

# HEALTH & EXERCISE SCIENCES

<https://liberalarts.pacific.edu/liberalarts/academics/departments-and-programs/health-exercise-sciences>

Phone: (209) 946-2209

Location: Main Gym

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Sharon West (swest@pacific.edu), Graduate Director

## Degrees Offered

Bachelor of Arts

Bachelor of Science

Master of Arts

## Majors Offered

Health and Exercise Sciences (BA), with concentrations in:

- Health & Exercise Science
- Human Performance

Health and Exercise Science (BS, MA)

Public Health and Community Wellness (BA, BS)

- Law & Ethics
- Healthcare Administration
- Data Analysis
- Environment
- Socio-Cultural

## Minors Offered

Health & Exercise Sciences

## Mission

The mission of the University of the Pacific's Department of Health and Exercise Sciences is to provide student-centered instruction, offer a progressive, dynamic, cross-disciplinary curriculum in the liberal arts and sciences tradition, and attract and sustain students and faculty of diversity and quality.

## Programs in Health and Exercise Sciences

The Department of Health and Exercise Sciences offers programs of study leading to the Bachelor of Arts, Bachelor of Science, and Master of Arts degrees. The purpose of a Health and Exercise Sciences degree is to educate and prepare students for a variety of careers in the fields grounded in human-centered sciences.

Coursework provides students with a foundation of knowledge and understanding about the concepts within the discipline. All degree options culminate with internships or practical coursework in clinical and applied settings.

Upon completion of a degree in the Department of Health and Exercise Sciences, it is expected that students have the capacity to: Obtain, read, and interpret important information from health and exercise sciences literature; write clearly, critically and persuasively; prepare and deliver presentations effectively; work and collaborate in groups toward a common goal; design and conduct research studies using appropriate methodologies; identify and apply ethical standards to the current issues in a selected track/major.

Bachelor of Arts and Bachelor of Science options are available within the Public Health and Community Wellness major. The Bachelor of Arts option is for students who desire to focus on the social aspects of health and community medicine. The Bachelor of Science option is for students who desire to focus on clinical aspects of Public health and community medicine.

The graduate program in Health and Exercise Sciences provides for scholarly study in all aspects of health, wellness, exercise physiology and human performance. Each area of emphasis contains a blend of core and elective courses, enabling graduate students to design their program of study to meet their personal research and educational goals. These elective courses may be selected from other departments, including but not limited to Biology, Chemistry, Communications, Education and Psychology. Each graduate student is provided with the choice between comprehensive exams or a thesis project as their capstone experience. All graduate students are encouraged to include experiential learning, collaborative research, internships and overseas experiences in their program of study.

## Admission Requirements

1. Undergraduate degree in health, exercise and sport sciences, a related discipline, or completion of essential undergraduate prerequisites, as determined by the Graduate Directors.
2. Minimum 2.65 GPA (Cumulative *and* Major)
3. 2 Letters of Recommendation
4. Personal Essay/Statement
5. Official copies of Transcripts
6. Resume/CV

\*\*No GRE required

## Facilities

The Department of Health and Exercise Sciences has the following facilities for use in its programs: a Human Physiology laboratory, a Human Performance and Biomechanics laboratory, a Kinesiology laboratory, a Clinical Training laboratory, a computer lab, and Baun Fitness Center.

## Health and Exercise Science

1. Meet all requirements to enter graduate programs in medicine or allied health sciences, particularly physical therapy, occupational therapy, and physician assistant programs.
2. Apply fundamental concepts of exercise biology to fulfilling health-related goals of a physical training program
3. Use concepts, language, and major theories of exercise physiology to describe acute responses to exercise and chronic adaptations to exercise training
4. Become reflective pre-professionals that are knowledgeable consumers of exercise science research in order to prescribe evidence-based exercise programs and be familiar with common measurement techniques and equipment in exercise science.
5. Develop the skills necessary to plan, implement, and evaluate effective and individualized exercise- or health-related exercise programs.
6. Demonstrate effective written and oral communication skills appropriate for success and advancement in the fields of health and exercise sciences.

## Public Health and Community Wellness

Critical Thinking, Major Field Competence, Intercultural/Global Perspectives

- Explain how functions and characteristics of laws, policies, systems, organizations, inter-personal relationships, and individual health behaviors affect the health of both individuals and communities
- Identify and address power dynamics related to culture, ethics, race, gender, and place that create health disparities

Ethical Reasoning, Major Field Competence

- Apply ethical frameworks associated with health and prevention

Information Literacy, Major Field Competence

- Use sources of health data to inform critical thinking and action

Written/Oral Communication, Major Field Competence

- Communicate effectively in a professional environment, using written and oral expression
- Bachelor of Science in Health and Exercise Science (p. 2)
- Bachelor of Arts Major in Health and Exercise Sciences Concentration in Health and Exercise Science (p. 3)
- Bachelor of Arts Major in Health and Exercise Sciences Concentration in Human Performance (p. 4)
- Bachelor of Arts in Public Health & Community Wellness (p. 5)
- Bachelor of Science in Public Health & Community Wellness (p. 6)

## Bachelor of Science in Health and Exercise Science

The Bachelor of Science degree in health and exercise science prepares students for careers and/or graduate study in areas such as medicine, physical therapy, occupational therapy, health sciences, nutrition and exercise physiology. The program is science based and human oriented. The study of human movement comprises understanding of the musculoskeletal, cardiovascular, respiratory, endocrine, immune and metabolic systems. Foundational sciences as well as exercise physiology, kinesiology and clinical opportunities provide the underpinning of the program. The majority of the major classes involve experiential laboratory components to illustrate and encourage the application of theoretical concepts. Opportunities for taking specialty elective classes are available to tailor the undergraduate major for specific graduate interests.

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the Bachelor of Science degree with a major in Health and Exercise Science.

### I. General Education Requirements

For more details, see General Education (<https://catalog.pacific.edu/uop/generalinformation/generaleducation/>)

Minimum 28 units and 9 courses that include:

#### A. CORE Seminars (2 courses)

CORE 001	Problem Solving & Oral Comm	3
CORE 002	Writing and Critical Thinking	4

**Note: 1)** CORE Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer credits taken after high school are exempt from both CORE seminars.

### B. Breadth Requirement (7 courses, at least 3 units each)

At least one course from each of the following areas:

Artistic Process & Creation
Civic & Global Responsibility
Language & Narratives
Quantitative Reasoning
Scientific Inquiry
Social Inquiry
World Perspectives & Ethics

**Note: 1)** No more than 2 courses from a single discipline can be used to meet the Breadth Requirement.

### C. Diversity and Inclusion Requirement

All students must complete Diversity and Inclusion coursework (at least 3 units)

**Note: 1)** Diversity and Inclusion courses can also be used to meet the breadth category requirements, or major or minor requirements.

