

# HED 446 Optimal Bone & Muscle Development Fall 2016

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## Instructor

Dr. Christine Dobrowolski

**Email:** christine.dobrowolski@humboldt.edu

**Phone/Fax:** 888-731-2186

**Virtual Office Hours:** Monday 2:00 - 3:00 PM

**Web Conference/Chat:** by appointment

I will always answer your questions within 24 hours. If you do not hear from me, please email again. I tend to go to bed early (9:30-10:00). If you ask me a question right before the 11:55 PM forum, quiz or exam deadline, I will likely not answer until the following morning. I tend to take time away from the computer on Saturday, but will still check in at least once during the day for questions. Although I set aside time for office hours, I am available for questions any time. I am also happy to schedule a time for a Google Hangout, chat session or phone call.



Running Man from BodyWorlds Exhibit

## Course Description

### Course Overview

This is a 3-unit upper division course. This course begins with an overview of bone and muscle development, physiology and metabolism, and the role of nutrition and exercise in these stages. Once the foundation has been formed, factors that enhance or interfere with both bone and muscle health, including age, genetics, soft tissue factors, and finally injury and repair, will be explored through the various stages of the lifespan. This course will be taught in Canvas.

### Course Goals

The goal of this online course is to explore the impact of nutrition and exercise on the development of strong bones and healthy muscle. Students will acquire a strong understanding of muscle tissue development, the energy systems required to fuel this development, hormonal regulatory mechanisms, and the synergistic aspects of exercise and nutrition related to maintenance, repair, and strength development.

## Course Prerequisites

Before enrolling in this class, it is required that you have completed either *HED 342 Nutrition for Athletic Performance* or another college level nutrition course. This will ensure you have a solid background in basic nutrition vocabulary. You are required to be a third or fourth year student to take this course and as Exercise Science and Kinesiology majors you will have taken human physiology. This course builds on basic bone and muscle physiology concepts. Please [contact the instructor](#) if you have not taken human physiology.

## Technical Competencies

In this course you are expected to be able to:

- Connect to the internet using a web browser ([Firefox](#) or [Chrome](#) are recommended)
- Navigate the internet using search engines
- Send and receive email, using attachments
- Open, save and manage files such as text documents

In the course you will learn how to:

- Create an account in [VoiceThread](#) and participate in VoiceThread presentations
- Develop a website using free website building software

Are You Ready for Online Learning? Take the [Self Assessment for Online Learning Success](#).

## Learning Outcomes

### Humboldt State University Learning Outcomes

HSU graduates will have demonstrated:

- Effective communication through written and oral modes.
- Critical and creative thinking skills in acquiring a broad base of knowledge and applying it to complex issues
- Competence in a major area of study.
- Appreciation for and understanding of an expanded world perspective by engaging respectfully with a diverse range of individuals, communities and viewpoints.

## **Kinesiology Student Learning Outcomes**

Students completing the Bachelor of Science in Kinesiology will be able to:

- Identify and explain the concepts of kinesiology.
- Analyze, synthesize and evaluate relevant information from scientific literature to inform professional practice.
- Demonstrate effective written and oral communication for the discipline of kinesiology
- Apply knowledge and skills from kinesiology to promote health and physical activity and optimize performance among diverse populations.

## **HED 446 Course Objectives**

Upon completion of this course, you will be able to:

- Explain the determinants that influence bone and muscle development besides nutrition and exercise, including age, genetics, soft tissue factors, and lifestyle
- Compare and contrast the methods used to measure muscle and bone properties
- Describe the basic muscle anatomy and physiology
- Describe the development of the bone matrix including the influence of various nutrients and exercise
- Explain the fuel systems role in bone and muscle metabolism
- Determine the energy requirements necessary to maintain adequate lean muscle or to increase lean muscle mass.
- Assess the current literature regarding the effects of targeted bone loading during childhood through the advancing years
- Plan a diet that will enhance bone density and improve muscle mass across the lifespan utilizing a computerized nutrition analysis program
- Summarize the role of hormones as regulators in bone and muscle metabolism
- Evaluate conditions under which both bone and muscle may be negatively impacted including over-exercising, extreme weight restriction, and other extreme conditions.

