

## STRENGTH AND CONDITIONING

APK6176 ~ 3 CREDITS ~ SPRING 2022

**INSTRUCTOR:**

**Blain Harrison, Ph.D, ATC, CSCS**

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Method of Contact: email

**OFFICE HOURS:** Office Hours are by appointment on zoom (<https://ufl.zoom.us/j/2229465950>). You can use an app called Calendly to schedule:  
<https://calendly.com/bcharrison>

**MEETING TIME/LOCATION:** CANVAS platform

**COURSE DESCRIPTION:** This course addresses the principles of designing training programs of varying duration aimed at improving muscular strength, power, speed, agility, endurance, balance, stability, and hypertrophy. Emphasis will be placed on creating and administering evidence-based periodized training programs and ensuring safe and productive technique of fundamental exercises in each modality.

**PREREQUISITE KNOWLEDGE AND SKILLS:** None. Students are encouraged to have taken exercise physiology and biomechanics at either the undergraduate level or within our program before attempting this course.

**REQUIRED AND RECOMMENDED MATERIALS:**

There is 1 required textbook for this course:

Moir, G.L. *Strength and Conditioning A Biomechanical Approach*. Jones & Bartlett Learning. 2016. ISBN:9781284034844

Additional required reading materials (i.e. research articles or Canvas pages written by the instructor) are provided to you within the eLearning course as needed.

**COURSE FORMAT:** Students access and complete course assignments through the APK6176 Canvas page. Course topics are organized into weekly learning modules. Each module includes 3 practice activities corresponding with the module's learning materials (i.e. textbook reading, research articles, and associated lecture videos) as well as a graded module quiz. Graded program design assignments are included in 10 of the 14 learning modules. A midterm exam and final exam are included in addition to the module assignments. Students will have access to learning modules and accompanying assignments at least one week prior to their dates in the course schedule. Students may work at their own pace but must progress according to the course schedule of topics and assignment due dates.

**COURSE LEARNING OBJECTIVES:** By the end of this course students will be able to:

- Identify the biomechanical factors that influence resistance training performance
- Describe the basic physiology of the skeletal and neuromuscular systems as they pertain to an athlete engaged in a strength and conditioning program
- Predict the expected physiological adaptations of anaerobic and aerobic training programs.
- Conduct a needs analysis of a sport and an athlete within the sport
- Create a periodized annual strength and conditioning program integrating training modalities relevant to a chosen sport
- Administer 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, anaerobic capacity, hypertrophy, and flexibility
- Recommend appropriate macronutrient intake for athletes engaging in a strength and conditioning program
- Recommend evidence-based post-training recovery and sleep strategies to athletes.
- Sit for the NSCA CSCS exam if desired.

## **COURSE AND UNIVERSITY POLICIES:**

### **ATTENDANCE POLICY:**

Active participation in the course is mandatory. Students are permitted unlimited attempts on module practice assignments so that they may review any missed questions or prepare for quizzes and exams. Interaction with the course online Yellowdig discussion board is part of the final grade in the course.

### **PERSONAL CONDUCT POLICY:**

Students are expected to review and adhere to the UF Netiquette guide for online courses

<http://teach.ufl.edu/wp-content/uploads/2012/08/NetiquetteGuideforOnlineCourses.pdf>

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/scr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions.

Furthermore, you are obliged to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult the instructor or TA in this class.

#### **EXAM MAKE-UP POLICY:**

Exams may NOT be submitted late. Students will have access to exams for one week prior to the due date. Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found in the online catalog at:

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

#### **ACCOMMODATING STUDENTS WITH DISABILITIES:**

Students requesting accommodation for disabilities must first register with the Dean of Students Office (<http://www.dso.ufl.edu/drc/>). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. You must submit this documentation prior to submitting assignments or taking the quizzes or exams. Accommodations are not retroactive, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

#### **COURSE EVALUATIONS:**

Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at <https://evaluations.ufl.edu> or directly in CANVAS. 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.

