

George Mason University
College of Education and Human Development
Kinesiology

KINE 360 (001) — Strength Training: Concepts & Applications
3 Credits, Spring 2020
T, R Noon – 1:15 PM, K. Johnson Hall 247 – SciTech Campus

Faculty

Name: Dr. Oladipo Eddo
Office Hours: By appointment
Office Location: 201B K. Johnson Hall
Office Phone: 703-993-7183
Email Address: oeddo@gmu.edu

TA name:
TA email:

Prerequisites/Corequisites

BIOL 124, BIOL 125, ATEP 300, KINE 310

University Catalog Course Description

Provides students with an opportunity to develop an in-depth understanding of the principles of strength training and conditioning, including: anatomical and physiological considerations, lifting techniques, equipment selection, program development/evaluation, and weightlifting safety; thus enabling them to teach and train clients.

Course Overview

Emphasis will be placed on assessment, description, and analysis of sport movement and designing training programs to enhance performance variables. While this course will assist students, who desire to sit for the National Strength and Conditioning Association's (NSCA) Certified Strength and Conditioning Specialist (CSCS) Exam, it is NOT a preparation course for the NSCA-CSCS exam. Material for the course will be drawn from the required textbook and assigned readings. Class lectures will be presented in PowerPoint with handouts posted on BLACKBOARD in advance of class meetings.

Course Delivery Method

The course is a mix of a lecture and discussion course. However, other approaches may be used to facilitate learning. This includes videos, demonstrations and in-class activities. Overall, this will be a highly interactive class and students will be encouraged to participate.

Learner Outcomes or Objectives

This course is designed to enable students to do the following:

1. Demonstrate an understanding of the physiological adaptations to resistance training.
2. Explain the role of bioenergetics to metabolic specificity of training.
3. Evaluate and design programs for developing strength, power, speed, and conditioning.
4. Analyze the value of Olympic lifting to athletic performance.
5. Examine the difference between strength training and power training.

Professional Standards

This course meets the Commission on Accreditation of Allied Health Education Programs (CAAHEP) requirements and covers the American College of Sports Medicine's Knowledge-Skills-Abilities (KSA's).

Upon completion of this course, students will have met the following professional standards:

KSA	Description	Lecture, Lab, or both
	GENERAL POPULATION/CORE:	
	EXERCISE PHYSIOLOGY AND RELATED EXERCISE	
1.1.6	Knowledge of the curvatures of the spine including lordosis, scoliosis, and kyphosis.	Lecture
1.1.7	Knowledge of the stretch reflex and how it relates to flexibility.	Lecture
1.1.10	Knowledge of the role of aerobic and anaerobic energy systems in the performance of various physical activities.	Lecture
1.1.14	Knowledge of the anatomical and physiological adaptations associated with strength training.	Lecture
1.1.15	Knowledge of the physiological principles related to warm-up and	Lecture
1.1.20	Knowledge of the characteristics of fast and slow twitch muscle fibers.	Lecture
1.1.21	Knowledge of the sliding filament theory of muscle contraction.	Lecture
1.1.22	Knowledge of twitch, summation, and tetanus with respect to muscle contraction.	Lecture
1.1.23	Knowledge of the principles involved in promoting gains in muscular strength and endurance.	Lecture
1.1.24	Knowledge of muscle fatigue as it relates to mode, intensity, duration, and the accumulative effects of exercise.	Lecture
1.1.32	Knowledge of the concept of detraining or reversibility of conditioning and its implications in exercise programs.	Lecture
1.1.33	Knowledge of the physical and psychological signs of overreaching/overtraining and to provide recommendations for these	Lecture
1.1.35	Knowledge of the effect of the aging process on the musculoskeletal and cardiovascular structure and function at rest, during exercise, and during recovery.	Lecture
1.1.36	Knowledge of the following terms: progressive resistance, isotonic/isometric, concentric, eccentric, atrophy, hyperplasia, hypertrophy, sets, repetitions, plyometrics, Valsalva maneuver.	Lecture

	GENERAL POPULATION/CORE	
1.7.1	Knowledge of the relationship between the number of repetitions, intensity, number of sets, and rest with regard to strength training.	Lecture
1.7.3	Knowledge of the benefits and precautions associated with exercise training in across the lifespan (from youth to the elderly).	Lecture
1.7.11	Knowledge of and the ability to describe exercises designed to enhance muscular strength and/or endurance of specific major	Both
1.7.13	Knowledge of the various types of interval, continuous, and circuit training programs.	Lecture
1.7.29	Ability to identify proper and improper technique in the use of resistive equipment such as stability balls, weights, bands, resistance bars, and water exercise equipment.	Both
1.7.31	Ability to teach a progression of exercises for all major muscle groups to improve muscular strength and endurance.	Both
1.7.42	Ability to design resistive exercise programs to increase or maintain muscular strength and/or endurance.	Lecture
1.7.44	Ability to design training programs using interval, continuous, and circuit training programs.	Lecture
1.7.45	Ability to describe the advantages and disadvantages of various commercial exercise equipment in developing cardiorespiratory fitness, muscular strength, and muscular endurance.	Lecture
	GENERAL POPULATION/CORE: SAFETY, INJURY PREVENTION, AND EMERGENCY	
1.10.5	Knowledge of the physical and physiological signs and symptoms of overtraining and the ability to modify a program to accommodate this condition.	Lecture