## **Course Policies**

Each student is expected to complete all course assignments by the date indicated on the syllabus unless previously discussed with me. In addition, exams must be taken on the day

scheduled. If you are unable to take an exam on the given date, please notify me either by telephone or email prior to the date. Any person failing to contact me before the time of the exam will not receive credit. You are responsible for learning the lecture and class discussion material as well as the assigned readings.

## Student Agreement

You must agree to the course policies by taking the [Student Agreement](#) within Modules before you can access the course material.

## Add/Drop Policy

Students are responsible for knowing the [University Add/Drop policy](#), procedures, and schedule for dropping and adding classes. If you do not login to this course within the first week of the course, your access will be removed from the course. If your access has been removed, contact me at [Christine.Dobrowolski@humboldt.edu](mailto:Christine.Dobrowolski@humboldt.edu) to discuss your options. If you decide to drop the course, be sure to officially withdraw. If you do not participate in class (in the forum) during the first week of class, you will be dropped from the class.

### ***Avoid Being Dropped***

If you do not login to this course within the first week of the course, your access will be removed from the course. If your access has been removed, contact me at [Christine.Dobrowolski@humboldt.edu](mailto:Christine.Dobrowolski@humboldt.edu) to discuss your options. If you decide to drop the course, be sure to officially withdraw. Read the [Humboldt State University Attendance policy](#) (*a new browser window will open*) to make sure you understand the effect on your grade point average if you decide to withdraw but do not officially drop this course. **If you do not participate in class (in the forum) during the first week of class, you will be dropped from the class.**

## Late Work Policy

You cannot make up quizzes, exams or discussions. You lose 1 point per day your initial forum post is late. I accept posts up until Sunday night. No forum posts after Sunday night are accepted. You lose 1 point per day your meal plan is submitted late. You have 2 weeks to submit your meal plan late. You lose 1 point per day Part 1 of your Website Project is emailed late and you have 20 days to submit your url late. You lose 5 points per day Part 2 is completed late and you have 1 week to complete Part 2 of the Website Project after the due date. No late midterms and no late final exams.

The **only exception for late work** is a major medical emergency. You will need to scan (or take a picture) and [email](#), or fax a doctor's note (fax: 888 731-2186).

## Disruptive Classroom Behavior

Student behavior or writing that disrupts the instructional setting will not be tolerated. Disruptive conduct may include, but is not limited to: unwarranted interruptions; failure to adhere to instructor's directions; vulgar or obscene language; slurs or other forms of intimidation; and physically or verbally abusive behavior. In such cases where the instructor determines that a student has disrupted the educational process a disruptive student may be temporarily removed from class. Please review the [Student Code of Conduct](#) and the [Disruptive Behavior Policy](#).

## Academic Honesty

***What are the ground rules in this course for you, the student?***

1. Prepare to the best of your ability for every aspect of this course.
2. Avoid cheating yourself with the opportunity to learn how to write your own thoughts: don't plagiarize. Be sure to give credit where credit is due and cite your sources or use footnotes or endnotes.
3. Learning through collaboration (defined as working with or receiving assistance from another) is an effective tool used in this class and in your future employment. When I expect you to collaborate, I'll make it very clear in the assignment instructions. All other work in this class is to be done independently.
4. All examinations in this class will be done online. I expect you to take these tests independently, without assistance from anyone else either in the class or elsewhere. Anything less than independent work is defined as cheating and violates the academic honesty code for this course. Therefore, asking for clarification on a test question from anyone other than me, the instructor, through use of the telephone, IM, or email would be violating the policy.
5. If you haven't already, read the [Humboldt State University Academic Honesty Policy](#) to make sure you understand the consequences associated with violating the code.

***What you can expect from me during this course:***

1. I will prepare and review course materials to be as current and accurate as possible.
2. I will be available to answer questions or issues that may arise for you during this course.
3. I will try to the best of my ability to prepare you for the exams and other assessments in this course.
4. I will utilize fair and honest evaluation techniques for each assignment required for this course.
5. To the best of my ability, make this a valid and worthwhile learning experience.

If we all live up to our academic responsibilities, this course will be meaningful for all who

participate. Please feel free to discuss these points with me at any time during the course this semester.

## Academic Honesty Policy

Students are responsible for knowing Humboldt State University's policy regarding academic integrity and honesty. I recommend reading through the [Academic Honesty Policy](#).

