



**Faculty**

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**Degrees and Programs**

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The EXERCISE SCIENCE, HEALTH, AND NUTRITION (ESHN) DEPARTMENT serves the Pacific Union College community by providing opportunities for career development in sports professions, for instruction, and for participation.

The department has the following objectives:

- to give thorough instruction in the requirements for participation and leadership in sports activities,
- to develop a knowledge and understanding of health and safety concepts,
- to offer a wide variety of suitable activities, in and out of the classroom, in an environment that supports Christian values,
- to encourage each individual to achieve a high level of total fitness and neuromuscular coordination supporting a wholesome lifestyle, and
- to encourage daily vigorous exercise for everyone in all stages of life.

The Physical Education degree with emphasis in Teacher Education is designed for students wishing to become sports teachers. The Exercise Science degree is designed for the student who either seeks to enter medical school or advance into athletic training. This program recommends the required cognate courses for a pre-professional program and has the required courses for entering a sport medicine graduate program in athletic training.

**Major in Physical Education with Teacher Education Emphasis, B.S.**

A minimum of 85 hours (44 upper-division hours)

► **Required Core Courses (68 hours):**

ESAC 368	Water Safety Instructor	2
ESAC 370	Lifeguard Training	2
ESTH 166	Historical Foundations of Physical Education	2
ESTH 170	Care and Prevention of Athletic Injuries	2
ESTH 181	Basic Movement	2
ESTH 183	Theory and Technique of Track and Field	2
ESTH 260	Theory and Technique of Football	2
ESTH 261	Theory and Technique of Volleyball	2
ESTH 262	Theory and Technique of Basketball	2
ESTH 263	Theory and Technique of Softball	2
ESTH 264	Theory and Technique of Soccer	2
ESTH 271-2-3	Theory and Technique of Officiating	2-2-1
ESTH 287	Theory and Technique of Individual Sports	2
ESTH 365	Outdoor Experience	3
ESTH 371	Kinesiology	4
ESTH 372	Physiology of Exercise	4
ESTH 373	Corrective Physical Education	3
ESTH 374	Motor Learning	4
ESTH 381	Theory and Technique of Racquet Sports	2
ESTH 384	Theory and Technique of Rhythmic Activities	2
ESTH 461	Coaching I	2
ESTH 470	Management of Physical Education Programs	3
ESTH 471	Evaluation in Physical Education	3
ESTH 476	Physical Education for Children	3
ESTH 483	Theory and Technique of Weight Training and Developmental Physical Education	2
ESTH 490	Ethics in Physical Education	2
HLED 166	Health Education	2

► **Required Cognate Courses (17 hours)**

BIOL 101	Human Anatomy	5
BIOL 102	Human Physiology	5

## Exercise Science, Health and Nutrition

COMM 330	Intercultural Communication	3
FDNT 235	Nutrition	4

Students majoring in physical education are expected to choose a minor in consultation with their major advisor.

### Major in Exercise Science, B.S.

*A minimum of 63 hours (32 upper-division hours):*

#### ► Required Core Courses (55 hours):

BIOL 101	Human Anatomy	5
BIOL 102	Human Physiology	5
ESAC 370	Lifeguard Training	2
ESTH 166	Historical Foundations	2
ESTH 170	Care and Prevention of Athletic Injuries	2
ESTH 181	Basic Movements	2
ESTH 265	Theory and Technique of Aquatic Fitness	2
ESTH 287	Theory and Technique of Individual Sports	2
ESTH 371	Kinesiology	4
ESTH 372	Physiology of Exercise	4
ESTH 373	Corrective Physical Education	3
ESTH 374	Motor Learning	4
ESTH 378	Fitness Assessment and Exercise Prescription	3
ESTH 381	Theory and Technique of Racquet Sports	2
ESTH 471	Evaluation in Physical Education	3
ESTH 483	Theory and Technique of Weight Training	2
ESTH 490	Ethics in Physical Education	2
ESTH 492	Practicum in Sports Science	3
FDNT 235	Nutrition	3
HLED 166	Health Education	2

#### ► Required Core Electives (6 hours):

*At least 6 hours from the following:* 6

*(To be chosen in consultation with the major advisor)*

ESTH 183	Theory and Technique of Track and Field (2)
ESTH 260	Theory and Technique of Football (2)
ESTH 261	Theory and Technique of Volleyball (2)
ESTH 262	Theory and Technique of Basketball (2)
ESTH 263	Theory and Technique of Softball (2)
ESTH 264	Theory and Technique of Soccer (2)

#### Recommended Cognate Courses:

*(For students earning pre-professional degrees)*

BIOL 111-112-113	Biological Foundations (15)
CHEM 111-112-113	General Chemistry (15)
CHEM 371-372-373	Organic Chemistry (12)
PHYS 111-112-113	General Physics (12)

The B.S. degree curriculum (including all recommended cognates) meets or exceeds all undergraduate science requirements

for pre-medical and pre-dental students applying to Loma Linda University and many other schools.

