**Health Promotion & Wellness 312 Exercise Physiology - Spring 2023**

School of Health Sciences and Wellness

University of Wisconsin – Stevens Point

Lecture: Monday & Wednesday 10:00 AM – 10:50 AM Marshfield Clinic Champions Hall (MCCH) room 146

Lab: Marshfield Clinic Champions Hall (MCCH) room 033: Health and Human Performance Lab. Tuesdays 9-11AM

INSTRUCTOR INFORMATION:

Instructor: Kevin Kirschbaum MS, CSCS

Office: SCI D140

Phone: 715-570-2248

Email: kkirschb@uwsp.edu

Office hours: and by apt (zoom or in-person)

REQUIRED TEXT: Exercise Physiology, Theory and Application to Fitness and Performance, Powers and Howley, 11th ed., 2021. (rental)

Additional resources will be placed into Canvas.

**Course Description:**

Exercise Physiology: Theory and Application to Fitness and Performance is intended for students interested in exercise physiology, medicine, clinical exercise physiology, exercise science, human performance, physical therapy, and physical education. The objective of this course is to provide the student with an up-to-date understanding of the physiology of exercise. This class will cover the physiological mechanisms involved in the acute response to exercise, the muscular, circulatory, respiratory, and endocrine systems, and chronic adaptations to training for each. The health benefits of physical activity, the relationship between exercise and weight loss/maintenance, aerobic and muscular strength prescription, and the role of nutrition, age, gender, and environmental factors will also be discussed. It is important for professionals in the field to have a full understanding of the human body and its mechanisms of response to exercise.

**Weekly Expectations:**

1. Read Chapter before Lecture Date
2. Team must post in Canvas discussion board the study questions/activities assigned to their team. 5 Points each
   1. These questions/activities will be vital to classroom discussion and learning. Each lecture we will discuss and review. If you do not post your team will not receive credit for that chapter.
   2. Each team member must contribute to the post.
3. Lab assignments/reports will be due before the next lab date. 20 Points each.

**Semester Expectations:**

1. Quizzes will be given every two chapters and will be worth 30 points each.
2. Two Exams will be given throughout the semester, and each will be worth 100 points each.
3. Team Project Journal Article Review and Presentation 50 Points

**GRADES: (total points are approximate)**

Canvas Discussion (24): 240 points

Lab Assignments (12): 240 points

Quizzes (12): 360 points

Exams (2): 200 points

Attendance 60 points (deduction for missed canvas discussion and class no shows)

**Total: 1100 points**

\*Chapter 0 is omitted from discussion and quiz, but questions will from this chapter will appear on the first exam.

Please see me if you are having any difficulties in class. You can ask question after class, come to office hours, send me a Zoom invite for a meeting, or you can also email or phone. If you are not available during office hours, please set up an appointment time outside of those hours. I am more than happy to meet with students. If you need help, please ask!

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| --- | --- | --- | --- | --- | --- |
|  |  | **A** | ≥93% | **A-** | 92.9-90% |
| **B+** | 89.9-87% | **B** | 86.9-83% | **B-** | 82.9-80% |
| **C+** | 79.9-77% | **C** | 76.9-73% | **C-** | 72.9-70% |
| **D+** | 69.9-67% | **D** | 66.9-60% | **F** | <60% |

**GRADING SCALE:**

**READING AND PARTICIPATION:**

Participating in lecture and labs is an important aspect of this class! Each student brings a unique personality and life experience, so sharing and quality critical thinking make the class much more enjoyable. Students who participate in class and in lab generally do better than those who do not. At the end of the semester, I may award bonus points to the top participators. Ways to participate include asking and answering questions, bringing in or sending me news articles or experiences that are relevant to the topic being discussed, and serving as a subject in labs.

While most of the course content will be covered in class during lectures, assigned reading material from the text (or accessory material) is required! Optimally, you must do assigned readings prior to discussion in class. Most exam and quiz questions will be drawn directly from the text. Therefore, reading the text will be essential in obtaining a high grade in the class.

