, 8, 9 and 10 (LO 5)
5	Muscles and Muscle Tissue The Muscular System	Exams 11, 12 and 13 (LO 6)
6	Fundamentals of the Nervous System and Nervous Tissue The Central Nervous System The Peripheral Nervous System and Reflex Activity The Autonomic Nervous System The Special Senses	Exams 14, 15, 16, 17 and 18 (LO 7)
	Final Exam	Final Exam (LO 1-7; CO 1-4)

Activities: Laboratory and other kinesthetic activities will be completed with every unit.

More activities will be implemented as time allows.

\*\*\* caveat: time line may change dependent on class progress\*\*\*

### Required Text and Materials:

Marieb, Elaine N. and Katja Hoehn 2009. Human Anatomy & Physiology. 9<sup>th</sup> ed.

Pearson Education, Inc., San Francisco, CA 94111.

ISBN: 13: 9780321696397

### Course Expectations:

1. You will be tested approximately every two weeks.
2. You will be quizzed at least twice a week.
3. You are expected to have a notebook, or organizational system approved by me, in which to keep all class notes, handouts, lab write ups, etc.
4. You will be expected to have said notebook with you daily. No excuses.
5. You will be expected to turn in ALL work on time unless approved by me.
6. Plagiarism, or passing someone else's work off as your own, will not be tolerated in any manner. When in doubt, document!!!

### Class Expectations:

1. Be in class, ON TIME, everyday. (Tardies are not tolerated)
2. Be PREPARED everyday. (Notebook, pen or pencil, and brain engaged)
3. Be RESPECTFUL everyday. This includes being respectful to yourselves, your classmates, and to me.
4. Be SILENT when I am addressing the class.
5. Be SILENT when your classmates are addressing the class.

6. Be RESPONSIBLE for yourselves and pick up your own trash.
7. Disruptive and/or immature behavior will NOT be tolerated.
8. Cell phone usage will not be permitted. If you have a cell phone in this classroom, it needs to be on silent mode and kept inside your backpack or bag.

**Grading Procedures:**

1. All homework and class work will be graded promptly and given a grade.
2. Quizzes will be given announced or unannounced. BE PREPARED!!
3. Quizzes, Tests, Projects, and Presentations will count for 60% of the nine weeks high school grade. They will count for 60% of your TSTC semester grade.
4. Daily work, homework, and participation will count for 40% of the nine weeks grade. They will count for 40% of your TSTC semester grade.
5. Midterm and Final exams will be 15% of your semester grade.

**Grading Scale:**

90-100.....	A
80-89.....	B
70-79.....	C
60-69.....	D **not applicable for high school grade
0-59.....	F

**Make Up Work Procedures:**

It is the students' responsibility to acquire and complete assignments or assessments after their absence. The school district policy will be followed.

**Accommodation Statement:**

If you have a documented disability which will make it difficult for you to carry out class work as outlined and/or if you need special accommodations due to a disability, please contact (956) 364-4520 or visit the Support Services Office in the Auxiliary Services Building as soon as possible to make appropriate arrangements.

**Copyright Statement:**

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*I have received a copy of the syllabus and understand the conditions of the course. I understand my behavior or lack of progress in this course may cause the instructor to withdraw me at any time.*

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Student's Signature

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e-mail

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Date