

**HUMAN ANATOMY AND PHYSIOLOGY**  
**Biol 2402 LABORATORY SYLLABUS**  
**PALO ALTO COLLEGE**

**COURSE:** Biology 2402 - Human Anatomy and Physiology II

**COURSE REQUIREMENT:** Students MUST have completed Biol 2401 before enrolling in Biol 2402. Biol 2404 or any other biology CANNOT be substituted for the Biol 2401 prerequisite. Waivers WILL NOT be granted under any circumstances.

**COURSE DESCRIPTION:** The study of the structure and function of the endocrine, digestive, respiratory, cardiovascular, lymphatic, urinary, and reproductive systems. Human growth, development, and genetics are also included.

**RATIONALE/PURPOSE:** This course is intended to follow Biology 2401 and fulfill prerequisite requirements for students in Allied Health/ Social Work programs. For transferability, students should check with the institution from which they expect to receive a desired degree.

**COURSE OBJECTIVES:** Upon completion of the course the student will be able to

1. Use a vocabulary appropriate to the study of human anatomy and physiology.
2. Perform meaningful laboratory dissections by applying correct anatomical terminology.
3. Write scientific reports based on collection of laboratory data and/or library research.
4. Identify the major structures of the endocrine system on human models, describe their structure and explain their function.
5. Identify the major organs of the digestive system on human models and in laboratory animals, describe their structure, and explain the function of each in the digestion and absorption of nutrients.
6. Explain the hydrolytic action of digestive enzymes and chemical digestion of food and describe the optimum conditions that influence this activity.
7. Identify the major organs of the respiratory system on human models and in laboratory animals, describe their structure, and explain their functions in the exchange, transport, and utilization of respiratory gases.
8. Explain the mechanisms of breathing, understand factors that affect the rate and depth of breathing, and measure respiratory volumes.
9. Describe the composition of blood, its functions, and determine such physiological parameters as cell numbers, hemoglobin content, coagulation time, and blood types.
10. Identify the major structures of the heart on human models and in laboratory specimens, trace the flow of blood through the heart, and describe its physiology by analysis of recordings of the cardiac cycle, heart sounds, and the electrocardiogram.
11. Define and measure pulse, pulse rate, blood pressure, and determine the factors that influence the control of these measurements.
12. Identify the major blood vessels on the human model and trace the flow of blood through the major vessels of a laboratory animal.
13. Summarize the structure and function of the lymphatic system and describe the structure of a lymph node.
14. Identify the major organs of the excretory system on the human model and in a laboratory animal, describe their structure, and explain their functions in the elimination of waste and the maintenance of water and electrolyte balance.
15. Perform tests commonly used to characterize and analyze the composition of urine.