### D. Fundamental Skills

Students must demonstrate competence in:

Writing
Quantitative Analysis (Math)

**Note: 1)** Failure to satisfy the fundamental skills requirements by the end of four semesters of full-time study at the University is grounds for academic disqualification.

### II. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (Courses include general education courses, transfer courses, CPCE/EXTN units, internships, etc.).

### III. Major Requirements

Minimum 76 units that include

HLTH 129	Exercise Physiology	4
HLTH 133	Functional Anatomy	4
HLTH 135	Nutrition and Metabolism	4
HLTH 147	Muscle Physiology	4
HLTH 157	The Clinician in Health and Exercise Science	4
HLTH 177	Cardiovascular Physiology	4
HLTH 180	Epidemiology	4
HLTH 187	Internship in Health and Exercise Science	4
BIOL 051	Principles of Biology	5
BIOL 061	Principles of Biology	5
BIOL 170	Human Anatomy	5
BIOL 180	Human Physiology	5
CHEM 025	General Chemistry	5
CHEM 027	General Chemistry	5
PHYS 023	General Physics I	5
PHYS 025	General Physics II	5
Three HLTH Electives *		9-12

\* Excludes: HLTH 023 and HLTH 025.

# Bachelor of Arts Major in Health and Exercise Sciences Concentration in Health and Exercise Science

The Health and Exercise Science concentration is scientifically based and human oriented. It prepares students for careers and/or further graduate study in health and fitness related areas such as physician assistant, nurse practitioner, medicine, chiropractics, nursing, athletic training, nutrition and exercise/work physiology. A primary goal of this concentration is to provide a scholarly environment in classes and laboratories that supports and encourages the application of theoretical concepts. Students study and apply principles relevant to the rehabilitation and enhancement of human performance.

In addition to completing the Health and Exercise Sciences, students must successfully complete a series of courses within the department and courses drawn from the life and physical sciences.

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in health, exercise and sport sciences with a concentration in health and exercise science.

## I. General Education Requirements

For more details, see General Education (<https://catalog.pacific.edu/uop/generalinformation/generaleducation/>)

Minimum 28 units and 9 courses that include:

### A. CORE Seminars (2 courses)

CORE 001	Problem Solving & Oral Comm	3
CORE 002	Writing and Critical Thinking	4

**Note: 1)** CORE Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer credits taken after high school are exempt from both CORE seminars.

### B. Breadth Requirement (7 courses, at least 3 units each)

At least one course from each of the following areas:

Artistic Process & Creation
Civic & Global Responsibility
Language & Narratives
Quantitative Reasoning
Scientific Inquiry
Social Inquiry
World Perspectives & Ethics

**Note: 1)** No more than 2 courses from a single discipline can be used to meet the Breadth Requirement.

### C. Diversity and Inclusion Requirement

All students must complete Diversity and Inclusion coursework (at least 3 units)

**Note: 1)** Diversity and Inclusion courses can also be used to meet the breadth category requirements, or major or minor requirements.

## D. Fundamental Skills

Students must demonstrate competence in:

Writing
Quantitative Analysis (Math)

**Note: 1)** Failure to satisfy the fundamental skills requirements by the end of four semesters of full-time study at the University is grounds for academic disqualification.

## II. College of the Pacific BA Requirement

Students must complete one year of college instruction or equivalent training in a language other than English.

**Note: 1)** Transfer students with sophomore standing are exempt from this requirement.

## III. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (Courses include general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

## IV. Major Requirements:

Minimum 60 units that include:

HLTH 129	Exercise Physiology	4
HLTH 133	Functional Anatomy	4
HLTH 157	The Clinician in Health and Exercise Science	4
HLTH 180	Epidemiology	4
HLTH 187	Internship in Health and Exercise Science	4
BIOL 051	Principles of Biology	5
BIOL 061	Principles of Biology	5
BIOL 170	Human Anatomy	5
BIOL 180	Human Physiology	5
CHEM 025	General Chemistry	5
CHEM 027	General Chemistry	5
Five HLTH Electives (Five additional courses excluding HLTH 023, HLTH 025)		

## Career Options for Health and Exercise Science

Employment opportunities following completion of the health and exercise science concentration include cardiac and pulmonary rehabilitation, cardiac disease prevention-rehabilitation, work toward advanced degrees in allied health sciences such as physician assistant, nursing, physical therapy, occupational therapy and medicine or sports medicine. Health and Exercise Science is in part a self-contained program as curricular support for Pacific's Physical Therapy Graduate program.

## Pre-Physical Therapy (Optional)

Students in the Health and Exercise Science concentration who are interested in pursuing graduate studies in Physical Therapy are advised to complete the following courses:

MATH 035	Elementary Statistical Inference (or similar course)	3
PHYS 023	General Physics I	5
PHYS 025	General Physics II	5
PSYC 017	Abnormal and Clinical Psychology	4
PSYC 031	Introduction to Psychology	4
HLTH 061	Medical Terminology	4

Students are strongly advised to check with individual graduate programs for specific requirements.

# Bachelor of Arts Major in Health and Exercise Sciences Concentration in Human Performance

The Health and Exercise Science concentration is scientifically based and human oriented. It prepares students for careers and/or further graduate study for health clubs, corporate fitness/wellness, sport performance, nutrition and exercise/work physiology. A primary goal of this concentration is to provide a scholarly environment in classes and laboratories that supports and encourages the application of theoretical concepts. Students study and apply principles relevant to enhancement of human and sport performance.

In addition to completing the Health and Exercise Sciences, students that study Human Performance must successfully complete a series of courses within the department and courses drawn from the life and physical sciences.

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in health, exercise and sport sciences with a concentration in human performance.

## I. General Education Requirements

For more details, see General Education (<https://catalog.pacific.edu/uop/generalinformation/generaleducation/>)

Minimum 28 units and 9 courses that include:

### A. CORE Seminars (2 courses)

CORE 001	Problem Solving & Oral Comm	3
CORE 002	Writing and Critical Thinking	4

**Note: 1)** CORE Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer credits taken after high school are exempt from both CORE seminars.

### B. Breadth Requirement (7 courses, at least 3 units each)

At least one course from each of the following areas:

Artistic Process & Creation
Civic & Global Responsibility
Language & Narratives
Quantitative Reasoning
Scientific Inquiry
Social Inquiry
World Perspectives & Ethics

**Note: 1)** No more than 2 courses from a single discipline can be used to meet the Breadth Requirement.

### C. Diversity and Inclusion Requirement

All students must complete Diversity and Inclusion coursework (at least 3 units)

**Note: 1)** Diversity and Inclusion courses can also be used to meet the breadth category requirements, or major or minor requirements.

## D. Fundamental Skills

Students must demonstrate competence in:

Writing
Quantitative Analysis (Math)

**Note: 1)** Failure to satisfy the fundamental skills requirements by the end of four semesters of full-time study at the University is grounds for academic disqualification.

