

Anatomy & Physiology **2016-2017**

Mr.Zynda

Room 307

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**Textbook:**

* 13th /15th edition Integrated Principles of Zoology, publisher McGraw-Hill copyright 2006/2010
* 9th edition Hole’s Essentials of Human Anatomy and Physiology, publisher McGraw-Hill copyright 2006
* Schoology: grades, power point lectures, assignments and class announcements.
* Mr. Zynda’ s Science weebly

**WELCOME TO ANATOMY/PHYSIOLOGY:**

This course provides the student with a basic understanding of the development of organ systems and the structure/functions of those systems. This will be accomplished through a 10 week comparative zoology experience which includes a series of dissections and live observations. Specifically, we will compare phylogeny, ontogeny (development) and morphology in animal groups ranging from Porifera to highly derived vertebrates. Followed by 28 weeks of detailed anatomical and physiological studies of the mammalian system, primarily focusing on the human organism with an extensive dissection of the cat.

### First Semester Activities (10 weeks)

## Comparative Zoology

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| Chapter(s)  Ch 3 | Topic  Review of Cells and Cell processes | Lab  Ch 3 Anatomy and Physiology Text |
| 8 & 9 | Principles of Development & Patterns of an Animal | Microscopic Observations of Early  Development-Microscopes |
| 12 | Phylum Porifera |  |
| 13 | Phylum Cnidaria | Observations of Preserved Hydra  And Medusa |
| 14 | Acoelomate Bilateral Animals | Observations of Live Planaria |
| 15 | Pseudocoelomate Animals | Observations of Vinegar Eels |
| 16 | Mollusks | Dissection of a Squid |
| 17 | Annelids-Segmented Worms | Dissection of Earthworm |
| 18 & 19 | Arthropods | Dissection of a Crayfish |
| 22 | Echinoderms | Survey of Preserved Specimens |
| 23 | Chordates | Survey of Preserved Specimens |
| 24 | Fishes | Dissection of a Shark |
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## Human Anatomy & Physiology First and Second Semester Activities (28 weeks)

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| Chapter(s) | Topic | Lab | |
| 1 | Introduction to Human Anatomy and Physiology |  | |
| 2 | Chemical basis of Life | Organic chemistry activity | |
| 6 | Skin and Integumentary System | Epithelial Tissue-Microscope | |
| 7 | Skeletal System | Connective Tissue-Microscope & Human  Bone Identification lab | |
| 8 | Muscular System | | Muscle Tissue- Microscope & Cat  Dissection |
| 9 | Nervous System | | Reflex Lab, Nervous Tissue- Microscope |
| 15 | Digestive System | | Dissection of Cat-Abdomen, Thoracic and  Pelvic Cavity |
| 16 | Respiratory System | | Calculating Respiratory Air Volumes  and Lung Capacities. Tissues-  Microscope Identification, Cat Lung  Dissection. |
| 12 | Blood | | Blood Typing Lab, Tissues- Microscope |
| 13 | Cardiovascular System | | Dissection of Pig Hearts and Lab  Practical/Pulse Rate and Blood Pressure |
| 14 | Lymphatic System and Immunity | | Microscope Lab-Prepared Slides |
| 17 & 18 | Urinary System/Water, Electrolyte, and  Acid-base Balance | | Diffusion, Microscope Lab |

This course is designed to give the student a comprehensive understanding of system development and function. It is a course that requires a positive work ethic and a desire to increase ones knowledge of anatomy/physiology. This means I have expectations for all of my students to put forth an honest effort; perform their assigned tasks to the best of their ability; so they all achieve a high level of success in this course.

Mr. Zynda