

USC Dornsife
College of
Letters, Arts and
Sciences

Course ID and Title: FSEM 100 section 34618 – Interconnective Significance of Diet, Sleep, and Exercise in Health

Units: 2

Term – Day – Time: Fall 2024 – W – 12:00 – 1:50 p.m.

Location: WPH 104

Instructor: Kurt Kwast, Ph.D.

Office Hours: Friday 12:00 – 1:30 p.m., Thursday 11:00 a.m. – 12:30 p.m. via Zoom (Meeting ID: 981 665 0147 Passcode: HBIO), and by appointment

Office Hour Location: AHF 251

Contact Information: kwast@usc.edu

IT Help: Dornsife Technology Services

Hours of Service: TBA

Contact Info: <https://dtssupport.usc.edu>, 213-740-2775

Course Description

What is a Freshman Seminar? From <https://dornsife.usc.edu/fsem>:

In the Freshman Seminar Program, students learn the excitement of intellectual inquiry by participating once a week for eleven weeks in a two-hour seminar on a topic of personal interest both to the seminar leader who has chosen to offer the topic and to the students who have elected to enroll. Each seminar is limited to eighteen freshmen, who earn two units of elective credit on a CREDIT / NO CREDIT basis. While the workload is less than a regular four-unit course, journals, papers, group projects, or individual presentations are often required in addition to the reading and participation in seminar discussions.

Interconnective Significance of Diet, Sleep, and Exercise in Health

Regarding our overall health, longevity and health span, ***diet, sleep, and especially exercise are three integral pillars of health*** over which we have control but are often neglected when schedules become hectic. Yet collectively these have a huge impact on our cognitive performance and our overall physical, mental, and emotional wellbeing. Thus, understanding their effects on our health and what constitutes an ideal balance of each is fundamental to establishing healthy habits as young adults, which will then hopefully be maintained throughout your lifetime.

Not only is it important to understand the physical benefits of exercise in terms of cardiovascular health, strength, weight management, and disease prevention, and its mental and emotional benefits of stress reduction, improved mood, and enhanced cognitive, but what does the current literature tell us about the proper dosage and frequency of both resistance and endurance training? Moreover, what happens as we age to both our cardiovascular and skeletal-muscular systems and how might we combat their deterioration with specific training regimes?

While we all know about the importance of sleep in terms of our general feeling of wellbeing and alertness, what constitutes adequate, restorative, and cognitively beneficial sleep in terms of the different stages of sleep and their role in memory consolidation, learning and problem solving, as well as the activation of the glymphatics system to rid our body of metabolic wastes and misfolded proteins? What does the current literature tell us about the proper dosage?

While we all know that proper nutrition is important for our overall health, wellbeing, and weight-management/physical appearance, it is important to understand the differences between macro-and micro-nutrients, what a balanced diet means, and the consequences of various food choices that can have a lasting impact on our general health as we age.

Your instruction, Kurt Kwast: I am a physiologist trained in understanding the interactions between an organism and the environment. I teach human anatomy, applied human physiology, the pharmacology of performance-enhancing drugs, and motor control and learning, and I have a keen interest in nutrition and exercise science. I am a voracious reader of the primary literature on the effects of exercise, nutrition and sleep on health, and I have adopted various routines into my own practice to extend hopefully both my health span and lifespan. I read the biomedical literature and keep apprised of current methods of disease prevention and treatment, and I am keen to impart what I have gleaned throughout my lifetime in terms of the importance of these parameters in health and the prevention of disease (I only wish someone had taught me when I was your age!).

Learning Objectives

The primary learning objective is for students to be able to identify what is now considered to be proper exercise, nutrition, and sleep and how they affect our health. Specific learning objectives include the following:

- Develop a vocabulary of appropriate biomedical terminology to be able to effectively communicate information related to health.
- Identify and describe sleep hygiene, the different stages of sleep, and the importance of each in memory consolidation, learning and problem solving, and the activation of the lymphatics system.
- Identify the main categories of macro- and micronutrients and describe how each is important in maintaining health.
- Describe what is meant by being over- and undernourished and describe the health consequences of each.
- Describe what limits performance during endurance events versus resistance events in terms of both the cardiorespiratory and musculoskeletal systems, how different training regimes can modulate these systems, and age-related changes in these systems.
- Develop critical reading skills for evaluating the primary scientific literature.
- Develop skills for abstracting and summarizing information from scientific papers.
- Develop skills for effectively leading and participating in scientific discussions.
- Explore current forefronts in the broad field of biomedical and physiological research.

