

Kinesiology

Chair, Assistant Professor B. Dykstra
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The Kinesiology Department has two major purposes: (1) to prepare competent, caring, and reflective Christian leaders for world service in exercise science; and (2) to help students acquire the skills and attitudes for lifetime wellness, as well as wholesome and active use of their leisure time.

Baccalaureate degrees are offered with a major in Exercise Science or Human Physiology and Preventive Medicine. Candidates for the Bachelor of Arts degree must complete two years of a foreign language.

The three credits required in the foundational core curriculum are typically met by taking KIN 100 plus KIN 200 or one of the following to substitute for KIN 200: KIN 300, 302, 333, 334, or EXS 280 or EDU 250. Exercise Science majors complete this requirement by taking EXS 111, 316, and 318. Pre-Med and allied health students who are not Exercise Science majors are recommended to take KIN 221 to fulfill the three credits required for the foundational core curriculum. The Elementary Education major requires EDU 250, which along with KIN 100, will fulfill the foundational core requirement.

One aspect of professors' work at a Christian liberal arts university is to build relationships with students to participate in God's work of preparing students for a well-lived and meaningful life. The Kinesiology Department aims to fulfill this educational calling through a whole-person focused curriculum. The Living Well course will provide specific instruction in the more technical aspects of caring for the human body as part of the created order including rest/shalom, nutrition, and physical activity. As such, this course will serve as the foundation for an understanding of basic principles of a well-lived embodied life. The connections between mind, body, and spirit will be explored knowing that we are living, breathing, touchable souls made by a mysterious union of the sacred dust of God and the sacred breath of God.

Exercise Science

Brandon Dykstra, Scott Fenstermacher, and Brad Kendall, Advisors

Our mission is to develop Christ-like servant-leaders who possess the wisdom, technical skills, and relational abilities to lead others towards holistic health.

Exercise Science (BA)

The Bachelor of Arts degree with a major in Exercise Science requires two years of sequential study in one foreign language and 47 hours in the major. Students must complete the senior comprehensive requirement by completing 4 credits of directed research or internship. *All major courses must be completed with a grade of C- or better and are included in the major GPA.*

Major Requirements

| | | | | | |
|---------|---|---|---|---|-------------------|
| BIO 201 | 4 | Biology I: Foundations of Cell Biology and Genetics | <i>Select <u>one</u> course from the following:</i> | | |
| BIO 310 | 4 | Human Anatomy and Physiology I | EXS 450 | 4 | Directed Research |
| BIO 311 | 4 | Human Anatomy and Physiology II | KIN 492 | 4 | Internship |
| EXS 111 | 3 | Foundations of Exercise Science | <i>Select <u>one</u> course from the following:</i> | | |
| EXS 274 | 1 | Introduction to Exercise Testing | PSY 395 | 3 | Health Psychology |
| EXS 290 | 3 | Principles of Strength Training and Conditioning | PSY 410 | 3 | Motivation |
| EXS 306 | 3 | Physiology of Exercise | | | |
| EXS 316 | 3 | Applied Nutrition | | | |
| EXS 318 | 3 | Therapeutic Exercise and Pharmacotherapy | | | |
| EXS 353 | 3 | Physical Fitness Assessment | | | |
| EXS 381 | 3 | Kinesiology | | | |
| EXS 453 | 3 | Physical Fitness Prescription | | | |
| KIN 355 | 3 | Research Methods | | | |