## II. College of the Pacific BA Requirement

Students must complete one year of college instruction or equivalent training in a language other than English.

**Note: 1)** Transfer students with sophomore standing are exempt from this requirement.

## III. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (Courses include general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

## IV. Major Requirements:

Minimum 60 units that include:

HLTH 041	Health and Wellness for Life	4
HLTH 129	Exercise Physiology	4
HLTH 133	Functional Anatomy	4
HLTH 135	Nutrition and Metabolism	4
HLTH 147	Muscle Physiology	4
HLTH 157	The Clinician in Health and Exercise Science	4
HLTH 161	Biomechanics of Human Movement	4
HLTH 182	Exercise Testing and Prescription	4
BIOL 011	Human Anatomy and Physiology	4-5
or BIOL 061	Principles of Biology	
CHEM 023	Elements of Chemistry	4
or CHEM 025	General Chemistry	

Five HLTH Electives: (Five additional courses from the following list: 18 (at least 18 units)

HLTH 110	Health and Exercise Science Law
HLTH 137	Psycho-Social Aspects of Health Care
HLTH 143	Prevention and Acute Care of Injury and Illness
HLTH 149	Clinical Evaluation and Diagnosis
HLTH 150	Clinical Evaluation and Diagnosis II
HLTH 155	Motor Development and Learning
HLTH 163	Therapeutic Exercise and Rehabilitation
HLTH 177	Cardiovascular Physiology
HLTH 180	Epidemiology
HLTH 193	Special Topics
HLTH 197	Independent Research

## Career Options for Human Performance

The Human Performance concentration is for students pursuing careers in human and sport performance, wellness/fitness, life coaching, health education or graduate programs in exercise science or nutrition.

## Recommended Courses

HLTH 155	Motor Development and Learning	3
HLTH 177	Cardiovascular Physiology	4
HLTH 187	Internship in Health and Exercise Science	4
BUSI 177	Sport Event and Facilities Management	4
COMM 027	Public Speaking	3

Students are strongly advised to check with individual graduate programs for specific requirements.

## Bachelor of Arts in Public Health & Community Wellness

The Bachelor of Arts degree in Public Health and Community Wellness prepares students for careers and/or graduate study in the field of Public Health. This program examines health from both a traditional, science-based medical model; and holistic, population-based model. This field of study includes bioethics, health law, healthcare administration and policy, epidemiology, health education and outreach, and psychosocial aspects of healthcare. There will be an emphasis for students to obtain extensive fieldwork and experience in public health education and surveillance, effective health intervention and prevention program, and community outreach. Opportunities for taking specialty elective classes are available to tailor the undergraduate major for specific graduate interests. This major provides students with a foundational knowledge of population health, and the opportunity to focus their education on specific student areas of interest within a specific concentration: Law & Ethics, Healthcare Administration, Data Analysis, Environment, and Sociocultural.

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the Bachelor of Arts degree with a major in Public Health and Community Wellness with a selected concentration.

### I. General Education Requirements

For more details, see General Education (<https://catalog.pacific.edu/uop/generalinformation/generaleducation/>)

Minimum 28 units and 9 courses that include:

#### A. CORE Seminars (2 courses)

CORE 001	Problem Solving & Oral Comm	3
CORE 002	Writing and Critical Thinking	4

**Note: 1)** CORE Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer credits taken after high school are exempt from both CORE seminars.

#### B. Breadth Requirement (7 courses, at least 3 units each)

At least one course from each of the following areas:

- Artistic Process & Creation
- Civic & Global Responsibility
- Language & Narratives
- Quantitative Reasoning
- Scientific Inquiry
- Social Inquiry
- World Perspectives & Ethics

**Note: 1)** No more than 2 courses from a single discipline can be used to meet the Breadth Requirement.

### C. Diversity and Inclusion Requirement

All students must complete Diversity and Inclusion coursework (at least 3 units)

**Note: 1)** Diversity and Inclusion courses can also be used to meet the breadth category requirements, or major or minor requirements.

### D. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative Analysis (Math)

**Note: 1)** Failure to satisfy the fundamental skills requirements by the end of four semesters of full-time study at the University is grounds for academic disqualification.

### II. College of the Pacific BA Requirement

Students must complete one year of college instruction or equivalent training in a language other than English.

**Note: 1)** Transfer students with sophomore standing are exempt from this requirement.

### III. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (Courses include general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

### III. Major Requirements

Minimum 63 units that include:

HLTH 010	Departmental Seminar	1
HLTH 080	Foundations of Public Health and Community Wellness	4
HLTH 137	Psycho-Social Aspects of Health Care	4
HLTH 173	Health Care Management and Professional Development	4
HLTH 157	The Clinician in Health and Exercise Science	4
HLTH 180	Epidemiology	4
HLTH 146	Health, Disease, and Pharmacology	4
GESC 043	Environmental Science for Informed Citizens	4
PHIL 145	Biomedical Ethics	4
HLTH 183	Global Health and Policy	4
HLTH 185	Special Populations in Health	4
BIOL 041	Introduction to Biology	4
CHEM 015	Chemistry in Society	3

Select one of the following:

MATH 035	Elementary Statistical Inference
MATH 037	Introduction to Statistics and Probability

Concentrations: (Minimum 12 units required in selected concentration)

#### Law & Ethics

HLTH 110	Health and Exercise Science Law	4
PHIL 021	Moral Problems	4
PHIL 055	Modern and Contemporary Philosophy	4
POLS 136	Jurisprudence	4
RELI 043	Social Ethics	4

#### Healthcare Administration

COMM 045	Communication & Health	3
ECON 051	Economic Principles and Problems	3
ECON 053	Introductory Microeconomics	4
ECON 055	Introductory Macroeconomics: Theory and Policy	4
ECON 183	Health Economics *	4
POLS 111	Introduction to Health Policy	4
POLS 119	Government in Action: Public Policy Analysis	4
POLS 128	Introduction to Public Administration	4
<b>Data Analysis</b>		
COMP 047	Discrete Math for Computer Science	4
COMP 051	Introduction to Computer Science	4
COMP 061	Introduction to Programming for Data Science	4
COMP 053	Data Structures *	4
COMP 162	Data Analytics Programming *	4
<b>Environment</b>		
BIOL 035	Environment: Concepts and Issues	4
CIVL 060	Water Quality *	4
CIVL 171	Water and Environmental Policy	3
HLTH 045	Nutrition for Health	4
PHIL 035	Environmental Ethics	4
SOCI 111	Environmental Justice	4
<b>Socio-Cultural</b>		
ENGL 126	Environmental Health and Literature	4
HLTH 047	Health Across the Lifespan **	4
HIST 060	A History of Medicine	4
HIST 064	A History of Alcohol and Intoxicants	4
HHUM 051	Introduction to Health & Humanities	4
POLS 113	Race and Politics	4
RELI 106	Illness and Healing in the Ancient World	4
SOCI 108	Food, Culture and Society	4
SOCI 125	Sociology of Health and Illness	4
SOCI 172	Diversity, Equity and Inequality	4
* Prerequisite Required		
** New Course in Development		

## Bachelor of Science in Public Health & Community Wellness

The Bachelor of Science degree in Public Health and Community Wellness prepares students for careers and/or graduate study in the fields of clinical healthcare focusing on population and community-based healthcare, or biomedical research, and graduate programs offering dual credentials in healthcare and Public Health (such as MD/DPH). This program examines health from both a traditional, science-based medical model and holistic, population-based model. This field of study includes bioethics, health law, healthcare administration and policy, epidemiology, health education and outreach, and psychosocial aspects of healthcare. There is an emphasis for students to obtain clinical experience in the healthcare profession of interest, such as hospitals, community-based health clinics, and outreach programs targeting populations in need. Opportunities for taking specialty elective classes are available to tailor the undergraduate major for specific graduate interests.