Required Texts

Haff, Gregory G. & Triplett, Travis N (ed.). *Essentials of Strength Training and Conditioning (4th edition)*. Human Kinetics, Champaign, 2016. ISBN-13: 978-1-4925-0162-6

Course Performance Evaluation

Students are expected to submit all assignments on time in the manner outlined by the instructor (e.g., Blackboard, Tk20, hard copy).

- **Assignments and/or Examinations**

- A. Written Examinations

- Unit #1 Exam (Midterm Exam) 25% (Objectives 1, 2)

- Unit #2 Exam (Final Exam) 25% (Objectives 3, 4, 5)

- B. Unannounced Quizzes 15% (Objectives 1 – 5)

- C. Laboratory Sessions 10% (Objectives 1 – 5)

- D. Project 15% (Objectives 1 – 5)

Grading Scale

A = 94 – 100	B+ = 87 – 89	C+ = 77 – 79	D = 60 – 69
A- = 90 – 93	B = 84 – 86	C = 74 – 76	F = 0 – 59
	B- = 80 – 83	C- = 70 – 73	

Final Grades:

Grades are final following 24 hours after posting date.

Professional Dispositions

See <https://cehd.gmu.edu/students/polices-procedures/>

Students are held to the standards of the George Mason University Honor Code. You are expected to attend all class sections, actively participate in class discussions, complete in-class exercises and fulfill all assignments. Make-up tests, quizzes, assignments, or other grades will be granted for excused absences only. Excused absences include: serious illness, official university excused absences and extenuating circumstances. It is the student's responsibility to contact the instructor in order to obtain the make-up work. Assignments must be turned in at the beginning of class on the specified date due or **no credit will be given**.

Communication – When communicating with the instructor and classmates, either face-to-face or via email (see below), students should address the other person with respect, use appropriate language, and maintain a pleasant demeanor. Students who fail to do may be asked to leave class, and will receive a grade of zero for all assignments or activities missed during that class period.

E-mail Correspondence - Messages must be in a professional format and originate from a Mason address:

Dear Dr. Eddo (*Beginning salutation*),
 I have a question regarding one of the assignments. (*Text body*)
 Respectfully, (*Ending Salutation*)
 Student's name (*Your name*)

Class Schedule

Date				Topic	Readings/Assignments Due
#1	T	Jan	21	Course Introduction	
#2	R	Jan	23	Periodization Part I	
#3	T	Jan	28	Structure of the Body System	
#4	R	Jan	30	Structure of the Body System/Biomechanics	

#5	T	Feb	4	Biomechanics	
#6	R	Feb	6	Bioenergetics	
#7	T	Feb	11	Bioenergetics/ Warm up and flexibility training	
#8	R	Feb	13	Lab 1: Warm-up and Flexibility Bioenergetics	
#9	T	Feb	18	Endocrine Responses	
#10	R	Feb	20	Age and sex related differences	
#11	T	Feb	25	Adaptations to Anaerobic and training programs	
#12	R	Feb	27	Adaptations to training programs/ Exercise technique	
#13	T	Mar	3	Lab 2: Resistance Training I	
#14	R	Mar	5	Midterm Exam	Remember to bring a Scantron sheet.
	T	Mar	10	Spring Recess	
	R	Mar	12	Spring Recess	
#15	R	Mar	17	Performance testing	
#16	T	Mar	19	Lab 3: Performance Assessment	
#17	R	Mar	24	Performance testing/ Periodization Part II	
#18	T	Mar	26	Periodization Part II/ Resistance training	
#19	R	Mar	31	Resistance training	
#20	T	Apr	2	Lab 4: Resistance Training II	
#21	R	Apr	7	Plyometric	
#22	T	Apr	9	Plyometric/ Speed, Agility and periodization	
#23	R	Apr	14	Speed, Agility and periodization	
#24	T	Apr	16	Lab 5: Olympic lifts & Kettlebells	
#25	R	Apr	21	Rehabilitation and reconditioning	

#26	T	Apr	23	Exam Review	
#27	R	Apr	28	Presentations	Business casual dress is required when presenting: http://www.entrepreneur.com/article/249188
#28	T	Apr	30	Presentations	Business casual dress is required when presenting: http://www.entrepreneur.com/article/249188

Final Exam: 10:30AM on Thursday, May 7th

Note: The instructor reserves the right to make changes to the course syllabus and/or schedule at any time. Students will always be informed of any changes made

Core Values Commitment

The College of Education and Human Development is committed to collaboration, ethical leadership, innovation, research-based practice, and social justice. Students are expected to adhere to these principles: <http://cehd.gmu.edu/values/>.

