EXSC 603 EXERCISE PHYSIOLOGY I
Course Outline - SPRING 2026

INSTRUCTOR

Todd Trappe, PhD
Human Performance Laboratory HP224 (phone: 285-4456; e-mail: ttrappe@bsu.edu)
Office Hours: M-F by appointment

MEETING TIMES & LOCATION

Tuesday & Thursday 2:00-3:15 pm HP 254 & Zoom (if needed)

COURSE MATERIALS

The following textbook (and related electronic materials) will be used for this course and will be closely tied to the lecture material. Information from the other texts listed below and relevant articles published in key exercise physiology journals will also be used as needed. The textbook (*Textbook of Medical Physiology, 14th ed.* by Guyton, Hall & Hall) used in the previous course in the series (EXSC 637) will also serve as an excellent reference for this course. BSU Canvas will also be used.

Exercise Physiology: Nutrition, Energy, and Human Performance (9th ed.) by McArdle, Katch, & Katch

The following textbooks are also excellent resources for graduate students and future professionals in exercise physiology, as well as for this and the next course in the series (EXSC 630).

Physiology of Sport and Exercise (9th ed.) by Kenney, Wilmore, & Costill
Exercise Physiology: Human Bioenergetics and Its Applications (4th ed.) by Brooks, Fahey, & Baldwin
Exercise Physiology: Theory and Application to Fitness and Performance (*12th ed.*) by Powers, Howley, & Quindry
Textbook of Work Physiology: Physiological Bases of Exercise (4th ed.) by Åstrand, Rodahl, Dahl, & Strømme
ACSM's Advanced Exercise Physiology (2nd ed.) by Farrell, Joyner, & Caiozzo (Editors)

SCHEDULE, ATTENDANCE, ELECTRONIC DEVICES, FOOD AND BEVERAGES

Lecture content and exam dates are tentative and subject to change. During in-person class sessions: No electronic devices (e.g., cell phones, lap tops, tablets), food or beverages.

UNIVERSITY STATEMENT

We are committed to ensuring that all members of the community are welcome, through valuing the various experiences and worldviews represented at Ball State and among those we serve. We promote a culture of respect and civil discourse. If you need course adaptations or accommodations because of a disability, please contact me as soon as possible. Ball State's Disability Services Office coordinates services for students with disabilities; documentation of a disability needs to be on file in that office before any accommodations can be provided. Disability Services can be contacted at 765-285-5293 or dsd@bsu.edu.

STUDENT EVALUATION

There will be a total of 550 points possible in this course. The points will be distributed as follows:

Exam 1	100 pts.
Exam 2	100 pts.
Exam 3 (Final)	200 pts.
Writing assignment	150 pts.

Unless by consent of the instructor missed quizzes and examinations cannot be made-up. Writing assignment details are below. Final grades for this course will be based on the following scale:

92.5% and above = **A**	87.5 to 89.9 = **B+**	77.5 to 79.9 = **C+**	67.5 to 69.9 = **D+**	59.9 and below = **F**
90.0 to 92.4 = **A-**	82.5 to 87.4 = **B**	72.5 to 77.4 = **C**	62.5 to 67.4 = **D**	
	80.0 to 82.4 = **B-**	70.0 to 72.4 = **C-**	60.0 to 62.4 = **D-**	

LECTURE & EXAM SCHEDULE

Date	Section / Topic	Required Reading McArdle Chapter(s)
Jan 6 Jan 8 Jan 13	**Section 1** Class overview History of Exercise Physiology	Introduction
Jan 15 Jan 20	**Section 2a** Review and key aspects for Exercise Physiology: Skeletal muscle	18-19
Jan 22	**EXAM 1**	
Jan 27 Jan 29 Feb 3 Feb 5 Feb 10	**Section 2b** Review and key aspects for Exercise Physiology: Energy systems & Metabolic pathways, Endocrinology, Cardiorespiratory	1, 5, 6, 12-17, 20
Feb 12 Feb 17 Feb 19 Feb 24	**Section 3** Exercise energy expenditure: measurement and key concepts	4, 7-10, Appendix G
Feb 26	**EXAM 2**	
March 10 March 12 March 17 March 19 March 24 March 26 March 31 April 2	**Section 4** Acute responses & chronic adaptations to exercise: Skeletal muscle, Metabolism, Endocrinology, Cardiorespiratory & Exogenous/ergogenic influences on acute responses & chronic adaptations to exercise ** Writing assignment due April 2, 5 pm**	3, 20-23
April 7 April 9	**Section 5** Detraining, taper, microgravity	21, 27
April 14 April 16 April 21 April 23	**Section 6** Environmental effects: Temperature & Altitude	24, 25
April 30	**EXAM 3 (Final)** 12:00-2:00 (Thursday)	

Lecture content and exam dates are tentative and subject to change.

SUPPLEMENTARY READING (OPTIONAL):

Chapters from *Physiology of Sport and Exercise (9th ed.)* by Kenney, Wilmore, & Costill:

Section 1: Introduction; **Section 2a:** 1, 3; **Section 2b:** 2, 4, 7, 8; **Section 3:** 5, 6; **Section 4:** 9, 11, 12, 17, 18; **Section 5:** 11, 16; **Section 6:** 14, 15

EXSC 603 - EXERCISE PHYSIOLOGY I
Writing Assignment Guidelines - SPRING 2026

1. Topic selection and approval:
   a. Select an area in exercise physiology that is of particular interest to you. Identify a specific topic in which you can describe the mechanisms associated with the responses to a single bout of exercise (one mode; i.e., aerobic, resistance, or sprint/anaerobic) and the mechanisms associated with the relevant exercise training adaptations. A few examples: carbohydrate and/or lipid utilization, glucose transport, cardiovascular adjustments (e.g., blood volume or cardiac output), thermoregulation (e.g., sweat parameters or temperature adjustments), gastric emptying, specific receptor actions, skeletal muscle fiber type plasticity; but others can be chosen.
   b. The topic must be discussed with and approved by the instructor by January 23.

2. Due date and submission format:
   a. The paper is due April 2 (5 pm).
   b. Submit electronically as a single pdf file. Use your last name, the course, and term for the file name (e.g., TRAPPE EXSC603 Spring2026.pdf).

3. Format criteria:
   a. General:
      - 1” margins
      - Arial 12 point font
      - Double spaced
      - Full justified
      - Page number in footer
   b. Page 1: Title page
   c. Page 2: Abstract
      - Min: 175 words, Max: 250 words
   d. Pages 3-12 (minimum length) / 3-17 (maximum length) (i.e., 10-15 pages), sections:
      - Introduction
      - Acute exercise mechanism
      - Chronic exercise training adaptations
      - Summary

4. Remaining pages (in this order):
   a. References:
      - Min: 30, Max: 50
      - *Journal of Applied Physiology* format
   b. Tables
      - Min: 1, Max: 2; Each table on a separate page
      - Do not reuse tables directly from other publications
   c. Figures
      - Min: 1, Max: 2; Each figure on a separate page
      - Do not reuse figures directly from other publications
      - Legends on same page as figure, single spaced