Suggested Courses for Areas of Specialization

| | | | | | |
|-------------|-----|---|-------------|-----|--|
| BIO 203 | 4 | Principles of Genetics | | | |
| BIO 210 | 3 | Medical Terminology | MAT 140 | 3 | Fundamental Calculus for Applications |
| BIO 331 | 4 | Comparative Anatomy | MAT 145 | 3 | Introduction to Functions and Calculus |
| BIO 471 | 4 | Microbiology and Immunology | MAT 146 | 3 | Functions and Calculus |
| CHE 201/211 | 4 | General, Organic, & Biochemistry I/College Chemistry I | MAT 151 | 4 | Calculus I |
| CHE 202/212 | 4 | General, Organic, & Biochemistry II/College Chemistry II | MAT 210 | 4 | Introductory Statistics |
| CHE 311 | 4 | Organic Chemistry I | PBH 100 | 3 | Introduction to Public Health |
| CHE 312 | 4 | Organic Chemistry II | PBH 213 | 2 | Substance Education |
| CHE 411 | 3 | Biochemistry I | PBH 346 | 3 | Community Health Education |
| CHE 412 | 3 | Biochemistry II | PHI 201 | 3 | Logic |
| EXS 217 | 3 | Health Promotion Program Planning | PHI 311 | 3 | Medical Ethics |
| EXS 273 | 1 | Introduction to Exercise Science Research | PHY 203/211 | 4 | General Physics I/University Physics I |
| EXS 317 | 2 | EKG and Stress Testing | PHY 204/212 | 4-5 | General Physics II/University Physics II |
| EXS 393 | 1 | Practicum | PSY 100 | 3 | Introductory Psychology |
| EXS 482 | 3 | Lifespan and Environmental Physiology | PSY 220 | 3 | Sport Psychology |
| HPH 310 | 3 | Cardiorespiratory Physiology and Chronic Disease | PSY 250 | 3 | Life Span Development |
| HPH 315 | 3 | Pathophysiology of Immunological and Metabolic Chronic Diseases | PSY 275 | 3 | Introductory Statistics |
| HPH 320 | 3 | Neuromuscular Physiology and Chronic Disease | PSY 300 | 3 | Abnormal Psychology |
| KIN 223 | 3 | Emergency Health Care | PSY 395 | 3 | Health Psychology |
| KIN 324 | 2 | Motor Learning | PSY 410 | 3 | Motivation |
| KIN 360 | 1-4 | Independent Study (<i>approved by advisor</i>) | PSY 441 | 3 | Physiological Psychology |
| KIN 370 | 1-4 | Selected Topics (<i>approved by advisor</i>) | SMA 351 | 3 | Sport Public Relations |
| | | | SMA 352 | 3 | Event and Facility Management |

Exercise Science (BS)

The Bachelor of Science degree with a major in Exercise Science requires 65 hours in the major. Students must complete the senior comprehensive requirement by completing 4 credits of directed research or internship. *All major courses must be completed with a grade of C- or better and are included in the major GPA.*

Major Requirements

| | | | | | |
|---------|---|---|--|---|-------------------------------|
| BIO 201 | 4 | Biology I: Foundations of Cell Biology and Genetics | EXS 453 | 3 | Physical Fitness Prescription |
| BIO 310 | 4 | Human Anatomy and Physiology I | KIN 355 | 3 | Research Methods |
| BIO 311 | 4 | Human Anatomy and Physiology II | <i>Select one course from the following:</i> | | |
| EXS 111 | 3 | Foundations of Exercise Science | EXS 450 | 4 | Directed Research |
| EXS 274 | 1 | Introduction to Exercise Testing | KIN 492 | 4 | Internship |
| EXS 290 | 3 | Principles of Strength Training and Conditioning | <i>Select one course from the following:</i> | | |
| EXS 306 | 3 | Physiology of Exercise | PSY 395 | 3 | Health Psychology |
| EXS 316 | 3 | Applied Nutrition | PSY 410 | 3 | Motivation |
| EXS 318 | 3 | Therapeutic Exercise and Pharmacotherapy | | | |
| EXS 353 | 3 | Physical Fitness Assessment | | | |
| EXS 381 | 3 | Kinesiology | | | |

