

TACTICAL STRENGTH AND CONDITIONING

PET5936 ~ 3 CREDITS ~ SUMMER 2020

INSTRUCTOR:

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Preferred Method of Contact: email

OFFICE HOURS:

Virtual Office Hours utilizing Zoom are available by
appointment

MEETING TIME/LOCATION: CANVAS platform

COURSE DESCRIPTION: Examines fundamental concepts in bioenergetics, biomechanics, cardiopulmonary responses, and skeletal muscle function & adaptation. Includes evidence-based program design and practical skills necessary for success in fire and rescue, law enforcement, and military careers. Content will prepare students to sit for the NSCA Tactical Strength and Conditioning Facilitator certification.

PREREQUISITE KNOWLEDGE AND SKILLS: None

REQUIRED MATERIALS:

Textbook: NSCA's Essentials of Tactical Strength and Conditioning. Alavar, B.A., K. Sell, P.A. Deuster, Eds. Human Kinetics, 2017. ISBN: 978-1-4504-5730-9 (e-book version also available)

The following research articles are provided to the student within the Canvas course page:

1. Scofield, D. E., & Kardouni, J. R. (2015). The tactical athlete: a product of 21st century strength and conditioning. *Strength & Conditioning Journal*, 37(4), 2-7.

2. Allen, K., Metoyer, C., Flatt, A., Bishop, P., & Esco, M. (2016). The relationship between HRV and Army Physical Fitness Test scores in ROTC cadets. *The Journal of Strength and Conditioning Research*, 30, 122
3. Cocke, C., & Orr, R. M. (2015). The impact of physical training programs on the fitness of tactical populations: A critical review. *Journal of Australian Strength and Conditioning*, 23(1), 39-46.
4. Maupin, D., Schram, B., & Orr, R. (2019). Tracking Training Load and Its Implementation in Tactical Populations: A Narrative Review. *Strength & Conditioning Journal*, 41(6), 1-11
5. Crawley, A. A., Sherman, R. A., Crawley, W. R., & Cosio-Lima, L. M. (2016). Physical fitness of police academy cadets: Baseline characteristics and changes during a 16-week academy. *Journal of strength and conditioning research*, 30(5), 1416.
6. Peterson, M. D., Dodd, D. J., Alvar, B. A., Rhea, M. R., & Favre, M. (2008). Undulation training for development of hierarchical fitness and improved firefighter job performance. *The Journal of Strength & Conditioning Research*, 22(5), 1683-1695.
7. ORR, R. M., Dawes, J. J., Lockie, R. G., & GODEASSI, D. P. (2019). The Relationship Between Lower-Body Strength and Power, and Load Carriage Tasks: A Critical Review. *International journal of exercise science*, 12(6), 1001
8. Pawlak, R., Clasey, J. L., Palmer, T., Symons, T. B., & Abel, M. G. (2015). The effect of a novel tactical training program on physical fitness and occupational performance in firefighters. *The Journal of Strength & Conditioning Research*, 29(3), 578-588.
9. Marins, E. F., David, G. B., & Del Vecchio, F. B. (2019). Characterization of the physical fitness of police officers: a systematic review. *The Journal of Strength & Conditioning Research*, 33(10), 2860-2874.
10. Barringer, N. D., McKinnon, C. J., O'Brien, N. C., & Kardouni, J. R. (2019). Relationship of strength and conditioning metrics to success on the army ranger physical assessment test. *The Journal of Strength & Conditioning Research*, 33(4), 958-964.
11. Jones, B. H., & Hauschild, V. D. (2015). Physical training, fitness, and injuries: lessons learned from military studies. *The Journal of Strength & Conditioning Research*, 29, S57-S64.
12. Bycura, D. K., Dmitrieva, N. O., Santos, A. C., Waugh, K. L., & Ritchey, K. M. (2019). Efficacy of a Goal Setting and Implementation Planning Intervention on

Firefighters' Cardiorespiratory Fitness. *The Journal of Strength & Conditioning Research*, 33(11), 3151-3161.

