Term Information

Effective Term

Autumn 2017

General Information

Course Bulletin Listing/Subject Area
Kinesiology: Health&Exercs Sci

Fiscal Unit/Academic Org
Department of Human Sciences - D1251

College/Academic Group
Education & Human Ecology

Level/Career
Graduate, Undergraduate

Course Number/Catalog
5590

Course Title
Comprehensive Laboratory in Exercise Science

Transcript Abbreviation
KNHES 5590

Course Description
This course provides practical experiences in comprehensive fitness testing, fitness evaluation and the development of training programming for the healthy adult and older adult populations. This course will focus on measuring and evaluating components of health related fitness, which include: cardiorespiratory system, body composition, muscular strength, muscular endurance, and flexibility.

Semester Credit Hours/Units
Fixed: 3

Offering Information

Length Of Course
14 Week

Flexibly Scheduled Course
Never

Does any section of this course have a distance education component?
No

Grading Basis
Letter Grade

Repeatable
Yes

Allow Multiple Enrollments in Term
No

Max Credit Hours/Units Allowed
3

Max Completions Allowed
2

Course Components
Laboratory

Grade Roster Component
Laboratory

Credit Available by Exam
No

Admission Condition Course
No

Off Campus
Never

Campus of Offering
Columbus

Prerequisites and Exclusions

Prerequisites/Corequisites
Junior or senior undergraduate; graduate standing

Exclusions

Cross-Listings

Cross-Listings
None

Subject/CIP Code

Subject/CIP Code
31.0505

Subsidy Level
Baccalaureate Course

Intended Rank
Junior, Senior
Requirement/Elective Designation

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

Course Details

Course goals or learning objectives/outcomes

- Body composition mastery, VO2max testing mastery, strength testing mastery, ECG comprehension

Content Topic List

- Exercise physiology laboratory techniques

Attachments

- Devor KNHES 5590 Syllabus.docx

(Syllabus. Owner: Devor, Steven Thomas)

Comments

* None (by Devor, Steven Thomas on 11/04/2016 07:08 AM)

Workflow Information

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<thead>
<tr>
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<th>User(s)</th>
<th>Date/Time</th>
<th>Step</th>
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<td>Odum,Sarah A. Zircher,Andrew Paul Warnick,Bryan R. Achterberg,Cheryl L</td>
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KNHES 5590

Comprehensive Laboratory in Exercise Science

<table>
<thead>
<tr>
<th>Credit Hours:</th>
<th>3</th>
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<tbody>
<tr>
<td>Semester:</td>
<td>Autumn 2017</td>
</tr>
<tr>
<td>Date/Time:</td>
<td>Monday, Wednesday 2:00-3:30pm</td>
</tr>
<tr>
<td>Classroom:</td>
<td>XXXXX</td>
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<tr>
<td>Instructor:</td>
<td>XXXXX</td>
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<tr>
<td>Office Hours:</td>
<td>Wednesday 1:00-2:00 pm or by appointment</td>
</tr>
<tr>
<td>Telephone:</td>
<td>(XXX)-XXX-XXXX</td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:XXXXX.XX@osu.edu">XXXXX.XX@osu.edu</a></td>
</tr>
</tbody>
</table>

Syllabus Guidelines and Support

- Please read this syllabus, it contains important information
- Access the electronic version of this course on Carmen
- Syllabus elements include: course description, prerequisites, objectives, communication, course materials, rules/policies for evaluation, expectations for student conduct and participation, and course calendar
- This course is organized in modules that can be accessed through Carmen
  - www.carmen.osu.edu
- Each module will contain materials related to course topics outlined in the course calendar
- All assignments are to be submitted through Carmen
- Academic support:
  - YouTube video on studying tips: [https://www.youtube.com/watch?v=p60rN9JEapg](https://www.youtube.com/watch?v=p60rN9JEapg)
  - Getting started with Carmen: [https://resourcecenter.odee.osu.edu/carmen/getting-started-student](https://resourcecenter.odee.osu.edu/carmen/getting-started-student)
  - How to navigate in Carmen: [https://resourcecenter.odee.osu.edu/carmen/tips-navigate](https://resourcecenter.odee.osu.edu/carmen/tips-navigate)
  - Carmen content support: [https://resourcecenter.odee.osu.edu/carmen/navigating-content](https://resourcecenter.odee.osu.edu/carmen/navigating-content)
Course Description
This course provides practical experiences in comprehensive fitness testing, fitness evaluation and the development of training programming for the healthy adult and older adult populations. This course will focus on measuring and evaluating components of health related fitness, which include: cardiorespiratory system, body composition, muscular strength, muscular endurance, and flexibility.