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to

earn the Bachelor of Science degree in Public Health and Community Wellness.

### I. General Education Requirements

For more details, see General Education (<https://catalog.pacific.edu/uop/generalinformation/generaleducation/>)

Minimum 28 units and 9 courses that include:

#### A. CORE Seminars (2 courses)

CORE 001	Problem Solving & Oral Comm	3
CORE 002	Writing and Critical Thinking	4

**Note: 1)** CORE Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer credits taken after high school are exempt from both CORE seminars.

#### B. Breadth Requirement (7 courses, at least 3 units each)

At least one course from each of the following areas:

Artistic Process & Creation
Civic & Global Responsibility
Language & Narratives
Quantitative Reasoning
Scientific Inquiry
Social Inquiry
World Perspectives & Ethics

**Note: 1)** No more than 2 courses from a single discipline can be used to meet the Breadth Requirement.

#### C. Diversity and Inclusion Requirement

All students must complete Diversity and Inclusion coursework (at least 3 units)

**Note: 1)** Diversity and Inclusion courses can also be used to meet the breadth category requirements, or major or minor requirements.

#### D. Fundamental Skills

Students must demonstrate competence in:

Writing
Quantitative Analysis (Math)

**Note: 1)** Failure to satisfy the fundamental skills requirements by the end of four semesters of full-time study at the University is grounds for academic disqualification.

### II. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (Courses include general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

### III. Major Requirements

Minimum 78 units that include:

HLTH 010	Departmental Seminar	1
HLTH 080	Foundations of Public Health and Community Wellness	4
HLTH 137	Psycho-Social Aspects of Health Care	4
HLTH 173	Health Care Management and Professional Development	4
HLTH 157	The Clinician in Health and Exercise Science	4

HLTH 180	Epidemiology	4
HLTH 146	Health, Disease, and Pharmacology	4
GESC 043	Environmental Science for Informed Citizens	4
PHIL 145	Biomedical Ethics	4
BIOL 051	Principles of Biology	5
BIOL 061	Principles of Biology	5
BIOL 170	Human Anatomy	5
BIOL 180	Human Physiology	5
CHEM 025	General Chemistry	5
CHEM 027	General Chemistry	5
Select one of the following:		
MATH 035	Elementary Statistical Inference	
MATH 037	Introduction to Statistics and Probability	

#### Health Electives

Choose three courses from any of the following Concentrations:  
(One course must be from HLTH)

#### Law & Ethics

HLTH 110	Health and Exercise Science Law	4
PHIL 021	Moral Problems	4
PHIL 055	Modern and Contemporary Philosophy	4
POLS 136	Jurisprudence	4
RELI 043	Social Ethics	4

#### Healthcare Administration

COMM 045	Communication & Health	3
ECON 051	Economic Principles and Problems	3
ECON 053	Introductory Microeconomics	4
ECON 055	Introductory Macroeconomics: Theory and Policy	4
ECON 183	Health Economics	4
POLS 111	Introduction to Health Policy	4
POLS 119	Government in Action: Public Policy Analysis	4
POLS 128	Introduction to Public Administration	4

#### Data Analysis

COMP 047	Discrete Math for Computer Science	4
COMP 051	Introduction to Computer Science	4
COMP 061	Introduction to Programming for Data Science	4
COMP 053	Data Structures	4
COMP 162	Data Analytics Programming	4

#### Environment

BIOL 035	Environment: Concepts and Issues	4
HLTH 045	Nutrition for Health	4
PHIL 035	Environmental Ethics	4
CIVL 060	Water Quality *	4
CIVL 171	Water and Environmental Policy	3
HLTH 045	Nutrition for Health	4
SOCI 111	Environmental Justice	4

#### Socio-Cultural

ENGL 126	Environmental Health and Literature	4
HHUM 051	Introduction to Health & Humanities	4
HIST 060	A History of Medicine	4
HIST 064	A History of Alcohol and Intoxicants	4
HLTH 047	Health Across the Lifespan	4
HLTH 183	Global Health and Policy **	4
HLTH 185	Special Populations in Health **	4
POLS 113	Race and Politics	4

RELI 106	Illness and Healing in the Ancient World	4
SOCI 108	Food, Culture and Society	4
SOCI 125	Sociology of Health and Illness	4
SOCI 172	Diversity, Equity and Inequality	4
<b>Recommended Courses outside of Major:</b>		
ECON 183	Health Economics *	4
POLS 111	Introduction to Health Policy	4
SOCI 125	Sociology of Health and Illness	4
PHYS 023	General Physics I	5
PHYS 025	General Physics II	5
BIOL 148	Emerging Infectious Diseases	4

\* Prerequisite Required

\*\* New Course in Development

## Master of Arts in Health, Exercise & Sport Sciences

Candidates have the choice of completing the Thesis Route or the Comprehensive Exam Route:

### Thesis Route

Students must complete a minimum of 32 units with a Pacific cumulative and major/program grade point average of 3.0 in order to earn the master of arts degree in health, exercise and sport sciences. Twenty (20) of these units must be completed in health, exercise and sport sciences courses. Twelve (12) units may be completed in other departments.

Courses must be graded B- (2.7) or higher to be counted toward the degree program.

Four HESP required classes (dependent on area of emphasis)	16
Two HESP approved electives (units must all be at the 200 level)	8

**Total Hours** **24**

#### Notes:

- 1) Fulfillment of the prerequisite requirement for HESP 279 : i.e., completion of a course in statistics or an introduction to research course that involves statistical analysis of data, with a B- or better.
- 2) Units received for meeting this prerequisite requirement may not be included among the minimum units required for the master's degree.
- 3) Courses may be taken concurrently.