Relevant Human Biology BS & BA Degree Learning Objectives Addressed in Part by This Course

- Develop a deeper comprehension of the central and cross-disciplinary concepts of human biology, which include bioenergetics, the interrelationship of human form and function, physiological homeostasis, and biomechanics.
- Develop proficiency in modern methodologies pertinent to research in biological and medical sciences.
- Think critically, analyze, synthesize, and use information to solve real-world problems.
- Develop sufficient depth of knowledge and skill for the study of the health professions or other biology-related disciplines.

Prerequisite(s): None

Co-Requisite(s): None

Concurrent Enrollment: None

Course Notes

The course is taken pass/no pass, so no letter grade will be assigned. The course will be largely a journal-club format supplemented with lecture content for clarification. The course is web-enhanced and will use Brightspace. Pdf-formatted slides of lectures will be provided. In addition, some videos may be provided.

Technological Proficiency and Hardware/Software Required

This course is utilizing the university's new Learning Management System (LMS), [D2L Brightspace](#), which has now replaced Blackboard as the university-wide LMS. *Prior to the start of the course*, please make sure that you have access to the lecture and laboratory Brightspace pages, and that you take some time to familiarize yourself with the Brightspace platform. Follow the instructions below to log in to Brightspace, and, should you have any questions or concerns, we encourage you to contact the course instructor and/or the Brightspace ITS team (at brightspace@usc.edu, or call (213) 740-5555, choose option 2 then 2).

Brightspace Login Instructions

1. Go to <https://brightspace.usc.edu/d2l/login>
2. Enter your USC Net ID to access your organization homepage
3. Begin navigating through Brightspace

We also encourage you to download the mobile app, *Brightspace Pulse*, available in both the Apple App Store and through Google Play. Should we need to go online, lectures will be delivered via Zoom and exams will require [Respondus Lockdown Browser](#). Support for these resources can be found at the [ITS Customer Support Center](#).

USC Technology and Loaner Program

If students need resources to successfully participate in this class, such as a laptop or internet hotspot, you may be eligible for the university's loaner program. Please see the following links for additional relevant information: [USC Computing Center Laptop Loaner Program](#); USC Technology Support Links: [Zoom information for students](#), [Blackboard help for students](#), [Software available to USC Campus](#).

Required Readings

Journal articles and/or news media will be assigned most weeks to be actively discussed in class. The assignments will be topical and time-sensitive, so they will change from semester to semester.

Description and Assessment of Assignments

Presentations

All students will have the opportunity to present short (5 – 10 minute) PowerPoint (or alike) presentations, either as a group or singular, one or more times during the semester. The quality of the graphics and oral presentation will be assessed.

Participation

Students are expected to attend all classes in person and to participate in in-class activities, which will largely consist of discussions about reading assignments and the oral presentations. Students will be assessed on the level of preparedness and their active engagement in discussions.

Grading Breakdown

Attendance and participation is 100% of your grade. Attendance will be taken each class period.

Students will be graded (P/NP) using several criteria. These include (1) your general preparedness for class, (2) level of engagement and participation in group discussions, and (3) the quality of your oral presentation(s). Class attendance is mandatory.

If you come to each class having read the assigned article, are actively engaged in discussion, and you adequately prepare for your presentation(s) and present them in a professional manner, you will pass the class.

Should you be frequently tardy/leave class early or are missing too many classes, are inadequately prepared for class, or you are not sufficiently engaged in discussions, I will notify you of this. If you receive three (3) such notifications, you may be at risk of receiving a NP in the course.

Communication Policies

Students are *strongly* encouraged to contact the instructor in regard to all matters involving course content or policy during office hours. Should you have a question about specific course content and cannot attend office hours, students are encouraged to submit their question to the Activity Feed on the front page of the course webpage in Brightspace. Should you need to communicate with the instructor outside of class or office hours about a question other than course content, please email the instructor from your USC email account *making sure to include in the subject line the course number and your full name* (expect significant delays or no response if this information is omitted). Simple questions will be answered by email, but for more complex discussions students may be instructed to visit office hours. Best attempts will be made to answer all emails within 48 hours, 72 hours over a weekend and the workday following a holiday. Note that the instructor may not respond to non-emergency emails 24 hours preceding an exam and may not respond to emails sent from non-USC accounts.

To promote independence and critical thinking, students are encouraged to work through the following process for obtaining answers to course-related questions before contacting the instructor. First, consult the course syllabus. If you cannot find the answer you need, next please consult a classmate. If you still cannot find a satisfactory answer, email the instructor using your USC email *making sure to include the course number in the subject line*. In your email, please indicate the steps you have gone through to seek the answer for your question. Use your USC email account for all correspondence with the instructor.

