

KINE 5330: Sport Nutrition & Metabolism

Spring 2023

Tue 6:30PM – 9:20PM (PEB 219)

Instructor: Sarah E. Deemer, PhD, CSCS Sarah.Deemer@unt.edu
Office Hours: Wednesday 5:30PM – 6:30PM (PEB 205-E) or by appointment

Welcome to UNT!!

As members of the UNT community, we have all made a commitment to be part of an institution that respects and values the identities of the students and employees with whom we interact. UNT does not tolerate identity-based discrimination, harassment, and retaliation. UNT's full Non-Discrimination Policy can be found in the UNT Policies section of the syllabus.

Prerequisites (recommended):

Basic Biology, Biochemistry, Introduction to Nutrition, Exercise Physiology (or equivalent-type courses)

Textbook:

Williams' Nutrition for Health, Fitness & Sport 12e ISBN: 978-1-260-25897-4 (bound edition)
Authors: Eric S. Rawson, J. David Branch, Tammy J. Stephenson **Publisher:** McGraw-Hill

Other Textbooks (recommended if needed):

Sport Nutrition ISBN: 978-1-492-52903-3
Author: Asker Jeukendrup & Michael Gleeson **Publisher:** Human Kinetics

Sport and Exercise Nutrition. ISBN: 978-1-118-35563-3
Edited by: SA Lanham-New, SJ Stear, SM Shirreffs, & AL Collins. **Publisher:** Wiley-Blackwell

The Biochemical Basis of Sports Performance. ISBN: 978-0-199-20828-9
Authors: R. Maughn & M. Gleeson. **Publisher:** Oxford

ACSM's Nutrition for Exercise Science. ISBN: 978-1-496-34340-6
Author: D. Bernadot **Publisher:** Wolters Kluwer

Course Description:

The *primary objective of this course is to develop the advanced skills necessary to apply the tenets of basic and applied physiology, nutrition, and metabolism to the human body when exposed to various physical stressors* (including changes in energy flux, as well as both acute and chronic clinical conditions). A key component will be the development of an integrated approach to study human nutrition and metabolism. This means that the concepts addressed in class discussions are interrelated (and not simply discrete subsections or topic areas). The successful student will be required to demonstrate critical thinking skills throughout the semester. Course assessments are not merely tests of one's memory, but require the ability to integrate and apply the material.

Course Objectives:

Upon successful completion of this course, students will:

1. Demonstrate working knowledge of the integrative physiology of energy metabolism and fuel utilization at rest and during exercise.
2. Understand the factors that regulate fuel utilization and energy expenditure in moving from a resting state to acute exercise.
3. Explain the adaptations that occur with exercise training that affect fuel utilization at various intensities of acute exercise.
4. Explain the effects of acute and chronic exercise on each component of 24h energy expenditure.
5. Evaluate current and recommended nutritional practices being used in various sports and training programs.
6. Analyze the current theories of how physical fitness and nutrition relate to treatment and prevention of chronic diseases including obesity, coronary heart disease, and type 2 diabetes.

Course Expectations:

1. **Lecture Attendance:** in-person attendance is expected for this course. Students who attend class tend to earn the highest grades, if you want to learn the most information, be in class on a regular basis.
2. **Keeping up with course materials:** As a graduate student, it is imperative that you stay on task and complete your coursework in a timely manner. It is important that you have read the material prior to coming to class so that you can be engaged in class discussion.
3. If you have special learning needs, please inform the instructor immediately.
4. If at any point during the semester you are unhappy with your performance in this class, please contact the instructor **immediately**.
5. **Academic dishonesty** will not be tolerated (i.e., copying, plagiarism, cheating) and will result in a failing grade for the semester.