### Minor in Physical Education

*A minimum of 30 hours (12 upper-division hours)*

#### ► Required Courses (10 hours):

ESTH 166	Historical Foundations of Physical Education	2
ESTH 170	First Aid and Personal Safety/CPR	2
ESTH 470	Management of Physical Education Programs	3
ESTH 471	Evaluation in Physical Education	3

#### ► Required Electives (20 hours):

*(To be chosen in consultation with the major advisor)*

*At least 10 hours from the following:* 10

ESTH	Theory and Technique courses
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*At least 10 hours from the following:* 10

ESTH	Any ESTH courses
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### Teaching Credential

Students desiring to enter a program of studies leading to a California teaching credential in physical education should take the B.S. degree in Physical Education, Teacher Education Emphasis. Students will need to pass the physical education portion of the CSET exam one quarter prior to doing full-time student teaching. Students are invited to discuss the program with their major advisor in the Exercise Science, Health, and Nutrition Department.

Those who plan to teach on the secondary level should consult with the credential analyst in the Education Department and should become acquainted with the specific requirements for admission to and successful completion of the Teacher Education Program as outlined in the section entitled "Education" in this catalog.

**Physical Education Activity**

LOWER-DIVISION COURSE:

**ESAC 100** **Adaptive Physical Education** **1**  
 Requires physician's certification of need. Repeatable for credit.

**Aerobics**

*All aerobics courses are repeatable for credit.*

LOWER-DIVISION COURSES:

**ESAC 101A** **Jogging** **1**

**ESAC 103A** **Physical Fitness** **1**

**ESAC 105A** **Fitness for Women** **1**

**ESAC 107A** **Swim and Stay Fit** **1**

**ESAC 109A** **Hydro-Aerobics** **1**

UPPER-DIVISION COURSES:

**ESAC 304A** **Cycling** **1**

**ESAC 338A** **Ultimate Frisbee** **1**

**Aquatics**

*All aquatics courses are repeatable for credit.*

LOWER-DIVISION COURSE:

**ESAC 158** **Elementary Swimming** **1**

UPPER-DIVISION COURSES:

**ESAC 368** **Water Safety Instructor** **2**  
 Prerequisite: ESAC 370.

**ESAC 370** **Lifeguard Training** **2**  
 Prerequisite: ESTH 170 or CPR and FA certificates.

**Individual and Dual Sports**

*All individual and dual sports courses are repeatable for credit.*

LOWER-DIVISION COURSES:

**ESAC 133** **Mountain Biking** **1**

**ESAC 171** **Pickleball** **1**

**ESAC 174** **Elementary Badminton** **1**

**ESAC 176** **Elementary Weight Training** **1**

**ESAC 178** **Canoeing** **1**

**ESAC 180** **Elementary Golf** **1**

**ESAC 192** **Elementary Skiing** **1**

**ESAC 194** **Elementary Tennis** **1**

UPPER-DIVISION COURSES:

**ESAC 374** **Intermediate Badminton** **1**

**ESAC 376** **Intermediate Weight Training** **1**

**ESAC 380** **Intermediate Golf** **1**

**ESAC 392** **Intermediate Skiing** **1**

**ESAC 394** **Intermediate Tennis** **1**

**Team Sports**

*All team sports courses are repeatable for credit.*

LOWER-DIVISION COURSES:

**ESAC 120** **Elementary Basketball** **1**

**ESAC 123** **Baseball-Men** **1**

**ESAC 124** **Flag Football** **1**

**ESAC 128** **Soccer** **1**

## Exercise Science, Health & Nutrition

<b>ESAC 130</b> <b>Softball</b>	<b>1</b>	<b>ESTH 181</b> <b>Basic Movement</b>	<b>2 F</b>	<b>ESTH 263</b> <b>Theory and Technique of Softball</b>	<b>2 S</b>
<b>ESAC 132</b> <b>Elementary Volleyball</b>	<b>1</b>	Fundamentals of body movement, posture, conditioning exercises, self-testing activities; selection, evaluation, and organization of social recreational activities. Odd years.		Practice in and theory of softball. Development of fundamental skills of the game; analysis of skills, techniques, team strategy, rules and officiating procedures. Even years.	
UPPER-DIVISION COURSES:					
<b>ESAC 333V</b> <b>Advanced Volleyball-Women</b>	<b>1</b>	<b>ESTH 183</b> <b>Theory and Technique of Track and Field</b>	<b>2 S</b>	<b>ESTH 264</b> <b>Theory and Technique of Soccer</b>	<b>2 S</b>
<b>ESAC 334V</b> <b>Advanced Volleyball-Men</b>	<b>1</b>	Practice sessions and drills for developing fundamental skills and special abilities; study of rules and officiating techniques; consideration of practice scheduling and strategy. Odd years.		Practice and theory of soccer. Development of fundamental skills of the game; analysis of skills, techniques, team strategy and rules.	
<b>ESAC 335V</b> <b>Advanced Basketball-Women</b>	<b>1</b>				
<b>ESAC 336V</b> <b>Advanced Basketball-Men</b>	<b>1</b>	<b>ESTH 260</b> <b>Theory and Technique of Football</b>	<b>2 F</b>	<b>ESTH 265</b> <b>Theory and Technique of Aquatic Fitness</b>	<b>2 S</b>
<b>Professional and Theory</b>					
LOWER-DIVISION COURSES:					
<b>ESTH 166</b> <b>Historical Foundations of Physical Education</b>	<b>2 F</b>	<b>ESTH 261</b> <b>Theory and Technique of Volleyball</b>	<b>2 F</b>	<b>ESTH 271-272-273</b> <b>Theory and Practice of Officiating</b>	<b>2-2-1 F-W-S</b>
History of physical education, health and recreation. Effects of social expectations and world events on views of physical education and sports. An introduction to careers in these and related fields.		Practice in and theory of volleyball. Development of fundamental skills of the game; analysis of skills, techniques, team strategy, and rules. Even years.		Theory of and practice in officiating at team sports, interpretation of rules, officiating techniques, examinations, and ratings. Consists of a combination of lectures and practice. Prerequisite: Previous experience in playing football, volleyball, basketball, and softball.	
<b>ESTH 170</b> <b>Care and Prevention of Athletic Injuries</b>	<b>2 F</b>	<b>ESTH 262</b> <b>Theory and Technique of Basketball</b>	<b>2 W</b>		
Care and prevention of injuries associated with coaching and teaching sport and game activities in a school setting. Topics include sprains, bleeding, fractures, exposure to heat and cold, seizures, heart attacks, accidental exposure to poisons and chemicals, and other injuries requiring immediate medical attention.		Analysis and practice of skills and team play; interpretation of rules; strategy and techniques of teaching. Even years.			

**ESTH 287** **2 S**  
**Theory and Technique of Individual Sports**

Development of fundamental skills and strategies in various individual activities such as handball, golf, racquetball, and archery. Emphasis on teaching techniques, officiating, rules, and organization of materials for school programs.

UPPER-DIVISION COURSES:

**ESTH 365** **3 S**  
**Outdoor Experience**

Theory and practice in camping, hiking, backpacking, and canoeing techniques. Ecological considerations, equipment and food selection, outdoor cooking, and orienteering.

**ESTH 371** **4 F**  
**Kinesiology**

A study of joints and muscular structure and their relation to physical exercise. Three lectures and one laboratory per week. Odd years.

**ESTH 372** **4 W**  
**Physiology of Exercise**

Physiological effects of muscular exercise, physical conditioning, and training. Significance of these effects for health and for performance in activity programs. Three lectures and one laboratory per week. Prerequisite: ESTH 371 or permission of the instructor. Odd years.

**ESTH 373** **3 S**  
**Corrective Physical Education**

Common deviations of posture and feet; functional disturbances and crippling conditions found in school children. Survey of source material needed to plan and conduct individual, developmental, and special courses in physical education in schools. Odd years.

**ESTH 374** **4 W**  
**Motor Learning**

Physiological and psychological instructional considerations for learning, skill acquisition, and performance as applied to motor skills. Three lectures and one laboratory per week. Prerequisites: PSYC 121, BIOL 101, 102. Even years.

