



The University of  
**Montana**

Department of Health and Human Performance  
McGill Hall – Room 109  
The University of Montana  
Missoula, Montana 59812-4536  
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# **The University of Montana Graduate Programs in the Department of Health and Human Performance**



[http://www.soe.umt.edu/hhp/hhp\\_master/default.shtm](http://www.soe.umt.edu/hhp/hhp_master/default.shtm)

## UNIVERSITY OF MONTANA

Nestled in the Rocky Mountain grandeur of western Montana, Missoula is the hub of five valleys and three major rivers – the Blackfoot, the Bitterroot and the Clark Fork. Roughly halfway between Glacier and Yellowstone national parks, Missoula is a blend of small-town charm and big-city sophistication.

One of the first things visitors notice is how friendly people are here. With about 60,000 residents and visitors from around the globe, the city has an increasingly diverse population. On summer Saturdays, Missoulians congregate at the Farmer's Market for fresh produce, coffee and conversation. Year-round, they meet on the recreational trails that run alongside the river through the heart of downtown and past campus. Hiking, bicycling, fly fishing, river rafting and skiing are all big here.

Local restaurants serve up everything from steak and potatoes to Thai noodles, while an array of coffeehouses, pubs, nightclubs and movie theaters provide diversion. Residents come from around the region to shop the city's department and discount stores, shopping mall and specialty boutiques. Missoula boasts a thriving downtown. It's no wonder that the book "How to Get an Ivy League Education at a State University" called Missoula "a Rocky Mountain Berkeley ... the kind of place many people hate to leave."

Maps and virtual tours <http://www.umt.edu/DiscoverUM/Maps/>  
<http://www.umt.edu/virtualtour/>  
on campus housing <http://life.umt.edu/rlo>  
financial aid <http://life.umt.edu/finaid>  
campus visits <http://admissions.umt.edu/visit.html>

## PROGRAM DESCRIPTIONS

The Department of Health and Human Performance (HHP) in the School of Education at UM has three different Masters degree curriculum tracks, each with the option of a thesis or professional paper. The three options are Exercise Science, Health Promotion, and HHP Generalist.

### CAREER OPPORTUNITIES:

#### Athletic Programs:

- Strength & Conditioning Coach
- Sport Coach

#### Exercise & Fitness Center:

- Program Director
- Personal Trainer
- Exercise Specialist
- Fitness Instructor

#### Hospital Wellness Programs:

- Program Director
- Exercise Specialist
- Fitness Instructor
- Health/Patient Educator

#### Corporate Fitness Programs:

- Program Director
- Exercise Specialist
- Health Promotion Specialist

#### Rehabilitation Centers:

- Exercise Specialist
- Exercise Testing Technician

#### Health Promotion

- Non-Profit Program Director
- Public Health Specialist
- Human Resources or Wellness Program Director/Specialist
- Community Health Specialist

- Indian Health Service or Tribal Health Program Disease Prevention Specialist
- HIV/AIDs Community Program Director/Specialist
- Employee Health Program Specialist
- University/College Student Wellness Program Specialist

#### Preparation for Further Study In:

- Physical Therapy
- Medicine
- Physician's Assistant
- Chiropractic Medicine
- Exercise Physiology
- Nutritional Science
- Graduate Programs (Ph.D.)
- Nursing
- Community Health/Public Health

#### Other Allied Areas:

- Research & Development
  - Exercise Equipment
- Sales
  - Exercise & Testing Equipment
  - Pharmaceuticals
- Sports Performance & Fitness Testing

## EXERCISE SCIENCE

The **Thesis option** is designed for those advanced students who intend to pursue further graduate studies in Exercise Physiology or another related field of Health Sciences. This option involves a more intensive study of laboratory methods and statistical and research design. An additional expectation of students selecting this option involves assistance with ongoing research of faculty and other graduate students.

The **Professional Paper option** is intended for those students who plan to pursue professional careers in Exercise or Applied Health Sciences (corporate/adult fitness, cardiac rehabilitation). This option involves additional required course work and the preparation of a non-data based professional paper (i.e., comprehensive review).

| <b>Core Requirements (19 credits)</b> |   |  | <b><u>Credits</u></b> |
|---------------------------------------|---|--|-----------------------|
| HHP 486                               | Statistical Procedures in Education       |  | 3                     |
| HHP 520                               | Educational Research                      |  | 3                     |
| HHP 529                               | Advanced Physiology of Exercise I         |  | 3                     |
| HHP 530                               | Advanced Physiology of Exercise II        |  | 3                     |
| HHP 524                               | Ethics in Health & Human Performance      |  | 3                     |
| HHP 531                               | Laboratory Procedures in Exercise Science |  | 2                     |
| HHP 594                               | Graduate Seminar                          |  | <u>2</u>              |
|                                       |   |  | Total 19              |

