

Mayville State University

HPER 402 Exercise Physiology

Fall 2024

3 Credit Hours

Course and Instructor Information

Instructor Name: Sofia Wentz

Contact Information: Fieldhouse 136, sofia.wentz@mayvillestate.edu

Hours of Availability: 9-3, Monday-Friday, feel free to schedule a time to meet with me

Instruction Mode: on-campus face-to-face

Time Zone: All times indicated throughout this syllabus reflect Central Time (CT).

Meeting Times and/or Location: MWF 10:00-10:50 AM, FH 113

*The syllabus is subject to change as deemed necessary by the instructor.

Course Materials and Technologies

Required

1. Kenney, W., Wilmore, J. H., Costill, D. L., & Kenney, W. L. (2012) *Physiology of Sport and Exercise* (5th edition). Champaign: Human Kinetics.
2. Haff, G. G., & Dumke, C. (2012) *Laboratory Manual for Exercise Physiology*. Champaign: Human Kinetics.
3. Microsoft Office

Course Description

A study of the effects of exercise and training on the physiology of the human body. Special attention will be given to adaptations of various body systems, lab related activities commonly used to assess such adaptations, and other areas related to training. Laboratory activities and exercises will test aerobic and anaerobic capacity, strength, body composition, and dietary analysis.

Prerequisite: [BIOL 111](#) or [BIOL 150](#), and [BIOL 220](#). Fall, Spring.

Course Objectives

To successfully complete this course, the learner will be expected to meet the following objectives, as aligned to Health and Physical Education Program Approval Standards through North Dakota's Education Standards and Practices Board ([ND ESPB](#)):

1. Identify the benefits for improving health through exercise. (INTASC 1, 6, 9)
2. Distinguish the specific roles of human tissues (e.g. muscle, neurological, connective, etc.) and their roles in producing human movement for performance. (INTASC 1, 6, 9)
3. Apply information related to appropriate metabolisms to exercise situations. (INTASC 1, 6, 9)
4. Apply the principles learned in class to training and exercise situations. (INTASC 1, 6, 9)

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5. Differentiate the results of chronic and acute bouts of prescribed exercise for the human body in relation to its structure, function, capacities and limitations. (INTASC 1, 6, 9)
6. Evaluate the adaptation process the human body will undergo as a result of specific chronic exercise stimuli. (INTASC 1, 6, 9)
7. Relate previous nutritional information to performance benefits and gains. (INTASC 1, 6, 9)

Standards Alignment (Health and Physical Education Program Approval Standards-ND ESPB):

Health Education ESPB Standards:

- 18015.1 Content Knowledge-Component 1.a: Candidates demonstrate knowledge acquisition in multiple health content areas.

Physical Education ESPB Standards:

- 1.a Describe and apply common content knowledge for teaching preK-12 physical education.
- 1.b Describe and apply specialized content knowledge for teaching preK-12 physical education.
- 1.c Describe and apply physiological and biomechanical concepts related to skillful movement, physical activity and fitness for preK-12 students.

Course Expectations

Instructor/Student Communication

Students are accountable for all academic communications sent to their Mayville State University email address. Students may also come to my office during normal work hours.

Assignments and Assessments

Assignments may include, but are not limited to: labs, quizzes, exams, research paper, exercise programming assignment

Evaluation and Grading

Grading Policies

Grades will be posted throughout the semester on the class website, in most instances, within 24 hours of completion of a task for assignments, 48 hours after submission of an exam, and 72 hours after the completion of a large project/paper. All coursework must be submitted by the Friday before Finals Week. Make-up exams will be made up at the convenience of the instructor. Other late work will not be accepted.

- Exams will take place during regular class sessions. **NO MAKE UPS WILL BE PERMITTED.**

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- Quizzes may be given during class in the LMS (online learning management system, Black Board) and may be given at any time. Each quiz will be worth 10 points. Approximately 8 quizzes will be given during the semester. Quizzes may NOT be made up if absence is unexcused. Quizzes must be made up prior an absence if a quiz is scheduled.
- Lab projects are due as assigned. There will be 4 Labs worth 20 pts each. **Late assignments and work will NOT be accepted past due date.** Students will be expected to dress appropriately for any labs to be conducted. Any and all work submitted must be of upper level college quality to be acceptable for grading.
 - o Any lab requiring calculations or graphs must be completed using excel or appropriate substitute spreadsheet application and be able to show where the data came from in the calculations and graphs (you must be able to click on the calculation or graph and it shows where you selected the data). Failure to do so will result in an automatic 0 for the lab.

Attendance/Participation Policies

Attendance is expected and mandatory. Excused absences must be cleared before the absence to make up for the missed work. Excused absences are Mayville State-sanctioned events, funerals, and sick days with a doctor's note (this is not a complete list, case-by-case absences may be discussed with the instructor).

Grading Scale

Grades are based on the percentage of points earned out of the total possible for the class. I will round up from the nearest tenth decimal point.

A=100-90%

B=89-80%

C=79-70%

D=69-60%

F=below 60%

Breakdown of Grades

Quizzes (5 @ 20 pts) – 100 pts

Research paper – 100 pts

Midterm – 100 pts

Labs (4 @ 20 pts) – 80 pts

Programming Assignment – 20 pts

Final – 100 pts

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Enrollment Verification

On-Campus Course Statement

The U.S. Department of Education requires instructors to conduct an activity which will validate student enrollment in this course. Class attendance will be used to verify enrollment in on-campus courses. If you do not attend, your enrollment in this course will be at risk.

Proctor Notification

No proctors are required for this course.

Important Student Information

In the Announcements section of the Blackboard Institution Page, you can view and download the Important Student Information document for the current academic year. It includes information about:

- ✓ Land Acknowledgement Statement
- ✓ Academic Grievance Concerns and Instructor English Proficiency
- ✓ NetTutor - Online Tutoring Program
- ✓ Starfish - Student Success System
- ✓ Students with Documented Disabilities
- ✓ Student Learning Outcomes / Essential Learning Outcomes
- ✓ Academic Honesty
- ✓ Emergency Notification
- ✓ Continuity of Academic Instruction for a Pandemic or Emergency
- ✓ Family Educational Rights and Privacy Act of 1974 (FERPA)
- ✓ Diversity Statement (Title IX)

Course Timeline/Schedule

Course Timeline and Schedule are subject to change as deemed necessary by the instructor.

WEEK	TOPIC	LAB	ASSIGNMENTS
Week 1	Intro to Ex Phys		
Week 2	Structure and Function of Muscle	Flexibility	
Week 3	Fuel for Exercise		
Week 4	Neural Control		
Week 5	Hormones	Body Comp	
Week 6	Fatigue, Muscle Soreness, and Muscle Cramps	Muscle Endurance	
Week 7	Cardiovascular System and its Response to Acute Exercise	HR + BP	
Week 8	Respiratory		
Week 9	Cardiovascular and Respiratory Responses		Programming Assignment

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Week 10	Principles of Training and Training for Sport		
Week 11	Adaptations to Aerobic and Anaerobic Training		
Week 12	Exercise in Hot and Cold Environments		
Week 13	Altitude, Hypobaric		
Week 14	Catch Up Week		Thanksgiving Break
Week 15	Ergogenic Aids		
Week 16	Training for Sport		Research Paper DUE
Wednesday Dec 17	Final @ 8		

Late Arrivals

The grading system for students adding this course after the first day of instruction will not be modified. The student will be responsible for any activities, assignments, or grades before they are enrolled.