Prepared: Lisa Maidra Approved: Bob Chapman

Course Code: Title	FIT0155: APPLIED EXERCISE PHYSIOLOGY I
Program Number: Name	1120: COMMUNITY INTEGRATN
Department:	C.I.C.E.
Semester/Term:	17F
Course Description:	This course is the first part of a two part series (Applied Exercise Physiology I and II). This course examines the physiological adaptations that take place within the human body during exercise and work including the muscular, nervous, endocrine, cardiovascular and respiratory systems. Bioenergetics and physiological adaptations to training will also be discussed.
Total Credits:	3
Hours/Week:	3
Total Hours:	45
Essential Employability Skills (EES):	#1. Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience. #2. Respond to written, spoken, or visual messages in a manner that ensures effective communication. #4. Apply a systematic approach to solve problems. #5. Use a variety of thinking skills to anticipate and solve problems. #6. Locate, select, organize, and document information using appropriate technology and information systems. #7. Analyze, evaluate, and apply relevant information from a variety of sources. #8. Show respect for the diverse opinions, values, belief systems, and contributions of others. #9. Interact with others in groups or teams that contribute to effective working relationships and the achievement of goals. #10. Manage the use of time and other resources to complete projects. #11. Take responsibility for ones own actions, decisions, and consequences.
Course Evaluation:	Passing Grade: 50%,
Evaluation Process and Grading System:	

Evaluation Type	Evaluation Weight
Learning Activities	30%
Tests	70%

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Books and Required Resources:	Physiology of Sport and Exercise by Kenney, Larry W. ISBN: 9781450477673
Course Outcomes and Learning Objectives:	Upon successful completion of this course, the CICE student, with the assistance of a Learning Specialist will acquire varying levels of skill development relevant to the following learning outcomes: **Course Outcome 1.** Apply knowledge of basic anatomy and physiology concepts to determine how the body adapts anatomically and physiologically during exercise **Learning Objectives 1.** - Recall knowledge from each of the following body systems, muscular, nervous, cardiovascular, respiratory, and endocrine systems - Indicate, discuss and give examples of how exercise affects the muscular, nervous, cardiovascular, respiratory, and endocrine systems - Define different types of contraction, i.e. concentric, eccentric, isometric and apply these contractions to various exercises - Define and differentiate the types of muscle fibers i.e. Type I & II and give examples of activities that recruit each fiber type. - Describe the role of the Muscle Spindle and Golgi Tendon in controlling muscle contractions - Identify hormones that are involved during exercise and explain their specific actions. - Describe the functions of the heart and identify changes to the cardiovascular system as it relates to exercise i.e. blood pressure, heart rate, stroke volume, cardiac output - Describe the functions of the lungs and identify changes to the respiratory system as it relates to exercise i.e. Respiration, Fick's law, tidal volume **Course Outcome 2.** Identify and explain the energy systems and pathways used by the body during exercise and apply this knowledge to various activities and exercise programs **Learning Objectives 2.**

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- Define the ATP-PCr, glycolysis and oxidative energy pathways
- Differentiate between aerobic and anaerobic energy systems
- Classify activities and exercises to the appropriate energy systems and pathways
- Discuss the interaction among the three energy systems during exercise

Course Outcome 3.

Understand the difference between acute and chronic exercise and the physiological responses to both acute and chronic exercise

Learning Objectives 3.

- Define acute exercise
- Identify physiological responses to acute exercise
- Define chronic exercise
- Identify physiological responses to chronic exercise

Course Outcome 4.

Infer how exercise physiology concepts and theories will affect assessments of fitness and the development of an exercise program

Learning Objectives 4.

- Describe how the physiological and anatomical changes that occur during exercise will affect the design and implementation of exercise assessments.
- Describe how the physiological and anatomical changes that occur during exercise will affect the design and implementation of an exercise program.

Course Outcome 5.

Describe how the body expends energy during rest and exercise and how the body responds to fatigue during exercise

Learning Objectives 5.

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	- Define and differentiate between the basal metabolic rate and the resting metabolic rate - Identify the lactate threshold and explain the relationship to exercise performance - Describe the economy of effort and its relationship to exercise performance - Understand the relationship between oxygen consumption and energy production - Describe the possible causes of fatigue during exercise - Describe the physiological basis for delayed onset of muscle soreness - Describe the physiological basis for exercise-associated muscle cramps
CICE Modifications:	**<u>Preparation and Participation</u>** 1. A Learning Specialist will attend class with the student(s) to assist with inclusion in the class and to take notes. 2. Students will receive support in and outside of the classroom (i.e. tutoring, assistance with homework and assignments, preparation for exams, tests and quizzes.) 3. Study notes will be geared to test content and style which will match with modified learning outcomes. 4. Although the Learning Specialist may not attend all classes with the student(s), support will always be available. When the Learning Specialist does attend classes he/she will remain as inconspicuous as possible. **A.** Further modifications may be required as needed as the semester progresses based on individual student(s) abilities and must be discussed with and agreed upon by the instructor. **B. Tests may be modified in the following ways:** 1. Tests, which require essay answers, may be modified to short answers. 2. Short answer questions may be changed to multiple choice or the question may be simplified so the answer will reflect a basic understanding. 3. Tests, which use fill in the blank format, may be modified to include a few choices for each question, or a list of choices for all questions. This will allow the student to match or use visual clues. 4. Tests in the T/F or multiple choice format may be modified by rewording or clarifying statements into layman's or simplified terms. Multiple choice questions may have a reduced number of choices. **C. Tests will be written in CICE office with assistance from a Learning Specialist.** ***The Learning Specialist may:*** 1. Read the test question to the student.

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	2. Paraphrase the test question without revealing any key words or definitions. 3. Transcribe the student's verbal answer. 4. Test length may be reduced and time allowed to complete test may be increased. **D. Assignments may be modified in the following ways:** 1. Assignments may be modified by reducing the amount of information required while maintaining general concepts. 2. Some assignments may be eliminated depending on the number of assignments required in the particular course. ***The Learning Specialist may:*** 1. Use a question/answer format instead of essay/research format 2. Propose a reduction in the number of references required for an assignment 3. Assist with groups to ensure that student comprehends his/her role within the group 4. Require an extension on due dates due to the fact that some students may require additional time to process information 5. Formally summarize articles and assigned readings to isolate main points for the student 6. Use questioning techniques and paraphrasing to assist in student comprehension of an assignment **E. Evaluation:** Is reflective of modified learning outcomes. **NOTE:** Due to the possibility of documented medical issues, CICE students may require alternate methods of evaluation to be able to acquire and demonstrate the modified learning outcomes
Date:	Wednesday, September 6, 2017
	Please refer to the course outline addendum on the Learning Management System for further information.