Evaluation:

Final grades will be determined based on the total number of points that you accumulate during the semester. Final letter grades will be determined using the grading scale provided below:

Component	Points
Exam	100
Lead Class Journal Paper Discussion (1 time during semester)	50
Literature Review	50
Grant Specific Aims Page	85
Primary Manuscript Summaries (10 summaries x 10 points each)	100
Grant Proposal Presentation	100
Total	485

Grading Scale

FINAL GRADE	PERCENTAGE
A	89.51% – 100%
B	79.51% – 89.50%
C	69.51% – 79.50%
D	59.51% – 69.50%
F	< 59.51%

Students will not be allowed to take an incomplete in this course due to poor planning on their part. If you find you do have a legitimate reason for an incomplete, please talk with me as soon as possible to discuss the situation and to identify the documentation that will be required to support your request. Please consult the UNT catalog to review conditions under which an incomplete may be granted.

Reading Materials:

All reading materials will be from the textbook and/or current scientific journal literature. Articles/course readings will be posted on Canvas where you will be able to download them.

Major Course Due Dates:

- January 25: Grant Proposal Topic Due (send me an email)
 - Also let me know if you are completing individually or with a partner
- March 8: Literature review due
- March 15: NO CLASS (Spring Break)
- *April 5: Rough Draft of Specific Aims page due (only if you want feedback)*
- May 3: Specific Aims Page and Manuscript Summaries Due
- May 10: Grant Proposal Presentations

Explanation of Course Assignments

Exam

100 points

During this class you will complete one exam which will be take-home. You will be given the exam in class on a Wednesday, and you will be required to turn in your exam by the following Wednesday (1 week later). Your exam will be open-book, open-note, open-internet, etc...but you should NOT discuss your responses with your classmates, or obtain help from classmates, other individuals, or previous exams. In other words, **DO YOUR OWN WORK**. Late exams will not be accepted unless extenuating circumstances exist.

Lead Class Journal Paper Discussion

50 points

During the course of the semester, you will be responsible for leading the class discussion on a peer-reviewed, primary research paper of your choosing. The topic should be related to the material we are discussing in class (nutrition, metabolism, chronic disease, sport performance, etc...). You will be asked to identify your article, email it to me to get approval, and your article should be available for the class to read (posted on Canvas) 1 week before your presentation. Your presentation will be graded by your peers and by me and will be scored out of 50 points. A rubric will be provided to you.

Literature Review

50 points

Your list of papers that you will be including in your specific aims page is due on March 8. Your word document should include the following: (a) your research question/purpose of your study; (b) what keywords you used to perform your literature search; (c) the date(s) of the search as well as what database(s) you used; and (d) your inclusion/exclusion criteria for including a study (e.g., age of participants, species, setting, language of paper, etc...). Finally, you will provide a list of articles (in APA format) of the manuscripts you plan on including in your specific aims paper. All papers you choose must be peer-reviewed primary research articles! No review papers, meta-analysis, internet papers, etc... will be accepted. If you have questions, please don't hesitate to ask!

Grant Specific Aims Page

85 points

You (and a partner if desired) will be asked to write a 1-page single-spaced specific aims page (11pt font Arial or Times New Roman, 0.5-inch margins) for a grant to be submitted on a topic within the area of nutrition, metabolism, sport performance, and/or chronic disease treatment or prevention. Included should be a brief background/significance (with references, the reference page is not included in the 1-page limit), your specific aims and hypotheses, and your expected outcomes/impact statement. You may include any figures/diagrams you have created to help justify your question, but these must all fit within the one-page limit.

Primary Manuscript Summaries

100 points

To help you build your background knowledge for your specific aims page, you will be required to find 10 primary research articles on your topic. This will help you justify your research question based on the current evidence available. At the end of the semester, when you turn in your specific aims page, you will also turn in a binder or notebook that contains your 10 papers, notes/highlights on the papers, and the completed Evidence Analysis Template for each paper. You will receive 10 points for each completed paper. If you are working with a partner for the specific aims page, you will each turn in your notes/manuscript summaries. These should not be identical to each other. It will be expected for you to each independently read and evaluate your chosen papers.

