

Praxis of Strength Training and Conditioning

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|----------------------|----------------------|---------------|--|
| Meeting Days: | M, W, F | Instructor: | Jacob R. Goodin, Ph.D., CSCS |
| Meeting Times: | 1:30 to 2:25p | Phone: | (619) 849-2254 |
| Meeting Location(s): | KIN 1 | Email: | jgoodin@pointloma.edu |
| Final Exam: | Fri 5/1 during class | Office Hours: | By Appointment |

PLNU Mission

To Teach ~ To Shape ~ To Send

Point Loma Nazarene University exists to provide higher education in a vital Christian community where minds are engaged and challenged, character is modeled and formed, and service becomes an expression of faith. Being of Wesleyan heritage, we aspire to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.

COURSE DESCRIPTION

This course provides an in-depth study of the principles and techniques used to assess physical fitness and to design and prescribe exercise programs and physical activities. Concepts of exercise science will be applied to the development **and practice** of strength training and conditioning programs. Students will acquire the knowledge and skills necessary to sit for the NSCA's certification exam—Certified Strength and Conditioning Specialist (CSCS)—or another fitness related certification exam (e.g. ACSM, ACE, NASM). Furthermore, students will leave this class with the knowledge and tools necessary to safely and effectively plan and supervise evidence-based strength training and conditioning plans in a variety of settings.

Prerequisite: KIN 3040.

COURSE LEARNING OUTCOMES

- Demonstrate and analyze proper lifting, sprinting, change-of-direction, plyometric, and stretching technique.
- Explain how energy systems work in our body during exercise and sport.
- Assess and evaluate clients for various components of fitness.
- Design and implement safe and effective strength training, conditioning, and personal training programs by applying exercise prescription principles for training variation, injury prevention, and reconditioning.
- Learn how to provide guidance regarding nutrition and performance-enhancing substances.
- Understand the similarities and differences between training for sport and training for fitness and health.

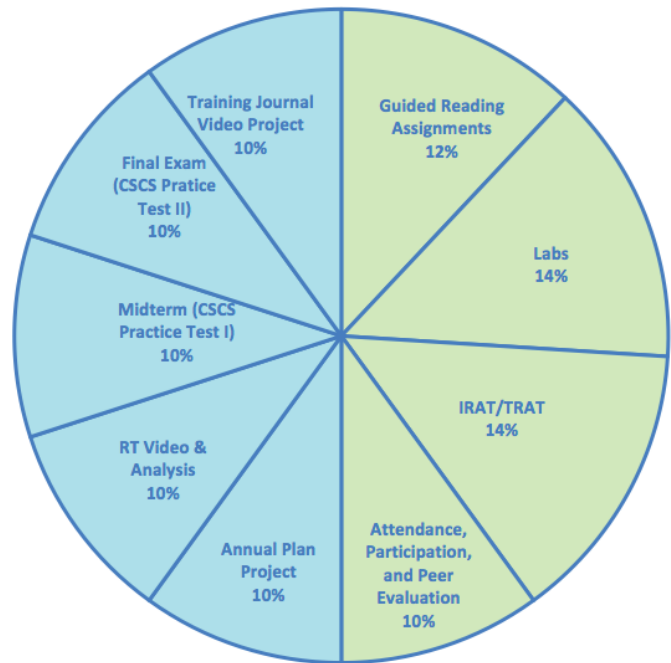
COURSE GRADING AND ASSIGNMENTS

Team-Based Assignments

- Guided Reading Assignments (24 @5pts each): 120pts
- IRAT/TRAT (7 @20pts each): 140pts
- Labs (7 @20pts each): 140pts
- Attendance, Participation, & Peer: 100 pts

Individual Assignments

- Annual Plan Project: 100pts
- Resistance Training Video and Analysis: 100pts
- Training Journal Video: 100pts
- Midterm: 100pts
- Final Exam: 100pts