### **Thesis Option Requirements: (37 credits minimum)**

|         |        |  |   |
|---------|--------|--|---|
| HHP 699 | Thesis |  | 6 |
|---------|--------|--|---|

### **Professional Paper Option Requirements: (43 credits minimum)**

|         |  |  |   |
|---------|--|--|---|
| HHP 483 | Exercise, Disease and Aging - Lecture    |  | 3 |
| HHP 484 | Exercise, Disease and Aging – Laboratory |  | 1 |
| HHP 599 | Professional Paper                       |  | 3 |

### **In Department Electives (6-9 credits)**

|         |  |  |     |
|---------|--|--|-----|
| HHP 446 | Nutrition for Sport                                    |  | 3   |
| HHP 475 | Legal & Ethical Issues in the Exercise Professions     |  | 3   |
| HHP 482 | Electrocardiogram Assessment                           |  | 1   |
| HHP 483 | Exercise, Disease and Aging - Lecture                  |  | 3   |
| HHP 484 | Exercise, Disease and Aging – Laboratory               |  | 1   |
| HHP 545 | Special Topics: Advanced Nutrition and Chronic Disease |  | 2-3 |
| HHP 597 | Research   |  | 3   |
| HHP 598 | Internship   |  | 1-3 |

### **Out-of-Department Electives (minimum 6 credits)**

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## HEALTH PROMOTION

The Health Promotion Graduate option is designed to provide students with an in-depth knowledge of the role of program planning and behavioral science theory in the development of health related programs designed to improve the physical, mental and social health of individuals and communities. Graduates in Health Promotion are prepared to work in a variety of settings. These include non-profit health organizations, public health departments, corporate wellness programs, college and university human resource and wellness programs, community health agencies, and primary health care sites such as hospitals and health organizations.

| <b>Core Requirements (20 credits)</b> |     |   | <b><u>Credits</u></b> |
|---------------------------------------|-----|---|-----------------------|
| HHP                                   | 485 | Theories of Health Behavior & Counseling      | 3                     |
| HHP                                   | 486 | Statistical Procedures in Education           | 3                     |
| HHP                                   | 520 | Educational Research                          | 3                     |
| HHP                                   | 524 | Ethics in Health & Human Performance          | 3                     |
| HHP                                   | 540 | Health Promotion Strategies                   | 3                     |
| HHP                                   | 541 | Program Development in the Health Professions | 3                     |
| HHP                                   | 594 | Graduate Seminar                              | 2                     |
|                                       |     |   | Total 20              |

### **Thesis Option Requirements: (38 credits minimum)**

|     |     |        |   |
|-----|-----|--------|---|
| HHP | 699 | Thesis | 6 |
|-----|-----|--------|---|

### **Professional Paper Option Requirements: (38 credits minimum)**

|     |     |                    |   |
|-----|-----|--------------------|---|
| HHP | 598 | Internship         | 3 |
| HHP | 599 | Professional Paper | 3 |

### **In Department Electives (minimum 6 credits)**

|     |     |  | <b><u>Credits</u></b> |
|-----|-----|--|-----------------------|
| HHP | 415 | Health & the Mind/Body Relationship                | 3                     |
| HHP | 425 | Relaxation & Self-Enhancement                      | 3                     |
| HHP | 430 | Health Aspects of Aging                            | 3                     |
| HHP | 446 | Nutrition for Sport                                | 3                     |
| HHP | 475 | Legal & Ethical Issues in the Exercise Professions | 3                     |
| HHP | 483 | Exercise, Disease and Aging - Lecture              | 3                     |
| HHP | 484 | Exercise, Disease and Aging – Laboratory           | 1                     |
| HHP | 529 | Advanced Physiology of Exercise                    | 3                     |
| HHP | 545 | Advanced Nutrition and Chronic Disease             | 2-3                   |
| HHP | 597 | Research   | 1-3                   |
| HHP | 598 | Internship   | 3                     |

### **Out-of-Department Electives (minimum 6 credits)**

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## HHP GENERALIST

This option prepares students who are seeking a broad general knowledge in the field of Health and Human Performance. The broad-based option responds to the needs of students who do not desire to specialize, but want to focus on the diversity of Health and Human Performance. The broad-based option offers the flexibility to design individualized programs, enabling students to pursue career paths requiring expertise in multiple areas.