#### Thesis Notes:

- 1) Thesis candidates select a Thesis Chair on the basis of shared research interests/methodologies.
- 2) In consultation with their Thesis Chair, the thesis candidate selects their thesis committee members. The thesis committee should include a minimum of three members. A committee member may be selected from outside the department when an area of study crosses disciplinary lines.
- 3) Thesis candidates present an open colloquium that outlines the proposed thesis problem and basic research design. The colloquium must be successfully passed in the candidate's 1st year Spring semester. In the event the candidate fails to pass the colloquium, they are immediately placed on the comprehensive exam route.
- 4) Thesis candidates must satisfactorily complete thesis during their final semester or maintain continuing registration status until completed.

*Thesis are prepared in manuscript format, ready for submission to a peer-reviewed academic journal following the final oral exam.*

5) *Must satisfactorily complete an open final oral examination encompassing the thesis and general professional knowledge.*

## Comprehensive Exam Route

Students must complete a minimum of 32 units with a Pacific cumulative and major/program grade point average of 3.0 in order to earn the master of arts degree in health, exercise and sport sciences. Twenty (20) of these units must be completed in health, exercise and sport sciences courses.

Twelve (12) units may be completed in other departments. Candidates must successfully pass a written comprehensive exam in all classes that contribute towards graduation.

*Courses must be graded B- (2.7) or higher to be counted toward the degree program.*

Four required HESP classes (dependent on area of emphasis)	16
Three HESP approved electives (Units must all be at the 200 level)	12
<b>Total Hours</b>	<b>28</b>

### Notes:

1) *Fulfillment of the prerequisite requirement for HESP 279 : i.e., completion of a course in statistics or an introduction to research course involving statistical analysis of data, with a B- or better.*

2) *Units received for meeting this prerequisite requirement may not be included among the minimum units required for the master's degree.*

3) *Courses may be taken concurrently.*

### Comprehensive Exam Notes:

1) *Candidates will sit comprehensive exams at the end of each academic year they are enrolled at Pacific.*

2) *Comprehensive Exam questions are completed for each graduate class the candidate takes in that academic year. Candidates are provided with the questions a minimum of 5 weeks in advance of the scheduled exam date. In consultation with the relevant graduate faculty member, candidates are permitted to prepare outlines for each question set. These outlines are not permitted in the exam itself. A one-page bibliography is permitted for each scheduled exam session. The bibliography will be surrendered to the Graduate Directors at the completion of the exam.*

3) *Candidates are permitted 1 opportunity to re-sit any failed exam questions.*

4) *In the event that the candidate fails the re-sit, they must complete an additional 1 unit Independent Study class (in the content area of the failed question) and pass a comprehensive exam in this class.*

5) *The results are transmitted to the candidate in writing.*

6) *The Graduate Directors serves as the coordinator of the Comprehensive Exams.*

## Additional information:

1. All graduate students are assigned a faculty advisor by their respective Graduate Director.
2. Candidates meet with their faculty advisor twice a year to create their individual plan of study.

3. All independent studies and/or independent research must be reviewed and approved by their respective Graduate Director **prior to registration.**
4. Dates for open colloquiums and final oral examinations are coordinated through the Thesis Advisors.
5. Dates for written comprehensive examinations are coordinated through the Graduate Directors.

## Health Exercise Scien Courses

### HLTH 010. Departmental Seminar. 1 Unit.

This class provides first year students with information relevant to the study of Health and Exercise Science at the University of the Pacific. The class has three parts: 1) About HLTH; a summary of the programs, courses and an introduction to extracurricular activities within the department. 2) About You; an exploration of individual strengths, weaknesses and learning styles to improve collegiate studies. 3) About Pacific; introductions to campus programs and people that support learning, career building and health. Goals and Objectives: Each student develops academic goals by understanding themselves, knowing required curriculum and support offered by professors and support staff at the University. Students will plan coursework and understand available opportunities and programs that aide in the process.

### HLTH 011. Director's Seminar: Health and Healing. 1 Unit.

This course is designed to introduce students to the Health Studies major and to the numerous ways the University of the Pacific can help support student success. The seminar begins by attempting to define health and Health Studies at Pacific, with special emphasis on the perspectives of the humanities and social sciences, and then applies understandings of health to the lives of Pacific college students. Students will become familiar with the critical perspectives necessary to view health as a state of equilibrium between an individual and the social, political, and economic environment, rather than simply freedom from disease or pathology. The important roles of social services, health leadership and health policy and governance will be emphasized. Students will also develop an academic plan while learning about University resources and opportunities to help ensure successful academic work.

### HLTH 041. Health and Wellness for Life. 4 Units.

This course presents general principles of health and wellness with a focus on the relationship of exercise and nutrition to cardiovascular health, chronic diseases, body composition, and psycho-social well-being. Students apply course content to their individual circumstances. Each student develops an individualized health plan that addresses physical fitness, nutrition, weight management and stress management. Lab fee is required. (GESI)

### HLTH 045. Nutrition for Health. 4 Units.

This is a basic introductory nutrition course designed to help students make healthy diet choices. This course includes an examination of the digestion and absorption of nutrients, and an overview of the biochemistry of the macronutrients; carbohydrate, lipid, protein, and water; and micronutrients; vitamins and minerals. The role of nutrients in disease processes such as obesity, cardiovascular disease, and aging as well as diet planning, production of food, and control of energy balance are covered. Students may not receive credit for this course if they take either BIOL 045 or HLTH 135. (GESI)

**HLTH 047. Health Across the Lifespan. 4 Units.**

This course will examine the changes in health and development across the lifespan. Students will study the human developmental stages: prenatal and maternal, infancy, young children, adolescence, adulthood, and geriatric. This course will look at anatomical, physiological, cognitive, and psychosocial differences in each developmental phase of life. This class will examine differences in health factors and risks that affect mortality and morbidity, as well as quality of life and life expectancy. Students will examine each phase from a public health perspective.

**HLTH 061. Medical Terminology. 4 Units.**

This course provides a foundation in medical terminology for students in allied health curriculums who need to know the language on health care. Students are introduced to the major word parts used in the formation of medical terms which include suffixes, prefixes, and combining forms. Common words associated with the systems of the body are also studied. Instruction takes place online through the Blackboard Learning System. There are no prerequisites for this course.

**HLTH 080. Foundations of Public Health and Community Wellness. 4 Units.**

This course provides a practical approach to the fundamentals of public health. It is organized into two sections: Public Health Fundamentals and Community Wellness. The first section covers key concepts in public health: The ecological model of health, history of public health, controversial issues in public health, social determinants of health, biostatistics, epidemiology, and biomedical sciences. The second section of the course; Community Wellness, focuses on physical fitness, community and environmental health. Students will appreciate how politics and policymaking are inherent to public health in action; they will gain perspective on the range of programs that public health practitioners implement in order to improve health; they will understand that well-designed and conducted research underlie public health work; finally, students will recognize how movements for change have advanced and continue to advance achievement toward public health goals. (DVSY, GEDI, GEGR)

**HLTH 087. Fieldwork. 2-4 Units.**

This course is laboratory work in school and community agencies. The course is open to non-majors by permission of instructor. Grading is Pass/No credit only.