#### **GETTING HELP:**

##### Health and Wellness

- U Matter, We Care: If you or a friend is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu) or 352 392-1575
- Counseling and Wellness Center: <https://counseling.ufl.edu/>, 352-392-1575
- Sexual Assault Recovery Services (SARS) - Student Health Care Center, 392-1161
- University Police Department, 392-1111 (or 9-1-1 for emergencies)  
<http://www.police.ufl.edu/>

##### Academic Resources

- E-learning technical support, 352-392-4357 (select option 2) or e-mail to [Learning-support@ufl.edu](mailto:Learning-support@ufl.edu). <https://lss.at.ufl.edu/help.shtml>

- Career Connections Center, Reitz Union, 392-1601. Career assistance and counseling. <https://career.ufl.edu/>
- Library Support, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.
- Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. <http://teachingcenter.ufl.edu/>
- Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers. <http://writing.ufl.edu/writing-studio/>
- Student Complaints On-Campus: <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/> On-Line Students Complaints: <http://distance.ufl.edu/student-complaint-process/>

**IDEA Statement:** The instructor strives to create an accessible and inclusive environment that is equal for all students regardless of race, gender, ethnicity, or ability. Derogatory, rude, or hurtful interactions with classmates or the instructor are not tolerated. Questions or concerns related to this statement are welcomed by the instructor or may be addressed to members of the APK IDEA Committee: Dr. Josie Ahlgren ([jahlgren@ufl.edu](mailto:jahlgren@ufl.edu)), Dr. Linda Nguyen ([linda.nguyen@ufl.edu](mailto:linda.nguyen@ufl.edu)) or Dr. Leo Ferreira ([ferreira@ufl.edu](mailto:ferreira@ufl.edu)).

**GRADING SCALE:** All course assignments are administered and graded within the APK6167 Canvas course page, so students will have access to all grades as they submit assignments. Any assignment that requires the instructor to manually grade some aspect of it will be graded within one week of its due date. Final Grades will be rounded up at .5 and above. The table below provides a reference. More detailed information regarding current UF grading policies can be found here: <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>. Any requests for additional extra credit or special exceptions to these grading policies will be interpreted as an honor code violation (i.e. asking for preferential treatment) and will be handled accordingly.

Letter Grade	Percent of Total Points Associated with Each Letter Grade	GPA Impact of Each Letter Grade
A	92.5 - 100%	4.0
A-	89.5 - 92.49%	3.7
B+	86.5 - 89.49%	3.33
B	82.5 - 86.49%	3.0
B-	79.5 - 82.49%	2.7
C+	76.5 - 79.49%	2.33
C	72.5 - 76.49%	2.0
C-	69.5 - 72.49%	1.7
D+	66.5 - 69.49%	1.33
D	59.5 - 66.49%	1.0
D-	59.5 - 62.49%	0.7
E	0 - 59.49%	0

## Grading

Evaluation Components	Points Per Component	Weighted % of Total Grade
Module Quizzes	140 points	20%
Program Design Assignments	120 points	15%
Yellowdig Participation	100 points	10%
Article Synopsis (x4)	40 points	10%
Midterm Exam	50 points	20%
Final Exam	50 points	25%

**Module Quizzes** - Each learning module contains a graded quiz consisting of 10 objective questions related to all components of the module. Quiz questions will be randomly selected from a test bank. Quizzes are not timed; however, the Honorlock proctoring service is required to complete each quiz. Honorlock is included on the e-Learning platform and no additional downloads are required. Two attempts are allowed on each quiz and the **highest** earned score will count towards the final grade. All quizzes are available from the first day of classes, but each module has a due date corresponding to the end of the week of the module according to the course schedule. Specifically, quizzes are due by Monday at 2:59am EST (Sunday at 11:59pm PST) each week.

**Yellowdig Participation** - This course incorporates an application called Yellowdig that provides a social media-like discussion board providing opportunities for engagement and discussion between classmates and the instructor. Points are earned for each interaction a student has with the Yellowdig platform. Students have the ability to earn a maximum total of 2,000 points each week in Yellowdig and the app sums the weekly totals throughout the semester to create a cumulative final point total. Students earning totals of 14,000 points or higher in Yellowdig by Monday, April 25th, 2022 at 2:59am EST will earn a score of "100" for the Yellowdig Participation assignment on Canvas. The percentage of total points out of 14,000 will be used as the grade for the Yellowdig Participation Assignment on Canvas for students earning less than 14,000 total points. Yellowdig is included within e-Learning, no additional downloads are required. Students earning the semester-long maximum number of available points in Yellowdig (28,000 total points) will earn extra-credit in the form of 1-point being added to their overall final course grade.