### **Degree Course Work Requirements (14 credits)**

|     |     |  | <u>Credits</u> |
|-----|-----|--|----------------|
| HHP | 486 | Statistical Procedures in Education    | 3              |
| HHP | 520 | Educational Research                   | 3              |
| HHP | 524 | Ethics in Health and Human Performance | 3              |
| HHP | 540 | Health Promotion Strategies            | 3              |
| HHP | 594 | Graduate Seminar                       | 2              |
|     |     |  | Total 14       |

### **Thesis Option Requirements: (37 credits minimum)**

|     |     |                   |   |
|-----|-----|-------------------|---|
| HHP | 596 | Independent Study | 2 |
| HHP | 699 | Thesis            | 6 |

### **Professional Paper Option Requirements: (37 credits minimum)**

|     |     |                    |   |
|-----|-----|--------------------|---|
| HHP | 599 | Professional Paper | 3 |
|-----|-----|--------------------|---|

|  |     |
|--|-----|
| <b>In-Department Electives:</b> must be approved by graduate adviser, consistent with Graduate School requirements | 6-9 |
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|  |     |
|--|-----|
| <b>Out-of-department electives (3 credits must be at 500 level or above)</b> | 6-9 |
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## ADMISSION REQUIREMENTS

### 1. Application Materials and Deadline

The application deadline is **March 1** (postmarked) for fall semester; applications for spring semester will be evaluated on a case-by-case basis.

Instructions for applying to the Graduate School are in the Applying for Admission section of the UM Graduate School web site (<http://life.umt.edu/grad/name/applyadmission>).

**In addition to the application materials required by the Graduate School, the Department of Health and Human Performance also requires:**

- A statement of purpose (100-300 words) of your background and goals.

### 2. Program Requirements for Admission

- A bachelor's degree in health and human performance or a related field.
- Minimum GPA of 3.0 for all college work.
- Average combined verbal and quantitative scores for incoming students is 900.
- The Health and Human Performance department accepts GRE scores with a test date that is within the past five years OR verifiable GRE scores if the test date is over five years old.

### 3. International Students

- The TOEFL exam can substitute for the GRE.
- See the [International Student Admission](#) section on the UM Graduate School web site.

### CHECKLIST OF GRADUATE DEGREE REQUIREMENTS

- \_\_\_\_\_ 1. Application for admission to Graduate School
- \_\_\_\_\_ 2. Admission to Graduate School Approved
- \_\_\_\_\_ 3. Admission requirements (if any) completed
- \_\_\_\_\_ 4. Graduate Record Examination filed\*
- \_\_\_\_\_ 5. Graduate Record Examination completed.  
Scores: Verbal \_\_\_\_\_ Quantitative \_\_\_\_\_

Graduate school <http://life.umt.edu/grad/name/Home>

Grad school resources <http://life.umt.edu/grad/name/resources1>

Graduate admissions <http://life.umt.edu/grad/name/applyadmission>

### GRADUATE ASSISTANTSHIPS

UM provides teaching assistantships which are generally limited to ½ time assistantships. The minimum stipend (2 semesters) for a teaching assistantship from the Graduate School in 2008-2009 was \$4,500. All ½ time teaching assistantships come with a ½ time tuition and registration fee waiver. The most common duties of graduate assistants in the Department include helping with activity classes, academic classes, activity classes, and assisting with undergraduate lab classes. Additionally, grant funding from individual faculty members may be available to supplement student income. These funds depend on faculty research funding and prospective students are encouraged to contact faculty to inquire about these opportunities.

Tuition and Registration Fee Waivers: Current tuition rates can be found here

<http://www.umt.edu/bussrvcs/studacctserv.htm#fees>. Tuition and Registration Fee Waivers cover the cost of HHP Graduate Programs

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in-state or out-of-state tuition and the \$30 registration fee. Other fees charged by the University are not covered. For academic year 2006-07, these fees total approximately \$1,260 per semester. Included in the fees is student health insurance, which is approximately \$611.50 per semester.

### **Assistantship Application and Deadline**

*New students* : Instructions for applying for an assistantship are included in the admission materials. Contact the department for these materials.

*Returning students* : submit a letter of intent to the graduate coordinator, Chuck Dumke, McGill Hall #103 or [charles.dumke@mso.umt.edu](mailto:charles.dumke@mso.umt.edu).

### **Contact info about HHP graduate students, and address to send in GA application:**

Charles Dumke, PhD, FACSM  
Graduate Program Director  
University of Montana  
Health and Human Performance  
103 McGill Hall  
32 Campus Drive  
Missoula, MT 59812  
[Charles.dumke@mso.umt.edu](mailto:Charles.dumke@mso.umt.edu)  
406.243.6176

## **FACULTY RESEARCH INTERESTS**

The backgrounds, areas of expertise, and research interests of the HHP faculty are expansive and provide a broad base to accommodate the needs and specific interests of graduate students. Please refer to our web page (<http://www.soe.umt.edu/directory/default.php?mode=list&sort=dept&spec=hhp>) for information about our faculty and their research interests.