**ESTH 378** **3 S**  
**Fitness Assessment and Exercise Prescription**

Introduction to the theoretical and practical aspects of exercise assessment, exercise interpretations, and exercise prescription. Covers principles of exercise prescription with hands-on experiences using various clinical and field methods to evaluate cardiorespiratory fitness, muscular strength and endurance, flexibility and body composition. Odd years.

**ESTH 381** **2 F**  
**Theory and Technique of Racquet Sports**

Analysis of and practice in strokes and tactics; rules, history and skill progression for various levels of instruction. Odd years.

**ESTH 384** **2 W**  
**Theory and Technique of Rhythmic Activities**

Development of personal and teaching skills for theoretical and practical application of rhythms: the leadership of aerobic exercise, dramatic and creative play, folk rounds, and other activities. Development of skills for personal combative activities and techniques for teaching such skills. Odd years.

**ESTH 461** **2 W**  
**Coaching I**

Designed to develop skills for coaching athletic teams. Development of philosophies in harmony with Seventh-day Adventist principles concerning athletic events. Skills in team building and strategies. Practical experience included. Odd years.

**ESTH 470** **3 F**  
**Management of Physical Education Programs**

Relationship of physical education to modern education theory. The organization of physical education activities, organization and classification of pupils; emphasis on the arrangement and construction of equipment and planning of school programs suitable to denominational schools. Odd years.

**ESTH 471** **3 W**  
**Evaluation in Physical Education**

Scientific testing in physical education: analysis and study of tests, diagnosis of physical efficiency, and physiological reactions to exercise. Evaluation of programs and student achievement through measurement technique. Odd years.

**ESTH 476** **3 F**  
**Physical Education for Children**

Activity interests of children and appropriate materials for different age levels; selection of materials and methods of presentation. Consists of a combination of lectures and practice. Satisfies one quarter of the general-education activity requirement.

## Exercise Science, Health & Nutrition

### **ESTH 483** **2 S** **Theory and Technique of Weight Training and Developmental Physical Education**

Theory and technique of weight training, analysis of exercises for the atypical student and correction of postural deviations. Open to department majors and minors. Prerequisite: ESTH 373 or permission of instructor. Even years.

### **ESTH 490** **2 W** **Ethics in Physical Education**

The power of religion in developing Christian professionals in health, physical education and recreation. Concepts of the way God, man and Spirit relate to one another; development of Christlike leadership qualities in both instructors and students. Even years.

### **ESTH 492** **3 W** **Practicum in Sports Science**

Combines classroom work with practical hands-on experience to prepare students to continue their education in the fields of athletic training, personal training, sports physical therapy, or sports medicine. Skills developed in the program are taken from the following areas: anatomy and physiology, athletic injury care, prevention and rehabilitation, physical therapy, fitness programs for individuals and groups, health and wellness, nutrition, and strength training.

### **ESTH 495** **1-3 F, W, S, Su** **Independent Study**

Open by permission of the department chair to advanced students with adequate background and experience. Repeatable to a maximum of 3 credits.

## Food and Nutrition

LOWER-DIVISION COURSE:

### **FDNT 235** **3 F, W, S** **Nutrition**

Principles of nutrition, emphasizing nutritional requirements, dietary sources of nutrients, nutrient utilization, effects of nutrition on energy intake and weight control, fitness, disease prevention, and life cycle.

## Health Education

LOWER-DIVISION COURSES:

### **HLED 162** **2 F, W, S** **Fitness for Life**

Introduces the philosophy of health, aimed at lasting nutritional and physical conditioning that promotes a high level of well-being. Emphasis on the prevention of heart disease, obesity, and stress. Laboratory evaluation in body composition, blood analysis, stress testing, and the treadmill.

### **HLED 166** **2 F, W, S** **Health Education**

Encourages the development of self-awareness and promotes “wellness” as a life-long personal investment. Advocates protection and effective use of human and ecological resources and acquiring skills for individual responsibility. Emphasis on Seventh-day Adventist health principles. Treats substance abuse and nutrition as required for SDA and California teaching credentials.

### **HLED 169** **2 W** **Current Health Concerns**

Explores the background and cause of common health problems of the adult as well as prevention and treatment. Designed to promote physical vitality and a sense of well-being.