Student Learning Objectives

• Understand the basic issues and subdisciplines that comprise Kinesiology, achieve basic library research skills, improve written communication skills, improve verbal communication skills, acquire elementary data analysis skills.

• Understand the theoretical basis by which diet and dietary supplements impact athletic performance, understand the biochemistry, physiology, efficacy and side effects of nutritional interventions designed to enhance strength, endurance, and muscle mass, critically evaluate information and products related to human performance and nutrition with “open-minded” skepticism.

• Introduce students to the fundamental elements of human structure and function; understand cellular physiology, tissue organization, musculoskeletal structure and function, basic neurobiology, organization of the nervous system, and chemical communication.

• Learn about the structures of the endocrine, digestive, urinary, cardiovascular, blood and respiratory systems; understand the function of these systems and how the function of systems are regulated and controlled; understand principles of governing metabolism, energy balance, and fluid balance; apply the structural and functional knowledge in clinical applications and to pathological conditions.

• Explain the characteristics, advantages, and limitations of evaluation and assessment techniques; develop and use performance and health-related fitness assessments; demonstrate knowledge of basic measurement issues including reliability and validity; describe a distribution of test scores and the use of norms; apply basic statistical techniques to assess data for the purpose of identifying relationships and describing progress.

• Gain a working knowledge of the following concepts: anatomical movement terminology; vectors and scalars; linear and angular kinematics; mass and inertia; application of Newton’s Laws of motion; uniformly accelerated motion; force and torque; impulse and momentum; work, energy, and power, segmental analysis; apply this knowledge in the understanding of human movement.

• Learn how to develop and manage different health/wellness programs for apparently healthy individuals; learn what factors contribute to a successful health/wellness program.

• Provide the foundation for understanding energy metabolism, energy transfer, acute responses to exercise, and chronic adaptations to various types of exercise training; understand the mechanisms underlying how systems respond to exercise and exercise training; understand the physiology of fitness and exercise performance; gain an understanding of selected aspects of exercise physiology that concern training and conditioning, thermoregulation, gender differences, ergogenic aids, and health outcomes.

• Learn basic information from physics for required, elective and cognate courses in Kinesiology requiring basic physics information.

• Learn basic calculations with applications to problems in the life and social science. This information prepares students for required and elective courses in Kinesiology.

• Learn basic principles of structure and reactivity and the properties of chemical systems for required, elective and cognate courses for Kinesiology.

• Understand states of matter, solutions, thermodynamics, equilibrium and kinetics for required, elective and cognate courses for Kinesiology.

• Learn problem-solving with various computer languages and programs.
Assessment tools
School-wide:
- Indirect: student surveys at the end of core courses (planned to extend to all courses); student reflection paper in “Evaluation of Learning Outcomes” course; exit survey.
- Direct: examples of student work in “Evaluation of Learning Outcomes” course.

Highlighted recent activities
School-wide:
- The SPHHS Curriculum Committee is developing a 1-credit course titled, “Evaluation of Learning Outcomes”. This year-long course offering will provide 1 credit per semester; grading will be on a letter basis. Students enrolled in the course will collect assignments, assignment instructions, and syllabi from each of their courses, and will write a reflection paper, using structured prompts, on their learning outcomes at the end of each semester. The results of the course will identify the overall curriculum areas of relative strength and weakness in helping students achieve these learning objectives.