

University of Florida
Department of Applied Physiology and Kinesiology
PET5936 Strength and Conditioning
Monday 1:55 - 4:55PM Weimer Hall Room 1094

Instructor: Dr. Blain Harrison
 Office: FLG 190F
 Phone: (352) 294-1704
 Email: blaincharrison@ufl.edu (preferred)
 Office hours: MWF 9:30 - 10:30, or by appointment

Course Syllabus

Course Description

This course addresses the principles of designing training programs aimed at improving the muscular strength, power, speed, agility, endurance, balance, stability, and hypertrophy attributes of athletes. Emphasis will be placed on incorporating these performance factors into a hierarchy of daily, weekly, monthly, and yearly training programs with systematic manipulation of training variables to improve or maintain the capabilities of a typical athletic population, tactical athletic population, and special athletic population. Evidence-based strategies for improving or maintaining these performance factors will also be emphasized.

Course Objectives

At the end of this course the student will be able to:

- Prepare a needs analysis for a given sport and athlete
- Assess the athletic performance capabilities of an athlete
- Interpret the results of athletic performance assessments
- Organize an evidence-based periodized strength and conditioning program
- Develop effective evidence-based training sessions incorporating resistance, power, balance, stability, speed, agility, and/or endurance modalities that fit within an annual periodization program

Required Textbooks

Hoffman, J. *NSCA's Guide to Program Design*. Human Kinetics, 2012.

Additional Readings (to be provided on Canvas)

1. Thomas, C, Comfort, P, Jones, P, and T. Dos' Santos. *Strength and Conditioning for Netball: A Needs Analysis and Training Recommendations*. Strength and Conditioning Journal. August 2017.
2. Kivlan, B and R.L. Martin. *Functional Performance Testing of the Hip in Athletes: A Systematic Review For Reliability and Validity*. Int. J. of Spor. Phys. Ther. Volume 7(4); August 2012.
3. Behm, D.G., Blazevich, A.J., Kay, A.D., and M. McHugh. *Acute effects of muscle stretching on physical performance, range of motion, and injury incidence in healthy active individuals: a systematic review*. Appl. Physiol. Nutr. Metab. 41: 1-11. 2016
4. Soriano, M.A., Jimenez-Reyes, P, Rhea, M., and P.J. Marin. *The Optimal Load for Maximal Power Production During Lower-Body Resistance Exercises: A Meta-Analysis*. Sports Med 45:1191-1205. 2015.
5. Sloth, M., Sloth D., Overgaard, K., and U. Dalgas. *Effects of sprint interval training on VO2max and aerobic exercise performance: A systematic review and meta-analysis*. Scand J Med Sci Sports 2013: 23: e341-e352.

6. Seitz, L.B., Reyes, A., Tran, T.T., Saez de Villarreal, E, and G. Haff. *Increases in Lower-Body Strength Transfer Positively to Sprint Performance: A Systematic Review with Meta Analysis*. Sports Med 44:1693-1702. 2014.

(Additional Readings from those listed may be added at the discretion of the instructor)

Grading

<u>Assessment</u>	<u>Points</u>	<u>Weight</u>
Textbook Chapter Questions (11 x 5 points)	55 points	10%
Weekly Quizzes (11 x 10 points)	110 points	10%
Training Modality Presentation	50 points	20%
In-Class Assignments (10 x 10 points)	100 points	10%
Applied Strength and Conditioning Project	50 points	30%
Final Exam	85 points	20%
Total	<u>450 points</u>	<u>100%</u>

93.0% - 100% = A
 90.0% - 92.9% = A-
 87.0% - 89.99% = B+
 82.0% - 86.99% = B
 80.0% - 81.99% = B-
 77.0% - 79.99% = C+
 72.0% - 76.99% = C
 70.0% - 71.99% = C-
 67.0% - 69.99% = D+
 62.0% - 66.99% = D
 60.0% - 61.99% = D-
 <60 = E

Information on current UF grading policies for assigning grade points:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>.

Textbook Chapter Questions

Each student will submit a minimum of 5 objective questions from each of the weekly assigned textbook readings. These questions will be due by Monday evening the day before each week's scheduled class meeting. A short 10-question quiz utilizing the pool of student-generated questions will be given at the start of each week's class.

Final Exam

A comprehensive final exam consisting of the types of objective questions that may be encountered on national certification exams in strength and conditioning (i.e. multiple choice, matching, T/F, etc.) will be administered during the scheduled Final Exam period. All content from textbook and assigned article readings may be included in the questions.

In-Class Assignments

A total of 10 in-class assignments will be completed over the course of the semester. These assignments will relate to topics covered prior to, or during, that day's class. Assignments will be completed in groups and results presented to the rest of the class for discussion prior to the end of class.

Applied Strength and Conditioning Project

Students will administer a 12-week periodized performance-training program to another individual between weeks 3-15 of the semester. Weekly updates of training progress are required. Students will conduct a needs

analysis, create SMART goals, coach the individual on proper technique, and re-test at the end of the program. During the final week of class, students will present the results of their program. See Canvas for details.

Training Modality Presentation

Students will give a 10-minute presentation describing the use of, and evidence supporting, a unique training modality within the strength and conditioning field.

Class Attendance Policy

Students are expected to attend all classes and to have completed assigned reading and associated outlines prior to class as scheduled by the instructor.

Rubrics

Training Modality Presentation

	6-10 points	1-5 points	0 points
Part 1: Modality Description and Development	Thorough and complete description of the modality and its use in strength and conditioning	Partial description of the modality and/or its development	No description of modality nor discussion of its development.
Part 2: Common Techniques and Errors	Details on 5 or more common exercises utilizing the modality	Details on 1-5 common exercises utilizing the modality	No details of any exercises using the modality
Part 3: Common Prescription Characteristics	Thorough and complete description of how intensity, volume, and frequency are commonly prescribed	Partial description of how intensity, volume, and frequency are commonly prescribed	No description of how intensity, volume, nor frequency are commonly prescribed
Part 4: Evidence Supporting Use	Description of 3 or more original research articles involving use of the modality in an athletic population	Description of 1-2 research articles involving the use of the modality in an athletic population	No description of any research articles involving the use of the modality in an athletic population
Part 5: Certification Resources	Complete listing of organizations offering certifications with modality	Partial listing of organizations offering certifications with modality	No organizations offering certifications in the modality provided

Applied Strength and Conditioning Project

	7- 10 points	3 - 6 points	0- 2 points
Part 1: Needs Analysis	Thorough and complete needs analysis including assessments and results	Partially complete needs analysis	Incomplete or missing needs analysis lacking sufficient details, assessments, and results
Part 2: Periodization Plan	Thorough and complete 12-month annual plan including full description of macro-, meso-, and microcycle elements	Partially complete annual plan	Incomplete or missing annual plan lacking sufficient details of macro-, meso-, and microcycle elements
Part 3: Representative Training Sessions	Thorough and complete description of representative training sessions as directed in instructions	Partially complete representative training sessions	Incomplete or missing representative training sessions lacking several components as directed in instructions
Part 4: Results of Program	Thorough and complete description of the results of the training program	Partially complete results of the training program	Incomplete or missing results of the training program
Part 5: Lessons Learned during Program	Thorough and complete explanation of the positive and negative attributes of the program and opportunities for improvement	Partially complete explanation of the positive and negative attributes of the program	Incomplete or missing explanation of the positive and negative attributes of the program

Grading

Notification of final grades will be made by the Registrar or you may check your grade by using ONE.UF. Final grades will not be posted.

Cell Phone Policy

Students in this course are expected to behave professionally, politely, and considerately. Cell phone use with regard to phone conversations, text messaging, and social media use during lectures, labs, and exams is banned in this class. Smartphones and tablets may be used to access Canvas during class.

Academic Honesty

Cheating will not be tolerated in this course. All students are required to abide by the Academic Honesty Guidelines and Honor Code, which have been accepted by the University. Cheating is defined as the improper taking or tendering of any information or material, which shall be used to determine academic credit. Violations of the Honor Code will be handled according to the guidelines set by Student Judicial Affairs. UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with me.

Accommodations for students with disabilities

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, www.dso.ufl.edu/drc/) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester

Online course evaluation process

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>.

Counseling and Wellness Center: <http://www.counseling.ufl.edu/cwc/Default.aspx>, 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies

Class Schedule

Please note that the instructor reserves the right to alter the syllabus or schedule if it is determined that such a change with benefit the course and the students.

Week	Dates	Topic (<i>italics indicate a research article</i>)	Chapters
1	(Jan 8)	Needs Analysis Weekly Reading: Thomas, et al	1
2	(Jan 15)	Martin Luther King, Jr. Day (No Class)	
3	(Jan 22)	Athlete Testing and Program Evaluation Weekly Reading: Kiylan, et al	2
4	(Jan 29)	Training Integration and Periodization	11
5	(Feb 5)	Training Program Implementation	12
6	(Feb 12)	Warm-Up and Flexibility Weekly Reading: Behm, et al	3
7	(Feb 19)	Resistance Training Program Design	4
8	(Feb 26)	Power Training Program Design Weekly Reading: Soriano, et al	5
9	(Mar 5)	Endurance Training / Conditioning Weekly Reading: Sloth, et al	6,7
9	(Mar 12)	Spring Break (No Class)	
10	(Mar 19)	Speed Training Program Design Weekly Reading: Seitz, et al	9
11	(Mar 26)	Agility Training Program Design	8
12	(Apr 2)	Balance and Stability Program Design Training Modality Presentations	10
13	(Apr 9)	Core Stability Program Design Training Modality Presentations	
14	(Apr 16)	Training Program Presentations	
15	(Apr 23)	Training Program Presentations	

Final Exam:
Monday, April 30 7:30-9:30AM