Term Information

Effective Term

Term Description

Autumn 2014

General Information

Course Bulletin Listing/Subject Area

Kinesiology

Fiscal Unit/Academic Org

Human Development & Family Sci - D1251

College/Academic Group

Education & Human Ecology

Level/Career

Graduate

Course Number/Catalog

7102

Course Title

Science of Physical Activity and Nutrition for Coaches

Transcript Abbreviation

SciOfPA&NtrCoaches

Course Description

This course will examine the primary human physiological systems and their response to acute and chronic exercise stimuli, as well as the effects of training and physical activity on health, fitness and athletic performance. The role of nutrition in health and various sport types will be examined with a focus on mainstream current recommendations.

Semester Credit Hours/Units

Fixed: 3

Offering Information

Length Of Course

14 Week, 7 Week, 4 Week (May Session), 12 Week (May + Summer)

Flexibly Scheduled Course

Never

Does any section of this course have a distance education component?

Yes

Is any section of the course offered

100% at a distance
Greater or equal to 50% at a distance
Less than 50% at a distance

Grading Basis

Letter Grade

Repeatable

No

Course Components

Lecture

Grade Roster Component

Lecture

Credit Available by Exam

No

Admission Condition Course

No

Off Campus

Never

Campus of Offering

Columbus

Prerequisites and Exclusions

Prerequisites/Corequisites

Exclusions

Cross-Listings

Cross-Listings

Subject/CIP Code

Subject/CIP Code

31.0501

Subsidy Level

Doctoral Course

Intended Rank

Masters, Doctoral
Requirement/Elective Designation

Required for this unit's degrees, majors, and/or minors

Course Details

Course goals or learning objectives/outcomes

• • Describe the basic principles of physical fitness training, and how individuals may vary in their response to training;
• • Explain muscular function and movement in the human body;
• • Describe cardiovascular dynamics and gas exchange in the human body;
• • Outline the principles of resistance training;
• • Specify the determinants of aerobic and anaerobic exercise performance;
• • Provide training strategies to optimize aerobic and anaerobic exercise performance;
• • Describe the influence of chronic endurance training on health and fitness;
• • Identify the macronutrients and contributions to fueling during exercise;
• • Identify body composition assessment methods and associated accuracy, gender-specific guidelines, and the use of personal data in goal-setting;
• • Outline strategies for weight management (gain and loss)
• • List best practices to aid in prevention of eating disorders
• • Identify resources to assure safety, purity, and efficacy of dietary supplements
Content Topic List

- Course orientation
- Principles of Training:
  - Basic principles
  - Fallacies
- Individual Responses to Training
- Muscular Fitness:
  - Muscle Function, Movement, and Control
  - Muscle Structure and Contraction
  - Muscles and Movement Assessment of Muscular Fitness
  - Developing Muscular Fitness
- Aerobic and Anaerobic Energy Systems:
  - Specificity of Training
- Assessment of Physical Fitness:
  - Testing methods
- Development of Physical Fitness
- Training Program Development:
  - Goal Setting and Needs Analysis
  - Periodization
  - Monitoring Athletes
- Training Program Development:
  - Sample Programs
- Performance and Health:
  - Health Behaviors
  - Other Behaviors
  - Overtraining
- Overview of nutrition:
  - Macronutrients
  - Micronutrients
- Fueling for exercise:
  - High intensity sports
  - Endurance sports
  - Timing to exercise
- Body Composition methods and use with athletes
- Weight management strategies
- Eating Disorders
- Dietary Supplements
- Group Fueling Strategies

Attachments

- KINESIO 7102.doc: syllabus
  (Syllabus. Owner: Odum, Sarah A.)
## Comments

### Workflow Information

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<thead>
<tr>
<th>Status</th>
<th>User(s)</th>
<th>Date/Time</th>
<th>Step</th>
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<td>Submitted</td>
<td>Odum, Sarah A.</td>
<td>11/07/2013 04:40 PM</td>
<td>Submitted for Approval</td>
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<tr>
<td>Approved</td>
<td>Buckworth, Janet</td>
<td>11/07/2013 05:15 PM</td>
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<td>Achterberg, Cheryl L.</td>
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<td></td>
<td>Zircher, Andrew Paul</td>
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</table>
Preparer name (for course submission): Jackie Buell, Carmen B. Swain, Date of preparation: Sept 6, 2013