Grant Proposal Presentation

100 points

At the end of the semester, you (or you and your partner) will present to the class your proposed grant project in 10 minutes with 5 minutes for questions. You will be evaluated by me (Dr. Deemer), two other KHPR faculty members, and your classmates. Your specific aims page must be provided to the class and the grant review panel one-week prior to your presentation. A rubric will be provided.

Topics to be Covered During this Semester:

- Regulation of Human Metabolism
- Appetite Regulation & Affecting Factors
- Carbohydrate Metabolism
- Protein Metabolism
- Fat Metabolism
- Ketone Metabolism
- Integration of Nutrition and Exercise Performance
- Body Weight Regulation
- Effects of Nutrition on Prevention and Treatment of Chronic Disease

Note: The following information is designed to help the class run smoothly. **The instructor reserves the right to make additions and adjustments as necessary.** Some of the writings, lectures, films, or presentations in this course may include material that conflicts with the core beliefs of some students. Please review the syllabus carefully to see if the course is one that you are committed to taking. If you have a concern, please discuss it with me at your earliest convenience.

Technical Support

Student Helpdesk:

UIT Helpdesk
Sage Hall 130
940-565-2324
helpdesk@unt.edu

Minimum Technology Requirements

Minimum technology requirements include:

- Computer
- Reliable internet access
- **Microsoft Office Suite**
 - All assignments will be submitted as a Microsoft Word document. Microsoft Office 365 is provided free to you from the university and instructions for installation can be found here: <https://it.unt.edu/instaloffice365>. Assignments submitted/uploaded as a document other than Word will not be graded and receive a grade of 0. Please let me know if you have questions about this policy.
- Canvas Technical Requirements (<https://clear.unt.edu/supported-technologies/canvas/requirements>)

Computer Skills & Digital Literacy

Course-specific technical skills learners must have to succeed in the course include:

- Using Canvas
- Using email with attachments
- Downloading and installing software
- Using spreadsheet programs
- Using presentation and graphics programs

Technical Assistance

Part of working in the online environment involves dealing with the inconveniences and frustration that can arise when technology breaks down or does not perform as expected. Here at UNT we have a Student Help Desk that you can contact for help with Canvas or other technology issues.

UIT Help Desk: UIT Student Help Desk site (<http://www.unt.edu/helpdesk/index.htm>)

Email: helpdesk@unt.edu

Phone: 940-565-2324

In Person: Sage Hall, Room 130

Walk-In Availability: 8am-9pm

Telephone Availability:

- Sunday: noon-midnight
- Monday-Thursday: 8am-midnight
- Friday: 8am-8pm
- Saturday: 9am-5pm

Laptop Checkout: 8am-7pm

UNT Policies

Academic Integrity Policy

Academic Integrity Standards and Consequences. According to UNT Policy 06.003, Student Academic Integrity, academic dishonesty occurs when students engage in behaviors including, but not limited to cheating, fabrication, facilitating academic dishonesty, forgery, plagiarism, and sabotage. A finding of academic dishonesty may result in a range of academic penalties or sanctions ranging from admonition to expulsion from the University.

ADA Policy

UNT makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide a student with an accommodation letter to be delivered to faculty to begin a private discussion regarding one's specific course needs. Students may request accommodations at any time, however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information see the ODA website (<https://disability.unt.edu/>).

Prohibition of Discrimination, Harassment, and Retaliation (Policy 16.004)

The University of North Texas (UNT) prohibits discrimination and harassment because of race, color, national origin, religion, sex, sexual orientation, gender identity, gender expression, age, disability, genetic information, veteran status, or any other characteristic protected under applicable federal or state law in its application and admission processes; educational programs and activities; employment policies, procedures, and processes; and university facilities. The University takes active measures to prevent such conduct and investigates and takes remedial action when appropriate.

Emergency Notification & Procedures

UNT uses a system called Eagle Alert to quickly notify students with critical information in the event of an emergency (i.e., severe weather, campus closing, and health and public safety emergencies like chemical spills, fires, or violence). In the event of a university closure, please refer to Canvas for contingency plans for covering course materials.

