



Course: Anatomy and Physiology 12

Course Description:

Hello, and welcome to Anatomy and Physiology 12. In the coming semester, we will be exploring these Big Ideas together, learning the habits of the mind with “doing” science.

Students are expected to be able to do the following:

- Make observations aimed at identifying their own questions, including increasingly abstract ones, about the natural world
- Formulate multiple hypotheses and predict multiple outcomes
- Use appropriate SI units and appropriate equipment, including digital technologies, to systematically and accurately collect and record data
- Consider the changes in knowledge over time as tools and technologies have developed
- Connect scientific explorations to careers in science
- Exercise a healthy, informed skepticism and use scientific knowledge and findings to form their own investigations to evaluate claims in primary and secondary sources

Big Ideas: By the end of this course, students will understand:

- Homeostasis is maintained through physiological processes.
- Gene expression, through protein synthesis, is an interaction between genes and the environment.
- Organ systems have complex interrelationships to maintain homeostasis.

Core Competencies:

Communication

- Listen and respond to others. Consider your purpose when you are choosing a form and contents. Communicate clearly about topics you know and understand well.
- Contribute during group activities, cooperate with others and listen respectfully to their ideas. Able to work with others with specific purpose.
- Communicate clearly about topics you know and understand well, using forms and strategies you have practiced. Gather the basic information you need and present it.
- Identify and apply roles and strategies to facilitate groupwork. Be an active listener and speaker.
- Recognize how your contributions and those of others complement each other. Plan with others and adjust the plan according to the group’s purpose.

Thinking

- Use what you know and observe to identify problems and ask questions.
- Use observation and data to draw conclusions, make judgements, and ask questions.
- Use your imagination to get new ideas of your own or build on others’ ideas in new ways.
- Assess your own efforts and experiences and identify new goals (give, receive, and act on constructive feedback).



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- Consider more than one way to proceed and make choices based on your reasoning and what you are trying to do.
- Consider alternative approaches and make strategic choices. Take risks and recognize that you may not be immediately successful.
- Generate new ideas as you pursue your interests. Deliberately learn a lot about something by doing, talking to others, or practicing, so that you can generate ideas.
- Get new ideas or reinterpret other's ideas in novel ways.
- Ask questions and offer judgements, conclusions, and interpretations supported by evidence or others have gathered.

Personal & Social

- Interact with others and your surroundings respectfully.
- Act toward meeting your own wants and needs and find joy and satisfaction, and work toward a goal or solving a problem.
- Identify your individual characteristics and explain what interests you.
- Identify your individual characteristics and explain what interests you. Describe different groups that you belong to.

Assessment:

Formative (30%)

- Experiments and laboratory reports
- Dissections
- Projects
- Homework
- Classwork

Summative: (70%)

- Tests
 - The midterm exam will cover contents in the first half of the course and the final exam in the second half.
 - A better result in the midterm exam will also replace the overall test mark in the first half of the course. A better result in the final exam will also replace the overall test mark in the second half of the course.

With respects to the First People's Principles of Learning, students may be alternatively assessed in ways that people can display knowledge and subject mastery. The alternative assessment can be storytelling, art or other expressions of self, knowing and learning.

First Peoples Principles of Learning

Learning involves patience and time.

Learning requires exploration of one's identity.



Expectations: Attendance in the classroom is mandatory. Students are expected to use their electronics responsibly, speak English, and participate in daily activities. Students will take an active role by discussing, doing work, working in partners or groups, and taking notes. Students are responsible for any missed assignments.

Week(s)	Topics Covered	Assignments
1-3	Biological Molecules and Protein Synthesis	<ul style="list-style-type: none">• Microscope Lab• DNA Replication Model• Protein Synthesis Model• DNA Code Conversion• Unit Test
4-5	Membrane Transport and Enzymes	<ul style="list-style-type: none">• Transport Lab Report• Unit Test
6-7	Digestive System	<ul style="list-style-type: none">• Post Dissection Discussion• Diagram of Enzymes• Unit Test
8-10	Circulatory and Respiratory System	<ul style="list-style-type: none">• Inquiry Video• Blood Pressure Measurements• Blood Typing Experiment• Lung Capacity Experiment• Unit Test
10-12	Nervous and Urinary System	<ul style="list-style-type: none">• Inquiry Video on Neurogenesis• Sheep Kidney Dissection• Diagram and Path of a Red Blood Cell• Heart Dissection• Unit Test
13-14	Reproductive System	<ul style="list-style-type: none">• Presentation on Different Contraception and Fertility Methods• Unit Test