



Course Title: Sports Nutrition

Course Code: Sci 46

Instructor Name and Bio: Clyde Wilson, PhD, Research Associate, Biochemistry, UC San Francisco.

Clyde Wilson has taught movement and nutrition courses at Stanford for 20 years, including kinesiology in the Department of Human Biology, nutrition and exercise theory in the Department of Athletics, food pharmacology in both the Stanford and UCSF medical schools, and metabolism in Stanford Medicine's Health and Human Performance program. He received a PhD in chemistry from Stanford.

Class Sessions and Recording

Meeting days and times: Thursdays 6:30-9 pm (PT) for 6 weeks starting 6 October

Meeting location: Zoom (details will be shared with registered students prior to first class meeting)

The class sessions will be recorded. Live class participation allows you to participate in the dynamic learning process to get the full benefit of the course. It is highly encouraged to participate live, when possible, even if only intermittently.

Course Features:

- Live session
 - Lecture, discussions, and Q&A
 - Guest speakers
 - An informal drop-in time for student Q&A
- Assignments & Coursework
 - Assignments and course materials posted in Canvas
 - Instructor will provide feedback on assignments
- Instructor will hold an extra Q&A session one week after the last official class

Course Summary

Coordinating nutrition with exercise dramatically improves exercise benefits such as weight loss, health (including immune strength), and fitness. In this course, we will examine how nutrition for performance addresses delaying fatigue, driving adaptation, and speeding recovery. Delaying fatigue requires hydration and fuel supply, and speeding recovery demands a broad spectrum of targeted nutrients. Adaptation (the body's ability to improve through changes in gene expression) is also highly influenced by nutrition. For example, both protein and carbohydrate refueling soon after exercise are critical to stimulating our DNA to initiate muscle healing, and both unsaturated fats and antioxidants

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in recovery meals are critical to increasing fat burning and therefore endurance. This course will review the science of sports nutrition and will guide you in applying this information to your own sports nutrition program. The important foundations of your program are separated into what you are consuming during and right after exercise (calories, fluids, electrolytes) and throughout the rest of your day (meals, snacks, hydration). By covering both theory and application, the course will be equally relevant to those interested in the science and those wanting to improve their exercise results.

Students should be comfortable hearing about scientific findings on the topics discussed in class, but no science background is required. The course balances theory with application and will therefore be of interest to both those with and without a background in this area of study.

**Please see course page for full description and additional details.*

Grade Options and Requirements

- No Grade Requested (NGR): This is the default option. No work will be required; no credit shall be received; no proof of attendance can be provided.
- Credit/No Credit (CR/NC): Students must complete all homework

**Please Note: If you require proof that you completed a Continuing Studies course for any reason (for example, employer reimbursement), you must choose the Credit/No Credit option. Courses taken for NGR will not appear on official transcripts or grade reports.*

Textbooks/Required Materials

There are no required materials; book chapters summarizing efficient methods of improving exercise, nutrition, sports nutrition, and metabolism overall will be posted as optional readings for those interested in not only sports nutrition but these other topics as well.

First Assignment

The first assignment will be discussed and assigned during the first live class session, officially due by class time the following week. It is highly recommended to turn in homework on time since this maintains your steady pace of learning as the class goes along, rather than applying the material from class later when you might not remember the underlying concepts. Points are not deducted for late homework and there is no need to contact the instructor when homework will be late; simply post it as soon as you are able to complete it.

Tentative Weekly Outline

- 1 **Foundations:** the nutrient flow model to support high levels of health & fitness
- 2 **Rebuilding:** protein needed for different goals, importance of sources & timing
- 3 **Refueling:** estimating replenishment needs to enable protein use for recovery
- 4 **Recovery meals:** organizing each meal & snack for targeted purposes
- 5 **Hydration & supplements:** Electrolyte balance & a review of key supplements
- 6 **Guest speakers & discussion:** engineering your personal sports nutrition program

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