Retention of Student Records

Student records pertaining to this course are maintained in a secure location by the instructor of record. All records such as exams, answer sheets (with keys), and written papers submitted during the duration of the course are kept for at least one calendar year after course completion. Course work completed via the Canvas online system, including grading information and comments, is also stored in a safe electronic environment for one year. Students have the right to view their individual record; however, information about student's records will not be divulged to other individuals without proper written consent. Students are encouraged to review the Public Information Policy and the Family Educational Rights and Privacy Act (FERPA) laws and the University's policy. See UNT Policy 10.10, Records Management and Retention for additional information.

Acceptable Student Behavior

Student behavior that interferes with an instructor's ability to conduct a class or other students' opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Dean of Students to consider whether the student's conduct violated the Code of Student Conduct. The University's expectations for student conduct apply to all instructional forums, including University and electronic classroom, labs, discussion groups, field trips, etc. Visit UNT's Code of Student Conduct (<https://deanofstudents.unt.edu/conduct>) to learn more.

Access to Information - Eagle Connect

Students' access point for business and academic services at UNT is located at: my.unt.edu. All official communication from the University will be delivered to a student's Eagle Connect account. For more information, please visit the website that explains Eagle Connect and how to forward e-mail Eagle Connect (<https://it.unt.edu/eagleconnect>).

Student Evaluation Administration Dates

Student feedback is important and an essential part of participation in this course. The student evaluation of instruction is a requirement for all organized classes at UNT. The survey will be made available during weeks 13, 14 and 15 [insert administration dates] of the long semesters to provide students with an opportunity to evaluate how this course is taught. Students will receive an email from "UNT SPOT Course Evaluations via IASystem Notification" (no-reply@iasystem.org) with the survey link. Students should look for the email in their UNT email inbox. Simply click on the link and complete the survey. Once students complete the survey they will receive a confirmation email that the survey has been submitted. For additional information, please visit the SPOT website (<http://spot.unt.edu/>) or email spot@unt.edu.

Sexual Assault Prevention

UNT is committed to providing a safe learning environment free of all forms of sexual misconduct, including sexual harassment sexual assault, domestic violence, dating violence, and stalking. Federal laws (Title IX and the Violence Against Women Act) and UNT policies prohibit discrimination on the basis of sex, and therefore prohibit sexual misconduct. If you or someone you know is experiencing sexual harassment, relationship violence, stalking, and/or sexual assault, there are campus resources available to provide support and assistance. UNT's Survivor Advocates can assist a student who has been impacted by violence by filing protective orders, completing crime victim's compensation applications, contacting professors for absences related to an assault, working with housing to facilitate a room change where appropriate, and connecting students to other resources available both on and off campus. The Survivor Advocates can be reached at SurvivorAdvocate@unt.edu or by calling the Dean of Students Office at 940-565- 2648.

Additionally, alleged sexual misconduct can be non-confidentially reported to the Title IX Coordinator at oeo@unt.edu or at (940) 565 2759.

Student Verification

UNT takes measures to protect the integrity of educational credentials awarded to students enrolled in distance education courses by verifying student identity, protecting student privacy, and notifying students of any special meeting times/locations or additional charges associated with student identity verification in distance education courses.

See UNT Policy 07-002 Student Identity Verification, Privacy, and Notification and Distance Education Courses (<https://policy.unt.edu/policy/07-002>).

Use of Student Work

A student owns the copyright for all work (e.g. software, photographs, reports, presentations, and email postings) he or she creates within a class and the University is not entitled to use any student work without the student's permission unless all of the following criteria are met:

- The work is used only once.
- The work is not used in its entirety.
- Use of the work does not affect any potential profits from the work.
- The student is not identified.
- The work is identified as student work.

If the use of the work does not meet all of the above criteria, then the University office or department using the work must obtain the student's written permission.