### ***Plagiarism***

Copying information directly from the textbook, my VoiceThread notes or a website is plagiarism and considered cheating. Your contributions in the discussion forum, assignments and exams must be your own work. If you want to use a few words or a sentence or two of mine or the textbook, make sure you use quotes and reference it. For more information, please see [Plagiarism.org](http://Plagiarism.org)

## Consequences of Cheating

If a student is caught cheating, they will receive a "0" on the assignment will be referred to the Office of Student Rights & Responsibilities. If a student has plagiarized, they will receive a "0" on the assignment and a warning. On the second instance of plagiarism, the student will be referred to Office of Student Rights & Responsibilities. When a case is referred to the Office of Student Rights & Responsibilities, the consequences might include, but are not limited to:

- requiring special counseling
- loss of membership in organizations
- suspension or dismissal from individual programs or disciplinary probation,
- suspension or expulsion from the University
- suspension or expulsion from the CSU system

If we all live up to our academic responsibilities, this course will be meaningful for all who participate. Please feel free to discuss these points with me at any time during the semester.

## Netiquette

Netiquette is etiquette in the online learning environment. There are some basic rules for behaving properly online. Use correct spelling, don't text type, offer tips and share experiences. I expect you to respect your peers and keep your posts polite with no foul language and no insults. Be aware that what may seem funny to you at that time, may come across as insulting to other students reading your posts. [Core Rules for Netiquette](#).

# Accommodations

## Learning Styles

I feel I have a responsibility to support a variety of learning styles. The study aid that is the most helpful for one student might confuse another student. For this reason, I have created a number of ways to deliver course content and assist in student self assessment, including videos, animations, cartoons, text, media and interactive self-assessment activities. I have alternative assignments available for those of you who are unable to use the technological tools in this course.

## Student Disability Accommodation

If you are eligible for disability related accommodations as per determination by our campus Disability Resource Center, please contact me as soon as possible. I will make appropriate accommodations based on your specific needs. Our campus [Student Disability Resource Center](#) (DRC) can assist you with determining eligibility for accommodations and can be reached at: (707) 826-4678, (707) 826-5392 TDD. The DRC is located in House 71 (Little Apartments) off library circle. For more information, you can view the [Summary of Policies for Students with Disabilities](#) and [HSU Policy on Accommodating Individuals with Disabilities](#).

## Accessibility

This course was designed with accessibility in mind. However, if you discover something that is not as accessible as it could be, please contact me so I can make the appropriate changes. Moodle is our learning management system and Moodle's goal is to be fully accessible and usable for all users, regardless of ability. For more details, view the Moodle Accessibility Statement.

## Religious Accommodation

If academic work conflicts with your religious practices and/or observances, you may request reasonable accommodations, in advance of the assignment due date. Your request must be submitted to me in writing and I may review the request with the Office of Student Rights & Responsibilities.

# Required Course Materials

## Required Textbook and Software

For this course you are not required to purchase any course materials.

### Reading Assignments

There is no textbook required for this course. All of the reading will be online and can be found on the [reading assignments](#) page available from the home page, and within the weekly Modules.

## SuperTracker

[SuperTracker](#) is a free, online diet analysis program. One of your learning outcomes for this course is plan a meal plan that will enhance bone density and improve muscle mass utilizing a computerized nutrition analysis program. You will be creating a meal at the end of the semester using this program. If you have access to another diet analysis program (eg: MyDietAnalysis or Diet Analysis Plus 10.0), you can use these programs instead.

## Suggested Resources

- Watkins, R., and Corry, M. *E-Learning Companion: A Student's Guide to Online Success*, Houghton Mifflin, 2005. Available from:
  - the HSU Bookstore
  - on Reserve at the Library
  - [Amazon.com](#) (a new browser window will open)
  - [Barnes and Noble](#) (a new browser window will open), or
  - [Campus.com](#) (a new browser window will open)

## Required Online Learning Tools

### VoiceThread

I will be delivering lectures via VoiceThread this semester. VoiceThread allows me to present the weekly course material in a narrated slideshow. The program also allows you to interact with the material and quiz yourself as you progress through material. You are not required to register for a VoiceThread account or to comment on my VoiceThreads, but you are required to watch the VoiceThreads, or alternatively, read the transcripts. I have transcripts available for each weekly VoiceThread and with each slide for use with [VoiceThread Universal](#). We'll spend the first week of class troubleshooting any VoiceThread viewing problems. [Register for VoiceThread. VoiceThread Sign-Up Instructions](#). View from your phone, download the [VoiceThread App](#)!

### Website Builder

You will be creating a website on bone and muscle development using your choice of free website builders. This project will allow you to bring all of the information you have learned about the nutritional influence on bone and muscle development together. Website builder options include [Blogger](#), [Weebly](#), [WIX](#), [WordPress](#), [Site123](#), [IMCreator](#), [SiteBuilder](#),



[Sitey](#), or any other website builder you want to use. For detailed website creation instructions, see the [Website Development Instruction page](#). If you find all website builders inaccessible, please contact me.

## Course Assignments

### Website – Year End Project

| Part | Description and Percent of Grade  | Due Dates: 11:55 PM     |
|------|---|-------------------------|
| 1    | Create account and submit in Assignments<br><br>20% of project grade; 5% of total grade | Sunday, October 9th     |
| 2    | Create bone and muscle website<br><br>80% of project grade; 15% of total grade          | Wednesday, December 7th |

This semester you will be creating a website on the nutritional influence on bone and muscle development for athletes. You'll have some freedom in regards to the type of website you create, the overall design and the specific focus of your website. The website project is worth about 20% of your total grade.

During the seventh week of class you will be creating an account within a website builder, setting up your website and emailing me your url. During week 14, you will spend the entire week working on your website project. The project will be due the following week. You can use any software you want to build your website. Some free website builder options include [Weebly](#), [WIX](#), [WordPress](#), [Site123](#), [IMCreator](#), [SiteBuilder](#), [Sitey](#) and [Blogger](#).

[Detailed website project instructions](#)

Grading Rubric for Part 1 of the project

Grading Rubric for Part 2 of the project

*If you are unable to access or use a website creator, please [contact me](#) about your options for this project prior to Week 7.*

### Class Participation - Forum

Your class participation is the largest part of your grade, 35% of your total grade for the class. The [discussion forums](#) will reflect weekly material and will consist of case studies and

debates. Your initial post will be due on Thursday night at 11:55 PM each week. You are required to have two responses by Sunday night at 11:55 PM. Your posts should be dispersed, posted on two different days. The due dates for forum participation are the same each week, but the instructions and grading rubrics will differ. The one exception for due dates is your meal plan week.

### Forum Participation Due Dates and Guidelines

- Your initial post is **due on Thursday by 11:55 PM** in the forum.
- Your two follow up comments are due by **Sunday at 11:55 PM** in the forum.
- You need to post on two different days each week.
- You need to reply to those without comments first.

I will provide comments each week within the forum to help guide you, but I will mostly be taking a backseat to allow more interaction and engagement between students. I will address each forum group individually as needs arise. I will always be there to answer questions, provide clarification and offer direction.

I will be using a Grading Rubric each week to evaluate your posts. To view the grading rubric for each week, click on gear icon in the upper right hand corner of the discussion, then click on "Show Rubric".

For detailed information on the discussion forum, see the [Discussion Guide](#).

## Exams

You have two exams this semester, a midterm and a final exam. Both exams will be taken online. You will have 1 week to take your midterm and 5 days to take your final exam. Although you have multiple days to find a time to take the exam, the exams are timed and you must complete the exams in one sitting. The exams consist of multiple choice, true false, short answer and essay. The midterm is worth 10% of your total grade and the final exam is 15% of your total grade.

- The **midterm exam** will become available Monday morning during Week 8 and close Sunday night at 11:55 PM.
- The **final exam** will become available Monday morning during Week 16 and close Friday night at 11:55 PM.

Remember:

1. You must complete the exam independently--you may not receive assistance from any other person.
2. Be prepared with a comfortable, quiet place to work and concentrate before beginning.
3. You may use the internet, textbook, outside readings, notes, etc. to complete this test. ***It's important that you open a new browser window for searching the internet.***

## Quizzes

You have 10 quizzes this semester. The quizzes are worth 15% of your overall grade. The quizzes are drawn from a pool of questions. They are not timed. After you take the quiz, the feedback is immediately available. You have the opportunity to take the quiz three times to improve your grade. The highest grade is your final grade.