Total: 1000

The final grade percentage will be rounded to the nearest percent with grades being recorded as follows:

| Grade | Percent | Grade | Percent | Grade | Percent |
|-------|-----------|-------|-----------|-------|-----------|
| A | 93 - 100 | B- | 80 - 82.9 | D+ | 67 - 69.9 |
| A- | 90 - 92.9 | C+ | 77 - 79.9 | D | 63 - 66.9 |
| B+ | 87 - 89.9 | C | 73 - 76.9 | D- | 60 - 62.9 |
| B | 83 - 86.9 | C- | 70 - 72.9 | F | 0 - 59.9 |

EDUCATIONAL OPPORTUNITIES

Note: All assignments are to be submitted electronically via Canvas

- 1) **Guided Reading Assignments:** A guided reading assignment will be completed for each chapter in the book. Templates for these can be downloaded from Canvas and contain the major headings and subheadings for each chapter. Complete these as a team (Google Docs is helpful) and submit them to Canvas. For each module I will randomly select one team and grade their notes closely. If their notes are complete and thorough, every team that submitted an assignment will receive full points. If not, I will grade every team's work closely, subtracting points for incomplete or sub-par notes. These assignments are intended to introduce students to content that we will build on in class, to cover topics that are on the CSCS exam but that we don't have time to directly address during lecture, and to give

students points for reading that they should be doing already. I will compile these notes to serve as an informal study guide at the end of the semester. See Canvas for example.

- 2) **Individual Readiness Assessment Test (IRAT):** Once per module, an IRAT is administered at the beginning of class. These assessments are designed to provide you, your team, and your professor with feedback on your readiness for the lab topic of the day.
 - The assessment is timed to be available for the first 10 minutes of class.
 - No provision is made for make-up or late arrival assessments.
 - Unlike the TRAT, students do not get immediate feedback on the IRAT
 - We will vote on whether the IRAT constitutes 40%, 50%, or 60% of your total IRAT/TRAT score (20 pts total).

- 3) **Team Readiness Assessment Test (TRAT):** Taken after the IRAT is completed. Enhances mastery through team-based learning and discussion to determine correct answers.
 - Work together with your team to reach a consensus on each answer.
 - Your team's answer to each question is scratched off the answer sheet.
 - The correct answer will reveal a star shape under the scratcher, an incorrect answer will be blank.
 - We will vote on whether the TRAT constitutes 40%, 50%, or 60% of your total IRAT/TRAT score (20 pts total).
 - The score for each item is based upon the number of attempts the team takes to get the correct answer
 - 1st attempt = 4 pts
 - 2nd attempt = 2 pts
 - 3rd attempt = 1 pts
 - 4th attempt = 0 pts
 - Divide total by 4, and multiply by the percent voted on above

- 4) **Labs:** Most labs will consist of two parts, an at-home component and an in-class component. Often the at-home component involves a reading, a video, some review of concepts, or even writing out a short training session. The in-class portion might require you to coach your peers as well as be coached by your peers in a hands-on session. Other times the class will be given a real-world problem to solve relevant to the lab's topic. The class period will be spent refining various approaches to the problem and will culminate in selecting the best approach. Students will be graded on their preparedness to engage with the problem, effort and preparedness in the coaching/activity, and the thoroughness of their work. These labs are intended to give students experiences in creating, coaching, and performing a wide variety of training programs. In addition to the classroom, labs might be held in the Sport Performance Center, on the track, at the weight shed, or in the Human Performance Lab. Lab write-ups are due the following Monday.

- 5) **Peer Evaluations:** Students will rate each member of their team both qualitatively and quantitatively, focusing on positive qualities and constructive feedback with the intention

fostering of individual responsibility, personal growth, and humble teachability. These evaluations will be completed twice during the semester. The first evaluation will be graded for completion, and will serve as an early indicator of potential areas to improve in. Links to these evaluations can be found in Canvas and will be completed through Google Forms.