Download the UNT System Permission, Waiver and Release Form

Transmission and Recording of Student Images in Electronically-Delivered Courses

1. No permission is needed from a student for his or her image or voice to be transmitted live via videoconference or streaming media, but all students should be informed when courses are to be conducted using either method of delivery.
2. In the event an instructor records student presentations, he or she must obtain permission from the student using a signed release in order to use the recording for future classes in accordance with the Use of Student-Created Work guidelines above.

3. Instructors who video-record their class lectures with the intention of re-using some or all of recordings for future class offerings must notify students on the course syllabus if students' images may appear on video. Instructors are also advised to provide accommodation for students who do not wish to appear in class recordings.

Example: This course employs lecture capture technology to record class sessions. Students may occasionally appear on video. The lecture recordings will be available to you for study purposes and may also be reused in future course offerings.

No notification is needed if only audio and slide capture is used or if the video only records the instructor's image. However, the instructor is encouraged to let students know the recordings will be available to them for study purposes.

Class Recordings & Student Likenesses

Synchronous (live) sessions in this course will be recorded for students enrolled in this class section to refer to throughout the semester. Class recordings are the intellectual property of the university or instructor and are reserved for use only by students in this class and only for educational purposes. Students may not post or otherwise share the recordings outside the class, or outside the Canvas Learning Management System, in any form. Failing to follow this restriction is a violation of the UNT Code of Student Conduct and could lead to disciplinary action.

Academic Support & Student Services

Student Support Services

Mental Health

UNT provides mental health resources to students to help ensure there are numerous outlets to turn to that wholeheartedly care for and are there for students in need, regardless of the nature of an issue or its severity. Listed below are several resources on campus that can support your academic success and mental well-being:

- Student Health and Wellness Center (<https://studentaffairs.unt.edu/student-health-and-wellness-center>)
- Counseling and Testing Services (<https://studentaffairs.unt.edu/counseling-and-testing-services>)
- UNT Care Team (<https://studentaffairs.unt.edu/care>)
- UNT Psychiatric Services (<https://studentaffairs.unt.edu/student-health-and-wellness-center/services/psychiatry>)
- Individual Counseling (<https://studentaffairs.unt.edu/counseling-and-testing-services/services/individual-counseling>)

Chosen Names

A chosen name is a name that a person goes by that may or may not match their legal name. If you have a chosen name that is different from your legal name and would like that to be used in class, please let the instructor know. Below is a list of resources for updating your chosen name at UNT.

- UNT Records
- UNT ID Card
- UNT Email Address
- Legal Name

*UNT eUIDs cannot be changed at this time. The collaborating offices are working on a process to make this option accessible to UNT community members.

Pronouns

Pronouns (she/her, they/them, he/him, etc.) are a public way for people to address you, much like your name, and can be shared with a name when making an introduction, both virtually and in-person. Just as we ask and don't assume someone's name, we should also ask and not assume someone's pronouns.

You can add your pronouns to your Canvas account so that they follow your name when posting to discussion boards, submitting assignments, etc.

Below is a list of additional resources regarding pronouns and their usage:

- What are pronouns and why are they important?
- How do I use pronouns?
- How do I share my pronouns?
- How do I ask for another person's pronouns?
- How do I correct myself or others when the wrong pronoun is used?

Additional Student Support Services

- Registrar (<https://registrar.unt.edu/registration>)
- Financial Aid (<https://financialaid.unt.edu/>)
- Student Legal Services (<https://studentaffairs.unt.edu/student-legal-services>)
- Career Center (<https://studentaffairs.unt.edu/career-center>)
- Multicultural Center (<https://edo.unt.edu/multicultural-center>)
- Counseling and Testing Services (<https://studentaffairs.unt.edu/counseling-and-testing-services>)
- Pride Alliance (<https://edo.unt.edu/pridealliance>)
- UNT Food Pantry (<https://deanofstudents.unt.edu/resources/food-pantry>)

Academic Support Services

- Academic Resource Center (<https://clear.unt.edu/canvas/student-resources>)
- Academic Success Center (<https://success.unt.edu/asc>)
- UNT Libraries (<https://library.unt.edu/>)
- Writing Lab (<http://writingcenter.unt.edu/>)