Prerequisites
- Junior or senior standing

Relationship to other Courses and Curriculum
- This is a core course of the Exercise Science curriculum
- This course will provide practical experiences that collaborate with the academic core courses in Exercise Science

CPR Certification
All students enrolled in this course must be CPR certified (AHA or Red Cross with a practical component). The card must be presented to the instructor within one week of the beginning of the term. Failure to present the card or attain the certification will result in permanent dismissal from the course. Photocopies of a card or handwritten cards will not be accepted.

Course Objectives
Following successful completion of this course, the student will demonstrate the appropriate level of competence in the following skills:
- CO1: Assessment of blood pressure at rest and during exercise
- CO2: Accurately interpret common ECG tracings, identify 4 lethal rhythms and be able to use the ECG to help in making the distinction between angina and myocardial infarction.
- CO3: Conduct an aerobic capacity protocol (treadmill) for the basis of developing recommendations for a training program
- CO4: Conduct body composition assessment and interpret results
- CO5: Conduct flexibility assessment with interpretation of results and recommendation on a future stretching regimen
- CO6: Conduct muscular strength testing protocols (leg and chest) with adequate description of correct lifting form. The student will further interpret the results for application of overall strength and exercise prescription
- CO7: Conduct muscular endurance testing with interpretation of results and application via exercise prescription
- CO8: Conduct anaerobic power test with interpretation of results
- CO9: Conduct senior fitness exam with interpretation and programming suggestions
- CO10: Evaluation and prescription of an exercise program based on results and heart rate response
- CO11: Comprehensive delivery of fitness results
Communication
Review the following information related to course communication.

Email Etiquette:
• Please utilize buckeyemail (per university guidelines)
• Please reference the course number in the subject line
• Please allow 2 business days for a response (note if your email is sent last minute, it may not be possible to respond before assignment is due or test is given)
• If there is no response to an email after 2 days, please send a follow up email as a reminder
• If emailing about a grade, please note grades and feedback will be posted within 2 weeks of due date listed in Carmen

Netiquette (do’s and dont’s of online communication):
• Please be thoughtful of what you post in discussions, noting that others can and will view these posts
• Refrain from using inappropriate language in class work
• Respect the opinions of others
• Do not plagiarize… ensure you represent your own thoughts and use your own words, any student that plagiarizes will be reported to Committee of Academic Misconduct

Technology:
• This class will require internet access and the use of Carmen (Ohio State’s learning management system)
• Students must be proficient with navigating Carmen and posting discussions and taking quizzes on Carmen; Carmen tutorials can be found online at https://resourcecenter.odee.osu.edu/carmen/getting-started-students
• Carmen technical support can be reached via email at 8help@osu.edu or via telephone at 614-688-HELP
• Students will need to utilize MS Word or similar word processing software and working knowledge regarding formatting of professional documents

Accessibility of Course Technology:
• This course requires use of Carmen and other online communication and multimedia tools.
  If you need additional services to use these technologies, please request accommodations with your instructor.
• Carmen (Desire2Learn) Accessibility Statement
• CarmenConnect (Adobe Connect) accessibility
• Accessibility in Microsoft Office 2010

Required Course Materials
• Additional required readings will be posted on Carmen
• Calculator (recommended)
• Wrist watch or stopwatch (recommended)
• ECG calipers (recommended)

**Rules/Policies for Practical Activities/Exams/Quizzes**

- Active involvement is critical to successful learning in this practical-oriented course. As such, the student will attend two 90-minute lecture/practical sessions per week over the course of the semester. Attendance is REQUIRED for all meetings. **Unexcused absences will result in a deduction of 5% from the final grade (50 points) tardiness will result in 2% deduction per occurrence from total grade (20 points).**

- **Late Submission Criteria**
  Late submission of work/activities without legitimate reasons or not informing the instructor beforehand will not be accepted. Grades will be lowered by 1 letter grade for each day after the deadline (work is considered late after the indicated due date/time).

- **Grading Criteria**
  This course is letter graded. The following system will be used to award final grades:

<table>
<thead>
<tr>
<th>Percent</th>
<th>Grade</th>
<th>Percent</th>
<th>Grade</th>
<th>Percent</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>93-100</td>
<td>A</td>
<td>80-82</td>
<td>B-</td>
<td>67-69</td>
<td>D+</td>
</tr>
<tr>
<td>90-92</td>
<td>A-</td>
<td>77-79</td>
<td>C+</td>
<td>63-66</td>
<td>D</td>
</tr>
<tr>
<td>87-89</td>
<td>B+</td>
<td>73-76</td>
<td>C</td>
<td>&lt; 63</td>
<td>E</td>
</tr>
<tr>
<td>83-86</td>
<td>B</td>
<td>70-72</td>
<td>C-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Grades:**
  - Written assignments are due at the beginning of the lecture session on the date due shown in the class calendar. Late assignments will be deducted 10% of the total assignment grade for each day late, even if just a little late.
  - Students will complete evaluation of competency assessments involving the basic components of the fitness testing regimens.
  - Students will complete assignments and/or case studies related to basic components of the fitness testing and evaluation.

