



SCIE 2230 - Science of Health and Wellness

Course Description:

In this course, you will examine the physiological and psychological aspects of health and wellness. Topics include physical fitness, musculoskeletal health and cardiorespiratory health; nutrition and weight management; mental health and stress management; infectious and chronic diseases; the effects of consumerism on health and health care; and the promotion of healthy lifestyles and healthy aging.

3 Credits

Time Guidelines:

The standard instructional time for this course is 45 hours.

Effective Year

2017/2018

Course Assessment:

Assignments	30%
Midterm	30%
Final Exam	40%
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Total:	100%

SAIT Policies and Procedures:

For information on the SAIT Grading Scale, please visit policy AC 3.1.1 Grading Progression Procedure: [http://www.sait.ca/Documents/About SAIT/Administration/Policies and Procedures/AC.3.1.1 Grading and Progression Procedure.pdf](http://www.sait.ca/Documents/About%20SAIT/Administration/Policies%20and%20Procedures/AC.3.1.1%20Grading%20and%20Progression%20Procedure.pdf)

For information on SAIT Academic Policies, please visit: www.sait.ca/about-sait/administration/policies-and-procedures/academic-student

Required Course Publication(s):

Human Kinetics (2010). *Health and Wellness for Life eBook*. Champaign, IL: Human Kinetics.

Course Learning Outcome(s):

1. Explain the different aspects of health, wellness and fitness.

Objectives:

1.1 Define health, wellness and fitness.

1.2 Describe the physical, intellectual, emotional, social, spiritual and occupational dimensions of wellness.

1.3 Describe the health-related, skill-related and physiological components of fitness.

1.4 Discuss the benefits of a healthy lifestyle in the context of setting effective goals and behaviour modification.

2. Examine the components of physical fitness.

Objectives:

2.1 Identify the components of the FITT acronym.

2.2 Outline the basic principles of fitness: overload, progression, specificity, and reversibility.

2.3 Describe cardiorespiratory fitness, including resting, maximum and target heart rates, in the context of the FITT variables that affect them.

2.4 Compare and contrast muscular strength and muscular endurance training in terms of sets, repetitions and percentage of one-repetition maximum (1RM).

2.5 Discuss flexibility, range of motion (ROM), and types and subtypes of stretches.

2.6 Explain body composition, as well as different methods of estimating proportions of muscle, bone, water and fat in the human body.

2.7 Summarize the impact of barriers to physical activity and the methods for overcoming them.

3. Analyze the components of a healthy human diet.

Objectives:

3.1 Describe the different macro- and micro-nutrients, and their roles in human metabolism: protein, carbohydrates, fat, water, vitamins, minerals, antioxidants and electrolytes.

3.2 Analyze the dietary guidelines provided by Canada's Food Guide, in addition to the information on nutrition facts labels, in terms of recommended daily intake.

3.3 Differentiate myths from science regarding diet and nutrition in the context of contemporary "fad" diets and common misconceptions of healthy eating.

3.4 Define the terms hunger, satiation, satiety and appetite.

3.5 Explain weight management in terms of energy input vs. energy output, metabolic rates and energy expenditure for daily activity.

3.6 Describe a healthy diet in terms of nutritional components, such as total calories, macro-nutrients, energy density and eating habits.

3.7 Compare weight-loss and weight-control programs in terms of safety and effectiveness.

4. Summarize the determinants of mental health, especially the sources, effects and management of stress.

Objectives:

4.1 Define mental health.

4.2 Compare the psychological theories about the causes of healthy and unhealthy mental states.

4.3 Define the terms stress, stressor and stress response.

4.4 Compare the different types of stress and stressors.

4.5 Explain the positive and negative effects of stress in terms of both psychology (cognitive, behavioral and emotional symptoms) and physiology (cardiovascular, nervous, digestive and immune systems).

4.6 Identify positive and negative stress management techniques.

5. Summarize common infectious and chronic diseases and methods for prevention and mitigation of disease.

Objectives:

5.1 Describe the chain of infection, methods of transmission and major causes of infectious diseases.

5.2 Explain controllable vs. uncontrollable risk factors for infection.

5.3 Identify the human body's defenses against infection, as well as steps that can be taken to reduce the risk of infection.

5.4 Summarize common infectious diseases, their symptoms and effective treatments.

5.5 Explain the differences between infectious and chronic diseases.

5.6 Summarize common chronic diseases, their symptoms and methods for mitigating the effects of these symptoms.

6. Examine traditional and alternative medicine in terms of self-advocacy as a health care consumer.

Objectives:

6.1 Evaluate the coverage provided by Alberta Health Care and what to expect from employer group insurance plans.

6.2 Discuss how to choose a doctor.

6.3 Differentiate between reliable and unreliable medical information in folklore, home remedies and contemporary medical myths.

6.4 Explain the information provided on different parts of a medicine label.

6.5 Critique various types of alternative medicine and the potential benefits and hazards of each.

6.6 Identify legitimate vs. fraudulent medical practices and methods for avoiding medical pseudo-science.

7. Examine the aging process in the context of healthy aging and healthy lifestyle choices.

Objectives:

7.1 Describe the changes that occur in the human body during the aging process.

7.2 Discuss the different theories for the reasons and causes of human aging.

7.3 Analyze chronic diseases, dementia and other health problems that may occur as part of the aging process.

7.4 Discuss the management of changes caused by aging in the context of the six dimensions of wellness.

7.5 Identify factors and challenges that influence wellness.

7.6 Develop plans to reach and maintain wellness throughout life.

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