COURSE FORMAT: Students access and complete course learning materials and course assignments through the PET5936 Canvas page. One assignment is due each day of the week. Questions from the weekly chapter readings are due on Mondays and Tuesdays, Research Article questions from the articles the instructor provides on Canvas are due on Wednesdays, Weekly research article synopses of articles each student selects are due on Thursdays along with a weekly training program update submission, and weekly Module Quizzes are due on Fridays. You will have access to all assignments a minimum of two weeks prior to their due date. Each Monday, the assignments due two weeks from that date will become available on Canvas for those students who wish to work ahead. You may work at your own pace, but you must submit all assignments by their assigned due dates.

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

1. Summarize and explain general concepts related to tactical strength and conditioning
2. Explain the acute responses and chronic adaptations of the cardiopulmonary and endocrine systems to exercise and high-stress situations
3. Apply kinesiological and biomechanical principles to exercise selection and tactical job performance
4. Analyze the training variables that can affect performance outcomes as they relate to physiological adaptations from aerobic and anaerobic training
5. Describe nutritional strategies to optimize body-composition and maximize performance and recovery
6. Express the unique nutritional needs of tactical athletes
7. Distinguish the risks and benefits of using dietary supplements in tactical athletes
8. Evaluate results of properly administered performance tests in tactical athletes
9. Design exercise programs including modalities such as resistance, mobility, power, speed, agility, and aerobic endurance using a periodization model
10. Identify common acute and chronic injuries and risk factors for injury in different tactical populations
11. Differentiate the unique physiological and biomechanical occupational demands of law enforcement, fire/rescue, and military professionals
12. Identify wellness strategies and interventions to decrease the risk and consequences of illness and disease
13. Give examples of strategies to create a safe training environment and reduce litigation

COURSE AND UNIVERSITY POLICIES:

ATTENDANCE POLICY:

Active participation in the course is mandatory. Points assigned to the chapter questions, Research Article questions, YellowDig message board posts, and Weekly research article synopses are all counted as participation points. The accumulation of participation points over the semester designates the participation grade. Late submissions of weekly participation assignments will not be accepted and a grade of 0 will be given for the assignment.

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/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 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.

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 by completing online evaluations at <https://gatorevals.aa.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://gatorevals.aa.ufl.edu/>.

GETTING HELP:

Health and Wellness

- U Matter, We Care: If you or a friend is in distress, please contact 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. <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/>

GRADING:

Evaluation Components (number of each)	Points Per Component	Weighted % of Total Grade
Midterm Exam	80 points	20%
Weekly Participation Assignments	560 points	15%
Weekly Module Quizzes (13)	10 points each = 120points	15%
Program Design Assignments	110 points	15%
Modality Presentation	50 points	10%
Comprehensive Final (1)	150 points	25%

Midterm Exam – The midterm exam will consist of 50 objective (i.e. multiple choice, matching, ordering, etc.) and 6 short answer questions (one each from Modules 1 – 6), with 1 point per objective question and 5 points per short answer question for a total of 80 points. Questions will require the application of course material to provided cases. Students will be required to utilize an online proctoring service, HonorLock, when completing the exam. Short answer questions will be reviewed with plagiarism detection software (TurnItIn). Exam questions are generated by the course instructor and students should prepare for exam by completing all weekly course readings and assignments. Students will take the exam on Canvas and will be provided a 1-week window to complete it when they are available.

Weekly Participation Assignments – Each week students will have one participation assignment due per day Monday – Thursday. Questions related to weekly chapter readings are due Monday and Tuesday (2 chapters read per week), Research Article Questions are due Wednesday (1 research article per week), weekly research article synopses with analyses are due on Thursdays via YellowDig post, and YellowDig message board posts are due by Fridays. Each participation assignment with the exception of the YellowDig message board posts are worth 10 points each. The research article synopses assignments require the student to search the recent tactical strength and conditioning literature for an original peer-reviewed article that relates to the topic of the module and post a brief video or written summary of the relevant content from the article. YellowDig message board prompts will be posted daily each week and students will earn varying amounts of points within the platform when engaging with the message board in different ways (i.e. creating new posts, commenting on another post, “liking” posts, etc.). A total of 1,200 YellowDig points can be earned each week and reaching 8,000 YellowDig points by the end of the course equates to earning 100 participation points on Canvas as part of the overall participation grade.

Weekly Module Quizzes – A quiz pertaining to each week’s module is assigned each Friday throughout the semester. The 10-12 question quiz is available for one week and students will have 15min to complete it within that window of time. Module quizzes are open-book and open-note with questions focusing on the practical application of course material.

