HHPK 322 – Scientific Principles of Strength and Conditioning

FALL 2024

INSTRUCTOR INFORMATION

COURSE VALUE:	Three (3) credit hours
COURSE LOCATION:	NHS 161
PROFESSOR:	Hussien Jabai, MS, CSCS, TSAC-F, CPT
OFFICE:	
OFFICE HOURS:	
PHONE :	(903) 886-5549
EMAIL:	hussien.jabai@tamuc.edu

COURSE INFORMATION

Materials – Textbooks, Readings, Supplementary Readings

Textbook Required: Essentials of Strength Training and Conditioning, 4th Edition, ISBN-13: 978-1492501626 / ISBN-10: 9781492501626, Human Kinetics. 2016.

Course Description

This comprehensive course explains the key theories, concepts, and scientific principles of strength training and conditioning as well as their direct application to athletic competition and performance.

The scope and content convey the knowledge, skills, and abilities required of a strength and conditioning professional; and to address the latest information found on the Certified Strength and Conditioning Specialist (CSCS) exam. The evidence-based approach is necessary for CSCS exam preparation.
Prerequisites: 2.5 minimum GPA required.

The *syllabus/schedule are subject to change.*

Student Learning Outcomes

Following the completion of this course, students will be able to:

1. Apply scientific knowledge to train athletes and clients for the primary goals of improving athletic performance and fitness.
2. Learn how to conduct sport-specific testing sessions.
3. Learn how to demonstrate and teach proper exercise techniques.
4. Learn how to design and implement safe and effective strength training and conditioning and personal training programs.
5. Learn how to provide guidance regarding nutrition and performance-enhancing substances.
6. Apply exercise prescription principles for training variation, injury prevention, and reconditioning.

COURSE REQUIREMENTS

Minimal Technical Skills Needed

Examples include: Using the learning management system, using Microsoft Word and PowerPoint, using presentation and graphics programs, etc.

Instructional Methods

This course, in a face to face format, will focus on preparing students for work as a strength training professional in the real world. The course is designed around the construction of exercise program design and lab activities, using concepts learned during the semester. Students will participate in class lectures, discussions, and demonstrations centered on the concepts.

Program Design Project

The program design project provides experience in administering athletic performance tests and designing a resistance training program to meet the goals and needs of an athlete. Throughout the duration of this course, you must decide on four appropriate performance tests to administer to the athlete. You must then recruit a subject to serve as the athlete. After administering the performance tests to the athlete and evaluating the results from the tests, you must design an off-season, preseason, in-season, and postseason resistance training program for the athlete. Areas of emphasis for the evaluation of the program will include (a) selection of appropriate performance tests, (b) selection of appropriate program design variables for resistance training (exercise selection, training frequency, exercise order, training load and repetitions, volume, and rest periods), and (c) appropriate rationale for each selection.

Lab Activities: There will be 10 labs throughout the semester to cover topics that were emphasized in class, and to prepare you for the practical exam.

Chapter Quizzes: Essentials of Strength and Conditioning Chapters – throughout the semester, you will be required to watch brief online lectures covering a variety of topics within the discipline of strength and conditioning. This course provides these lectures as an overview and concept awareness segment, with additional program courses covering the individual chapters in their entirety and beyond. You will also need to read through each chapter as assigned.

Final Exam: There will be a final exam towards the end of the semester. The final exam will be comprehensive and cover all "content" based material you learn over the semester.

Comprehensive Practical Exam: Students will sign up for times to both act as trainer and client. All methods of exercise prescription and testing CAN BE TESTED.

Comprehensive Practical Exam: Students will sign up for times to both act as trainer and client. All methods of exercise prescription and testing CAN BE TESTED. You will be evaluated on the ability to apply knowledge and skills you have learned throughout the semester. This practical will be in person and require understanding both content and context to apply knowledge.

Training Observation: You will be required to attend four (4) training sessions conducted at a designated facility (provided). You will need to attend, observe, and analyze 4 sessions throughout the semester OUTSIDE OF CLASS TIME.

Attendance: Although not a "section" within graded items, … You need to be present to learn. Be aware of lab days.

THERE WILL BE NO EXTRA CREDIT AT THE END OF THE SEMESTER!

Student Responsibilities or Tips for Success in the Course

Success in HHPS - 318 is determined by regularly logging into the D2L, accessing all chapter files. Attending lectures is not mandatory, but HIGHLY ADVISED. No lectures will be recorded. If you are unable to attend synchronously, then you are responsible for obtaining the missed material on you own.