**Blakely Brown** – Dr. Brown is a nutritional scientist specializing in maternal-child health, diabetes and childhood obesity prevention, and Indian health.

**Gene Burns** – Dr. Burns specializes in ethics and sociocultural relationships in sport and exercise

**Sharon Dinkel Uhlig** – Dr. Dinkel Uhlig is interested in weight management and sport nutrition.

**Charles Dumke** – Dr. Dumke is an exercise physiologist that studies the interaction between energy expenditure, fuel utilization, and exercise biochemistry.

**Laura Dybdal** - Dr. Dybdal is interested in health promotion & health psychology and specializes in HIV prevention and social marketing, the mind/body relationship and program planning.

**Steven Gaskill** – Dr. Gaskill is an exercise physiologist with interests in physical activity for youth, clinical exercise physiology, and wildland firefighter work physiology.

**Arthur Miller** – Dr. Miller is interested in self-esteem & activity level in children, effective teaching, and teacher's attitudes toward teaching Physical Education.

**Charles Palmer** – Dr. Palmer researches the legal and ethical issues of sport, and has interests in the psychology of exercise.

**Valerie Rich** - Dr. Rich is in athletic training and athletic training education, teaching styles, and active learning strategies

**Scott Richter** – Dr. Richter is an athletic training interested in technology in sports medicine.

**Brent Ruby** – Dr. Ruby directs the Montana Center for Work Physiology and Exercise Metabolism (WPEM). His research focus is on fuel utilization, carbohydrate metabolism and performance in hostile environments.

**Annie Sondag** – Dr. Sondag is interested in health promotion and specializes in HIV prevention and program planning & evaluation

**Tom Whiddon** – Dr. Whiddon is interested in stress control and self-enhancement.

## **GRADUATE STUDENT RESEARCH:**

In addition, graduate students at University of Montana have completed some of their own research. Following is a brief list of some of the projects that graduate students have completed in recent years.

### **Exercise Science:**

Aaron Kelly; "Variation in Systolic Blood Pressure Between Exercise Modes"

Adrian Yavah; "The Effects of Sport Massage and Superficial Heat on Resting Muscle and Connective Tissue Stiffness"

Nicole Plante "Work shift food delivery strategies during arduous wildfire suppression"

Kristen Rofliesch " The effects of a nutrition education program on nutrition knowledge, attitudes and beliefs (KAB) of college students at the University of Montana"

Andrew Miller; "Effects Of High Intensity / Low Volume And Low Intensity / High Volume Isokinetic Resistance Exercise On Glucose Tolerance"

Andrew Reinhart; "Heart Rate Variability as a Marker of Stress Following Extended Duration Exercise and Glycogen Depletion"

Anne E. Mcclaughry; "Effects Of Carbohydrate Supplementation On Muscle Glycogen And Substrate Oxidation During Extended Exercise In Females"

Anne Goodson; "Effect of Supplemental Feeding on Cognitive Function in Wildland Firefighters During Arduous Fire Suppression"

Anne Sommerville; "Using Heart Rate Variability to Evaluate Training in Adolescent Swimmers, a Series of Case Studies"  
Brenda Brady; "The Effects Of A Cooling Hand Device On Time Trial Performance And Core Body Temperature During Exercise In The Heat."

Carla Cox; "Determination of Energy Expenditure of Dog Sled Drivers Using the doubly labeled ( $^2\text{H}_2^{18}\text{O}$ ) water method during the 2003 Iditarod 1049 Mile Sled Dog Race"

Coral Hannah; "Exploring The Relationship Between Cardiovascular Disease Risk And Physical Activity As Measured By Accelerometers"

Ericka Lieberg; "Substrate utilization during exercise relative to ventilatory threshold and  $\text{VO}_{2\text{max}}$ "

Erin Riley; "The Utilization of Self-Report Questionnaires to Predict Ventilatory Threshold"

Ian Marshall; "Monitoring individual training load during female collegiate soccer practices and games"

Jamie Wagner; "Carbohydrate Feedings Reduce Muscle Glycogenolysis During Ultra-Endurance Exercise"

Jason Siegler; "Changes Evaluated In Soccer-Specific Power Endurance either With or Without A 10-Week, In-Season Strength And Plyometric Training Program"