6) **Annual Plan Project:** Each student will develop a year-long sport-specific strength and conditioning program for a sport of their choice. Accompanying this program will be a paper with a thorough rationale behind each component of the training plan. The program is to include:

- A realistic and comprehensive travel, holiday, and competition schedule for your athlete or team
- Schedules for Off-Season, Pre-Season, In-Season, & Post-Season training, as well as Active Rest periods (i.e. the entire year)
- Movement drills specific to the sport for warm-up and skill development
- Weight training exercise program including:
 - Frequency
 - Intensity
 - Sets
 - Reps
 - Exercise selection and variation
 - Rest
 - Volume
 - Energy Systems Training i.e. Conditioning (Phosphagen, Glycolytic, Oxidative)
 - Agility training (if applicable)
 - Correct terminology and sequencing for mesocycles, training blocks, and microcycles
 - A minimum of five (5) reliable, peer-reviewed sources are to be referenced in the paper to support your rationale.
- This is not a team project. Copying-and-pasting, verbatim explanations, or duplicate programs will be viewed as plagiarism. However, sharing of common methods, templates, and resources is encouraged.
- An Excel template will be posted in Canvas. This template can be extensively modified to fit your specific athlete or sport, but the basic format (weeks across the top, components of the plan down the left-hand side) should stay the same.
- See Canvas for examples.

7) **Resistance Training Video and Analysis:** Each student will record themselves performing a variety of exercises from both front and side angles. The following 12 lifts will be performed *in order*:

- Strength Lifts (3 repetitions @70% 1RM)
 - Barbell back squat (high bar)
 - Barbell front squat
 - Barbell SLDL

- Barbell bench press
- Barbell overhead press
- Barbell bent-over row
- Weightlifting Derivatives (3 repetitions @60% 1RM)
 - Clean pull
 - Snatch pull
 - Hang power clean from the knee
 - Hang power snatch from the knee
 - Power jerk
 - Split jerk

Each student will use iMovie (or similar technology) to produce a single video with clips for each lift, first from the front, then from the side. Each clip should list the lift performed, the student's 1RM, and the load on the bar (either 60% or 70%). Students will write a brief analysis of each lift (2-4 sentences) that highlights technique errors and gives corrections and cues that could address these errors. Both your 1RM and the calculated percent of your 1RM should be in the heading of each lift analysis. If it is an estimated 1RM, please indicate what RM you estimated based on (i.e. a 3RM, 5RM, etc...) and which chart you used (i.e. Prilepin's chart). See Canvas for examples.

- 1) **Training Journal Video:** The purpose of this project is to instill a habit of resistance training. You will engage in some form of resistance training outside of class two or more times for each week of the semester. This can be weight, bodyweight, circuit, HIIT, change-of-direction, plyometric, or sprint training. During each session, record a short clip of yourself mid-lift, celebrating a PR, high-fiving your gym partner, or dancing between sets. Upload these videos to the app 1 Second Everyday (1SE) to create a short training montage as evidence of your consistency. It will compile a video with a 1 second clip for each training session you completed. You will also keep a written workout journal that you will turn in as well. These will both be due at the end of the semester.

- 8) **Attendance and Participation:** Daily participation points will be earned by attending class and participating in class polls, questions, and discussions. These questions are graded only for participation, and will help us both assess your understanding of daily concepts and previous readings. Although it won't excuse you from class, emailing your professor when you know you will be absent is common courtesy. After 3 absences, your overall grade will be docked with each absence. Absences during IRAT/TRAT days will result in a grade of "0" for the IRAT.

- 9) **Midterm & Final Exam:** The midterm & final exam will both resemble the NSCA Practice Exam, which is a comprehensive multiple-choice test. All questions are taken directly from official NSCA practice exams.

REQUIRED TEXTS AND RECOMMENDED RESOURCES

Required:

Haff, GG, and Triplett, NT, eds. *Essentials of Strength Training and Conditioning*, 4th ed. Champaign, IL: Human Kinetics, 2016

Strongly Recommended:

Stone, Stone, and Sands. *Principles and Practice of Resistance Training*. Champaign, IL: Human Kinetics, 2007

Isratel, M., J. Hoffman, and C. W. Smith. *Scientific Principles of Strength Training*. Juggernaut Training Systems (2016).

LATE AND INCOMPLETE ASSIGNMENTS

All assignments are to be submitted/turned in according to the specified time in Canvas. Late assignments/quizzes will be docked 20% per day, with assignments/quizzes submitted over 5 days late receiving a 0. Completes will only be assigned in extremely unusual circumstances.

