

Bergen Community College
Division of Arts, Humanities and Wellness
Department of Wellness/Exercise Science

Course Syllabus

WEX-106 Nutrition for Exercise & Fitness

Basic Information about Course and Instructor

Semester and year: All Course and Section Number: Nutrition for Exercise & Fitness WEX 106 Meeting Times and Locations: Instructor: Office/Phone: Email: Dept. Office/Phone: G-207, 201-447-7899 Office Hours: TBD Email Address:

Course Description

Nutrition for Exercise & Fitness is a course that explores concepts of nutrition as they apply to exercise and performance. Topics include bioenergetics, thermodynamics and the energy equation, ergogenic aids, supplements and computerized diet analysis. Required for Exercise Science Certificate and Degree.

Course Hours 3, Course Credits 3

Prerequisites: NONE

Student Learning Outcomes: As a result of meeting the requirements in this course, students will be able to:

1. To explore the elements pertaining to basic principles of nutrition, nutrition standards and guidelines.
2. To analyze the processes involved in metabolism and energy production for muscular work.
3. To investigate the factors that influence how the fuel for muscular work will be used.
4. To investigate the role of macronutrients and micronutrients in the exercise setting based on current scientific evidence.
5. To explore the timing of food consumption affects exercise performance.

Student Learning Outcomes and Means of Assessment

Student Learning Outcomes	Suggested Means of Assessment
1. To explore the elements pertaining to basic principles of nutrition, nutrition	Students shall categorize nutrient groups as to macronutrients and micronutrients, their

standards and guidelines.	respective food sources and caloric value.
2. To analyze the processes involved in metabolism and energy production for muscular work.	Students shall describe in writing, the three energy systems and their substitutes used for high intensity, moderate intensity and low intensity exercise.
3. To investigate the factors that influence how the fuel for muscular work will be used.	Students shall demonstrate in writing the use of isocaloric, negative caloric, and positive caloric balances relative to the energy equation
4. To investigate the role of ergogenic aids and macronutrients and micronutrients in the exercise setting based on current scientific evidence	Students shall list and briefly explain selected popular supplements, i.e. caffeine, creatine, ephedra and their affect as an ergogenic aid.
5. To explore the timing of food consumption affects exercise performance.	Based on established equations, student will calculate their caloric needs for resting metabolism and exercise requirements.

Course Content

- A. Nutrition - Basic Concepts
 - 1. Macronutrients
 - 2. Micronutrients
 - 3. Calories in food - calorimetry
 - 4. Vitamins & minerals
- B. Energy Production via Metabolism
 - 1. The physiology of digestion
 - 2. From food to energy – metabolism
 - 3. Factors determining fuel utilization - bioenergetics
- C. The Basic Diet and Modifications for Exercise
 - 1. Nutritional requirements
 - 2. Food groups
 - 3. Dietary guidelines
 - 4. Modifications – carbohydrate loading, nitrogen balancing, etc.
- D. Ergogenic Aids
 - 1. Nutritional aids – caffeine, etc.
 - 2. Supplements
 - 3. Anabolic steroids
 - 4. Pharmacological, physiological
 - 5. Placebo effect
- E. Weight Control – the energy equation
 - 1. Losing weight
 - 2. Gaining weight
 - 3. Exercise -diet connection
- F. Fluid Requirement s in Exercise
 - 1. Hydration - Dehydration
 - 2. Electrolyte replacement
 - 3. When and what to drink
 - 4. Environmental factors
- G. Nutrition Planning
 - 1. Aerobic
 - 2. Anaerobic
 - 3. Sport specific
 - 4. Timing of meals

Special Features of the Course (if any) [to be designated by the instructor]

Moodle
Powerpoint
WorldWide Web
Youtube

Course Texts and/or Other Study Materials

Required Textbook:

Muth, Natalie D. Sports Nutrition for Health Professionals. FA Davis, 2014

If you order the textbook through www.fadavis.com, you will receive 20% off your total purchase and free shipping and handling by entering the promo code: **JFTZMWPU**

SUGGESTED READINGS (these books do NOT need to be purchased for the course):

1. Jeukendrup, Asker & Gleeson, Michael. Sports Nutrition, 2nd Edition II, Human Kinetics, 2010.
2. Ultimate Sports Nutrition Handbook 2nd Ed, Ellen Coleman & S.N. Steen, Bull Publishing Co., 1996.
3. Marilyn & Keith Peterson, Eat to compete.
4. Nathan J. Smith, M.D. Bonnie Worthington-Roberts, Food for Sport.
5. Nancy Clark, F.I. Ketch & V. L. Ketch, Exercise Physiology – Energy, Nutrition and Human Performance

Other College, Divisional, and/or Departmental Policy Statements

Examples:

Statement on plagiarism and/or academic dishonesty.
ADA statement.
Sexual Harassment statement.
Statement on acceptable use of BCC technology.
Statement on the purpose and value of faculty office hours.

Student and Faculty Support Services

The Distance Learning Office – for any problems you may have accessing your online courses	Room C-334	201-612-5581 psimms@bergen.edu
Smarthinking Tutorial Service	On Line at:	http://www.bergen.edu/pages1/Pages/4787.aspx
The Tutoring Center	Room L-125	201-447-7908 http://www.bergen.edu/pages1/pages/2192.aspx
The Writing Center	Room L-125	201-447-7908 http://www.bergen.edu/pages1/Pages/1795.aspx
The Office of Specialized Services (for Students with Disabilities)	Room S-131	201-612-5270 http://www.bergen.edu/oss
BCC Library – Reference Desk	Room L-226	201-447-7436

Course Calendar

Week	Topic(s)	
1	Overview of Carbohydrates	Chapter 1.
2	Overview of Protein	Chapter 2
3	Overview of Fats	Chapter 3
4	Overview of Vitamins, Minerals, Water and Electrolytes	Chapter 4
5	Quiz	Chapters 1-4
6	Dietary Guidelines	Chapter 5
7	Fundamental of Exercise Physiology and Nutrition	Chapter 6
8	Nutritional Strategies for Optimal Athletic Performance	Chapter 7
9	Exercise, Thermoregulation and Fluid Balance	Chapter 8
10	Quiz	Chapters 5-8
11	Nutritional strategies for Competitive, Endurance, Strength and Power Athletes	Chapters 9
12	Nutritional supplements and Ergogenic Aids	Chapter 10
13	Nutrition and Body Composition Coaching and Assessment	Chapter 11
14	Eating and Exercise Disorders	Chapter 12
15	Quiz	Chapters 9-12

**The course syllabi is a tentative outline and is subject to change. Assignments and the total points accumulated by the end of the semester may change depending on the material covered. These changes will become known to all students in advance.*

11	Nutritional strategies for Competitive, Endurance, Strength and Power Athletes	Chapters 9
12	Nutritional supplements and Ergogenic Aids	Chapter 10
13	Nutrition and Body Composition Coaching and Assessment	Chapter 11
14	Eating and Exercise Disorders	Chapter 12
15	Quiz	Chapters 9-12

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