

George Mason University
College of Education and Human Development
Exercise, Fitness and Health Promotion

EFHP 640.001 Principles of Strength and Conditioning
3 Credits, Spring 2019

Thursday: 10:30 AM – 1:10 PM, 131 Bull Run Hall – Science and Technology Campus

Faculty

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Prerequisites/Corequisites

Graduate standing or permission of instructor.

University Catalog Course Description

Analyzes exercise techniques, training program designs, organization and administration, and testing and evaluation using scientific principles of strength and conditioning.

Course Overview

Emphasis will be placed upon assessment, description, and analyses of movement and designing training programs to enhance performance and prevent injury using research-based scientific principles of strength and conditioning. While this course will assist those who desire to challenge certification examinations including, but not limited to: the American College of Sports Medicine (ACSM)'s – Certified Personal Trainer (CPT), the National Strength and Conditioning Association's (NSCA) Certified Strength and Conditioning Specialist (CSCS), or the American Council on Exercise (ACE)'s Personal Trainer Certification (PTC) examinations, it is NOT designed as an exam preparation course.

Course Delivery Method

This course will include lecture, online, and laboratory instruction.

Learner Outcomes or Objectives

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

1. Describe muscle, nerve anatomy, bone, and connective tissue anatomy and physiology and their adaptations to exercise training.
2. Explain the biomechanics of exercise training and how it applies to exercise prescription.
3. Analyze responses of several body systems and their responses to exercise.
4. Discuss the adaptations that occur during both aerobic and anaerobic exercise.
5. Discuss psychology of exercising individuals and their performance, taking into account nutrition, performance enhancing substances and the affect of age and sex related differences.
6. Evaluate exercise testing and administration techniques.
7. Interpret baseline scores and norms associated with exercise tests.
8. Assess aerobic exercise, anaerobic exercises, plyometrics, and speed and agility training techniques.
9. Design training programs that includes strength and conditioning principles including warm-ups and cool-down, periodization, exercise testing, conditioning, plyometrics, and flexibility.
10. Discuss strength and conditioning facility layouts and policies and procedures, as well as discuss risk management.

Required Texts

Bompa, T.O. and Buzzichelli, C.A. *Periodization: Theory and Methodology of Training (6th edition)*. Human Kinetics, Champaign, 2018. ISBN: 1492544809

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 Examinations

- **Examinations – 40%**

Each student will be required to complete two exams. The format for both will be a combination of multiple choice, true/false, and short response.

- **Quizzes & Article Assignments – 30%**

There will be assignments due throughout the semester. Assignments may require you to present an article to the class, critically evaluate a program, and complete online quizzes. The instructor will provide details of each assignment during the semester.

- **Final Project – 25%**

Students will complete a group project that will require developing a data collection protocol, collecting data, data analysis, presentation, and paper. The project will allow them to apply theory from the course to investigate a specific research question.

Participation & Professional Behavior – 5%

This portion of the grade will be determined by the course instructor. If you need clarification for the expectations outlined below it is your responsibility to ask at the start of the semester, not after a violation has occurred.

- **Dress – IMPORTANT**

For the laboratories you must dress in appropriate workout clothing and shoes. If you are unsure of what appropriate workout clothing is please inquire with the instructor. During the data collection classes you will need to wear workout clothing as well.

- **Facilities - IMPORTANT**

We are very fortunate to have the equipment in the laboratory. It is imperative that all people who utilize the labs treat the facilities and equipment with respect and care.

1. All laboratory equipment is highly sensitive and quite expensive. No horseplay will be allowed in the laboratory
2. If you are working with a piece of equipment and it breaks or something is not working properly, please notify one of the instructors immediately so it can be fixed.
3. Please make sure to leave equipment and the lab as it was when you entered.
4. Computers are for research purposes only. Do not use any computers for internet browsing or other activities not required of the class.
5. Eating, drinking, chewing gum and smoking are not permitted in the testing section of the laboratory.

- **Attendance**

Students are expected to be on time, attend all class meetings and be prepared for in class assignments and projects. Excused absences include the following: illness (must bring a receipt or note from a doctor), family death, athletic/academic event, and others at the discretion of the instructor. For known upcoming absences, students must contact the instructor at least one week in advance to the missed class to make up

work. In the case of illness or some other unforeseen absence, the student must contact the instructor via e-mail or telephone. At the next attended class meeting the student will discuss material that is to be completed. It is the student's obligation to pursue any make-up work.

- **Professional Behavior**

EFHP students are expected to exhibit professional behaviors and dispositions at all times. Depending upon the setting professionalism may appear different, but typically consists of similar components. For EFHP graduate students in a classroom setting, professionalism generally comprises the following components: attendance, communication, demeanor, responsibility and accountability for actions, and self-awareness.

Alternate Schedule

This course may have professionals from the field as guest speakers. Due to their professional responsibilities, guest speakers may not be able to attend a scheduled class time. Therefore, this course may require meeting outside of regularly scheduled class times and/or travel to sites off campus. Students will be informed of such meetings one week in advance of the scheduled class meeting. Students will be expected to arrange transportation to and from the meeting site.

Academic Load

Although many students must work to meet living expenses, employment and personal responsibilities are not acceptable reasons for late arrivals, missed classes, or incomplete assignments. Employment must not take priority over academic responsibilities. For additional information on this subject, please see the Academic Catalog: http://catalog.gmu.edu/content.php?catoid=5&navoid=104#Registration_attendance Students failing to observe these guidelines should expect no special consideration for academic problems arising from the pressures of employment.