**HLTH 089. Health Studies Practicum. 2 Units.**

This course provides an opportunity for students to observe an area of career interest within the health field. Students are encouraged to pursue opportunities relevant to planned career and/or graduate school goals, such as health policy and law, health leadership, and social services.

**HLTH 089K. Practicum: Athletic Training II. 4 Units.**

This is the second in a series of four consecutive clinical education courses in the field of Athletic Training. The course incorporates an experiential learning environment designed to prepare students for a career in Athletic Training. Advanced Athletic Training knowledge and skills will also be introduced within the daily operations of the Athletic Training Facility and your Clinical Assignment and in the care of patients. Prerequisite: HLTH 089B.

**HLTH 093. Special Topics. 1-4 Units.****HLTH 110. Health and Exercise Science Law. 4 Units.**

This course examines legal issues and responsibilities relevant to health and exercise science professionals. This course is divided into two parts. Part I introduces basic concepts of the legal system and reviews general legal principles of tort and contract law. Part II focuses upon specific topics to which legal principles and risk management strategies apply. This course is taught combining lecture, class discussions, and experientially based assignments designed to develop the ability to practically apply circumstance to the law and risk management planning. In-class oral arguments using relevant case law, review of local facilities and programs, and legal observations in San Joaquin County courtrooms will supplement course content and offer students "hands on" learning opportunities.

**HLTH 129. Exercise Physiology. 4 Units.**

This course is designed to introduce Health and Exercise Science students to core physiological concepts relevant to acute and long-term adaptations to the stress of exercise. An overview of metabolic, cardiovascular, respiratory, and skeletal muscle adaptations will be discussed along with special topics such as environmental stressors, obesity, and nutrition. Outside laboratory assignments are carried out for the purpose of applying lecture to practice and providing "hands on" opportunities to develop basic competencies in the interpretation of laboratory testing in exercise physiology. Lab fee required.

**HLTH 131. Assessment and Evaluation. 4 Units.**

This course is the development of competencies of Health, Exercise and Sport Sciences majors for the design and implementation of procedures to appropriately measure and evaluate students, clients and/or programs. Basic data acquisition methods and statistical analysis techniques are presented. A Lab fee is required.

**HLTH 133. Functional Anatomy. 4 Units.**

This course is a functional study of musculoskeletal anatomy and its relationship to human movement, posture, exercise prescription, and rehabilitation. Prerequisites: BIOL 011 or BIOL 051 or BIOL 061 or permission of instructor, and lab fee required.

**HLTH 135. Nutrition and Metabolism. 4 Units.**

This course provides a thorough study of the principles of nutrition as they relate to health of individuals who participate in sports or physical activity. Topics include calculating energy balance and the role of carbohydrates, lipid, protein, vitamins, minerals and water in sports performance. The application of these topics for optimal metabolic functioning to a variety of physical activities is also presented. Prerequisites: HLTH 129; BIOL 011 or BIOL 061.

**HLTH 137. Psycho-Social Aspects of Health Care. 4 Units.**

Students study comprehensive, integrated coverage of psychosocial topics in healthcare involving clients, families, and other caregivers affected by pathology, impairment, functional limitations, and/or disability. This course will have a broad coverage of topics in healthcare including multicultural issues, spirituality, chronic condition, abuse/neglect, and PTSD. Emphasis will be placed on current, evidence-based literature, connecting theory to practice.

**HLTH 143. Prevention and Acute Care of Injury and Illness. 4 Units.**

This course provides an overview of common emergency injuries and illnesses. Instruction emphasizes prevention, recognition, and immediate care of injuries and illnesses associated with physical activity. Students will also learn to perform emergency skills and techniques.

**HLTH 145. Therapeutic Modalities. 4 Units.**

This course is a lecture and laboratory experience designed to expose the student to the theory, principles, techniques and application of therapeutic modalities pertaining to the treatment of athletic or activity related injuries. Topics include discussions of the physiological effects, indications, contra indications, dosage and maintenance of each modality. Recommended: BIOL 081. Lab fee is required. Junior standing.

**HLTH 146. Health, Disease, and Pharmacology. 4 Units.**

This course is an in-depth exploration of physical, mental, and social health with specific emphasis on recognizing the signs, symptoms, and predisposing conditions associated with the progression of specific illnesses and diseases as they relate to the physically active individual. Students also develop an awareness of the indications, contraindications, precautions, and interactions of medications used to treat those illnesses and diseases.

**HLTH 147. Muscle Physiology. 4 Units.**

This course is focused on skeletal muscle physiology. Topics include the structure and function of muscle tissue, protein synthesis, cell signaling cascades, the specificity of adaptation, enzymes and their roles in metabolism, endocrine function, anabolic steroids, muscle damage, inflammatory physiology, neuromuscular principles (e.g., size principle), and the mechanisms of muscle fatigue. Laboratory assignments focus on skeletal muscle testing and evaluation. Lab fee required. Prerequisites: HLTH 129 and upper-division class standing.

**HLTH 148. Research in Health and Exercise Science. 4 Units.**

The purpose of this course is to gather, analyze and publish findings in health and exercise science. It is a practical course that focuses on collection of scientific information, appropriate analyses of data, and formulating conclusions that fit or modify existing paradigms. Students must have completed training in research methods and statistics and be capable of effective review of scholarly literature. At the conclusion of the course students are expected to submit their findings for peer review and publication. Prerequisites: HLTH 180.

**HLTH 149. Clinical Evaluation and Diagnosis. 4 Units.**

This course presents an in-depth study of musculoskeletal assessment of the lower and upper extremity, cervical spine, head and face for the purpose of identifying (a) common acquired or congenital risk factors that would predispose an individual to injury and/or (b) musculoskeletal injury common to physical activity. Students receive instruction in obtaining a medical history, performing a visual observation, palpating bones and soft tissues, and performing appropriate special tests for injuries and conditions related to the upper and lower extremity, cervical spine, head, and face. Therapeutic rehabilitation concepts and techniques will be introduced. This course is directed toward students who want to become Health Care Providers. Lab fee is required. Prerequisite: HLTH 133 or BIOL 071, and a lab fee is required.

**HLTH 150. Clinical Evaluation and Diagnosis II. 3 Units.**

This course presents an in-depth study of musculoskeletal assessment of the upper extremity, cervical spine, head and face for the purpose of identifying (a) common acquired or congenital risk factors that would predispose an individual to injury and/or (b) musculoskeletal injury common to athletics or physical activity. Students receive instruction in obtaining a medical history, performing a visual observation, palpating bones and soft tissues, and performing appropriate special tests for injuries and conditions of the shoulder, upper arm, elbow, forearm, wrist, hand, fingers, thumb, cervical spine, head, and face. This course is directed toward students who pursue athletic training and/or physical therapy professions. Lab fee is required. Prerequisites: HLTH 149; HLTH 133 or BIOL 071.