**Article Synopses** - Students are expected to post a minimum of 4 research article synopses to the Yellowdig discussion board by Monday, April 25th, 2022 at 2:59am EST. Each article synopsis requires students to search a relevant database of research journals (i.e. Google Scholar, SportDiscus, PubMed) to find a peer-reviewed research article related to one of the course topics. Students should read the selected articles in their entirety and then post a brief synopsis of the article(s) to Yellowdig and to the corresponding assignment in e-Learning. The synopsis should be written and should include the following headers: 1. Reason for Selection 2. Research Problem 3. Methods 4. Results/Conclusions 5. Takeaways. Students should briefly summarize why they selected the article, what research problem was addressed in the article, how the experiment was conducted, the most important results and explanations for the results provided by the authors of the study, and what information from the article can be used by classmates in their strength and conditioning decision making processes. A pdf copy of the article should be uploaded to both the Yellowdig post and e-Learning assignment. The same written synopsis can be submitted to both Yellowdig and e-Learning.

Students are given the option of creating one multiple choice question related to their article and posting it to Yellowdig along with their synopsis. Inclusion of a question in

the article synopsis earns you 1 Bonus Point to be put towards a quiz score. Classmates who choose to answer the question, and do so correctly, will earn 1 extra credit points. Extra credit points earned through answering article synopsis questions will be added to module quiz scores of less than 10/10, beginning with the lowest quiz score. A maximum of 10 bonus points may be earned towards increasing quiz scores.

**Extra Credit** - Each learning module contains an extra credit assignment. The assignment involves students creating up to 2 practice questions from the module's learning material for inclusion within the practice question banks in the course. Each new question created is worth 0.5 bonus points to be added to the next closest exam to the module (either the midterm or the final exam). Extra credit assignments are due at 2:59am EST on Saturdays at the end of the week the module is assigned in the course schedule. This due date allows the instructor to add all extra credit questions to the practice question bank in time for students to use them to prepare for the weekly module quizzes due Sunday nights.

In summary, three extra credit opportunities are available in this course. Earning the maximum available points on Yellowdig, answering research article synopsis questions written by your peers correctly, and writing module content practice questions will earn you bonus points towards your final grade, quiz grades, and exam grades, respectively.

**Program Design Assignments** – Ten learning module include a program design assignment asking students to apply course material in the context of a sample strength and conditioning program according to instructions provided on Canvas. Students are provided with an excel document containing 10 tabs, where they will record the requested information. Instructions for what information to include on the spreadsheet is provided within each learning module's page on Canvas. Students will perform a Peer Review on the program submitted by one of their classmates following the assignment's due date. A rubric for conducting the peer review is provided with each assignment. Students receive a grade of "complete" for the weekly program design assignments when they have submitted their spreadsheet and completed the peer review. Spreadsheets are due each Monday by 2:59am EST (Sunday by 11:59pm PST) and all peer reviews are due Monday, April 25th by 2:59am (Sunday, April 24th by 11:59pm PST). You will be given a grade of "incomplete" on Canvas until the Peer Review is finished, at which point the grade will be changed to "complete". Peer Reviews should be completed within one week of being assigned out of courtesy to your classmate.

**Midterm Exam** – The midterm exam consists of 50 objective questions (multiple choice, matching, true/false) worth 1 point each. Questions will require the application of course material or knowledge of basic scientific principles covered within each of the first 7 learning modules. Exam questions are generated by the course instructor and are randomly selected from test banks related to each of the first 7 learning modules. Students should prepare for the exam by completing all weekly course readings, practice activities, and module quizzes prior to the exam. The exam is not timed; however, the Honorlock proctoring service is required to complete it. Honorlock is included on the e-Learning platform and no additional downloads are required. Two attempts are allowed on the exam and the **highest** earned score will count towards the final grade. Students will be able to view their questions but unable to view correct answers between attempts. The exam will be available for one week following Module 7 in the course schedule and is due Monday, February 28 at 2:59am EST (Sunday, February 27 at 11:59pm PST)

**Cumulative Final Exam** - The cumulative final exam will consist of 100 objective questions (multiple choice, matching, true/false) worth 0.5 point each. Questions will require the application of course material or knowledge of basic scientific principles covered within each of the 14 learning modules.

