

Principles of Exercise Science and Wellness

PEIMS Code: N1302107

Abbreviation: EXSCIWL

Grade Level(s): 9–10

Award of Credit: 1.0

State Approved Innovative Course

- Districts must have local board approval to implement innovative courses.
- In accordance with Texas Administrative Code (TAC) §74.27, school districts must provide instruction in all essential knowledge and skills identified in this innovative course.
- Innovative courses may only satisfy elective credit toward graduation requirements.
- Please refer to [TAC §74.13](#) for guidance on endorsements.

Course Description:

The *Principles of Exercise Science and Wellness* course is designed to provide for the development of knowledge and skills in fields that assist patients with maintaining physical, mental, and emotional health. Students in this course will understand diet and exercise, as well as techniques to help patients recover from injury, illness, and disease. They will also learn about introductory health science topics such as employability skills, lifespan development, and ethical and legal standards.

Students who take this course are ideally interested in such careers as physical therapy, athletic training, nutrition, personal training, and recreational therapy.

The central focus of this course is to provide students with a solid foundation in the topics of health and wellness and increase their interest in the various careers available in these fields.

Essential Knowledge and Skills:

- (a) General Requirements. This course is recommended as an introductory course for students in Grades 9 and 10. Students shall be awarded one credit for successful completion of this course.
- (b) Introduction.
 - (1) Career and technical education instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.
 - (2) The Health Science Career Cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development. The Principles of Exercise Science and Wellness course is designed to provide an overview of the occupations, the study of body movement, health behavior, systems to develop exercise and

wellness regimens, and current research and development in the Exercise Science and Wellness industry.

- (3) To pursue a career in the health science industry, students should learn to reason, think critically, work cooperatively, make decisions, solve problems, and communicate effectively. Students should recognize that quality health care depends on the ability to work well with others.
 - (4) Professional integrity in the health science industry is dependent on the acceptance of ethical and legal responsibilities. Students are expected to employ their ethical and legal responsibilities, recognize limitations, and understand the implications of their actions.
 - (5) Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.
 - (6) Statements that contain the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.
- (c) Knowledge and Skills.
- (1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - (A) express ideas in a clear, concise, and effective manner;
 - (B) exhibit the ability to cooperate, contribute, and collaborate as a member of a team; and
 - (C) identify employer expectations such as punctuality, attendance, time management, communication, organizational skills, and productive work habits.
 - (2) The student applies mathematics, science, English language arts, and social studies in exercise and wellness science. The student is expected to:
 - (A) calculate measurement conversions between systems including pounds to kilograms;
 - (B) apply data from tables, charts, and graphs to provide solutions to exercise or nutrition-related problems and to communicate results and progress to clients;
 - (C) describe the impact current media has on fitness and wellness such as body image, eating disorders, and exercise and fitness outcomes;
 - (D) construct reports and summaries for clients, documentation, and company records, such as SOAP (Subjective, Objective, Assessment, Plan) notes;
 - (E) develop presentations to promote health and fitness for multiple types of audiences and mediums; and
 - (F) compose responses using precise and clear language to communicate ideas based on audiences.
 - (3) The student assesses career options and the preparation necessary for employment in the exercise science industry. The student is expected to:

- (A) research qualifications for different career options and employment in the exercise industry;
 - (B) identify opportunities in high school and post-secondary to obtain a certification in the exercise industry; and
 - (C) compare exercise related careers pertaining to planning, managing, and providing stress management, exercise physiology, fitness assessment services, and training.
- (4) The student assesses career options and the preparation necessary for employment in the wellness industry. The student is expected to:
- (A) research qualifications for different career options and employment in the wellness industry;
 - (B) identify opportunities in high school and post-secondary to obtain a certification in the wellness industry; and
 - (C) compare wellness related careers pertaining to planning, managing, and providing stress management, nutrition and diet, health assessment services and training, and health promotion.
- (5) The student discusses the importance of maintaining a safe environment and eliminating hazardous situations. The student is expected to:
- (A) identify governing regulatory agencies such as the World Health Organization, the Centers for Disease Control and Prevention, Health Resources and Services Administration, Occupational Safety and Health Administration, U.S. Food and Drug Administration, Joint Commission, and National Institute of Health, American Red Cross, American Heart Association;
 - (B) identify potential malfunctions of equipment used in the exercise and wellness industry; and
 - (C) demonstrate immobilization of a limb for the purpose of first aid and injury prevention, including splints, slings, and wraps.
- (6) The student applies proper biomechanics principles to the exercise and wellness industry. The student is expected to:
- (A) identify proper body mechanics and movement during exercise and daily activity;
 - (B) explain how forces affect movement, torque, tension, and elasticity on the human body;
 - (C) describe general guidelines of protective equipment use and application in exercise and sport;
 - (D) describe risk factors caused by improper use of biomechanics and equipment during exercise;
 - (E) describe common factors of daily activity that cause biomechanical problems in the body; and
 - (F) identify the effect biomechanics has on mental health.
- (7) The student discusses the importance of proper nutrition and diet when working in the exercise and wellness industry. The student is expected to:

- (A) describe proper nutrition and diet needed for specific fitness and wellness goals;
 - (B) explain the impact media has on nutrition and diet;
 - (C) describe common dietary and nutrition-related problems such as eating disorders, type II diabetes, hypertension, heart disease, and obesity;
 - (D) describe the effects that diet and nutrition have on mental health; and
 - (E) examine risk factors that are associated with improper diet and nutrition.
- (8) The student describes the importance of exercise and wellness through different periods of life. The student is expected to:
- (A) describe specific exercise and wellness goals for the different periods of development, such as infant, adolescent, young adult, middle age, and elderly;
 - (B) explain how the developmental stages are affected by improper exercise and wellness; and
 - (C) identify the implications of improper exercise and wellness through the different developmental stages.
- (9) The student analyzes various recovery methods from traumatic events associated with exercise and wellness. The student is expected to:
- (A) identify the seven rehabilitation principles, including avoid aggravation, timing, compliance, individualization, specific sequencing, intensity, and total patient;
 - (B) evaluate a variety of traumatic events associated with exercise and wellness, including loss of a limb, break or sprain, and change in lifestyle or living situation;
 - (C) compare recovery methods of a variety of traumatic events; and
 - (D) develop a plan to promote recovery and long-term wellness.
- (10) The student evaluates different types of fitness and nutrition programs. The student is expected to:
- (A) evaluate the different types of fitness and nutrition programs and their effectiveness for the specific goals;
 - (B) compare and contrast competitive and noncompetitive fitness and nutrition programs; and
 - (C) develop a fitness and nutrition program for a specific goal.
- (11) The student interprets ethical behavior standards and legal responsibilities. The student is expected to:
- (A) discuss ethical behavior associated with confidentiality, including the consequences of a breach of confidentiality;
 - (B) compare published professional codes of ethics and scope of practice for exercise and wellness professionals;
 - (C) discuss ethical issues related to exercise and wellness, including implications of technological advances;

- (D) examine issues related to malpractice, negligence, and liability in health and wellness; and
- (E) interpret laws governing the exercise and wellness industry.

Recommended Resources and Materials:

Cartwright, L., & Peer, K. S. (2019). Fundamentals of athletic training. Champaign, IL: Human Kinetics.

Starkey, C. (2013). Athletic training and sports medicine: an integrated approach. Burlington, MA: Jones & Bartlett Learning.

Corbin, C. (2014). Fitness for Life (6th ed.). Human Kinetics, Inc.

Prentice, W. E. (2017). The role of the athletic trainer in sports medicine: an introduction for the secondary school student. New York, NY: McGraw-Hill Education.

Duyff, R. L., Moorachian, M. E., & Cunningham, M. (2016). Food, nutrition and wellness. Columbus, OH: McGraw-Hill Education.

Become a Certified Strength and Conditioning Specialist® (CSCS®). (n.d.). Retrieved from <https://www.nasca.com/certification/cscs/>.

Athletic Training. (2019, July 30). Retrieved from <https://www.nata.org/about/athletic-training>.

ACSM Summit 2020: Atlanta. (n.d.). Retrieved from <https://www.acsm.org/>.

Admin, M. C. (n.d.). Home. Retrieved from <https://www.nanp.org/>.

Recommended Course Activities:

- Read text assignments and other related supplemental materials;
- Write answers to discussion questions related to exercise and wellness;
- Use computer technology in the research and preparation of presentation(s);
- Give an oral presentation on a current exercise and wellness topic; and
- Use critical thinking skills in the application of exercise and wellness procedures.

Suggested methods for evaluating student outcomes:

Student outcomes may be evaluated through a variety of methods, including classroom assignments, research, individual and group projects, practical, quizzes, tests and final exam.

Teacher qualifications:

An assignment for Principles of Exercise Science and Wellness is allowed with one of the following certificates.

- Health Sciences (6-12).
- Health Science Technology Education (8-12).
- Human Development and Family Studies (8-12).
- Trade and Industrial Education (6-12).

Additional information: