

APK 3113 – Principles of Strength and Conditioning

University of Florida

Department of Applied Physiology and Kinesiology

Fall 2017

General Course Information

Title: APK3113 – Principles of Strength and Conditioning
Section: 1G81
Credits: 3 credit hours
Location: FLG 270
Meeting Times: Tues. 7:25 – 9:20, Thurs. 8:30 – 9:20

Textbook: Haff, G.G. & Triplett, N.T. (2016). *Essentials of Strength Training and Conditioning (Fourth Edition)*. Champaign IL: Human Kinetics. [ISBN: 978-1-4925-0162-6] ***required***

Delavier, F. (2010). *Strength Training Anatomy (Third Edition)*. Champaign IL: Human Kinetics. [ISBN-13: 978-0-7360-9226-5; ISBN-10: 0-7360-9226-9] ***recommended***

Instructor: Joshua Crow, MS
Email: jacrow@ufl.edu
Office: 106-D
Office Hours: Tues. / Thurs., 1:00pm – 3:00pm (by appointment)

Course Description & Objective

This course will provide the skills necessary for proper selection, administration, and interpretation of athletic assessment across various modes of sport and activity, enabling the effective application of evidence-based training methodologies designed to reduce the likelihood of injury while optimizing individualized athletic performance across a multitude of demographics. Additionally, students will be exposed to the juxtaposition of newer training philosophies to conventional practices, in order to evaluate the efficacy of each method from a scientific standpoint.

At the conclusion of the course, students will be able to:

- Describe the basic physiology of the skeletal, neuromuscular, and cardiovascular systems as they pertain to an athlete engaged in a strength and conditioning program
- Identify the biomechanical factors that influence resistance training performance
- Analyze a sport with regards to the primary energy system involved in its execution
- Explain how anabolic and catabolic hormones influence the adaptation to a strength and conditioning program
- Compare the expected physiological adaptations of anaerobic and aerobic training programs
- Recommend appropriate assessments of athletic performance and interpret test results
- Prescribe exercise training sessions with the intention of improving athletic performance in the areas of strength, power, speed, agility, aerobic capacity, hypertrophy, and flexibility
- Create a periodized annual strength and conditioning program incorporating all of the variables described above
- Modify the parameters of a strength and conditioning program for young athletes, master's athletes, and female athletes

- Manipulate a strength and conditioning program to meet the needs of a rehabilitating athlete
- Plan the layout of a strength and conditioning facility according to safety and efficiency guidelines
- Sit for the NSCA CSCS exam in your senior year, or upon graduation, if desired

Grading

Exam 1	50 pts.
Exam 2	50 pts.
Exam 3	50 pts.
Final Exam	50 pts.
• Exam Total:	200 pts.

Video Tutorials (4)	80 pts.
Research Discussion Questions	20 pts.
Case Study Questions (2)	50 pts.
• Homework Total:	150 pts.
• Program Design Project	100 pts.

Total Course Points Offered	450 pts.
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94.0% - 100%	=	A
90.0% - 93.99%	=	A-
87.0% - 89.99%	=	B+
80.0% - 86.99%	=	B
77.0% - 79.99%	=	C+
70.0% - 76.99%	=	C
67.0% - 69.99%	=	D+
60.0% - 66.99%	=	D
<60.0%	=	F

Grades WILL NOT be rounded.

*Information on current UF grading policies for assigning grade points:
<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Course Content and Attendance Policy

Quizzes and Exams

Regular quizzes will be issued based on preparatory reading and course content. These quizzes will be without notification and will factor into the extra credit offering, as opposed to the course points listed above.

The course includes three semester exams and one final exam. While the exams will focus on the material immediately preceding the exam, each section of the course is comprehensive in-nature. While none of the exams (including the final) are explicitly comprehensive by design, concepts assessed in each exam will invariably rely upon content from earlier in the

course. Exams will be taken in the scheduled class time, with the exception of the final, and will be closed-book / closed-notes. Exams will be taken on provided scan-tron forms.

Please notify the instructor at least 72 hours prior to the exam, if circumstances arise that prevent you from attendance. Schedule conflicts will be handled on a case-by-case basis, and it is not guaranteed that the make-up exam will be of equal length, format, or difficulty as the original. Any exam missed without prior notification will be score "0" with no make-up exam permitted. Conflicts with final exam dates must be handled by re-assignment via The Office of the Registrar.

Video Tutorials

Students will be placed into groups in order to complete a brief video tutorial for each of the following:

- Assessments / Field Tests
- Conventional Exercise Technique
- Alternative Exercise Technique
- Special Populations Exercise/Assessment

These videos will be graded on the usage of correct anatomical/physiological terminology and effective communication/demonstration of technique. Details and due dates will be provided in class.

Research Discussion Questions

The vast majority of course content is evidence-based. Class time will be devoted to understanding the empirical basis of the content, as well as the development of skills necessary to critique the validity of research studies in the field of exercise science. Discussion will be driven by addressing in-class and homework questions surrounding selected literature.

Case Studies

Case study workshops will be periodically conducted to emphasize and develop critical thinking abilities central to the strength and conditioning discipline, in addition to acclimating the student to types of questions presented by the NSCA CSCS and CPT exams.

Program Design Project

As a capstone experience to the course, students will design a periodized strength and conditioning program for an individual based on criteria outlined by the instructor. The successful completion of this project will require the student to combine all of the lessons of the course in order to submit their individual work. The science of strength and conditioning is collaborative, by-nature, but plagiarism WILL NOT be accepted and will result in penalty in accordance to the full extent of the student honor code. Projects must be submitted in-person by **5:00pm on Tuesday, Dec. 5th**.

Extra Credit Opportunity (2%)

Extra credit will be based upon the collective scores of in-class quizzes. Students that maintain above a 90% cumulative score on all in-class quizzes will receive a 1% bonus to their final grade. Students that also maintain a 90% or greater on quizzes based on preparatory reading (as outlined on the course schedule) will receive an additional 1% to their final grade. No make-up quizzes will be given for students not present in class at the time of the quiz.

Schedule

<u>Week</u>	<u>Chapter Questions</u>	<u>Tuesday Block 1</u>	<u>Tuesday Block 2</u>	<u>Chapter Questions</u>	<u>Thursday</u>
Wk. 1 8/22 - 8/24	n/a	Course Introduction, Syllbus Review		1, 3	Body Systems and Bioenergetics Review
Wk. 2 8/29 - 8/31	2, 4	Endocrine Response to Exercise	Biomechanics of Resistance Exercise	9, 11	Nutrition
Wk. 3 9/5 - 9/7	5, 6	Anaerobic Adaptations	Aerobic Adaptations	8	Psychology of Performance
Wk. 4 9/12 - 9/14	n/a	Reseach Discussion	Exam Review / Q&A	n/a	<u>EXAM 1</u>
Wk. 5 9/19 - 9/21	12,13	Test Selection	Test Administration, Scoring, & Interpretation	n/a	Case Study Workshop / Discussion
Wk. 6 9/26 - 9/28	n/a	Assessment Lab Group A	Assessment Lab Group B	14	Warm-Up and Flexibility Training
Wk. 7 10/3 - 10/5	n/a	Warm-Up and Flexibility Lab Group B	Warm-Up and Flexibility Lab Group A	15	Exercise Technique: Free Weight and Machines
Wk. 8 10/10- 10/12	n/a	Free Weight and Machine Lab Group A	Free Weight and Machine Lab Group B	n/a	Exercise Technique: Olympic Lift Variations
Wk. 9 10/17 - 10/19	n/a	Olympic Lift Variation Lab Group B	Olympic Lift Variation Lab Group A	n/a	Exercise Technique: Speed, Agility, & Plyometrics
Wk. 10 10/24 - 10/26	n/a	Speed Agility and Plyo Lab Group A	Speed Agility and Plyo Lab Group B	n/a	<u>EXAM 2</u>
Wk. 11 10/31 - 11/2	17	Program Design: Resistance	Program Design: Resistance	n/a	Case Study Workshop / Discussion
Wk. 12 11/7 - 11/9	n/a	Programming Lab Group B	Programming Lab Group A	18, 19	Program Design: Speed, Agility, & Plyometrics
Wk. 13 11/14 - 11/16	20, 21	Program Design: Aerobic Endurance	Periodization	n/a	Periodization
Wk. 14 11/21 - 11/23	n/a	<u>EXAM 3</u>			No Class Thanksgiving Break
Wk. 15 11/28 - 11/30	7	Age- and Sex-Related Differences and Implications	Conditioning Considerations for Older Athletes	22	Rehabilitation and Reconditioning
Wk. 16 12/5- 12/7	23, 24	Facility Design, Policy, and Procedure	Legal Issues, Project/Final Exam Q&A		No Class Reading Day

Final Exam - Monday, December 11 8:00 - 10:00pm

Please note: Instructor reserves the right to alter the aforementioned schedule over the course of the semester, if necessary.

Classroom Conduct

Students are expected to maintain a respectful environment for other learners by limiting distractions in the form of conversation during lecture and/or student presentation or cell phone/laptop usage (phones must be silenced and screen brightness reduced to an appropriate level).

Furthermore hazing, of any kind will, not be allowed and will be met with the full penalty of university authority.

Infractions can be reported directly to the instructor or to U Matter, We Care at umatter@ufl.edu or (352) 392-1575.

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 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 the instructor in this class.

*Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with the university policies that can be found in the online catalog at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

*Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide said documentation to the instructor when requesting accommodation.

<http://www.dso.ufl.edu/drc/>

*Students are expected to provide feedback on the quality of instruction following the conclusion of this course. Students will be notified when the evaluation period has opened, typically within the last two to three weeks of the semester. Evaluations can be completed, and summary results of the assessments can be found at <https://evaluations.ufl.edu/>

University Counseling and Mental Health Services: (352) 392-1575 <http://www.counseling.ufl.edu/cwc/default.aspx>

University Police Department: (352) 392-1111 or 9-1-1 for emergencies