



**College of Health Sciences and Human Services, GUNN
Department of Athletic Training & Exercise Physiology
EXPH 5003, Research and Design
Fall 2026**

Contact Information

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Office: Ligon Coliseum Building, Room 209

Office Hours: Mondays and Wednesdays 10:00 AM-12:00 PM, and Tuesdays 12:30 PM-1:30 PM.

Course Description

This course introduces the fundamental principles and methods of research in Exercise Physiology. Topics include research design, measurement theory, data collection, research ethics, validity and reliability, experimental design, basic statistical analysis, and scientific writing. Students will learn to critically evaluate research, develop research proposals, and prepare for a master's thesis or other research project.

This course meets in person two times per week on Tuesdays and Thursdays from 1:30-2:50 PM. Lectures will take place in Room 223.

You will receive regular updates through announcements in D2L or via email.

Textbook and Instructional Materials

Research Methods in Physical Activity, 8th Edition. ISBN# 9781718201033

I will also provide PowerPoint notes.

This textbook is required for the course. You are expected to study the textbook for a deeper understanding.

Student Handbook

Refer to: [Student Handbook](#).

Academic Misconduct Policy & Procedures

Academic Dishonesty: Cheating, collusion, and plagiarism (the act of using source material of other persons, either published or unpublished, without following the accepted techniques of crediting, or the submission for credit of work not the individuals to whom credit is given). Additional guidelines on procedures in these matters may be found in the Office of Student Conduct. [Office of Student Conduct](#).

Moffett Library

Moffett Library provides resources and services to support student's studies and assignments, including books, peer-reviewed journals, databases, and multimedia materials accessible both on campus and remotely. The library offers media equipment checkout, reservable study rooms, and research assistance from librarians to help students effectively find, evaluate, and use information. Get started on this [Moffett Library webpage](#) to explore these resources and learn how to best utilize the library.

Grading

Table 1: Points allocated to each assignment.

Assignments	Points
Assignment #1-Identify Research Question	5
Assignment #2-Literature Review Search	5
Assignment #3-Purpose and Hypothesis	5
Assignment #4-Methods Design Search	5
Assignment #5-CITI Training	10
Assignment #6-Data Collection & Data Analysis & Statistics	10
Assignment #7-Literature Review Write up	20
Assignment #8-Abstract	10
Assignment #9-Introduction	10
Assignment #10-Methods	10
Assignment #11-Results	10
Assignment #12-Discussions	10
Assignment #13-Conclusion	10
Assignment #14-References	10
Assignment #15-Powerpoint Slides	20
Assignment #16-Oral Presentation	20
Assignment #17-Manuscript	10
Attendance & Participation (5 points deducted for each undocumented absence)	20

Table 2: Total points for final grade.

Grade	Points
A (90–100%)	180-200
B (80–89%)	160-179
C (70–79%)	140-159
D (60–69%)	120-139
F (<60%)	Below 120

Assignment #1-Identify Research Question

Identify a research question that genuinely interests you. Upload your research question to the designated module by the due date.

Assignment #2-Literature Review Search

After identifying the research question, students are expected to review relevant, peer-reviewed journal articles. Upload a list of at least five peer-reviewed APA format references to the designated module by the due date that are directly related to your proposed research question.

Assignment #3-Purpose and Hypothesis

Based on your literature review search and readings, you have identified limitations and gaps in your existing research question. Revise your research question to address the identified gap, then write your study purpose

and hypothesis.

Assignment #4-Methods Design Search

Find and review at least five experimental research papers that include a detailed Methods section. Submit a list of at least five papers whose methods could be used or adapted to help answer your research question.

Assignment #5-CITI Training

Complete the CITI Program training to learn the ethical principles, regulations, and responsible practices for conducting research with human participants. Upload your certificate of completion to the designated module on D2L.

Assignment #6-Data Collection & Data Analysis & Statistics

Complete the given assignment and upload it to the designated module.

Assignment #7-Literature Review

Summarize at least five relevant, peer-reviewed studies related to your topic. Highlight what is already known, identify gaps or controversies, and explain how your study addresses them. Use this section to justify your research and support your hypothesis. Cite the sources in APA format within the text.