## Grading Breakdown

1. **Assignments:** 25% of your overall grade
  - **Website Project:** 20% of your overall grade
    - Part 1: 20% of project grade, 5% of overall grade
    - Part 2: 80% of project grade, 15% of overall grade
  - **Meal Plan:** 5% of your overall grade
2. **Weekly Forum Participation:** 10 graded discussion forums, 35% of your overall grade
3. **Quizzes:** 10 quizzes, 15% of your overall grade.
4. **Exams:** 25% of your overall grade
  - **Midterm** ~ 10%
  - **Final Examination** ~ 15%

## Course Evaluation

The course grade is based on the percentage of total points you earn. The following breakdown illustrates your final grade:

- 95 - 100% A
- 90 - 94.9% A-
- 87 - 89.9% B+
- 83 - 86.9% B
- 80 - 82.9% B-
- 77 - 79.9% C+
- 73 - 76.9% C
- 70 - 72.9% C -
- 60 - 69.9% D
- less than 60% F

## Text Reminders

Want to receive text reminders on your phone for assignment, exam and forum due dates with Remind 101. It's Easy!

1. Grab your phone!
2. Text 81010 (or 669-600-2077)
3. In the message area add @hed446f15
4. Press send
5. You'll receive a reply text within minutes
6. Reply back by writing out your name (can be your first name only)
7. You are signed up!

## Student Resources

Humboldt State University has a variety of student services. If you are having general technical issues, contact the Tech Help Desk. Moodle specific issues should be directed toward the Moodle Help Desk. If you need help with course material, you can always contact me, but another option is the Tutoring Center. The Writing Center offers peer assistance with writing assignments. The Advising Center can help you achieve your educational goals. We all know that being a student is difficult. It can be challenging to balance academic work, sporting commitments, work and/or social life without becoming overwhelmed. The goal of the Counseling and Psychology Center is to promote the wellbeing of HSU students. If you are unsure which service may best suit you, you can always [contact me](#). These resources are also located on the home page in the right hand column (*resources open in a new browser window*).

### ***Library Research Guide for Kinesiology***

[Kinesiology Research Guide](#)

<http://libguides.humboldt.edu/kins>

### ***Technology Help Desk***

If you are experiencing technical issues, please contact [Tech Support](#).  
(<https://www.humboldt.edu/its/services/help-desk>)

**Online:** [Request Help](#) (<https://www.humboldt.edu/tech-help>)

**Phone:** (707) 826-HELP (4357)

**Email:** [help@humboldt.edu](mailto:help@humboldt.edu)

**In Person:** Library 120 • [Hours](#)

### ***Moodle Help***

If you are experiencing a problem with Moodle, contact Moodle Help.

**Moodle Help Line:** (707) 826-3633  
**Moodle Help Email:** [mdlsos@humboldt.edu](mailto:mdlsos@humboldt.edu)

### ***Learning Center***

#### [Tutorial Services](#)

[http://humboldt.edu/learning/tutorial\\_services.php](http://humboldt.edu/learning/tutorial_services.php)

#### [Writing Center](#)

[http://www.humboldt.edu/learning/writing\\_center/](http://www.humboldt.edu/learning/writing_center/)

**Location:** Library 32

**Phone:** (707) 826-5217

### ***Advising Center***

#### [Advising Center](#)

<http://www.humboldt.edu/advice/>

### ***Library***

#### [HSU Library Website](#)

<http://library.humboldt.edu/>

### ***Counseling & Psychology***

#### [Counseling Services](#)

<http://www2.humboldt.edu/counseling/>

### ***Campus Policies***

#### [Campus Policies and Resources](#)

<http://www2.humboldt.edu/academicprograms/syllabus-addendum-campus-resources-policies>