Joe Domitrovitch; "Hydration Delivery Systems For Wildland Firefighters"

John Cuddy; "Supplemental feedings increase self-selected work output during wildfire suppression"

Jonathan Berdanier; "Using The Maximal Vertical Jump Test To Evaluate Training And Fatigue In Collegiate Soccer Players, A Series Of Case Studies"

Julie Ham; "Effects of water and electrolytes on changes in body temperature and drinking behavior during arduous wildfire suppression"

Kathleen Frank; "Changes in Performance Factors and Anthropometric Parameters During a Junior A Ice Hockey Season"

Kelly Rice; "Decreases in 2<sup>nd</sup>-12<sup>th</sup> Grade Student Physical Activity in Missoula, MT"

Kent Hansen; "Effects of Liquid Carbohydrate Feeding on Salivary IgA During Exercise in a Heated Environment"

Kristen Kodeski; "Nutritional Attitudes and Beliefs of Hotshot crews in the Western United States"

Laura Mohar; "Physical Activity Patterns in Grades 2-12 in a Rural Western Montana Town"

Laura Young; "Training Comparison: 95% $\text{VO}_{2\text{peak}}$  intervals vs. race pace intervals"

Leah Paige Versteegen; "Effects of carbohydrate on self-selected exercise performance and balance during exercise in a healthy, older population."

Lori Looper; "Effect of Body Fat on Substrate Oxidation During Aerobic Exercise"

Luke C. Matteucci; "Affects of low frequency aerobic training relative to ventilatory threshold of sedentary individuals"

Nicole Plante; "The effects of carbohydrate feedings on work output during arduous wildfire suppression"

Nobu Yasuda; "Substrate Utilization During Arm And Leg Exercise Relative To The Ventilatory Threshold In Men"

Trevor L. Gillum; "Muscle Glycogenolysis And Resynthesis In Response To A Half Ironman Triathlon: A Case Study"

Walter Hailes; "Reproducibility of field time-trial performance and the effect of the Rotor crank on 16.1 km time-trials"

## **Health Promotion:**

Helen Burnside; "Evaluation of Montana's HIV Prevention Social Marketing Campaign"

Ruliang Liao; 'An Assessment of Quality of Life Among Hepatitis B Virus Carriers in China'

Corey Campbell; "An Outcome Evaluation of An Outreach Program for Injection Drug Users"

Jacqueline Kakos; Process and Impact Evaluation of the Montana HIV Prevention Social Marketing Campaign"

Jennifer Hackenbruch; "Assessment of the Needs of HIV Positive People in Montana"

Rimo Carneiro; 'Community-Level Prevention Intervention: The Effects of Gay Men's Health Retreats'

Tannis Hargrove; "A Phenomenological Study of Reiki Practitioners and their Perspectives of Reiki as it Relates to Personal Health"

Katherine Mills; "Complementary Medicine: Healthcare Provider's Perceptions and Practices"  
Nancy Mulla; 'Osteoporosis Prevention for Women 25 Years and Younger; Knowledge, Beliefs, and Practices of Providers at Montana Title X Clinics'

Catherine Taft; 'An Investigation of The Long Term Effects of an HIV/Hepatitis C Prevention Intervention For Injection Drug Users'

Anne Lydiard; "Evaluation of a Rape Prevention Program: Effects on Attitudes Towards Rape and Beliefs in Rape Myths Among Freshman"

Nolan Langweil; 'Evaluation of a Social Norm Campaign: Communicating Responsible Use at The University of Montana'

Karen Elliott; "Internal Locus of Control: A Description of High and Low Orientation and Approaches to Coping with Scleroderma"

Sarah Landry; "An Assessment of HIV Prevention Needs among Montana's Native Americans on the Flathead Reservation in Montana"

Lindsey Doe; "Phenomenological Claim of First Sexual Intercourse Among Individuals of Varied Levels of Sexual Self Disclosure"

Julee Stearns; "Alcohol and University of Montana Freshman: Use , Perceptions, and Attitudes"

Ryan Campbell; "Determining the HIV Prevention Needs of Men who have Sex with Men in Montana'

Sarah Keup; "HIV/AIDS Prevention Needs of Montana's High Risk Groups"

Starr Wharton; 'Automated External Defibrillators in Collegiate Athletic Training Programs'

Meredith Ruland; "HIV Counseling, Testing, and Referral Services Assessment"

Cathryn Rase; "Effect of Modifications to the PeaBody Developmental Motor Scale Test"

Bonnie Leifer; "The Relationship of Medicaid and the Children's Health Insurance Plan (CHIP): Is it a barrier to CHIP Enrollment?"