**ATTENDANCE:**

Attendance will be taken during the first week of classes and reported back to the University. I would hope that attending lectures will be useful, allow you to ask questions, and participate during discussion. You will not receive full credit on team discussions if you do not attend class. To receive full credit for lab reports, you must attend and participate in the labs. Due to the nature of these labs, they cannot be made up. Please be prepared to engage in weekly class sessions, ask questions, share experiences, contribute to discussion, participate with an open mind, and challenge yourself. For every class missed after one, you will lose 10 points.

**CLASS MATERIALS:**

Power Point presentations, handouts, extra reading material, lab materials and report questions will be in Canvas.

Lecture materials and recordings for HPW 312 are protected intellectual property at UW-Stevens Point. Students in this course may use the materials and recordings for their personal use related to participation in this class. Students may also take notes solely for their personal use. If a lecture is not already recorded, you are not authorized to record my lectures without my permission unless you are considered by the university to be a qualified student with a disability requiring accommodation. [Regent Policy Document 4-1] Students may not copy or share lecture materials and recordings outside of class, including posting on internet sites or selling to commercial entities. Students are also prohibited from providing or selling their personal notes to anyone else or being paid for taking notes by any person or commercial firm without the instructor’s express written permission. Unauthorized use of these copyrighted lecture materials and recordings constitutes copyright infringement and may be addressed under the university's policies, UWS Chapters 14 and 17, governing student academic and nonacademic misconduct.

**DISABILITIES and RELIGIOUS BELIEFS:**

UWSP is committed to providing reasonable and appropriate accommodations to students with disabilities and temporary impairments. If you have a disability or acquire a condition during the semester where you need assistance, please contact the Disability and Assistive Technology Center on the 6th floor of Albertson Hall (library) as soon as possible. DATC can be reached at 715-346-3365 or DATC@uwsp.edu.

Religious beliefs will be accommodated according to UWS 22.03 if you notify me within the first three weeks of the beginning of classes of the specific date(s) you request relief from an examination or academic requirement

**ACADEMIC CONDUCT:**

This course is part of the UW-Stevens Point academic community, an academic community that is bound together by the traditions and practice of scholarship. Honest intellectual work – on examinations and on written assignments is essential to the success of this community of scholars. Using classmates’ responses to answer exam questions or disguising words written by others as your own undermines the trust and respect on which our course depends. The work in this course is challenging and will demand a good deal from each of you. I have every confidence that each of you can succeed. Doing your own work will enhance your sense of accomplishment when the semester ends. Additionally, the classroom environment is a unique opportunity for students to share ideas, opinions, discuss classroom and course content. As each student is entitled to contribute in class, specific expectations are necessary to ensure a thriving classroom environment. Expectations include arriving to class on time, being prepared for class, and keeping cell phones silenced or turned off and put away. Behaviors such as loud shouting, excessive side conversations, arriving to class under the influence of any alcohol or drugs, profane language, and verbal or physical threats, intimidation of any kind, or any other behavior that may be disruptive to the instructor or other students are considered unacceptable. If any of this behavior is exhibited, you may be asked to leave the class for the day. Any continued disruptive behavior may result in a referral to the Dean of Students Office. For additional information, please refer to the Student Handbook https://www.uwsp.edu/dos/Pages/handbook.aspx

