BIO ###: Anatomy and Physiology
(8-10 semester credit/ 12-15 quarter credit) – 2 semester sequence

A comprehensive survey of human anatomy and physiology of the major organ systems from a molecular and cellular perspective. This combination of courses provides students with an understanding of all organ systems of the body and their integration in supporting homeostasis while providing insight into the disease process and how it disrupts normal physiology.

Laboratory is required in all courses in the sequence, which must include microscopy and dissection of mammalian specimens. Use of a cadaver in all courses in the sequence will be denoted by a "C" above and follow the additional objectives below. A majority of the labs must be completed in-person in order for students to build competence in the course objectives stated below. At the most, no more than two labs per course, or four labs over the entire course sequence, can be virtual.

To ensure simple & straight forward transfer of credit, students should complete the entire course sequence at the same school before transfer.

Content — Sequence must explicitly cover the following topics for IAI acceptance:

a. Body plan and organization
b. Basic biochemistry
c. Cell Structure and Function
d. Histology
e. Integumentary System
f. Skeletal System
g. Muscular System
h. Nervous System (incl. Central, Peripheral and Autonomic)
i. Special Senses
j. Cardiovascular System
k. Respiratory System
l. Immune System
m. Digestive System
n. Urinary system
o. Body fluids and Acid/Base Balance
p. Endocrine System
q. Reproductive System

Course Objectives

1. Describe the functional and structural organization of the body using the appropriate directional and anatomical terminology
2. Identify the gross and microscopic anatomy and of each of the organ systems listed above. For courses that are denoted with the C for cadaver, the following organ

systems must be identified on the cadaver; muscular, nervous, cardiovascular, respiratory, digestive, urinary and reproductive systems.

3. Integrate the molecular, cellular, and histological aspects of each organ system to explain function/physiology of that system
4. Explain the interrelationships of organs and organ systems in the maintenance of the body's homeostasis
5. Relate homeostatic imbalances to disease in human body systems.
6. Perform dissection of major organs on a mammal specimen including eye, brain, heart, and kidney.