## HED 446 Fall Course Schedule 2016

| Week | Topic   | Discussion Forum   | Quiz/Assignments   |
|------|---|--|--|
| 1    | <b>Introduction</b><br><br><b>Bone Anatomy Review</b>                         | Introductions due Thursday at 11:55 PM<br><br>Two replies due Sunday at 11:55 PM   | Quiz 1 Due Sunday at 11:55 PM<br><br><i>Practice Quiz - Bone Anatomy</i>                                   |
| 2    | <b>Biomechanics</b><br><br><b>Influence of Exercise on Bone</b>               | Initial response due Thursday at 11:55 PM<br><br>Two replies due Monday at 11:55 PM<br><br><i>* due date extended due to Labor Day</i> | Quiz 2 Due Monday at 11:55 PM<br><br><i>* due date extended due to Labor Day</i>                           |
| 3    | <b>Bone Nutrition 1: Macronutrients and Minerals</b>                          | Debate response due Thursday at 11:55 PM<br><br>Two replies due Sunday at 11:55 PM   | Quiz 3 Due Sunday at 11:55 PM  |
| 4    | <b>Bone Nutrition 2: Vitamins and Lifestyle</b>                               | Case Study due Thursday at 11:55 PM<br><br>Two replies due Sunday at 11:55 PM  | Quiz 4 Due Sunday at 11:55 PM  |
| 5    | <b>Influence of gender, genetics, race and endocrine systems on bone</b>      | Client creation due Thursday at 11:55 PM<br><br>Two replies due Sunday at 11:55 PM   | Quiz 5 Due Sunday at 11:55 PM  |
| 6    | <b>Age related changes in bone</b><br><br><b>Measuring properties of bone</b> | Debate response due Thursday at 11:55 PM<br><br>Two replies due Sunday at 11:55 PM   | Quiz 6 Due Sunday at 11:55 PM  |
| 7    | <b>Website Development</b><br><br><b>Reflection Week</b>                      | <i>No graded forum: extra credit forum</i><br><br>Initial response due Thursday at 11:55 PM<br><br>Two replies due Sunday at 11:55 PM  | No quiz<br><br>Email url to <a href="mailto:cd40@humboldt.edu">cd40@humboldt.edu</a> by Sunday at 11:55 PM |

|    |   |  |  |
|----|---|--|--|
| 8  | <b>Midterm Week</b><br><b>Muscle Anatomy Review</b>                           | No forum   | Midterm Due Sunday at 11:55 PM<br><br>No graded quiz<br><br>Muscle Anatomy practice quiz |
| 9  | <b>Muscle Nutrition 1:</b><br><b>Macronutrients</b><br><b>Nutrient Timing</b> | Debate response due Thursday at 11:55 PM<br><br>Two replies due Sunday at 11:55 PM   | Quiz 7 due Sunday at 11:55 PM  |
| 10 | <b>Muscle Nutrition 2:</b><br><b>Micronutrients</b>                           | Client creation due Thursday at 11:55 PM<br><br>Two replies due Sunday at 11:55 PM   | Quiz 8 due Sunday at 11:55 PM  |
| 11 | <b>Influence of exercise on muscle</b><br><b>Age related changes</b>          | Debate response due Thursday at 11:55 PM<br><br>Two replies due Sunday at 11:55 PM   | Quiz 9 due Sunday at 11:55 PM  |
| 12 | <b>Injury Prevention and Repair</b>   | Client creation due Thursday at 11:55 PM<br><br>Two replies due Sunday at 11:55 PM   | Quiz 10 due Sunday at 11:55 PM   |
| 13 | <b>Meal Plan for bone and muscle</b>  | Post your meal plan in forum by Wednesday at 11:55 PM<br><br>Provide feedback to two group member's meal plans by Friday at 11:55 PM | No quiz<br><br>Submit meal plan in assignments by Sunday night at 11:55 PM               |
|    | <b>Fall Break</b>   |  |  |
| 14 | <b>Website development</b>  | No graded discussion forum<br><br>Optional collaboration forum   | Nothing due this week!<br><br>Website project due next Wednesday                         |
| 15 | <b>Website Development</b>  | <i>No graded forum: extra credit forum</i>   | Website due Wednesday at 11:55 PM  |

|           |                        |   |                                   |
|-----------|------------------------|---|-----------------------------------|
|           | <b>Reflection Week</b> | Post url in forum by Thursday at 11:55 PM<br><br>Two replies due Sunday at 11:55 PM | No quiz                           |
| <b>16</b> | <b>Finals Week</b>     | No discussion forum   | Final Exam Due Friday at 11:55 PM |

*Schedule and due dates are subject to change.*