Instructor Name:
Carmen Swain, 046 PAES, swain.78@osu.edu, Office - PAES 046, Phone - 292-5959, E-mail – swain.78@osu.edu, Office Hours – Wed & Fri 12:30-2:30
Jackie Buell, 306K Atwell Hall, phone 292-9812, buell.7@osu.edu

*Course Number – KNHES 7102 , Title - Science of Physical Activity and Nutrition for Coaches. Description : This course will examine the primary human physiological systems and their response to acute and chronic exercise stimuli, as well as the effects of training and physical activity on health, fitness and athletic performance. The role of nutrition in health and various sport types will be examined with a focus on mainstream current recommendations. Credit Hours = 3

*Course Objectives/*Learning Outcomes --
Following successful completion of this course, the student will be able to:
- Describe the basic principles of physical fitness training, and how individuals may vary in their response to training;
- Explain muscular function and movement in the human body;
- Describe cardiovascular dynamics and gas exchange in the human body;
- Outline the principles of resistance training;
- Specify the determinants of aerobic and anaerobic exercise performance;
- Provide training strategies to optimize aerobic and anaerobic exercise performance;
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- Outline strategies for weight management (gain and loss)
- List best practices to aid in prevention of eating disorders
- Identify resources to assure safety, purity, and efficacy of dietary supplements


*Grading Plan/Grading Rubric – Grading of the course will be determined by student’s performance in both lecture and associated assignments. Students will be graded on written exams and assignments. In the case of borderline grades, the Carmen progress record will be examined to ensure the student accessed lecture content in a timely fashion. There will be 4 written examinations. These exams will take place in the classroom, on dates indicated in the course schedule. There are 6 assignments worth a combined grade that represents 40% of the total class grade. Each assignment is indicated under the header, Monday’s Topic/Assignment, as indicated in the schedule below. All assignments are provided in full-detail on the content section of Carmen (class website). The weighted grading scale is shown below.

1. Lecture grade
Exam 1:  15.0%  
Exam 2:  15.0%  
Exam 3:  15.0%  
Exam 4  15.0%  
2. Assignments  40.0%  

Grading Scale –

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<th>Percentage</th>
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<tr>
<td>A</td>
<td>93-100%</td>
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<td>A-</td>
<td>90-92</td>
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<tr>
<td>B+</td>
<td>87-89</td>
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<tr>
<td>B</td>
<td>83-86</td>
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<tr>
<td>B-</td>
<td>80-82</td>
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<tr>
<td>C+</td>
<td>77-79</td>
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<tr>
<td>C</td>
<td>73-76</td>
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<tr>
<td>C-</td>
<td>70-72</td>
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<tr>
<td>D+</td>
<td>67-69</td>
</tr>
<tr>
<td>D</td>
<td>60-66</td>
</tr>
<tr>
<td>E</td>
<td>59% or less</td>
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*Topical Outline - Schedule of Topics, Readings, Assignments – Including assignment due dates, exam dates, and final exam date and time

Lecture Topic and Reading Schedule:
Note that as we progress through the semester slight revisions may be made to the schedule. If revisions are made, they will be announced on the News page of Carmen.

<table>
<thead>
<tr>
<th>Week</th>
<th>Reading Assignment</th>
<th>Topic</th>
<th>Homework Assignment</th>
<th>Note for this Week</th>
</tr>
</thead>
</table>
| 1    | Chapter           | Course orientation, required Principles of Training  
• Basic principles  
• Fallacies  
Individual Responses to Training | (see content section on Carmen for full description). |
| 2    | Chapter           | Muscular Fitness  
• Muscle Function, Movement, and Control  
• Muscle Structure and Contraction  
• Muscles and Movement Assessment of Muscular Fitness  
Developing Muscular Fitness | (see content section on Carmen for full description). |
| 3    | Chapter           | Aerobic and Anaerobic Energy Systems  
• Specificity of Training | (see content section on Carmen for full description).  
Labor Day – No class Nov 7 |
| 4    | Chapter           | Assessment of Physical Fitness  
• Testing methods | (see content section on Carmen for full description).  
Exam #1 |
| 5    | Chapter           | Development of Physical Fitness | (see content section on Carmen for full description). |
| 6    | Chapter           | Training Program Development  
• Goal Setting and Needs Analysis  
• Periodization  
• Monitoring Athletes | (see content section on Carmen for full description). |
| 7    | Chapter           | Training Program Development  
• Sample Programs | (see content section on Carmen for ... |
| 8 | Performance and Health  
  - Health Behaviors  
  - Other Behaviors  
  - Overtraining | Exam #2 |
|---|---|---|
| 9 | Overview of nutrition  
  - Macronutrients  
  - Micronutrients |  |
| 10 | Fueling for exercise  
  - High intensity sports  
  - Endurance sports  
  - Timing to exercise | Self-assessment assignment due |
| 11 | Body Composition methods and use with athletes |  |
| 12 | Weight management strategies | Veterans Day: No class, Nov 11 |
| 13 | Eating Disorders | Exam #3 |
| 14 | Dietary Supplements | Thanksgiving: No class, Nov 25-27 |
| 15 | Group Fueling Strategies | Supplement assessment due |
| 16 | | Exam #4 |