Assignment #8-#14

For this project, you will design the study you would conduct to answer your research question. Based on your proposed study design and methods, you will then write the Methods, Anticipated Results, Discussion, and Conclusion sections. Because you will not be collecting actual data, you may use hypothetical participant numbers and simulated/random numerical data that are reasonable for your proposed study. Clearly identify all simulated data as hypothetical and do not present it as data that were actually collected. Your Results section should describe the findings based on your simulated data, and your Discussion and Conclusion should interpret those findings in relation to your research question and hypothesis.

Write up each section and upload it to the designated module for the corresponding assignment.

Assignment #15-Powerpoint Slides

Upload your PowerPoint presentation to the designated module by the due date. We will review and edit the presentation together in the class.

Assignment #16-Oral Presentation

Present your research paper in class and review the presentation rubric carefully before your presentation.

Assignment #17-Manuscript

Upload the full research paper to the designated module by the due date.

1. Abstract

- Introduce the research problem: Briefly state the topic, research gap, and purpose of the study.
- Describe the methods: Summarize the study design, participants, key variables, and procedures.
- Present the results: Briefly report the main findings or anticipated findings if the study is hypothetical.

- State the conclusion: Summarize the main implication or significance of the findings and why the study matters.

2.Introduction, Purpose & Hypothesis:

- Introduce your research topic and explain its importance.
- Provide context so the reader understands the problem or question.
- Clearly state your research question or hypothesis.
- Keep it concise without going into too much detail.
- Cite the sources in APA format within the text.

3.Methods:

- Describe your participants, equipment, and procedures.
- Define independent and dependent variables.
- Provide enough detail for someone else to replicate your study.

4.Results:

- Present your findings clearly using tables, figures, or text.
- Report the data without interpretation.
- Include statistics, averages, or comparisons as needed.

5.Discussion:

- Interpret your results and explain their meaning and relevance.
- Compare your findings with those reported in the literature review.
- Discuss limitations and suggest future research directions.
- Explain any practical applications of your findings.
- Cite the sources in APA format within the text.

6.Conclusion:

- Briefly summarize the main findings and explain their significance in relation to the research question or hypothesis.

7.References:

- All references must be formatted in APA style.

Make Up Work

With university-approved documentation (e.g., illness, athletic tournaments, car accidents, bereavement, jury duty, religious observance, family emergencies, or similar circumstances), you may make up missed work within one week. If you must miss a graded activity, email me your university-approved documentation and submit the assignment in the same email to ensure proper tracking.

Late Work

Late submissions with valid documentation are not accepted after one week and will receive a grade of zero, with no exceptions.

Table 3: Make up work and Late work policy.

Condition	Can I make up the full credit?	When should I submit my work?
Late submission with valid documentation (illness, tournament, car accident, bereavement, jury duty, religious observance, family emergency, or similar circumstances).	Yes	Within 1 week (must email a valid document, as prior consent is required)
Late submission with valid documentation (after 1 week).	No	Never, the grade will be zero

Important Dates

- [Academic Calendar](#).
- [Drops, Withdrawals & Void](#).

Desire-to-Learn (D2L)

Extensive use of the MSU D2L program is a part of this course. Each student is expected to be familiar with this program as it provides a primary source of communication regarding assignments, examination materials, and general course information. You can log into [D2L](#) through the MSU Homepage. If you experience difficulties, please contact the technicians listed for the program or contact your instructor.

Online Computer Requirements

Taking an online class requires you to have access to a computer (with Internet access) to complete and upload your assignments. It is your responsibility to have (or have access to) a working computer in this class. Assignments and tests are due by the due date, and personal computer technical difficulties will not be considered reason for the instructor to allow students extra time to submit assignments, tests, or discussion postings. Computers are available on campus in various areas of the buildings as well as the Academic Success Center. Your computer being down is not an excuse for missing a deadline. There are many places to access your class! Our online classes can be accessed from any computer in the world which is connected to the internet. Contact your instructor immediately upon having computer trouble. If you have technical difficulties in the course, there is also a student helpdesk available to you. The college cannot work directly on student computers due to both liability and resource limitations however they are able to help you get connected to our online services. For help, log into [D2L](#).