Electives

| | | | | | |
|---------------------------------------|-----|---|----------------------|-----|--|
| <i>Select at least 18 hours from:</i> | | | | | |
| BIO 203 | 4 | Principles of Genetics | MAT 140 | 3 | Fundamental Calculus for Applications |
| BIO 210 | 3 | Medical Terminology | MAT 145 | 3 | Introduction to Functions and Calculus |
| BIO 331 | 4 | Comparative Anatomy | MAT 146 | 3 | Functions and Calculus |
| BIO 471 | 4 | Microbiology and Immunology | MAT 151 | 4 | Calculus I |
| CHE 201/211 | 4 | General, Organic, & Biochemistry I/College Chemistry I | MAT 210* | 4 | Introductory Statistics |
| CHE 202/212 | 4 | General, Organic, & Biochemistry II/College Chemistry II | PBH 100 | 3 | Introduction to Public Health |
| CHE 311 | 4 | Organic Chemistry I | PBH 213 | 2 | Substance Education |
| CHE 312 | 4 | Organic Chemistry II | PBH 346 | 3 | Community Health Education |
| CHE 411 | 3 | Biochemistry I | PHI 201 | 3 | Logic |
| CHE 412 | 3 | Biochemistry II | PHI 311 | 3 | Medical Ethics |
| EXS 217 | 3 | Health Promotion Program Planning | PHY 203/211 | 4 | General Physics I/ University Physics I |
| EXS 273 | 1 | Introduction to Exercise Science Research | PHY 204/212 | 4-5 | General Physics II/University Physics II |
| EXS 317 | 2 | EKG and Stress Testing | PSY 100 | 3 | Introductory Psychology |
| EXS 393 | 1 | Practicum | PSY 220 | 3 | Sport Psychology |
| EXS 482 | 3 | Lifespan and Environmental Physiology | PSY 250 | 3 | Life Span Development |
| HPH 310 | 3 | Cardiorespiratory Physiology and Chronic Disease | PSY 275* | 3 | Introductory Statistics |
| HPH 315 | 3 | Pathophysiology of Immunological and Metabolic Chronic Diseases | PSY 300 | 3 | Abnormal Psychology |
| HPH 320 | 3 | Neuromuscular Physiology and Chronic Disease | PSY 395 [‡] | 3 | Health Psychology |
| KIN 223 | 3 | Emergency Health Care | PSY 410 [‡] | 3 | Motivation |
| KIN 324 | 2 | Motor Learning | PSY 441 | 3 | Physiological Psychology |
| KIN 360 | 1-4 | Independent Study (<i>approved by advisor</i>) | SMA 351 | 3 | Sport Public Relations |
| KIN 370 | 1-4 | Selected Topics (<i>approved by advisor</i>) | SMA 352 | 3 | Event and Facility Management |

*A maximum of 4 credits from these courses may count toward elective hours.

[‡]Course may not double-count as requirement and elective.

Coaching Minor

The department offers a 18-19-hour Coaching minor for any student interested in preparing for the coaching profession. Students from any major are eligible for this course of study. The minor helps prepare students for opportunities in coaching, leading camps, youth athletic ministry, and recreational leadership. *All minor courses must be completed with a grade of C- or better and are included in the minor GPA.*

Minor Requirements

| | | | | | |
|---------|---|---|--|---|------------------------|
| EXS 290 | 3 | Principles of Strength Training and Conditioning | <i>Select one course from the following:</i> | | |
| KIN 220 | 3 | Principles of Coaching | KIN 472 | 2 | Psychology of Coaching |
| KIN 223 | 3 | Emergency Health Care | PSY 220 | 3 | Sport Psychology |
| KIN 367 | 3 | Coaching Methods | | | |
| KIN 393 | 4 | Practicum (<i>approved by advisor—Coaching</i>) | | | |

Human Physiology and Preventive Medicine

Erik Hayes and Brian Dewar, Advisors

Human Physiology and Preventive Medicine is designed specifically for students seeking to enter into professional schools related to health care (e.g., medical school, physician assistant, physical therapist, occupational therapist, nursing). It first explores a basic foundation of human anatomy, physiology, cellular biology, and chemistry followed by more in depth physiology courses related specifically to physiological systems, the pathophysiology of chronic disease of those systems, and the scientific evidence and mechanism for prevention of disease through lifestyle modification. Students will gain a basic background in human nutrition, health psychology, and public health preparing them for work as health educators in our local medical clinic working to help members of the community prevent and treat chronic disease. The major is intentionally small enough to allow students space to meet all the prerequisite requirements for professional school entrance exams and professional school admission requirements. In addition, students will have room to pursue semester abroad experiences, faculty mentored research, and clinical internships.

