

Physiological Basis of Human Performance
KINE 3080.001 Tuesday-Thursday 9:30 AM – 10:50 AM Gate 132

Instructors: Sarah E. Deemer, PhD, CSCS Sarah.Deemer@unt.edu
Office hours will be available On Tuesday/Thursday from 11-12 PM or by appointment either by Zoom or in person. Please email me in advance to set up a meeting time.

Teaching Assistant: Mason Millender (MasonMillender@my.unt.edu)

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):

BIOL 2301/BIOL 2311 and BIOL 2302/BIOL 2312 or KINE 2105, with a C or better, or consent of instructor.

Text:

Exercise Physiology: Theory & Application to Fitness and Performance. Powers, Howley & Quindry. McGraw-Hill (12th ed)

Course Description:

Applied physiology course of study including bioenergetics, neuromuscular factors, and cardiovascular and pulmonary dynamics during exercise. Emphasis is placed on acute and chronic responses of human physiology to exercise stress.

📌 Dr. Deemer's Mean Green Guidelines

- Final grades will be rounded up based on the nearest 0.51 percentage points (e.g., 79.51% = B; 79.49% = C). **This is non-negotiable.**
- Late work will not be accepted unless extenuating circumstances exist. If something arises, please contact me *IN ADVANCE* of the due date and we can arrange something.
- I may offer extra credit during the semester to the WHOLE class; I WILL NOT offer extra credit opportunities to an individual person, this would not be fair to your classmates, so please don't ask.
- Remember, YOU EARN your grade, I don't give you a grade. Do the work, interact with me and your classmates, and you should be successful in this class. I am always an email, Zoom, or office visit away and happy to help you succeed in this class.

Course Overview:

What is exercise physiology? The science of exercise physiology can be traced back to the Greek physicians during the Golden age of Greece (5th century BC). Herodicus, a physician and athlete spoke about the importance of proper diet and nutrition for athletic performance, which was then used as the foundation for his work on human health by Hippocrates ("father of preventive medicine," for whom the Hippocratic Oath was named after). Modern exercise physiology is a broad field that ranges from athletic performance to disease prevention and disease management. During this course you will learn:

1. To define and describe the key components/stages of the biological response to exercise for individual tissues and the body as a whole organism.
2. To describe how you could adapt an exercise program to improve response to training.
3. To cite examples of exercise training plans that maximize physiological improvement in cardiovascular performance, muscle strength/endurance, and/or body weight/composition.

Course Expectations:

1. **Keeping up with course materials:** It is imperative that you stay on task and prepare for each class period in a timely manner. The course modules are set to time release on specific dates, and you will be responsible for having viewed the material and read the associated chapter(s) prior to coming to class.
2. If you have special learning needs, please inform the instructor immediately.
3. If at any point during the semester you are unhappy with your performance in this class, please contact the instructor **immediately**.
4. **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	% Final Grade
Quizzes	20%
Exam 1	20%
Exam 2	20%
Exam 3	20%
Exam 4	20%
Total	100%

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.

Quizzes

Throughout the semester, quizzes may be offered online through Canvas or in-person to ensure students are keeping up with the presented topics. For online quizzes, these will be considered “open-book/open-note,” but you will complete them on your own. Online quizzes must be completed by 11:59PM on the due date to receive full credit, and can be taken twice (if wanted), with the highest score of your attempts “counting” toward your final grade. In-class quizzes may be unannounced or announced in advance, and may be completed individually or in small groups, which will be at the instructor’s discretion.

Exams

During this class you will complete 4 exams (not cumulative). The exams will consist of multiple choice and short answer essay questions. Exams will be taken during class time (9:30AM – 10:50AM) and you MUST BE IN-CLASS to take these exams. An in-class review session for each exam (except Exam 2, which should technically be a review of A&P) will be held the class period before the exam. You (as the student) should come prepared with questions. The point of the review is to not review the test, but to ensure that you understand the concepts that have been taught and can critically think through any test question given to you.

No make-up or late exams will be allowed so please be sure to put these dates on your calendar.

The culture of the classroom:

We're all in this together. As your instructor, I will strive to:

- Be prepared
- Give fair exams and grade in a fair and consistent manner
- Be accessible to students outside of class
- Be understanding and helpful when students are uncertain of the material
- Be open to questions
- Convey a sense of priority, (*i.e.*, identify important material)
- Give ample time to complete assignments and remind students of due dates.
- Respect each student's opinions, priorities, strengths and weaknesses.

In return, I ask that you as the students to:

- Communicate in a professional and responsible fashion, informing me in the event of absences.
- Constructively participate in all classroom activities and ask questions
- Arrive on time.
- Turn off (not just silence) phones and other devices.
- Refrain from activities that disengage you from the class or distract others. This includes using electronic devices for text-messaging, reading, browsing, etc. and chatting with neighbors in a way that distracts others in your team or in other teams.
- Inform me before class if you need to leave class early or if you need to be prepared for emergency communication.

Tentative Order of Topics:

Day	Lecture Topic	Chapter(s)
8/22	Syllabus Overview & Class Expectations	
8/24	Intro to Exercise Physiology Lab Techniques & Study Design	1
8/29	Introduction to Bioenergetics and Anaerobic Energy Systems	2 & 3
8/31	Bioenergetics Day 1 – Oxidative Phosphorylation	3
9/5	Bioenergetics Day 2 – Carbohydrate and Related Metabolism	3
9/7	Bioenergetics Day 3 – Lipid and Ketone Metabolism	3
9/12	Intro to Sport Nutrition	18 & 22
9/14	Basics of Metabolism & Body Weight Regulation	18
9/19	Exercise Metabolism 1	4
9/21	Exercise Metabolism 2	4
9/26	TACSM Fall Lecture Tour Speaker: Dr. Michael Ormsbee (12:00PM – 1:00PM) “Pre-sleep feeding: Impact on health, metabolism, performance, and sleep”	N/A
9/28	<i>Exam 1 Review</i>	
10/3	Exam 1 (In-Class)	
10/5	Skeletal Muscle Anatomy & Physiology Review	8
10/10	Cardiovascular Anatomy & Physiology Review	9
10/12	Pulmonary System Anatomy & Physiology Review	10
10/17	Exam 2 (In-Class)	
10/19	Acid-Base Balance During Exercise	11
10/24	Physiology of Training – Effects of Aerobic and Anaerobic Training	13
10/26	Physiology of Training – Effects of Aerobic and Anaerobic Training	13
10/31	Physiological Effects of Resistance Training	14
11/2	Physiological Effects of Resistance Training	14
11/7	Factors Affecting Performance and Training for Performance	19 & 20
11/9	<i>Exam 3 Review</i>	
11/14	Exam 3 (In-Class)	
11/16	Introduction to Environmental Exercise Physiology	12 & 23
11/21	Thanksgiving Break – NO CLASS	
11/23	HAPPY THANKSGIVING!! – NO CLASS	
11/28	Exercise is Medicine – Part 1	15
11/30	Exercise is Medicine – Part 2	16
12/5	<i>Exam 4 Review</i>	
12/7	Exam 4 (In-Class)	
12/14	SCHEDULED FINAL EXAM 8:00AM – 10:00AM	

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
- Speakers
- Microphone
- Plug-ins
- **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

For additional support, visit Canvas Technical Help (<https://community.canvaslms.com/docs/DOC-10554-4212710328>)

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/>)