The combined scores obtained in the following assignments determine the course grade:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance &amp; Class Participation</td>
<td>200</td>
</tr>
<tr>
<td>Evaluation of competency x 5</td>
<td>500</td>
</tr>
<tr>
<td>Assignments and case studies x 6</td>
<td>300</td>
</tr>
<tr>
<td><strong>Total possible points</strong></td>
<td><strong>1000</strong></td>
</tr>
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</table>

**Expectations for Student Conduct and Participation:**

- **Classroom Professionalism**
  Understand that the classroom environment has a structure, and instructors and students have roles and responsibilities. The instructor will respect the rights of students and asks for the same
respect from students. The instructor requests that each student adhere to the following guidelines:

It is the expectation that all students will treat each other student and the instructor with respect and dignity, which includes but is not limited to: timely attendance, unobtrusive entry and/or exit while class is in session; non-use of cell phone, blackberry, laptop or ipad, or ipod (place on the floor or in your bag); non-use of newspaper or other unrelated reading material; body language that indicates a state of conscious awareness, i.e., stay alert (and awake) during classroom time with attention directed at the designated speaker (instructor or fellow students).

• **Class Preparation**
The instructor works under the premise that students read the assigned material in advance of class. Sharing your thoughts in-class and demonstrating that you read the reading will improve your participation grade. Therefore, *please be prepared to discuss/answer questions pertaining to assigned readings: key terms and concepts, review questions, exercises and case studies (when assigned).* The instructor will not cover all assigned readings in their entirety, but will supplement the text material by relating real world circumstances to the academic assignments, and providing clarifications at your request. While the instructor will make strong efforts to acquaint herself with each student, it is the student's responsibility to "present her/himself" during class to the instructor and to fellow students in order to earn a higher participation grade.

• **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.

• **Course Accommodations**
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 in Room 150 Pomerene Hall to coordinate reasonable accommodations.

• **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 instructor,* 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.

• **Statement on Diversity**
The Department of Consumer Science 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.

• **FERPA and Privacy**
As a student, your educational records are considered confidential. Under FERPA (Family Educational Rights and Privacy Act), your records are confidential and protected. Under most circumstances your records will not be released without your written and signed consent. However, some directory information may be released to third parties without your prior consent unless a written request to restrict this is on file.

• **Class Flexibility:**
To allow flexibility for topic discussions during the term, the instructor reserves the right to alter topic dates (announced in-class to all students).

• **Academic Honesty**
Cases of academic impropriety of any type will be dealt with in accordance with the Code of Student Conduct of the Ohio State University.

• **Intellectual property**
• **Course Audio and Video Recording:** Video or audio recording of classes without the explicit written permission of the instructor/instructor is a violation of the Code of Student Conduct or Students who wish to record their classes must first obtain written permission of the instructor/instructor. Otherwise, such recording constitutes a violation of the Code of Student Conduct.

• **Statement of Student Rights:** The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. **SLDS contact information:** slds@osu.edu; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

• **Student Generated materials:** Any material generated by a student(s) is copyrighted. Permission must be obtained to use these materials other than the intended purpose inside the course.

• **Course materials:** These materials are copyrighted and are owned by the author. Copyrights have been secured or they are considered fair use inside/for the course but this does not apply to uses outside of the course.

• **Mental Health Statement**
A recent American College Health Survey found stress, sleep problems, anxiety, depression, interpersonal concerns, death of a significant other and alcohol use among the top ten health
impediments to academic performance. Students experiencing personal problems or situational crises during the quarter are encouraged to contact the OSU Counseling and Consultation Services (614-292-5766; http://www.ccs.ohio-state.edu) for assistance, support and advocacy. This service is free and confidential.

**Course Calendar:**

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
<th>Objectives</th>
<th>Assignments Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Objective: CO1</td>
<td>Blood Pressure (BP)</td>
<td></td>
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<tr>
<td></td>
<td>Syllabus &amp; schedule</td>
<td>Perform accurate assessment of manual BP at rest and various stages of exercise</td>
<td>[Assignment 1]</td>
</tr>
<tr>
<td></td>
<td>Graded Exercise Testing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 2</td>
<td>Objective CO1, CO2</td>
<td>Setup/prep/ECG</td>
<td>[Evaluation 1]</td>
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<tr>
<td></td>
<td></td>
<td>Demonstrate proper equipment calibration and preparatory procedures for testing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Graded Exercise Testing</td>
<td>Prepare subject for testing, including informed consent, explanation of test, risks and subject rights, correct anatomical placement of ECG leads and establish baseline readings</td>
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<tr>
<td>Week 3</td>
<td>Objective CO1, CO2, CO3</td>
<td>VO2max testing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Graded Exercise Testing</td>
<td>Perform graded exercise testing to completion</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Obtain measures of heart rate (HR), BP and ECG at appropriate intervals and at maximal exertion</td>
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<td>Week 4</td>
<td>Objective CO1, CO2, CO3</td>
<td>Evaluation of testing data</td>
<td>[Assignment 2]</td>
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<tr>
<td></td>
<td>Graded Exercise Testing</td>
<td>Identify baseline measures of HR, BP, ECG,</td>
<td></td>
</tr>
<tr>
<td>Week</td>
<td>Objective(s)</td>
<td>Activity</td>
<td>Details</td>
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<tr>
<td>------</td>
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</tbody>
</table>
| 5    | CO1, CO2, CO3| Graded Exercise Testing | Design training program  
- Identify appropriate maximal values of HR, BP, ECG, RER, VO2  
- Determine anaerobic threshold  
- Determine anaerobic threshold  
- Provide an incremental plan to build on training plan  
- Provide variety in plan (prescribe exercise for various activities) |
| 6    | CO4          | Body Composition | Skinfold technique/practice  
- Learn proper technique, anatomical locations, and procedures  
- Practice 3-site skinfold measurement  
- Calculate percent body fat, lean mass  
- Explain sex specific body composition recommendations  
- Calculate ideal body weight based on current values of fat and lean mass |
| 7    | CO4          | Body Composition | Bod pod, under water weighing  
- Learn technique, procedures and calculations  
- Perform skinfolds, Bod Pod, UWW on one individual, compare results, explain variation in scores |
| 8    | CO5          | Flexibility | FMS |

Evaluation 2
Assignment 3
Assignment 4
<table>
<thead>
<tr>
<th>Week</th>
<th>Objective CO6</th>
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</table>
| 9    | Muscular Strength | • Learn methods, measurement and procedures  
|      |                | • Perform FMS and provide assessment of results |
|      | 1 RM, strength assessments | • Learn procedure, limitations, technique and measurement  
|      |                | • Perform 1RM, provide assessment of results |
| 10   | Lifting day form and progression | Evaluation 4 |
|      | Muscular Strength | • Examine appropriate technique, form and recommendations for various strength training exercises  
|      |                | • Describe appropriate starting points and progression recommendations |
| 11   | Rest and recovery concept | Assignment 5 |
|      | Muscular Endurance | Sit-up, push up test  
|      |                | • Describe concept of progression, cycling, recovery, signs of over-use  
|      |                | • Perform standardized sit-up and push-up tests for 1 minute, provide results, comparison to standardized scores and evaluation |
| 12   | Wingate testing | A
|      | Anaerobic Power | • Understand purpose, procedures, and outcome measures for anaerobic fitness assessment  
<p>|      |                | Assignment 5 |</p>
<table>
<thead>
<tr>
<th>Week 13</th>
<th>Objective CO9</th>
<th>• Perform Wingate test, provide results and explanation</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Senior fitness test</td>
<td>• Explain purpose and procedures of senior fitness test</td>
</tr>
<tr>
<td></td>
<td>• Perform testing and determine results</td>
<td></td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Week 14</th>
<th>Objective CO9</th>
<th>Fall prevention, exercise prescription and motivation</th>
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<tbody>
<tr>
<td></td>
<td>• Learn methods to evaluate increased susceptibility for falls</td>
<td>Evaluation 5</td>
</tr>
<tr>
<td></td>
<td>• Produce a comprehensive exercise plan from test results</td>
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<tr>
<td></td>
<td>• Utilize behavioral strategies, goal setting, and/or extrinsic motivation to enhance adherence</td>
<td></td>
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<table>
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<tr>
<th>Week 15</th>
<th>Objective CO10, CO11</th>
<th>Exercise Prescription</th>
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<tbody>
<tr>
<td></td>
<td>• Learn the components of health related comprehensive evaluation</td>
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<tr>
<td></td>
<td>• Identify subject goals</td>
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<tr>
<td></td>
<td>• Provide an initial evaluation based on test measures</td>
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</tr>
<tr>
<td></td>
<td>• Examine adherence issues</td>
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<table>
<thead>
<tr>
<th>Week 16</th>
<th>Objective CO10, CO11</th>
<th>Exercise Prescription</th>
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<tbody>
<tr>
<td></td>
<td>• Practice prescription for various modalities, activities</td>
<td>Assignment 6</td>
</tr>
<tr>
<td></td>
<td>• Provide appropriate long term programming goals</td>
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