GMU Policies and Resources for Students

Policies

- Students must adhere to the guidelines of the Mason Honor Code (see <https://catalog.gmu.edu/policies/honor-code-system/>).
- Students must follow the university policy for Responsible Use of Computing (see <https://universitypolicy.gmu.edu/policies/responsible-use-of-computing/>).
- Students are responsible for the content of university communications sent to their Mason email account and are required to activate their account and check it regularly. All communication from the university, college, school, and program will be sent to students **solely** through their Mason email account.
- Students with disabilities who seek accommodations in a course must be registered with George Mason University Disability Services. Approved accommodations will begin at the time the written letter from Disability Services is received by the instructor (see <https://ds.gmu.edu/>).
- Students must silence all sound emitting devices during class unless otherwise authorized by the instructor.

Campus Resources

- Support for submission of assignments to Tk20 should be directed to tk20help@gmu.edu or <https://cehd.gmu.edu/aero/tk20>. Questions or concerns regarding use of Blackboard should be directed to <https://its.gmu.edu/knowledge-base/blackboard-instructional-technology-support-for-students/>.
- For information on student support resources on campus, see <https://ctfe.gmu.edu/teaching/student-support-resources-on-campus>

Notice of mandatory reporting of sexual assault, interpersonal violence, and stalking:

As a faculty member, I am designated as a “Responsible Employee,” and must report all disclosures of sexual assault, interpersonal violence, and stalking to Mason’s Title IX Coordinator per University Policy 1202. If you wish to speak with someone confidentially, please contact one of Mason’s confidential resources, such as Student Support and Advocacy Center (SSAC) at 703-380-1434 or Counseling and Psychological Services (CAPS) at 703-993-2380. You may also seek assistance from Mason’s Title IX Coordinator by calling 703-993-8730, or emailing titleix@gmu.edu.

For additional information on the College of Education and Human Development, please visit our website <https://cehd.gmu.edu/students/> .

Student Acknowledgement of Syllabus

I, _____, by signing below, attest to the following:
(Print First and Last Name)

- *I have read the course syllabus for KINE 360 in its entirety, and I understand the policies contained therein. This syllabus serves as a binding contract for KINE 360 between the instructor and me.
- *I have a clear understanding of the due dates for assignments and examinations, and I accept responsibility for the material.
- *I am aware that failure to submit assignments by the dates assigned will result in no points awarded as late work will not be accepted.
- *I understand that if I am using emitting sound technology or personal computers I will be dismissed from class for the day, counted as an absence, and not permitted to make up missed assignments
- *I understand the instructor reserves the right to alter the provided schedules as necessary and I am responsible for the assignments and examination dates for the most current version of the syllabus schedule.
- *I accept responsibility for reading announcements that are sent to me via e-mail through BlackBoard/MyMason Portal; it is my responsibility to access my Blackboard/MyMason Portal e-mail for messages, or forward Blackboard/MyMason Portal e-mail as per the directions provided in the syllabus.
- *Points cannot be earned in this class until you have signed and handed this form to the instructor.

(Signature) (Date)

(Student Copy: This copy should remain attached to your syllabus)



Student Acknowledgement of Syllabus

I, _____, by signing below, attest to the following:
(Print First and Last Name)

- * I have read the course syllabus for KINE 360 in its entirety, and I understand the policies contained therein. This syllabus serves as a binding contract for KINE 360 between the instructor and me.
- *I have a clear understanding of the due dates for assignments and examinations, and I accept responsibility for the material.
- *I am aware that failure to submit assignments by the dates assigned will result in no points awarded as late work will not be accepted.
- *I understand that if I am using emitting sound technology or personal computers I will be dismissed from class for the day, counted as an absence, and not permitted to make up missed assignments
- *I understand the instructor reserves the right to alter the provided schedules as necessary and I am responsible for the assignments and examination dates for the most current version of the syllabus schedule.
- *I accept responsibility for reading announcements that are sent to me via e-mail through BlackBoard/MyMason Portal; it is my responsibility to access my Blackboard/MyMason Portal e-mail for messages, or forward Blackboard/MyMason Portal e-mail as per the directions provided in the syllabus.
- *Points cannot be earned in this class until you have signed and handed this form to the instructor.

(Signature) (Date)

(Instructor Copy: Submit to the instructor at the end of the first class meeting)