**HLTH 154. Stress Physiology. 4 Units.**

In this course you will examine what stress is and how your body tolerates, adapts, and allows you to flourish with stresses.

**HLTH 155. Motor Development and Learning. 3 Units.**

This course examines aspects of skilled performance and motor learning from a developmental perspective. It is concerned with the major principles of human performance and skill learning, the progressive development of a conceptual model of human actions and the development of skill through training and practice. Topics include human information processing, decision-making and movement planning, perceptual processes relevant to human movement, production of movement skills, measurement of learning, practice design, preparation, organization, and scheduling,; use of feedback, in addition to the application of motor learning principles to sport, physical education, industrial and physical therapy settings. Fieldwork requires clearance for local school districts (clear LiveScan fingerprint screening and negative TB test results). (GESI)

**HLTH 157. The Clinician in Health and Exercise Science. 4 Units.**

This course integrates theory and practice and requires students to develop a research topic, consistent with an explicitly and narrowly defined area of interest. Permission of the instructor is required.

**HLTH 159. Health Optimizing Physical Education. 3 Units.**

This course introduces prospective physical education teachers to the principles and components of health-related fitness, appropriate curriculum for K-12 programming, comprehensive school and community-based physical activity planning, effective teaching principles, behavior change strategies, and advocacy approaches of physical activity and fitness. Prerequisites: HLTH 131 and EDUC 145.

**HLTH 160. Principles of Coaching. 3 Units.**

This course is designed as an introduction to the principles of athletic coaching for modern day athletes. Emphasis is on a holistic approach to the theories, knowledge, and practices of coaching sport as prescribed by the National Standards for Sport Coaches. This course will explore coaching at various levels. Topics will include developing a coaching philosophy, evaluating theories in student-athlete motivation, understanding team dynamics, leadership, administration responsibilities, and improving player performance.

**HLTH 161. Biomechanics of Human Movement. 4 Units.**

This course is an introduction to the biomechanics of human movement and the analytic procedures and techniques for subsequent application in the sport sciences and related fields. The course includes a review of basic functional/mechanical human anatomy and kinesiology. Outcome objectives are an understanding of mechanical principles governing human movement, skill in use of a variety of measurement techniques commonly applied in biomechanics, an ability to analyze motor skill performance via cinematographic/ computer methodologies and skill in prescriptively communicating results of analysis. Prerequisites: BIOL 011 or BIOL 051 or BIOL 061 or permission of instructor, and a lab fee is required.

**HLTH 163. Therapeutic Exercise and Rehabilitation. 4 Units.**

This course is an application of the theory and principles associated with therapeutic exercise and the application of various rehabilitation techniques and procedures during the course of an athlete's rehabilitation to attain normal range of motion, strength, flexibility, and endurance. Prerequisites: BIOL 071; HLTH 133 or permission of instructor, and a lab fee is required.

**HLTH 173. Health Care Management and Professional Development. 4 Units.**

This course is an in-depth study of the management of health care organizations related to finances, facilities, equipment, organizations structures, medical/insurance records, risk management, human relations, and personnel. Practical and conceptual skills are taught to help students focus on more efficient health care delivery. Also covered is the development of leadership skills, future trends in health care management, guidelines for designing effective work groups and managing conflict.

**HLTH 177. Cardiovascular Physiology. 4 Units.**

This course seeks to fulfill two main objectives: 1) to establish a foundational understanding of clinical cardiovascular physiology and 2) to be able to perform and interpret cardiopulmonary exercise tests to examine cardiac, metabolic and respiratory pathology. Lab fee required. Prerequisites: HLTH 129 and upper division class standing.

**HLTH 179. Introduction to Research. 4 Units.**

This course covers the rationale for and status of professional research; research designs and their applicability to students' disciplines, review, critique and synthesis of selected literature; development of research proposal and pretest of instrument.

**HLTH 180. Epidemiology. 4 Units.**

This course is an introduction to the principles and practice of epidemiology. It explores the history, concepts, and methods of epidemiologic investigation. The statistical models taught in this class include the receiver operating characteristic curve, chi-square test, t-test, binary logistic regression, and linear regression. Students will learn to develop research designs that employ these tests and will be able to conduct them to evaluate patient care, quantify risk, and understand the patterns of illness and disease in populations. Prerequisites: MATH 035 or MATH 037.

**HLTH 182. Exercise Testing and Prescription. 4 Units.**

This course is primarily designed to provide students with the hands-on training and theoretical background to competently assess levels of wellness/fitness in an "apparently healthy" (i.e. low risk) adult population. The topics and skills addressed include health screening protocols/risk stratification, use of Informed Consent documents, as well as measurement protocols for the health-related components of fitness (i.e. cardiorespiratory fitness, muscular fitness, flexibility, body composition). These skills are then used to prescribe lifestyle and/or exercise modifications that result in individual progress toward a desired goal. Prerequisite: HLTH 129.

**HLTH 183. Global Health and Policy. 4 Units.**

This course is intended to familiarize students with the global burden of diseases from the perspective of public health. The course will cover health measurements and health determinants. We investigate how nations' economic levels, inequity, and policies influence the health of their citizens, how the global burden of disease shifts from infections to now primarily noncommunicable diseases, and how global policies influence global health (such as the UN's Development Goals, trade regulation, patents, and how human rights influence health). The course content and instruction will help students prepare for careers in the public health field.

**HLTH 185. Special Populations in Health. 4 Units.**

This course will examine special populations within society, looking at specific health needs, inequalities, and health risks for different vulnerable groups. Students will discuss different populations based on: gender, age, race/ethnicity, sexuality, disability, occupation, culture, socioeconomic status, geography, religion, and health status. This course will examine specific health needs, disparities, and factors affecting health and wellness within different populations in society. The course content and instruction will help students prepare for careers in the public health field.

**HLTH 187. Internship in Health and Exercise Science. 4 Units.**

This course provides an opportunity for qualifying students to work in an area of Health and Exercise Science that interests them. Prerequisites: HLTH 157, GPA 2.0 no grade below "C-" in major and approval of course supervisor.

**HLTH 189. Public Health and Community Wellness (PHCW) Internship. 2 Units.**

This course facilitates the development of job/career experience through an internship in an area of career interest within the health field. Students are encouraged to pursue opportunities relevant to planned career and/or graduate school goals, such as health policy and law, healthcare administration, data analytics, environmental science, and social services. Prerequisites: HLTH 080.

**HLTH 189B. Practicum: Athletic Training III. 4 Units.**

This is a clinical education course in the field of athletic training. It incorporates an experiential learning environment designed to prepare students for a career in athletic training. Advanced skills are introduced within the daily operations of the athletic training room and in the care of the athletes. Criteria for progression must be met before enrolling in subsequent practicum course. Prerequisites: HLTH 089K.