Technology Policies

It is expected that students will use any internet-enabled device(s) to participate in activities guided by the instructor alone. Such activities include looking up terms, doing research, and completing in-class work. Please make sure all electronic devices are silenced so as not to disturb classmates or the instructor during class. Use of electronic devices for other purposes during class is strongly discouraged and you may be asked to put a device away should your instructor deem it to be disruptive. If you require an internet-enabled device, please see the “Technological Proficiency and Hardware/Software Required” section above.

Policy on the Use of AI Generators: Permitted on Specific Assignments that Explicitly State AI Use is Okay

In this course, I encourage you to use artificial intelligence (AI)-powered programs to help you with assignments that specifically indicate the permitted use of AI. However, you should be aware that AI text generation tools may very well

present incorrect information, biased responses, and incomplete analyses. Thus, at this time AI will not produce text that meets the standards of this course, and you will be responsible for any errors or omissions provided by the tool.

To adhere to our university values, you must cite any AI-generated material (*e.g.*, text, images, *etc.*) included or referenced in your work and provide the prompts used to generate the content. Using an AI tool to generate content without proper attribution will be treated as plagiarism and reported to the Office of Academic Integrity. Please review the instructions in each assignment for more detail on how and when to use AI Generators for your submissions.

Diversity, Equity, and Inclusion Statement

I am committed to the creation and maintenance of inclusive learning spaces in which you will be treated with respect and dignity and where all individuals are provided equitable opportunity to participate, contribute, and succeed. In HBIO 301, all students are welcome regardless of race/ethnicity, gender identities, gender expressions, sexual orientation, socio-economic status, age, disabilities, religion, regional background, Veteran status, citizenship status, nationality and other diverse identities that each of you and the faculty bring to class. I view the diversity that all of us bring to this class as a resource that cultivates strength and benefit.

Your success at USC and beyond is enhanced by the innovation and creativity of thought that inclusive classrooms facilitate. The success of an inclusive classroom relies on the participation, support, and understanding of you and your peers. I encourage you to speak up and share your views, but also understand that you are doing so in a learning environment in which we all are expected to engage respectfully and with regard to the dignity of all others.

It is my intent that all students be well served by this course and that your learning needs be addressed both in and out of class. If your needs are not being met, please talk to me or the appropriate resource provider listed at the end of this syllabus.

Zoom Etiquette (if applicable)

To simulate an in-class-room experience during any synchronous Zoom sessions, one that promotes positive interactions and feedback to the instructor and fellow students, students are strongly encouraged to attend the sessions dressed in classroom attire and to turn on their webcams if they are located in a learning-appropriate environment. To circumvent Zoombombing, synchronous Zoom sessions will be password protected and students will only be allowed to enter through the USC's Blackboard site when displaying their full name as it appears in the class roster (aliases are not permitted). Microphones should be muted unless actively asking questions or involved in discussion. In-meeting chat will likely be enabled but actively monitored for disruptive or inappropriate posts and recorded for further review. Disruptive or inappropriate behavior will not be tolerated and anyone engaging in such behavior shall be removed from the session. Should bandwidth be an issue, try joining with the video from your webcam and use your cellphone for the audio. If you have any questions or concerns about complying with these policies, please email the instructor.

Synchronous Session Recordings

If we are instructed to do so by the administration, all synchronous sessions (save for office hours) will be recorded and posted on Blackboard, typically within a few hours of the session.

Sharing of Course Materials Outside of the Learning Environment is Strictly Prohibited

USC has a strict policy (SCampus Section 11.12[B]) that prohibits sharing of *any* synchronous and asynchronous course content outside of the learning environment. Any student who violates this policy will be prosecuted to the maximum extent allowable by the USC Student Conduct Code, including failure of the course and suspension from the University.

Distribution or use of notes or recordings based on university classes or lectures without the express permission of the instructor for purposes other than individual or group study is a violation of the USC Student Conduct Code. This includes, but is not limited to, providing materials for distribution by services publishing class notes. This restriction on unauthorized use also applies to all information, which had been distributed to students or in any way had been displayed for use in relationship to the class, whether obtained in class, via email, on the Internet or via any other media. (See Section C.1 Class Notes Policy).