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| LECTURE  DATE | TOPIC | READ CHAPTER | QUIZ/TEST |  |
| **September** |  |  |  |  |
| 6 | Welcome | - |  | Set Weekly Expectations |
| 6 | Introduction to Ex-Phys | 0 |  |  |
| 11 | Common Measurements | 1 |  |  |
| 13 | Control of Internal Environment | 2 |  | Quiz 1 |
| 18 | Bioenergetics | 3 |  |  |
| 20 | Exercise Metabolism | 4 |  | Quiz 2 |
| 25 | Hormonal Responses | 5 |  |  |
| 27 | Immune System | 6 |  | Quiz 3 |
| **October 2** | Nervous System | 7 |  |  |
| 4 | Skeletal Muscle | 8 |  | Quiz 4 |
| 9 | Circulatory Response | 9 |  |  |
| 11 | Respiration | 10 |  | Quiz 5 |
| 16 | Acid-Base Balance | 11 |  |  |
| 18 | Temperature Regulation | 12 |  | Quiz 6 |
| 23 | Effects of Aerobic & Anaerobic Training | 13 |  |  |
| 25 | Resistance Training | 14 |  | Quiz 7 |
|  |  |  |  |  |
| 30 | Preventing Chronic Disease Physical Activity & Healthy Eating | 15 |  |  |
| **November 1** | Exercise Prescription for Health and Fitness | 16 |  | Quiz 8 |
|  |  |  |  |  |
| 13 | Exercise for Special Populations | 17 |  |  |
| 15 | Nutrition, Body Comp, & Weight Management | 18 |  | Quiz 9 |
| 20 & 22 | THANKSGIVING WEEK | ONLINE | CATCH UP WEEK | ONLINE |
| 27 | Factors Effecting Performance | 19 |  |  |
| 29 | Training for Performance | 20 |  | Quiz 10 |
|  |  |  |  |  |
| **December 4** | Training Female Athletes, Children, and Masters | 21 |  |  |
| 6 | Nutrition, Body Comp and Performance | 22 |  | Quiz 11 |
| 11 | Exercise & Environment | 23 |  |  |
| 13 | Ergogenic Aids | 24 |  | Quiz 12 |
|  |  |  |  |  |
|  |  |  |  |  |
| Final | 12.20.23 | 12:30 -2:30 PM | WEDNESDAY |  |

Lab Schedule

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| LAB DATE | LAB # | TOPIC | Notes/Activities | ASSIGNMENT DUE |
| **Sept 5** |  | NO LAB | DO NOT COME IN |  |
|  |  |  |  |  |
| 12 | 1 | Lab Safety & Graphing | Risks/Measurement/ Par Q/Health History |  |
| 19 | 2 | Ergometry | Monark Bikes |  |
| 26 | 3 | Metabolism & Fuel Use | RMR/EMR, Fuel Utilization |  |
| **Oct 3** | 4 | Anaerobic | Wingate |  |
| 10 | 5 | Blood Pressure & Heart Rates | Blood Pressure Testing |  |
| 17 | 6 | Ventilation |  |  |
| 24 | 7 | Cardiorespiratory Fitness Assessments | Submaximal Testing: YMCA Bike |  |
|  |  |  |  |  |
| 31 | 8 | Measurement of Maximal Oxygen Consumption | VO2 Max Testing |  |
|  |  |  |  |  |
| **Nov 7** | 9 | Body Composition & Weight Management | Calipers, BIA, Circumference Measurements |  |
| 14 | 10 | Muscular Strength & Muscular Endurance Assessments | 1RM/Multiple RM  Muscular Endurance/Power |  |
| **Nov 21** |  | THANKSGIVING WEEK | NO LAB |  |
| 28 | 11 | Rockport Walk Test & 1 Mile Sub Max Jog |  |  |
|  |  |  |  |  |
| **Dec 5** | 12 | MicroFit Testing |  |  |
| 11 |  | Make Up Lab or Extra Study Time | FORCE PLATES!! |  |
|  |  |  |  |  |
|  |  | FINALS WEEK | NO LAB |  |

**Labs:**

Each lab is designed to afford the student hands on experience of observation of techniques used in the discipline of exercise physiology. They will also aid in supplementing the lecture in class. You should read the appropriate lab handouts and chapters prior to the lab. You need to come prepared with a copy of the lab handout and report (or have access to it on your own laptop that you bring to class. **Wi-Fi does not work well in the lab so please download or print any documents needed before lab!**

**Lab Attendance:**

Attending labs is required, this will provide you with experiential learning and allow you to gain health/fitness assessment skills that you cannot do online. In the event of Covid related quarantining or other extenuating circumstances a lab may be done online but only with instructor approval. This will be a one-time exception.

**Lab Participation:**

Many labs will require that each person be a subject (you will be performing cycling exercises, body composition measurements, strength tests, etc.). By completing these tests, yourself, you can better understand the testing limitations and advantages, then simply reading about it. Your own personal fitness is unimportant. You will be sharing personal information such as age, weight, and height with others in the class. If you have any concerns about this, talk to me ahead of time. Lab Attire: During some of the labs you will be more comfortable is you are appropriately dressed for physical activity during the laboratory session. Please read the lab procedures ahead of time to know what you will be doing.