**HLTH 189C. Practicum: Biomechanics. 2 Units.**

These courses provide advanced practicum work in Sport Medicine. See HLTH 089 for subcategories and enrollment limitations. Grading option is Pass/No Credit only.

**HLTH 189D. Practicum: Exercise Physiology. 2 Units.**

These courses provide advanced practicum work in Sport Medicine. See HLTH 089 for subcategories and enrollment limitations. Grading option is Pass/No Credit only.

**HLTH 189F. Practicum: Coaching. 2 Units.**

Students are assigned to an intercollegiate or interscholastic sports team for the semester and participate in practice sessions throughout the specific sport season. Written guidelines are developed cooperatively by the supervisor, coach and student. Prerequisite: HLTH 155.

**HLTH 189H. Practicum: Sports Law. 2 Units.**

These courses provide advanced practicum work in Sport Medicine. See HLTH 089 for subcategories and enrollment limitations. Grading option is Pass/No Credit only.

**HLTH 189J. Practicum: Kinesiology. 2 Units.**

These courses provide advanced practicum work in Sport Medicine. See HLTH 089 for subcategories and enrollment limitations. Grading option is Pass/No Credit only. Prerequisite: HLTH 133 with a "C-" or better.

**HLTH 189K. Practicum: Athletic Training IV. 4 Units.**

This is the fourth in a series of four consecutive clinical education courses in the field of Athletic Training. The course incorporates an experiential learning environment designed to prepare students for a career in Athletic Training. Advanced Athletic Training knowledge and skills will also be introduced within the daily operations of the Athletic Training Facility and your Clinical Assignment and in the care of patients. Prerequisite: HLTH 189B.

**HLTH 191. Independent Study. 1-4 Units.**

Special Topics.

**HLTH 193. Special Topics. 4 Units.****HLTH 197. Independent Research. 1-4 Units.**

Independent Research.

**HLTH 200. Advanced Health and Exercise Science Law. 4 Units.**

This course examines legal issues and responsibilities relevant to health and exercise science professionals. This course is divided into two parts. Part I introduce basic concepts of the legal system and reviews general legal principles of tort and contract law. Part II focuses upon specific topics to which legal principles and risk management strategies apply. This course is taught combining lecture, class discussion, a written research project, and experientially based assignments designed to develop the ability to practically apply specific circumstances and facts to the law and risk management planning. In-class oral arguments using relevant case law, review of local facilities and programs, and legal observations in San Joaquin County courtrooms will supplement course content and offer students "hands on" learning opportunities.

**HLTH 233. Advanced Kinesiology. 4 Units.**

This graduate seminar considers the musculoskeletal analysis of human movement, posture, exercise prescription, and rehabilitation. Graduate standing. Prerequisites: HLTH 133 or permission of instructor.

**HLTH 235. Graduate Nutrition/Exercise Metabolism. 4 Units.**

Students study the principles of nutrition as they relate to health and participation in sport or physical activity. The course includes calculation of energy needs and expenditures, and the role of carbohydrates, fats, protein, vitamins, minerals, and water in sport and physical activity.

**HLTH 237. Advanced Sport Psychology. 4 Units.**

This course provides a detailed examination of the theories and concepts that explain how the human psyche affects sport performance. Particular emphasis is given to the application of these concepts for coaches and athletes.

**HLTH 247. Advanced Exercise Physiology. 4 Units.**

This course is an advanced study of physiological responses to exercise with emphasis on laboratory methods and procedures for testing and demonstrating these responses for research application. Lab fee is required. Prerequisites: HLTH 147 and permission of the instructor.

**HLTH 248. Applied and Clinical Physiology. 4 Units.**

This course is designed to study the fundamental principles of exercise testing and interpretation for high risk, healthy, and athletic populations. The course is structured to focus on the cardiovascular, metabolic, and pulmonary responses to aerobic exercise and implications for designing training programs to enhance health, fitness, and performance. This course serves as a foundation for clinical exercise science and the use of exercise testing in the study of cardiac, metabolic and respiratory pathology.

**HLTH 255. Advanced Motor Learning. 4 Units.**

This graduate course examines both the information processing and dynamical systems approaches to the study of human motor behavior and skill acquisition. Content is theoretically and research based with a behavioral emphasis. Topics covered include: variability and motor control, visual control of action, the role of reflexes, task interference, limitations in information processing, effects of stress on performance, and the Schema theory. It is intended to provide students with an advanced understanding of the conceptual, functional properties of the motor system and human motor performance and their application to teaching, coaching, industrial and therapeutic settings.

**HLTH 257. The Clinician in Health and Exercise Science. 4 Units.**

This course offers students an opportunity to integrate academic, experiential, and career interests. Each student will: (1) observe at least one carefully selected clinical site throughout the term that is relevant to individual professional/educational interests or research reports that address career options in HESP (if observation sites are unavailable) and (2) research a narrowly defined issue relevant to HES. This course is intended to enhance professional development through experiential learning, continue the development of research skills, advance academic knowledge, and address educational priorities. Students should complete the course with a better understanding of at least one career option within the broad field of health and exercise science and its related research issues.

**HLTH 261. Advanced Biomechanics of Sport. 4 Units.**

This course is an advanced study of mechanical principles which influence human movement. Both non-cinematographic and cinematographic/videographic techniques are used to analyze and evaluate motor skills and errors in performance and critical evaluation of current research findings in biomechanics. Lab fee required. Prerequisites: an undergraduate course in kinesiology or biomechanics or permission of instructor.

**HLTH 279. Research Methods in Health and Exercise Science. 4 Units.**

This in-depth evaluation of the various methods used in the disciplines of health and exercise sciences, includes experimental, descriptive, qualitative and historical approaches. Students learn the means of selecting a research problem and planning its solution as well as important considerations to regard in reviewing the literature. The course also includes an overview of proper form and style in research writing. Student must complete a fully developed Research Proposal as part of this course. Prerequisites: a course in statistics & Graduate standing.

**HLTH 287. Advanced Internship: Sport Medicine. 1-4 Units.**

This course provides an opportunity for qualifying students to work in an area of sports medicine that interests them. Graduate standing. Grading option is Pass/No Credit only. Prerequisites: HLTH 257 with a "C" or better and permission of instructor.

**HLTH 289B. Advanced Practicum: Coaching. 2-4 Units.**

This practicum offers non-classroom experiences in activities related to Sports Medicine, under conditions determined by the appropriate faculty member. HESP 189 represents advanced practicum work that involves increased independence and responsibility. Enrollment is limited to six units maximum of HESP 089/189A, B, C, D offerings and no category within a course may be repeated for credit. Grading option is Pass/No Credit only.

**HLTH 291. Independent Study. 1-4 Units.**

Independent Study.

**HLTH 293. Special Topics. 3 or 4 Units.**

Special Topics.

**HLTH 297. Independent Research. 1-4 Units.**

Independent Research.

**HLTH 299. Thesis. 4 Units.**

Thesis.