

HF415L - Advanced Strength & Conditioning Lab

(3 credit hours)

Course Syllabus

Course Description

This course is designed for senior status students majoring in Health, Fitness, and Wellness and Exercise Science who are interested in pursuing a career as an advanced personal trainer or strength and conditioning coach. This course is based on, and will provide an overview of, the principles of strength and conditioning. Emphasis will be placed on exercise test selection, administration, and interpretation for muscular strength, muscular power, aerobic power, anaerobic power, agility, speed, body composition, flexibility, and sport-specific performance. Students will apply bioenergetic, biomechanical, and physiological concepts to ensure proper test selection, exercise technique, test interpretation, and sport-specific exercise prescription. At the conclusion of this course, students will have been presented with the information necessary for competent performance in entry-level strength and conditioning employment or graduate assistant opportunities.

Course Learning Outcomes

At the conclusion of this course, you should be able to:

1. Explain plyometric exercises, speed and agility exercises, and flexibility exercises.
2. Select exercise tests based on sport-specific needs and training goals.
3. Design and administer proper aerobic power, anaerobic power, muscular fitness, agility, speed, and body composition assessments.
4. Organize the order of multiple performance tests based on safety and expected athlete recovery.
5. Utilize exercise test results to apply exercise prescription principles for improving health- and skill- related physical fitness, injury prevention, and reconditioning while incorporating the concept of periodization.

Prerequisites/Corequisites

Prerequisite: NAT150 and NAT150L or BIO 312 and BIO312L, EXS322

Co-requisites: HF415 and NAT112 First Aid/CPR/AED

Required Textbook(s) and Resources

Haff, G. G., & Triplett, N. T. (2016). *Essentials of Strength Training and Conditioning* (4th ed). Human Kinetics. ISBN: 9781718202375.

For this course you will need to purchase the following materials:

A skinfold caliper bundle (typically around \$10) including skinfold caliper, flexible tape measure, and marketing pen such as this bundle from Amazon: [Body Fat Caliper and Measuring Tape for Body](#).

Be sure to also review the weekly **Explore** sections for additional library or web resources. For access to databases, research help, and writing tips, visit the [Tiffin University Library](#).

Time Commitment

Effective time management is possibly the single most critical element to your academic success. To do well in this class you should plan your time wisely. With our accelerated, seven-week term, you should reserve roughly **twenty (20) hours per week** to complete readings and assignments.

To help plan your time and keep on track toward successful course completion, note the distinctive rhythm of assignment due dates:

1. All times assume Eastern Time (GMT-4).
2. Weeks begin at 12:00 a.m. ET on Monday and end at 11:55 p.m. ET on Sunday.
3. Unless otherwise noted, initial forum discussion posts are due by **11:55 p.m. ET on Wednesdays** and response posts are due by **11:55 p.m. ET on Saturdays**.
4. Major assignments and reflections are due by **11:55 p.m. ET on Sundays**.

Learning Activities

This course consists of weekly lab activities and Strength and Conditioning tests. During weeks 1, 3, and 5 you will complete laboratory reports. In weeks 2, 6, and 7, you will record PowerPoint (or similar) presentations for lab activities, and in week 4 you will record a video that demonstrates your ability to select appropriate athletic testing. See the Start Here section of the course for tips and guidance regarding video presentations.

Grading

The chart below identifies the individual contributions from each type of activity, per week.

| Activity | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Total |
|--------------|------------|------------|------------|------------|------------|------------|------------|-------------|
| Lab Reports | 3@60 | 2@60 | 2@60 | 2@60 | 2@60 | 4@60 | 100 | 1000 |
| Total | 180 | 120 | 120 | 120 | 120 | 240 | 100 | 1000 |

Grading Scale

A: 90-100% | B: 80-89% | C: 70-79% | D: 60-69% | F: <60%

Course Schedule and Weekly Checklist

| Topic | Learning Activities (Due by 11:55 p.m. ET on day designated) |
|--|--|
| Week 1: Exercise Sciences | <input type="checkbox"/> WED: Activity 1.1 - Bones and Muscles Identification Chart <input type="checkbox"/> SAT: Activity 1.2 - Sliding-Filament Theory Description <input type="checkbox"/> SUN: Activity 1.3 - Planes, Axis, and Movements Identification |
| Week 2: Exercise Program Adaptations and Considerations | <input type="checkbox"/> WED: Activity 2.1 – Anaerobic capacity testing Lab (300-Yard Shuttle Run) <input type="checkbox"/> SAT: Activity 2.2 – Aerobic capacity testing Lab (1.5-Mile Run and 12-Minute Run) |
| Week 3: Nutrition and Performance | <input type="checkbox"/> WED: Activity 3.1 – Activity 3.1 – Body Mass Index Lab <input type="checkbox"/> SAT: Activity 3.2 – Skinfold Measurements Lab |
| Week 4: Testing and Evaluation | <input type="checkbox"/> WED: Activity 4.1 – Exercise Testing for Athletes Lab (Video of selected tests) <input type="checkbox"/> SUN: Activity 4.2: Test Selection Project |
| Week 5: Exercise Technique | <input type="checkbox"/> WED: Activity 5.1 – Flexibility Exercise Techniques Lab <input type="checkbox"/> SAT: Activity 5.2 – Resistance Exercise and Spotting Guidelines Lab |
| Week 6: Program Design | <input type="checkbox"/> WED: Activity 6.1 – Muscular Strength and Power Lab <input type="checkbox"/> WED: Activity 6.2 – Muscular Endurance Lab |

| Topic | Learning Activities (Due by 11:55 p.m. ET on day designated) |
|--|--|
| | <input type="checkbox"/> SAT: Activity 6.3 – Plyometric Exercise Techniques Laboratorial Procedure <input type="checkbox"/> WED: Activity 6.4 – Speed and Agility Technique Lab - Due in Week 7 |
| Week 7: Organization and Administration | <input type="checkbox"/> SUN: Activity 7.1 – Facility Layout Design <input type="checkbox"/> WED: Activity 6.4 – Speed and Agility Technique Lab - Due in Week 7 |

Tips for Success

Online learning requires self-discipline and self-direction. As seekers of the truth, we should be willing to challenge one another's academic work in a spirit of respectful comradery. Your course is a place for you to grow as you benefit from the expertise, experience, and diverse perspectives of your instructor and peers. Constructive feedback will challenge you to stretch your own thinking, thereby expanding your knowledge and understanding.

To get the most out of your learning experience, you should actively engage (participate) in **ALL** course activities. Course elements are arranged chronologically. To complete a week, simply work your way "down the page" through all of the course materials and activities.

For More Information:

Be sure to review the [Support, Policies, and Procedures](#) addendum.