Tentative Course Schedule

Date	Lecture/Discussion Topics	Assigned Reading(s)
Week 1	Introduction	
Week 2	Sleep Hygiene, Stages of Sleep, Proper Dosage	TBA
Week 3	Sleep in Motor Control & Learning, Cognition, and Waste Management	TBA
Week 4	Macro- and Micro-Nutrients, Calories in/Calories out?	TBA
Week 5	Vegan, Vegetarian, Pescatarian, Mediterranean, Paleo, Atkins, etc.	TBA
Week 6	Metabolic Diseases Assoc. w/Over-Nourishment, Age-Related Changes	TBA
Week 7	The Cardiorespiratory System	TBA
Week 8	Muscle Physiology, Anabolism/Catabolism	TBA
Week 9	Training Protocols for Health and Longevity	TBA
Week 10	VO ₂ max, Grip Strength, Mitochondrial Health and All-Cause Mortality	TBA
Week 11	Wrap Up and Final Thoughts	TBA

Statement on Academic Conduct and Support Systems

Academic Integrity:

The University of Southern California is a learning community committed to developing successful scholars and researchers dedicated to the pursuit of knowledge and the dissemination of ideas. Academic misconduct, which includes any act of dishonesty in the production or submission of academic work, comprises the integrity of the person who commits the act and can impugn the perceived integrity of the entire university community. It stands in opposition to the university's mission to research, educate, and contribute productively to our community and the world.

All students are expected to submit assignments that represent their own original work, and that have been prepared specifically for the course or section for which they have been submitted. You may not submit work written by others or “recycle” work prepared for other courses without obtaining written permission from the instructor(s).

Other violations of academic integrity include, but are not limited to, cheating, plagiarism, fabrication (e.g., falsifying data), collusion, knowingly assisting others in acts of academic dishonesty, and any act that gains or is intended to gain an unfair academic advantage.

The impact of academic dishonesty is far-reaching and is considered a serious offense against the university. All incidences of academic misconduct will be reported to the Office of Academic Integrity and could result in outcomes such as failure on the assignment, failure in the course, suspension, or even expulsion from the university.

For more information about academic integrity see [the student handbook](#) or the [Office of Academic Integrity’s website](#), and university policies on [Research and Scholarship Misconduct](#).

Please ask your instructor if you are unsure what constitutes unauthorized assistance on an exam or assignment, or what information requires citation and/or attribution.

Students and Disability Accommodations:

USC welcomes students with disabilities into all of the University’s educational programs. The Office of Student Accessibility Services (OSAS) is responsible for the determination of appropriate accommodations for students who encounter disability-related barriers. Once a student has completed the OSAS process (registration, initial appointment, and submitted documentation) and accommodations are determined to be reasonable and appropriate, a Letter of Accommodation (LOA) will be available to generate for each course. The LOA must be given to each course instructor by the student and followed up with a discussion. This should be done as early in the semester as possible as accommodations are not retroactive. More information can be found at osas.usc.edu. You may contact OSAS at (213) 740-0776 or via email at osasfrontdesk@usc.edu.

Support Systems:

[Counseling and Mental Health](#) - (213) 740-9355 – 24/7 on call

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

[988 Suicide and Crisis Lifeline](#) - 988 for both calls and text messages – 24/7 on call

The 988 Suicide and Crisis Lifeline (formerly known as the National Suicide Prevention Lifeline) provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week, across the United States. The Lifeline is comprised of a national network of over 200 local crisis centers, combining custom local care and resources with national standards and best practices. The new, shorter phone number makes it easier for people to remember and access mental health crisis services (though the previous 1 (800) 273-8255 number will continue to function indefinitely) and represents a continued commitment to those in crisis.

[Relationship and Sexual Violence Prevention Services \(RSVP\)](#) - (213) 740-9355(WELL) – 24/7 on call

Free and confidential therapy services, workshops, and training for situations related to gender- and power-based harm (including sexual assault, intimate partner violence, and stalking).

[Office for Equity, Equal Opportunity, and Title IX \(EEO-TIX\)](#) - (213) 740-5086

Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants.

[Reporting Incidents of Bias or Harassment](#) - (213) 740-5086 or (213) 821-8298

Avenue to report incidents of bias, hate crimes, and microaggressions to the Office for Equity, Equal Opportunity, and Title for appropriate investigation, supportive measures, and response.

[The Office of Student Accessibility Services \(OSAS\)](#) - (213) 740-0776

OSAS ensures equal access for students with disabilities through providing academic accommodations and auxiliary aids in accordance with federal laws and university policy.

[USC Campus Support and Intervention](#) - (213) 740-0411

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

[Diversity, Equity and Inclusion](#) - (213) 740-2101

Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

[USC Emergency](#)- UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call

Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

[USC Department of Public Safety](#) - UPC: (213) 740-6000, HSC: (323) 442-1200 – 24/7 on call

Non-emergency assistance or information.

[Office of the Ombuds](#) - (213) 821-9556 (UPC) / (323-442-0382 (HSC)

A safe and confidential place to share your USC-related issues with a University Ombuds who will work with you to explore options or paths to manage your concern.

[Occupational Therapy Faculty Practice](#) - (323) 442-2850 or otfp@med.usc.edu

Confidential Lifestyle Redesign services for USC students to support health promoting habits and routines that enhance quality of life and academic performance.