GRADING

Final grades in this course will be based on the following scale:

A = 90%-100%
B = 80%-89%
C = 70%-79%
D = 60%-69%
F = 59% or Below

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Assessments

Program Design Project	**10% of Grade**
Lab Exercise (10)	**30% of Grade**
Chapter Quizzes (15)	**15% of Grade**
Final Exam (content)	**15% of Grade**
Comprehensive Practical	**20% of Grade**
Training Observation (4)	**10% of Grade**

TECHNOLOGY REQUIREMENTS

LMS

All course sections offered by Texas A&M University-Commerce have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements

LMS Requirements:
https://community.brightspace.com/s/article/Brightspace-Platform-Requirements

LMS Browser Support:
https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm

YouSeeU Virtual Classroom Requirements:
https://support.youseeu.com/hc/en-us/articles/115007031107-Basic-System-Requirements

ACCESS AND NAVIGATION

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@tamuc.edu**.**

Note: Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

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COMMUNICATION AND SUPPORT

If you have any questions or are having difficulties with the course material, please contact your Instructor.

Technical Support

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

https://community.brightspace.com/support/s/contactsupport

Interaction with Instructor Statement

All responses to emails will be within 24 hours, except those emails that arrive after 5pm on Friday. Responses MAY be as late as the following business day.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures/Policies

There are NO EXCEPTIONS regarding deadlines. All modules, discussion boards, and exams must be completed by the date and time listed. IF absences occur that fall within the university attendance policy, then accommodations MAY be made. TECHNICAL ISSUES ARE NOT AN ACCEPTED EXCUSE FOR MISSING DEADLINES.

Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

University Specific Procedures

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the Student Guidebook.
http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum:
https://www.britannica.com/topic/netiquette

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TAMUC Attendance

For more information about the attendance policy please visit the Attendance webpage and Procedure 13.99.99.R0.01.
http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf

Academic Integrity

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

Undergraduate Academic Dishonesty 13.99.99.R0.03

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf

Graduate Student Academic Dishonesty 13.99.99.R0.10

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.pdf

Students with Disabilities-- ADA Statement

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services
Texas A&M University-Commerce
Gee Library- Room 162
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
Email: studentdisabilityservices@tamuc.edu
Website: Office of Student Disability Resources and Services
http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/

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Nondiscrimination Notice

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

Campus Concealed Carry Statement

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the Carrying Concealed Handguns On Campus document and/or consult your event organizer.

Web url:
http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

A&M-Commerce Supports Students' Mental Health Counseling Center Services

The Counseling Center at A&M-Commerce, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit www.tamuc.edu/counse

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Weekly Structure:

Tuesday	Thursday	Lab Activity
• 15min Overview of online material chapters and questions / group discussion • 15min mobility and stretch • 45min training session using various equipment and methods [Experience and exposure element]	• 10min mobility and warm up • 55min lab activity • 10min training discussion / cool down (open Q&A)	• Lab activities will be dispersed within the semester as a means of exploring various in-field physical fitness testing methods. • Activities will include testing participation and group discussions.

Chapter and Quiz Format

- Thursday: Chapter is assigned
- Following Monday: Quiz opens for previously assigned chapters
- Tuesday: Class review/activity at beginning of class

Lab Activities (10)

- Flexibility/Mobility Techniques
- Movement Analysis – In-Field Movement Screening and Discussion
- Strength/Power Testing
- Aerobic Capacity Testing
- Anaerobic Capacity Testing
- Speed and Agility Techniques and Testing
- Body Composition Testing
- Resistance Training Techniques and Spotting
- Plyometric Techniques
- Muscular Endurance Testing

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Curriculum/Lecture Schedule:

WEEK	REQUIRED TEXTBOOK READING		LAB ACTIVITY
	Chapter	Chapter title	
1		Course introduction	
	1	Structure and Function of Body Systems	
	2	Biomechanics of Resistance Exercise	
2	3	Bioenergetics of Exercise and Training	
	4	Endocrine Responses to Resistance Exercise	
3	5	Adaptations to Anaerobic Training Programs	
	6	Adaptations to Aerobic Endurance Training Programs	
4	7	Age- and Sex-Related Differences and Their Implications for Resistance Exercise	
	8	Psychology of Athletic Preparation and Performance	
5	9	Basic Nutrition Factors in Health	
	10	Nutrition Strategies to Maximize Performance	
6	11	Performance-Enhancing Substances and Methods	

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	12	Principles of Test Selection and Administration	
	13	Administration, Scoring, and Interpretation of Selected Tests	
7, 8	14	Warm-Up and Flexibility Training	
9	15	Exercise Technique for Free Weight and Machine Training	
10	16	Exercise Technique for Alternative Modes and Nontraditional Implement Training	
	17	Program Design for Resistance Training	
11	18	Program Design and Technique for Plyometric Training	
	19	Program Design and Technique for Speed and Agility Training	
12	21	Periodization	
13	20	Program Design and Technique for Aerobic Endurance Training	
	22	Rehabilitation and Reconditioning	
14	23	Facility Design, Layout, and Organization	***Due:* Program Design Project**
	24	Facility Policies, Procedures, and Legal Issues	

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15		Comprehensive Practical Exams	
Final Examination Covering Lecture and Laboratory			