**Lab Rules**

* NO Food or Drink (except water) allowed in the lab.
* Please leave the room as you found it.
* If you use any lab equipment or supplies, please clean, and return them to their appropriate location before you leave.

**CONTRACT**:

By enrolling in this course, you agree to the following rules:

1. Be respectful of other people in class. (Not carrying on private conversations in class, participating in group discussions, etc)
2. Come dressed and ready for participation in each lab. Many of the labs involve exercise or the making of physical measurements. In most labs, everyone will participate. In a few labs, subjects will be selected in each lab group at the beginning of the semester.
3. You also agree to the late policy (-10% of points/day). If you forget to upload a lab, do it when you can and accept the late policy.
4. Complete the quizzes on your own.
5. Let the professor know when you don’t understand something, have a different opinion, have additional material to add to the lectures, or can suggest ways that would improve the learning experience for yourself or others.
6. Take responsibility for your own learning and have fun.

**Technology Support**

[**IT Service Desk**](https://www.uwsp.edu/infotech/Pages/ServiceDesk/default.aspx) - Students should direct all UWSP technology related questions and problems to the IT Service Desk. Use this link to access the IT Service Desk. You can also access the IT Service Desk by calling 715-346-4357 (HELP) or emailing [techhelp@uwsp.edu](mailto:%20techhelp@uwsp.edu).

[**Tech Essentials Training**](https://www.uwsp.edu/tlc/Pages/TechEssentials.aspx) – If you would like individual help on frequently used programs at UWSP (accesSPoint, Canvas, Office 365, Zoom, etc.) you can schedule an appointment using your Navigate app or emailing [tlctutor@uwsp.edu](mailto:tlctutor@uwsp.edu). Training is available via Zoom or in-person.

[**Office 2016/Office 365 (O365)/OneDrive**](https://www.uwsp.edu/infotech/Pages/SoftwareSupport/Office-365-OneDrive.aspx) - As a UWSP student you get access to these three Microsoft Suites. Use the link to learn more and start using the programs.

[**Zoom**](https://www.uwsp.edu/infotech/Pages/Tutorials/Zoom/Zoom.aspx)**-**Zoom is a synchronous web meeting tool. Click the link to access UWSP Zoom Support resources.

[**UWSP Accessibility Policy**](https://www.uwsp.edu/accessibility/Pages/default.aspx) - Use this link to access the UWSP Information and Communication Technology Accessibility Policy.

[**Learning Technology Privacy and Accessibility Statements**](https://www.uwsp.edu/online/Pages/Privacy-and-Accessibility-Links.aspx) - This website provides links to the Terms of Service, Privacy Policies, and Accessibility Policies for Canvas, D2L Brightspace, Blackboard Collaborate Ultra, and Kaltura.

[**UWSP Information Security Office**](https://www.uwsp.edu/infosecurity/Pages/default.aspx) - this website provides information regarding information security.

**You can protect your data and privacy by taking a few simple precautionary steps.**

1. Use different usernames and passwords for each service you use
2. Do not use your UWSP username and password for any other services
3. Use secure versions of websites whenever possible (HTTPS instead of HTTP)
4. Have updated antivirus software installed on your devices

**ChatGPT and AI**

One goal of this course is for you to work on developing the discipline-specific writing skills that you will need to be successful as a professional in this field. I want to acknowledge that recent buzz about ChatGPT and other generative AI tools poses some interesting questions about the need for developing these skills, and how such tools can be used in higher education. Given that this technology is still in its infancy and that my goal is for you to develop your skills as writers, the unauthorized use of ChatGPT or other AI writing tools is not permitted in this course. Students found to be using such tools will be considered as engaging in conduct aimed at making false representations of a student's academic performance and will be subject to disciplinary action as defined in the [UWSP Academic Misconduct Policies](https://www3.uwsp.edu/dos/Documents/UWSP14-Final2019.pdf).