**Assignment Details** – Assignment description, format, due dates, evaluation criteria, examples are provided for each assignment in the section identified as Monday Assignments in the content section of Carmen.

**Policies for Missed Exams/Quizzes** – All class assignments must be completed by the assigned date. Failure to do so will result in a reduction of a letter grade (10%) for each day the assignment is late. Prior notice is required for missed examinations. Make-ups will be allowed for medical emergency situations, where the student is unable to complete the exam. Written notification of emergency situation will be required from the treating physician/attendant.

**Policies for Student Conduct and Participation** – This is an on-line course. Students are expected to progress through the course materials as outlined each week. The principles of behavior in this course mirror the expectations of a traditional offering: no cheating, respect for one another and the instructor in all communications- written or verbal, ask questions on the front side of assignment due dates as ignorance about the expectations is not an acceptable reason to turn something in late, get started early.

**Academic Misconduct** – The Ohio State University’s *Code of Student Conduct* (Section 3335-23-04) defines academic misconduct as: “Any activity that tends to compromise the academic integrity of the University, or subvert the educational process.” Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University’s *Code of Student Conduct* is never considered an “excuse” for academic misconduct.
If I suspect that a student has committed academic misconduct in this course, I am obligated by University Rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the University’s Code of Student Conduct (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University. For additional information, see the Code of Student Conduct).

http://studentaffairs.osu.edu/resource_csc.asp

ODS Statement – Any student who feels s/he may need an accommodation based on the impact of a disability should contact one of the instructors privately to discuss specific needs. The Office of Disability Services is relied upon for assistance in verifying the need for accommodations and developing accommodation strategies. Please contact the Office for Disability Services at 614-292-3307 (V) or 614-292-0901 (TDD) in room 150 Pomerene Hall to coordinate reasonable accommodations; http://www.ods.osu.edu/. Students are expected to follow the Americans with Disabilities Act Guidelines for access to technology.

Grievances and Solving Problems -- According to University Policies, available from the Division of Student Affairs, if you have a problem with this class, “You should seek to resolve a grievance concerning a grade or academic practice by speaking first with the instructor or professor. Then, if necessary, with the department chairperson, college dean, and provost, in that order. Specific procedures are outlined in Faculty Rule 3335-7-23, which is available from the Office of Student Life, 208 Ohio Union.” “Grievances against graduate, research, and teaching assistants should be submitted first to the supervising instructor, then to the chairperson of the assistant’s department.”

Statement on Diversity – The College of Education and Human Ecology affirms the importance and value of diversity in the student body. Our programs and curricula reflect our multicultural society and global economy and seek to provide opportunities for students to learn more about persons who are different from them. Discrimination against any individual based upon protected status, which is defined as age, color, disability, gender identity or expression, national origin, race, religion, sex, sexual orientation, or veteran status, is prohibited.

The Department of Human Sciences is committed to maintaining a community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among its members; and encourages each individual to strive to reach his or her own potential. In pursuit of its goal of academic excellence, the department seeks to develop and nurture diversity, believing that it strengthens the organization, stimulates creativity, promotes the exchange of ideas, and enriches campus life. The department prohibits discrimination against any member of the school’s community on the basis of race, religion, color, sex, age, national origin or ancestry, marital status, parental status, gender identity, sexual orientation, ability status, health status, or veteran status.

Off-Campus Field Experiences -- There are no off campus field experiences associated with this course.