Instructor Policies

1. Read the syllabus carefully before emailing me with any questions.
2. Communication is key in this course. You are strongly encouraged to reach out with any questions.
3. Include your class number (EXPH #####) in the subject line of your email. Otherwise, I will not know which class you are contacting me from, and I will be unable to respond to your email.
4. I will respond to all emails that require a reply within 24 hours, Monday through Friday, between 8:00 AM and 5:00 PM. Emails sent on holidays will be answered on the next business day.

5. If your email is solely to inform me of something or to submit a document, I will acknowledge and address it internally but will not send a confirmation reply such as 'Received' or 'Okay.'
6. Any disrespectful behavior, in class or via email, will not be tolerated. Such incidents will be reported to the department, and the student will no longer be allowed to participate in my classes and may be dropped from the course.
7. You may discuss your grades immediately after they are published.
8. Do not email me requesting grade adjustments, as I do not round up grades. All final grades are calculated exactly as earned.
9. I do not curve grades. Your grade reflects how much you have learned.
10. Work individually on your research project while collaborating with classmates to discuss ideas, methods, analysis, and interpretation. Meet regularly to review each other's work and provide feedback, but make your own decisions and complete your own work. Each student must submit an original paper and presentation individually.
11. After completing each assignment, you will upload it to D2L module designated for each assignment by 5:00 PM each Thursday. Even being one minute late is not acceptable and will receive a zero, as the module closes promptly at 5:00 PM.
12. When uploading your assignment, ensure they are in Word format and include your first and last name in the file name. For example: Sauyeh Zamani Assignment #1.
13. All assignment submissions made by students in D2L are considered final submissions. It is the student's responsibility to ensure that the correct and complete file has been uploaded. If a student submits an incorrect document, an incomplete draft, a blank document, or any unintended version, the assignment will be graded as submitted. Students are strongly encouraged to double-check their upload before finalizing the submission. Additionally, Apple file formats such as .pages or Keynote files will not be accepted. All submissions must be uploaded in Microsoft Office format .doc so that I can easily add comments and track changes on your documents.
14. All assignments must be typed. Handwritten or photos of written answers will result in 10 points deductions.
15. If you are unable to submit a Word file due to laptop issues, make sure to resolve the problem with IT within the first week of classes. You may use computers in the library or anywhere on campus.
16. If you notice that points were deducted on your assignment but you are unsure why, I encourage you to visit me during office hours for clarification to help prevent repeated mistakes in the future.
17. Cheating will result in a zero and may lead to removal from the course. Any work copied and pasted from AI tools, such as ChatGPT, will receive a grade of zero. Any other form of academic dishonesty is easily detectable and will result in a zero.
18. If you have any questions about your career, I would be happy to discuss them with you.
19. In the event of a campus closure due to weather, class will transition to a hybrid format, depending on the scheduled activity for that day. Students are required to download and have access to [Microsoft Teams](#) on their device to attend the meetings remotely. Further announcements regarding the assignments will be communicated during that period.
20. I am always open to suggestions. If you notice anything that could improve your experience in the class, please discuss it with me now, rather than waiting for the course evaluation and allowing the improvement to benefit students next semester.

Change of Schedule

A student dropping a course (but not withdrawing from the University) within the first 12 class days of a regular semester or the first four class days of a summer semester is eligible for a 100% refund of applicable tuition and fees. Dates are published in the Schedule of Classes each semester.

Refund and Repayment Policy

A student who withdraws or is administratively withdrawn from Midwestern State University (MSU) may be eligible to receive a refund for all or a portion of the tuition, fees and room/board charges that were paid to MSU for the semester. HOWEVER, if the student received financial aid (federal/state/institutional grants, loans and/or scholarships), all or a portion of the refund may be returned to the financial aid programs. As described below, two formulas (federal and state) exist in determining the amount of the refund. (Examples of each refund calculation will be made available upon request).

Services for Students with Disabilities

In accordance with Section 504 of the Federal Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, Midwestern State University endeavors to make reasonable accommodations to ensure equal opportunity for qualified persons with disabilities to participate in all educational, social, and recreational programs and activities. After notification of acceptance, students requiring accommodations should make application for such assistance through Disability Support Services, located in the Student Wellness Center, (940) 397-4140. Current documentation of a disability will be required in order to provide appropriate services, and each request will be individually reviewed. For more details, please go to [Disability Support Services](#).

College Policies

Campus Carry Rules/Policies

Refer to: [Campus Carry Rules and Policies](#).