**Emergency Procedures**

**Medical emergency - call 9-1-1** or use campus phone [list location in room or nearest your classroom]. Offer assistance if trained and willing to do so. Guide emergency responders to victim.

**Tornado warning -** **proceed to the lowest level interior room** without window exposure at [list primary location for shelter closest to classroom,].   See [UWSP Evacuation Floor Plans](http://www.uwsp.edu/rmgt/Pages/em/procedures/other/floor-plans.aspx) for floor plans showing severe weather shelters on campus.  Avoid wide-span structures (gyms, pools or large classrooms).

**Fire alarm -** **evacuate the building** in a calm manner. Meet at [state logical location to meet 200 yards away from building]. Notify instructor or emergency response personnel of any missing individuals.

**Active Shooter – RUN. HIDE. FIGHT.** If trapped, hide, lock doors, turn off lights, spread out and remain quiet. Call 9-1-1 when it is safe to do so.  Follow instructions of emergency responders.

See UW-Stevens Point Emergency Procedures at [UW-Stevens Point Emergency Procedures](https://www3.uwsp.edu/emergency/Pages/emergency-procedures.aspx) for details on all emergency response at UW-Stevens Point

# **Online Mental Health Resources**

The [UWSP Counseling Center](https://www.uwsp.edu/counseling/Pages/default.aspx) offers several mental health resources for students, please see the resources below.

* [Mantra Health](https://app.mantrahealth.com/register): Teletherapy & Telepsychiatry
  + Diverse therapists
  + After-hours availability
  + Medication evaluations & prescriptions
* [You@UWSP:](https://you.uwsp.edu/) Self-help & Well-being Platform
* Didi Hirsch Mental Health Services: 24/7 Mental Health Support
  + Call or text: 888-531-2142
  + [Start a Chat Session](https://na0messaging.icarol.com/ConsumerRegistration.aspx?org=2036&pid=813&cc=en-US)
  + Crisis care is available

# Academic Support

[UWSP Online-Online Student Support](https://www.uwsp.edu/online/Pages/Student-Support.aspx) - The UWSP Online-Student Support page is the go-to resource for online students. On the page you will find technology instruction sheets, support videos, and more.

[UWSP Online Student Readiness Self-Assessment](https://www.uwsp.edu/online/Pages/Online%20Student%20Orientation.aspx) - This self-paced tool is a great starting point for online students who want to assess and build their online learning skills. Use this link to access the tool.

[UWSP Office of the Dean of Students](https://www.uwsp.edu/dos/Pages/default.aspx) - The Office of the Dean of Students provides direct care to students who may need additional support, connection to resources, or help navigating questions or concerns.

[Off Campus Access to Library Resources](https://common-cartridge-viewer.netlify.app/$WIKI_REFERENCE$/pages/off-campus-access-to-library-resources) - Students can access library journals, databases, ebooks, and streaming videos from off campus.

[Text Rental Information for Online Students](https://uwsp.bncollege.com/shop/uw-stevens/page/textbook-rentals) - Visit the UWSP Bookstore text rental site for more information.

[Tutoring-Learning Center (TLC) at UWSP](https://www.uwsp.edu/tlc/Pages/default.aspx)- The TLC provides multiple services forall UWSP students – Stevens Point, Marshfield, Wausau, and online. Tutoring offices are located on the Stevens Point, Wausau, and Marshfield campuses and many services are also available online. Services include writing support, STEM tutoring, world languages tutoring, academic coaching, independent writing courses, academic success courses, Foundations of Reading Test (FoRT) preparation, technology essentials training, and English as a Second Language (ESL) support.

[Disability Resource Center (DRC)](https://www.uwsp.edu/drc) - If you are a student who requires accommodations due to a disability, please inform the instructor and contact the Disability Resource Center by calling (715) 346-3365 or emailing [drc@uwsp.edu](mailto:drc@uwsp.edu).

[Academic and Career Advising Center (ACAC)](https://www.uwsp.edu/ACAC/Pages/default.aspx) - ACAC can provide students support with course registration, major and career exploration, career development, resumes, job searches and more**.**