Program Design Assignments – Students will complete weekly assignments involving the application of program design principles using that week’s topic. Instructions for completing each week’s assignment are provided on Canvas. Many, though not all, of these assignments will provide the student an opportunity to build an evidence-based strength and conditioning program for a tactical population of their choice to use as a template in their careers. The remaining assignments require students to analyze a tactical population different from the one they selected. Feedback from the instructor is used to make edits to the weekly submissions. Upon receiving the feedback from their first draft, students submit the final draft of the assignment for grading. Each assignment is worth 10 points, although the allotment of points may vary from week to week depending on the assignment instructions.

Training Modality Presentation - Students will select a strength and conditioning training modality from a list provided by the instructor and upload a 10-minute presentation to Canvas describing the history, use of, supporting evidence, program design considerations, and certification opportunities for the modality. This presentation will be uploaded to the Canvas page using the VoiceThread application so that classmates may view them. Instructions will be provided on Canvas for creating a video presentation in VoiceThread.

Comprehensive Final – The final exam will consist of 75 multiple-choice questions (~3 from each of the 25 textbook chapters), each worth 2 points. The final exam is cumulative. You will be allowed 2 hours to complete this exam. Questions will require the application of course material to provided cases. Students are required to utilize an online proctoring service, HonorLock, when completing the exam. Exam questions are generated by the course instructor and students should prepare for the exam by completing all weekly course readings and assignments. Students will take the exam on Canvas and will be provided a 1-week window to complete it when they are available.

GRADING SCALE: All course assignments are administered and graded within the PET5936 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, including the semester exams and weekly program design project final drafts. Final Grades will be rounded up at __.5 and above. More detailed information regarding current UF grading policies can be found here:

<http://gradcatalog.ufl.edu/content.php?catoid=12&navoid=2750#grades> . 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	93-100%	4.0
A-	90 – 92.5%	3.7
B+	87.00-89.5%	3.33
B	80.00-86.5%	3.0
C+	77.00-79.5%	2.33
C	70.00-76.5%	2.0
D+	67.00-69.5%	1.33
D	60.00-66.5%	1.0
E	0-59.5%	0

WEEKLY COURSE SCHEDULE:

Week	Dates	Topic	Chapter
1	(5/11 – 5/15)	Overview of Tactical Strength and Conditioning Cardiopulmonary and Endocrine Responses and Adaptations to Exercise	1 2
2	(5/18 – 5/22)	Skeletal Muscle Anatomy and Biomechanics Bioenergetics	3 4
3	(5/25 – 5/29)	Testing and Evaluation of Tactical Populations Flexibility and Mobility Exercise	8 12
4	(6/1 – 6/5)	Development of Resistance Training Programs Resistance Training Exercise Techniques	9 11
5	(6/8 – 6/12)	Strength and Power Training to Improve Performance Plyometric, Speed, and Agility Exercise Technique and Programming	15 13
6	(6/15 – 6/19)	Periodization for Tactical Populations Midterm Exam Due 6/19	10
7	(6/22 – 7/5)	Summer Break	
8	(7/6 – 7/10)	Aerobic Endurance Exercise Technique and Programming Physical Training to Optimize Load Carriage	14 20
9	(7/13 – 7/17)	Physiological Issues Related to Fire and Rescue Personnel Basic Nutrition for Tactical Populations	17 5

10	(7/20 – 7/24)	Physiological Issues Related to Law Enforcement Personnel Tactical Fueling	18 6
11	(7/27 – 7/31)	Physiological Issues Related to Military Personnel Ergogenic Aids	19 7
12	(8/3 – 8/7)	Care and Rehabilitation of Injured Tactical Populations Wellness Interventions in Tactical Populations	16 21
13	(8/10 – 8/14)	Organization and Administration Considerations	22

Final Exam Available for 1-week beginning 12AM on 8/8/20. Students have 2-hours to complete the exam and it must be completed in a single sitting. The Final Exam is due by 11:59pm on Friday, August 14.

SUCCESS AND STUDY TIPS:

- Complete all assignments. It may seem like there are too many assignments, but each one is designed to take 15min or less and is meant to engage you on a daily basis with the material.
- Read textbook chapters and research articles carefully
- There are lots of participation points that collectively account for a large percentage of your grade. Performing well on exams is not enough to earn an A in this course, you must participate in the course by completing all assignments.