FINAL EXAMINATION POLICY

Successful completion of this class requires taking the final examination on its scheduled day. No requests for early examinations or alternative days will be approved.

PLNU COPYRIGHT POLICY

Point Loma Nazarene University, as a non-profit educational institution, is entitled by law to use materials protected by the US Copyright Act for classroom education. Any use of those materials outside the class may violate the law.

PLNU ACADEMIC HONESTY POLICY

Students should demonstrate academic honesty by doing original work and by giving appropriate credit to the ideas of others. Academic dishonesty is the act of presenting information, ideas, and/or concepts as one's own when in reality they are the results of another person's creativity and effort. A faculty member who believes a situation involving academic dishonesty has been detected may assign a failing grade for that assignment or examination, or, depending on the seriousness of the offense, for the course. Faculty should follow and students may appeal using the procedure in the university Catalog. See [Academic Policies](#) for definitions of kinds of academic dishonesty and for further policy information.

PLNU ACADEMIC ACCOMMODATIONS POLICY

If you have a diagnosed disability, please contact PLNU's Disability Resource Center (DRC) within the first two weeks of class to demonstrate need and to register for accommodation by phone at 619-849-2486 or by e-mail at drc@pointloma.edu. See [Disability Resource Center](#) for additional information.

PLNU ATTENDANCE AND PARTICIPATION POLICY

Regular and punctual attendance at all classes is considered essential to optimum academic achievement. If the student is absent from more than 10 percent of class meetings, the faculty

member can file a written report which may result in de-enrollment. If the absences exceed 20 percent, the student may be de-enrolled without notice until the university drop date or, after that date, receive the appropriate grade for their work and participation. See Academic Policies in the Undergraduate Academic Catalog.

TUTORING

The PLNU Tutorial Center is available free of charge for all current, undergraduate PLNU students. It offers tutoring for most subjects, as well as for general help with paper editing, study skills, etc. The Tutorial Center is located on the south end of Bond Academic Center, next to the Study Abroad offices. Tutoring is available by appointment only, may be arranged in person at the Tutorial Center, over the phone at (619) 849 2593, or via email at TutorialServices@pointloma.edu.

OFFICE HOURS

It is important to me that I get to know each of you on an individual level, so stop by and say hi! My official office hours (listed above) are tentative—other meetings or appointments may arise—so schedule 24 hours in advance if you have pressing issues, but feel freedom to stop by whenever you'd like. I have an open door for questions, nerdy training theory discussions, or if you just need someone to listen and pray for you. I often won't have all the answers, but I'm positive we can figure it out together!

