07_ Physical Fitness Copied from: Scientific Principles of Nutrition, Copied on: 08/14/23

Content Area: **Science**
Course(s):
Time Period: **Full Year**
Length: **3 blocks**
Status: **Published**

General Overview, Course Description or Course Philosophy

- The course tests the students' understanding of the relationships between diet, lifestyle, and the prevention of disease. The student is expected to understand digestion, absorption, and metabolism of protein, carbohydrates, fat, vitamins, and minerals. Additionally, evaluating nutrition claims and food labels are expected student learning outcomes. This is a Rutgers University Course and students receive 3 college credits for passing the end of semester examination provided by the university. There is an examination fee associated with this course for college credit. All information discussed in the course description is the basis of the examination at the end of the semester.

OBJECTIVES, ESSENTIAL QUESTIONS, ENDURING UNDERSTANDINGS

- Recall types of macromolecules and essential vitamins & minerals
- Highlight: Supplements as Ergogenic Aids.
- Types of physical fitness and energy systems utilized
- Daily recommended physical activity guidelines
- Dietary recommendations to support physical activity
- Review of terminology

CONTENT AREA STANDARDS

SCI.HS.SF	Structure and Function
SCI.HS-LS1-3	Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.
SCI.HS-LS4-1	Communicate scientific information that common ancestry and biological evolution are supported by multiple lines of empirical evidence.
SCI.HS-LS1-2	Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

RELATED STANDARDS (Technology, 21st Century Life & Careers, ELA Companion Standards are Required)

VHEL.9-12.5	Biotechnology Research & Development
VHEL.9-12.9.4.12.H.(1).6	Demonstrate knowledge of how to evaluate patient/client needs, strengths, and problems within scope of practice to determine if treatment goals are being reached.
VHEL.9-12.9.4.12.H.(2).1	Communicate information within a healthcare classroom and demonstrate how to convey this information to appropriate departments and professionals in a timely manner to facilitate sharing of key diagnostic information used in treating patients.
VHEL.9-12.9.4.12.H.(2).7	Demonstrate understanding of the principles of body mechanics for positioning, transferring, and transporting patients/clients by performing them without injury to the patient/client or self.
VHEL.9-12.9.4.12.H.(5).5	Identify and explain processes used for biotechnology product design, development, and production and describe how they work together to demonstrate an understanding of the biotechnology product development process.
VHEL.9-12.9.4.12.H.1	Demonstrate language arts knowledge and skills required to pursue the full range of postsecondary education and career opportunities.
VHEL.9-12.9.4.12.H.2	Demonstrate mathematics knowledge and skills required to pursue the full range of postsecondary education and career opportunities.
VHEL.9-12.9.4.12.H.3	Demonstrate science knowledge and skills required to pursue the full range of postsecondary education and career opportunities.
VHEL.9-12.9.4.12.H.4	Demonstrate knowledge of human structure and function as well as diseases and disorders to pursue the full range of postsecondary education and career opportunities in this cluster.

STUDENT LEARNING TARGETS

Declarative Knowledge

Students will understand that:

- There are types of physical fitness
- We utilize various energy system during exercise
- There is a daily recommended physical activity set of guidelines
- We follow dietary recommendations to support physical activity
- We have ways to regulate temperature
- Hydration is needed to support physical activity

Procedural Knowledge

Students will be able to:

- Identify types of physical fitness
- Explain the different energy system during exercise
- Investigate and research daily recommended physical activity set of guidelines
- Explore dietary recommendations to support physical activity
- Explain ways to regulate temperature
- Explain the reason hydration is needed to support physical activity

EVIDENCE OF LEARNING

Formative Assessments

- Attendance/Participation/Group Discussion – Students are expected to attend all classes and participate in classroom discussions and group activities.
- Unit Quizzes: Students will be required to take a short quiz at the completion of each unit. Content will be based on lectures, readings, and classroom discussions/activities.
- Course Projects – There will be four major projects due throughout the course. Each project will have specific directions for completion and students are expected to work individually on these projects.

Summative Assessments

- Unit Quizzes: Students will be required to take a short quiz at the completion of each unit. Content will be based on lectures, readings, and classroom discussions/activities.
- Final Examination – Successful completion of a cumulative final exam at the end of the course is required.
- Research
- Lab activities

RESOURCES (Instructional, Supplemental, Intervention Materials)

https://www.merckmanuals.com/home/fundamentals/exercise-and-fitness/overview-of-exercise

https://www.thebiomechanicsmethod.com/product/fundamentals-corrective-exercise/

https://www.nia.nih.gov/health/infographics/diet-and-exercise-choices-today-healthier-tomorrow

INTERDISCIPLINARY CONNECTIONS

SCI.9-12.CCC.2	Cause and effect: Mechanism and explanation.
SCI.9-12.CCC.6.1	students investigate systems by examining the properties of different materials, the structures of different components, and their interconnections to reveal the system's function and/or solve a problem. They infer the functions and properties of natural and designed objects and systems from their overall structure, the way their components are shaped and used, and the molecular substructures of their various materials.

ACCOMMODATIONS & MODIFICATIONS FOR SUBGROUPS

See link to Accommodations & Modifications document in course folder.