

## **CEP505 Exercise, Health & Disease**

### **(3 credit hours)**

### **Course Syllabus**

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### **Course Description**

Students will actively engage in the detailed study of how exercise influences the development of disease and maintenance of health. Further, students will apply the principles of exercise testing and prescription to design exercise programs for disease prevention and the management of obesity, hypertension, hyperlipidemia, arthritis, and osteoporosis.

### **Course Learning Outcomes**

By the end of this course, you will be able to:

1. Explain the current trends regarding exercise and physical activity across the lifespan and how these trends relate to the development of chronic diseases.
2. Differentiate health- and skill- related physical fitness components and how each apply to improving quality of life, activities of daily living, and disease management.
3. Correctly conduct and assess individuals via the American College of Sports Medicine's Pre-participation Screening Algorithm.
4. Explain and conduct basic pre-exercise evaluations on apparently healthy adults.
5. Identify exercise testing methods healthy and special populations.
6. Explain the principles of exercise prescription including components and stages of an exercise program and apply them to exercise programming for healthy and special populations.
7. Explain how lifestyle choices contribute to the pathophysiology of hypertension, dyslipidemia, osteoarthritis, osteoporosis, back pain, coronary artery disease, peripheral artery disease, chronic heart failure, type II diabetes mellitus, and cancer.
8. Design a prevention and management exercise program for patients with hypertension, dyslipidemia, osteoarthritis, osteoporosis, back pain, coronary artery disease, peripheral artery disease, chronic heart failure, type II diabetes mellitus, and cancer.

## Required Textbook(s) and Resources

### Included Resources:

Liguori, G. (2022). ACSM's guidelines for exercise testing & prescription (11th ed). Wolters Kluwer Health.

### Optional Resources:

You may wish to obtain the following resources, but they are not required:

Moore, G. E., Durstine, J. L., & Painter, P. L. (2016). ACSM's exercise management for persons with chronic diseases and disabilities (4th ed.). Human Kinetics.

Be sure to also review the weekly **Explore** sections for additional library or web resources. For access to databases, research help, and writing tips, visit the [Tiffin University Library](#).

## Time Commitment

Effective time management is possibly the single most critical element to your academic success. To do well in this online class you should plan your time wisely to maximize your learning through the completion of readings, discussions, and assignments. Because of our accelerated, seven-week term, TU online courses are designed with the expectation that you dedicate a little over **six (6)** hours per credit hour to course activities and preparation **each week**. For example, for successful completion of a three-credit, seven-week online course you should reserve roughly **twenty (20) hours per week**.

To help plan your time and keep on track toward successful course completion, note the distinctive rhythm of assignment due dates:

1. All times assume Eastern Time (GMT-4).
2. Weeks begin at 12:00 a.m. ET on Monday and end at 11:55 p.m. ET on Sunday.
3. Unless otherwise noted, initial assignments or discussion posts are due by **11:55 p.m. ET on Wednesdays**.
4. Additional assignments or follow-up discussion posts are due by **11:55 p.m. ET on Saturdays, and**
5. Major assignments and reflections are typically due by **11:55 p.m. ET on Sundays**.

## Learning Activities

This course follows a very predictable workflow. Every week (except for Week 7) you will take an exam, consisting of three essay questions. You will then re-take the exam by the following Wednesday, responding to feedback from the instructor. You will also complete one or more Need Help? Get Help! General Questions, Comments, and Feedback: 24/7 Tech Support:

855-664-1200 online@tiffin.edu application activities by Saturday. These generally consist of short papers or presentations, except for a 12-15 page paper in the final week.

## Grading

The chart below identifies the individual contributions from each type of activity, per week.