Tentative Course Schedule

| Module | Weeks | Day 1 | Day 2 | Day 3 | Day 4 | Day 5 | Day 6 |
|---|---------------|---|--|--|---|--|--|
| Module 1 Structure, Function, & Biomechanics Chapters: 1-2 | Weeks 1 & 2 | <u>Tuesday, 1/14</u> Lecture: course introduction, chapter 1 | <u>Wednesday, 1/15</u> Lecture: chapters 1 & 2 | <u>Friday, 1/17</u> Lecture: chapter 2 | <u>Monday, 1/20</u> IRAT/TRAT Team-based learning activity Lab Preparation Due: Guided Reading 1, 2 | <u>Wednesday, 1/22</u> Module 1 Lab: Power and Resistance | <u>Friday, 1/24</u> Technique Friday: squats & presses |
| Module 2 Bioenergetics of Exercise & Training Chapters: 3 | Weeks 3 & 4 | <u>Monday, 1/27</u> MLK Day (no class) | <u>Wednesday, 1/29</u> Lecture: chapter 3 Due: Lab 1 | <u>Friday, 1/31</u> Lecture: chapter 3 | <u>Monday, 2/3</u> IRAT/TRAT Team-based learning activity Lab Preparation Due: Guided Reading 3 | <u>Wednesday, 2/5</u> Module 2 Lab: Metabolic Conditioning Roulette | <u>Friday, 2/7</u> Technique Friday: hinges & pulls Due: Guided Reading 15, 16 |
| Module 3 Adaptations to Training Chapters: 5-6 | Weeks 5 & 6 | <u>Monday, 2/10</u> Lecture: chapter 5 Due: Lab 2 | <u>Wednesday, 2/12</u> Lecture: chapter 6 | <u>Friday, 2/14</u> Lecture: chapters 5 & 6 | <u>Monday, 2/17</u> IRAT/TRAT Team-based learning activity Lab Preparation Due: Guided Reading 5-6 | <u>Wednesday, 2/19</u> Module 3 Lab: Differential Training Design for Aerobic vs Anaerobic Outcomes | <u>Friday, 2/21</u> Technique Friday: weightlifting movements Due: Peer Eval 1 |
| Module 4 Periodization and Athlete Testing & Monitoring Chapters: 12-13, 21 | Weeks 7 & 8 | <u>Monday, 2/24</u> Lecture: chapter 12 Due: Lab 3 | <u>Wednesday, 2/26</u> Lecture: chapter 13 | <u>Friday, 2/28</u> Lecture: chapter 21 | <u>Monday, 3/2</u> Lecture: chapter 21 Due: Guided Reading 12-13, 21 | Wednesday, 3/4 IRAT/TRAT Olympic Training Site USA Rugby Tour (7a to 1p) | <u>Friday, 3/6</u> Module 4 Lab: Athlete Testing Battery & Athletic Profile Due: Online CSCS Practice Exam I |
| SPRING BREAK | | | | | | | |
| Module 5 Warm-up & Special Populations Chapters: 7 & 14 | Weeks 9 & 10 | <u>Monday, 3/16</u> Lecture: chapter 7 Due: Lab 4 | <u>Wednesday, 3/18</u> Lecture: chapters 7 & 14 | <u>Friday, 3/20</u> Lecture: chapter 14 | <u>Monday, 3/23</u> IRAT/TRAT Team-based learning activity Lab Preparation Due: Guided Reading 7, 14 | <u>Wednesday, 3/25</u> Module 5 Lab: Special Populations Training Design & Warm-ups | <u>Friday, 3/27</u> Technique Friday: Warm-ups Due: Peer Eval 2 |
| Module 6 Program Design for Resistance & Plyometric Training Chapters: 17-18 | Weeks 11 & 12 | <u>Monday, 3/30</u> Lecture: chapter 17 Due: Lab 5 | <u>Wednesday, 4/1</u> Lecture: chapters 17 & 18 | <u>Friday, 4/3</u> Lecture: chapter 18 Due: Lab 5 | <u>Monday, 4/6</u> IRAT/TRAT Team-based learning activity Lab Preparation Due: Guided Reading 17, 18 | <u>Wednesday, 4/8</u> Module 6 Lab: Resistance & Plyometric Training Program Design | <u>Friday, 4/10</u> Easter Break |
| Module 7 Program Design for Speed, Agility, & Endurance Training Chapters: 19-20 | Weeks 12 & 13 | <u>Monday, 4/13</u> Easter Break | <u>Wednesday, 4/15</u> Lecture: chapter 19 Due: Lab 6 | <u>Friday, 4/17</u> Lecture: chapter 20 | <u>Monday, 4/20</u> IRAT/TRAT Team-based learning activity Lab Preparation Due: Guided Reading 19, 20 | <u>Wednesday, 4/22</u> Module 7 Lab: Speed, Agility, & Endurance Training Design | <u>Friday, 4/24</u> Technique Friday: Speed & Agility Training Due: RT Video & Analysis |
| Review Week | Weeks 14 & 15 | <u>Monday, 4/27</u> Final Exam Review & Annual Plan Project Help Due: Lab 7 | <u>Wednesday, 4/29</u> Final Exam Review & Annual Plan Project Help | <u>Friday, 5/1</u> CSCS Practice Exam II (in class) Due: Annual Plan Project & Paper, Guided Reading 4, 8-11, 15-16, 22-24 | <u>Monday, 5/4</u> Finals Week (no class) Due: Training Journal Project | <u>Wednesday, 5/6</u> Finals Week (no class) | <u>Friday, 5/8</u> Finals Week (no class) |