Smoking/Tobacco Policy

College policy strictly prohibits the use of tobacco products in any building owned or operated by WATC. Adult students may smoke only in the outside designated-smoking areas at each location.

Alcohol and Drug Policy

To comply with the Drug Free Schools and Communities Act of 1989 and subsequent amendments, students and employees of Midwestern State are informed that strictly enforced policies are in place which prohibits the unlawful possession, use or distribution of any illicit drugs, including alcohol, on university property or as part of any university-sponsored activity. Students and employees are also subject to all applicable legal sanctions under local, state and federal law for any offenses involving illicit drugs on university property or at university-sponsored activities.

Campus Carry

Effective August 1, 2016, the Campus Carry law (Senate Bill 11) allows those licensed individuals to carry a concealed handgun in buildings on public university campuses, except in locations the University establishes has prohibited. The new Constitutional Carry law does not change this process. Concealed carry still requires a License to Carry permit, and openly carrying handguns is not allowed on college campuses. For more information, visit [Campus Carry](#).

Active Shooter

The safety and security of our campus is the responsibility of everyone in our community. Each of us has an obligation to be prepared to appropriately respond to threats to our campus, such as an active aggressor. Please review the information provided by MSU Police Department regarding the options and strategies we can all use to stay safe during difficult situations. For more information, visit [MSUReady – Active Shooter](#). Students are encouraged to watch the video entitled “Run. Hide. Fight.” which may be electronically accessed via the University police department’s webpage: "[Run. Hide. Fight.](#)"

Grade Appeal Process

Update as needed. Students who wish to appeal a grade should consult the Midwestern State University [MSU Catalog](#).

Course Schedule

The course syllabus outlines the general plan for the course; however, the instructor reserves the right to adjust any part of the syllabus at any time during the semester as deemed necessary.

Table 4: Semester schedule.

Week	Tuesday	Thursday
Week 1, Aug 24-28	Syllabus	Discuss world of research
Week 2, Aug 31-Sep 4	- Discuss identifying research questions - Discuss searching articles	Assignment #1, Thursday 5 pm - Discuss literature review - Discuss scientific writing skills
Week 3, Sep 7-11	- Discuss hypothesis & purpose - Discuss introduction	Assignment #2, Thursday 5 pm - Discuss methods design - Discuss Assignment #1
Week 4, Sep 14-18	- Discuss variables - Discuss participant recruitment - Discuss participant questionnaire - Discuss participant confidentiality	Assignment #3, Thursday 5 pm - Discuss consent form - Discuss IRB - Discuss CITI training
Week 5, Sep 21-25	Research scenario methods design	Assignment #4, Thursday 5 pm
Week 6, Sep 28-Oct 2	- Discuss Assignment #3 - Discuss Assignment #4	Assignment #5, Thursday 5 pm - Discuss data collection - Discuss pilot study
Week 7, Oct 5-9	- Discuss statistical data analysis - Discuss figures and tables	Assignment #6, Thursday 5 pm
Week 8, Oct 12-16	- Discuss results section - Discuss Assignment #6	- Discuss discussion section - Discuss conclusion section - Discuss references format
Week 9, Oct 19-23	- Discuss literature review write-up - Discuss abstract write-up - Discuss manuscript write-up	Assignment #7, Thursday 5 pm
Week 10, Oct 26-30	Discuss Assignment #7	Assignment #8, Thursday 5pm
Week 11, Nov 2-6	- Discuss Assignment #8 - Discuss PowerPoint slides - Discuss oral presentation	Assignment #9 Thursday 5 pm Assignment #10 Thursday 5 pm Assignment #11 Thursday 5 pm
Week 12, Nov 9-13	- Discuss Assignment #9 - Discuss Assignment #10 - Discuss Assignment #11	Assignment #12 Thursday 5 pm Assignment #13 Thursday 5 pm Assignment #14 Thursday 5 pm Assignment #15 Tuesday 5 pm
Week 13, Nov 16-20	- Discuss Assignment #12 - Discuss Assignment #13	- Discuss Assignment #14 - Discuss Assignment #15
Week 14, Nov 23-27	Practice Assignment #16	No class, Thanksgiving
Week 15, Nov 30-Dec 4	Assignment #16 in class	Assignment #17, Thursday 5 pm
Week 16, Dec 7-10	No class	No class