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Total
<b>Assignments</b>	<b>Assignments</b>	<b>Assignments</b>	<b>Assignments</b>	<b>Assignments</b>	<b>Assignments</b>	<b>Assignments</b>	<b>760</b>
Activity 1.2 (50)	Activity 2.1 (50)	Activity 3.1 (50)	Activity 4.1 (50)	Activity 5.1 (50)	Activity 6.1 (50)	Activity 7.1 (60)	
Activity 1.3 (50)	Activity 2.2 (50) Activity 2.3 (50)	Activity 3.2 (50)	Activity 4.2 (50) Activity 4.3 (50)	Activity 5.2 (50)	Activity 6.2 (50)		
<b>Quiz</b>	<b>Quiz</b>	<b>Quiz</b>	<b>Quiz</b>	<b>Quiz</b>	<b>Quiz</b>	<b>Quiz</b>	<b>240</b>
Activity 1.4 (40)	Activity 2.4 (40)	Activity 3.3 (40)	Activity 4.4 (40)	Activity 5.3 (40)	Activity 6.3 (40)	(n/a)	
<b>140</b>	<b>190</b>	<b>140</b>	<b>190</b>	<b>140</b>	<b>140</b>	<b>60</b>	<b>1000</b>

## Undergraduate Grading Scale

A: 90-100%

B: 80-89%

C: 70-79%

F: <69%

## Course Schedule and Weekly Checklist

### Start Here

- MON: Activity 1.1: Meet Your Peers - Introductory Post

### Week 1 – Exercise is Medicine

- WED: Activity 1.1: Meet Your Peers
- SAT: Activity 1.2: Explaining Atherosclerosis, Endothelial Dysfunction, and Coagulation to a Clinical Patient
- SAT: Activity 1.3: Exercise is Medicine Programming
- SUN: Activity 1.4: Week 1 Exam (Exercise is Medicine)

## **Week 2 – Pre-Exercise Evaluations**

- FRI: Activity 1.4: Week 1 Exam (Exercise is Medicine) – Follow-Up
- SAT: Activity 2.1: Informed Consent
- SAT: Activity 2.2: ACSM's Pre-Participation Screening Algorithm
- SAT: Activity 2.3: ACSM's Cardiovascular Risk Factor Assessment
- SUN: Activity 2.4: Week 2 Exam (Pre-Exercise Evaluations)

## **Week 3 – Exercise Testing**

- FRI: Activity 2.4: Week 2 Exam (Pre-Exercise Evaluations) – Follow-Up
- SAT: Activity 3.1: Exercise Test Selection
- SAT: Activity 3.2: Cardiorespiratory Fitness
- SUN: Activity 3.3: Week 3 Exam (Exercise Testing)

## **Week 4 – Cardiopulmonary Rehabilitation**

- FRI: Activity 3.3: Week 3 Exam (Exercise Testing) – Follow-Up
- SAT: Activity 4.1: Metabolic Equations
- SAT: Activity 4.2: Exercise Prescription
- SAT: Activity 4.3: Cardiopulmonary Rehabilitation Education
- SUN: Activity 4.4: Week 4 Exam (Cardiopulmonary Rehabilitation)

## **Week 5 – Cardiovascular Diseases**

- FRI: Activity 4.4: Week 4 Exam (Cardiopulmonary Rehabilitation) – Follow-Up
- SAT: Activity 5.1: Coronary Artery Disease
- SAT: Activity 5.2: Heart Failure
- SAT: Activity 5.3: Week 5 Exam (Cardiovascular Disease)

## **Week 6 – Muscular and Metabolic Diseases**

- FRI: Activity 5.3: Week 5 Exam (Cardiovascular Disease) – Follow-Up
- SAT: Activity 6.1: Diabetes Mellitus
- SAT: Activity 6.2: Managing Upper- and Lower-Cross Syndrome
- SUN: Activity 6.3: Week 6 Exam (Muscular and Metabolic Diseases)

## **Week 7 – Special Populations**

- FRI: Activity 6.3: Week 6 Exam (Muscular and Metabolic Diseases) – Follow-Up
- SAT: Activity 7.1: Special Population

## **Tips for Success**

Online learning requires self-discipline and self-direction. As seekers of the truth, we should be willing to challenge one another's academic work in a spirit of respectful comradery. Your course is a place for you to grow as you benefit from the expertise, experience, and diverse perspectives of your instructor and peers. Constructive feedback will challenge you to stretch your own thinking, thereby expanding your knowledge and understanding.

To get the most out of your learning experience, you should actively engage (participate) in **ALL** course activities. Course elements are arranged chronologically. To complete a week, simply work your way "down the page" through all of the course materials and activities.

**For More Information:**

Be sure to review the [Support, Policies, and Procedures](#) addendum.