Honor Code

Students are held to the standards of the George Mason University Honor Code (see <http://honorcode.gmu.edu> for details). Violations, including cheating and plagiarism, will be reported to the Honor Committee. Student assignments may be put through plagiarism detecting software.

Written Assignments

- All assignments must be typed in Microsoft Word, and formatted as follows (*unless otherwise specified*): double spaced, 12-point Times New Roman font, 1-inch margins, your name and title in the running header at top left hand corner, continuous line numbers on left margin, and page numbers centered in footer. Failure to comply with any or all parts of this format will result in an unacceptable assignment, which corresponds to zero (0) points.
- Pay close attention to spelling and grammar as these will count towards your grade on written assignments. American Medical Association Manual (AMA) of Style (10th edition) format must be used for all written work in this class (e.g., in referencing, creation of tables, and formatting headers for paper sections).
- Assignments must be turned in on Blackboard/MyMason Portal by the beginning of class on the specified date due (*unless otherwise specified*). No late assignments will be accepted. It is recommended that students keep copies of all submitted work.

Technology Use During Class

As per GMU policy, all sound emitting technology is required to be turned off during the class meeting time. No sound emitting technology (e.g., cell phones, smart phones, iPads, Tablets, etc.) is allowed at any time during the class period. Students who are observed using any form of technology inappropriately (e.g., sending text messages from cell phones, visiting social networking sites from laptops, etc.) will be dismissed from class for the day, counted as an absence, and not permitted to make up missed assignments. Additionally, no laptop

computers (e.g., netbooks, notebooks, etc.) will be permitted for use during class time without permission from the instructor.

E-mail Correspondence

Only messages that originate from a GMU address will be accepted. Please address the subject line for all email pertaining to this course as: *EFHP 640: Last Name – purpose of email*. The following is an appropriate professional format:

Subject: EFHP 640: Help with (fill in blank)
Dear Dr. Name (*Introductory salutation*)
I have a question in regard to one of the assignments. (*Text body*)
Regards, (*Ending Salutation*)
Mr./Ms. Student (*Your name*)

Email will be responded to in the order in which it is received. Please allow 48 hrs for a response.

Grading

A. Written Examinations	
Exam 1	20%
Exam 2	20%
B. Quizzes & Assignments	30%
C. Final Project	25%
D. Participation & Professional Behavior	5%
Total	100%

Course Grading Scale

The student's final letter grade will be earned based on the following scale:

Grade	Percentage
A	94 – 100%
A-	90 – 93%
B+	88 – 89%
B	84 – 87%
B-	80 – 83%
C	70 – 79%
F	0 – 69%

Note: Although a B- is a satisfactory course grade, students must maintain a 3.00 average in their graduate degree program.

Notes:

- 1) Faculty reserves the right to alter the schedule as necessary, with notification to students.
- 2) All assignments must be submitted on Blackboard by 11:59 pm on the day they are due. Late submissions will not be accepted.

Professional Dispositions:

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

Tentative Class Schedule

Date	Topic	Chapter/Assignment Due
1/24	EFHP 640 Course Overview Part I: Training Theory (Bompa)	CH 1: Basis for Training
1/31	Part I: Training Theory (Bompa)	CH 2: Principles of Training CH 3: Preparation for Training Online Quiz #1 (due 11:59 pm on BB)
2/7	FAFC Lab 1 – Warm-ups: General to specific mobility and activation techniques	FAFC (Dr. Martin)
2/14	Fieldhouse Lab 1: Measurement and Instrumentation in the Fairfax lab	Fairfax (Dr. Jones)
2/21	Part I: Training Theory (Bompa) Part II: Planning and Periodization (Bompa)	CH 4: Variables of Training CH 5: Periodization of Biomotor Abilities Online Quiz #2 (due 11:59 pm on BB) Article Presentations
2/28	Part II: Planning and Periodization (Bompa)	CH 6: Planning the Training Session CH 7: Planning the Training Cycles Online Quiz #3 (due 11:59 pm on BB) Article Presentations
3/7	Exam 1 <i>**Final Project Planning**</i>	Exam material: CH 1-7 plus articles
3/14	Spring Break	
3/21	Part II: Planning and Periodization (Bompa) <i>**Final Project Proposals**</i>	CH 8: Periodization of the Annual Plan CH 9: Peaking for Competition Project Proposal Presentation
3/28	FAFC Lab 2: Resistance Training Methods	FAFC (Dr. Martin) Online Quiz #3 (due 11:59pm on BB)
4/4	Fieldhouse Lab 2: Data Collection for Final Project	Fairfax (Dr. Jones)
4/11	FAFC Lab 3: Speed, Agility & Plyometric Technique & Progressions	FAFC (Dr. Martin)
4/18	Fieldhouse Lab 3: Data Collection for Final Project	Fairfax (Dr. Jones)
4/25	Part III: Training Methods (Bompa) <i>**Final Project Updates**</i>	CH 10: Strength and Power Development CH 12: Speed and Agility Training Online Quiz #4 (due 11:59 pm on BB)
5/2	Exam 2 <i>**Final Project Workday **</i>	Exam material: CH 8-10, 12 plus articles
5/9	Final Project Presentations – 10:30am - 1:15 pm	Final Project Due

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 <http://oai.gmu.edu/the-mason-honor-code/>).
- Students must follow the university policy for Responsible Use of Computing (see <http://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 <http://ods.gmu.edu/>).
- Students must follow the university policy stating that all sound emitting devices shall be silenced 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 <http://coursesupport.gmu.edu/>.
- For information on student support resources on campus, see <https://ctfe.gmu.edu/teaching/student-support-resources-on-campus>

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