Exam questions are generated by the course instructor and are randomly selected test banks related to each of the 14 learning modules. Students should prepare for the exam by completing all weekly course readings, practice activities, and module quizzes prior to the exam. The exam is not timed; however, the Honorlock proctoring service is required to complete it. Honorlock is included on the e-Learning platform and no additional downloads are required. Two attempts are allowed on the exam and the **highest** earned score will count towards the final grade. Students will be unable to view their questions nor answers between attempts. The exam will be available during final exam week and is due Saturday, April 30 at 2:59am EST (Friday, April 29 at 11:59pm PST)

**Module Activities** - Approximately three ungraded practice assignments are available in each of the 14 learning modules. Links to the practice assignments are under the "Practice" header on the module learning page. The practice assignments correspond to the learning material in the module. They may be completed an unlimited number of times, Honorlock is not required, and questions and answers are viewable between attempts. All practice assignments are available from the first day of the course and there are no due dates. These are optional assignments designed to help students gauge their comprehension and application of course learning material.

**\*Note Regarding Program Comprehensive Exam** – If you choose APK6176 as one of the courses to include within your comprehensive exam, know that the exam will contain 60 objective questions (multiple choice, true/false, matching) that are pulled at random from a question bank similar to the quizzes and exams in this course. If you complete the exam in a future semester, you will be able to access this APK6176 Canvas course and review lecture videos and exam questions and answers. If you complete the exam during this semester, you will need to work ahead in the course to ensure you have been introduced to all of the topics that are found on it. All modules and assignments are available from the first week of the course. I recommend completing the practice quizzes in each module as many times as needed to gain practice with course content not yet covered by the time you take the exam.

## WEEKLY COURSE SCHEDULE:

Week	Dates	Topic	Chapter
1	1/5 - 1/7	Structure/Function of Muscle/Tendon <i>Lab: Take Practice Final Exam</i>	Moir 3
2	1/10 - 1/14	Bioenergetics Lab: Conditioning Drills	Moir 4
3	1/17 – 1/21	Muscular Strength and Power Lab: Resistance Exercise	Moir 5
4	1/24 – 1/28	Kinematic Variables Lab: Plyometric Drills	Moir 1
5	1/31 – 2/4	Kinetic Variables Lab: Olympic Weightlifting	Moir 2
6	2/7 – 2/11	Performance Analysis in Sport Lab: NSCA Assessments	Moir 9
7	2/14 – 2/18	Warm Up Methods Lab: Warm Up Drills	Moir 7
8	2/21 – 2/25	<b>Midterm Exam Due 2/27</b>	
9	2/28 – 3/4	Training Flexibility Lab: PNF Stretching	Moir 8
10	3/7 – 3/11	<b>Spring Break</b>	
11	3/14 – 3/18	Training Strength and Power Lab: Designing an Annual Plan	Moir 6
12	3/21 – 3/25	Biomechanics of Sprinting Lab: SAQ Program Design	Moir 13
13	3/28 – 4/1	Biomechanics of Jumping Lab: Plyometric Program Design	Moir 11
14	4/4 – 4/8	Biomechanics of Landing Lab: Designing an Integrated Program	Moir 12
15	4/11 – 4/15	Sports Nutrition Basics Lab: Designing an Integrated Program	#Grout
16	4/18 – 4/20	Recovery Lab: Core Exercise Training	Canvas

#: Indicates an assigned research article rather than a chapter out of one of the textbooks

Final Exam: Available from Saturday, April 23rd at 12:00am EST through Saturday, May 1st at 2:59am EST (Friday, April 30 at 11:59pm PST)



## SUCCESS AND STUDY TIPS:

- Utilize the module practice assignments as study tools. You may complete them as many times as you like. Complete the assignments while you are working through the module and then again when you are reviewing for the exams.
- Read textbook chapters, canvas readings, and research articles carefully.
- Twenty-five percent of the final grade comes from participation activities including posting comments to the Yellowdig board, completing the program design assignments and peer reviews, and submitting the research article synopses. Take advantage of these assignments to bring up any quiz or exam grades in which you are disappointed.
- Multiple Extra Credit opportunities are provided in this course to boost quiz and exam scores as well as your overall grade. Be proactive in taking advantage of these opportunities.