Students wishing to follow more traditional paths to professional schools in medicine and health care (e.g., biology or chemistry) or choosing majors that would not typically be associated directly with health care but are nonetheless related to human health and flourishing (e.g., social work, music therapy, missions) may choose to complete a minor in Preventive Medicine.

Human Physiology and Preventive Medicine (BS)

The Bachelor of Science degree with a major in Human Physiology and Preventive Medicine requires 55-56 major hours. *Students must also complete at least 160 clinical hours as approved and verified by the department. All major courses must be completed with a grade of C- or better and are included in the major GPA.*

Major Requirements

| | | |
|---------|---|---|
| BIO 201 | 4 | Biology I: Foundations of Cell Biology and Genetics |
| BIO 310 | 4 | Human Anatomy and Physiology I |
| BIO 311 | 4 | Human Anatomy and Physiology II |
| EXS 316 | 3 | Applied Nutrition |
| HPH 493 | 3 | Human Physiology Capstone |
| KIN 221 | 3 | Exercise as Medicine |
| NAS 230 | 2 | Health Education for Behavior Change |
| PBH 100 | 3 | Introduction to Public Health |
| PHI 311 | 3 | Medical Ethics |
| PSY 100 | 3 | Introductory Psychology |
| PSY 395 | 3 | Health Psychology |

Select one of the following chemistry course combinations:

| | | |
|---------|---|---------------------------------------|
| CHE 201 | 4 | General, Organic, and Biochemistry I |
| CHE 202 | 4 | General, Organic, and Biochemistry II |

or

| | | |
|-----------------------|---|----------------------|
| CHE 211 ^{1†} | 4 | College Chemistry I |
| CHE 212 ^{1†} | 4 | College Chemistry II |

Select one course from the following:

| | | |
|---------|---|------------------|
| BIO 381 | 3 | Research Methods |
| KIN 355 | 3 | Research Methods |

Select two courses from the following:

| | | |
|---------|---|---|
| HPH 310 | 3 | Cardiorespiratory Physiology and Chronic Disease |
| HPH 315 | 3 | Pathophysiology of Immunological and Metabolic Chronic Diseases |
| HPH 320 | 3 | Neuromuscular Physiology and Chronic Disease |

Select one additional course from the following:

| | | |
|---------|---|---|
| BIO 300 | 4 | Human Medical Physiology |
| EXS 482 | 3 | Lifespan and Environmental Physiology |
| HPH 310 | 3 | Cardiorespiratory Physiology and Chronic Disease |
| HPH 315 | 3 | Pathophysiology of Immunological and Metabolic Chronic Diseases |
| HPH 320 | 3 | Neuromuscular Physiology and Chronic Disease |
| PSY 441 | 3 | Physiological Psychology |

Recommended Courses

Students may choose to select any of the following courses based upon consultation with advisor and contact with specific graduate or professional school to ensure all entrance requirements are met; recommended courses are not counted toward major requirements nor major GPA.

| | | |
|------------------------|-----|----------------------------------|
| BIO 203 ^{1†} | 4 | Principles of Genetics |
| BIO 210 [†] | 3 | Medical Terminology |
| BIO 312 ^{1†} | 4 | Cellular and Molecular Biology |
| BIO 471 [†] | 4 | Microbiology and Immunology |
| CHE 311 ^{1††} | 4 | Organic Chemistry I |
| CHE 312 [†] | 4 | Organic Chemistry II |
| CHE 411 [†] | 3 | Biochemistry I |
| IAS 210 [†] | 3 | Medical Terminology |
| MAT 210 ^{1†} | 4 | Introductory Statistics |
| PHY 203 [†] | 4 | General Physics I |
| PHY 204 [†] | 4 | General Physics II |
| PSY 250 | 3 | Life Span Development |
| PSY 275 | 3 | Introductory Statistics |
| PSY 300 | 3 | Abnormal Psychology |
| SOC 100 [†] | 3 | Introduction to Sociology |
| SOC/ANT | 3-4 | Sociology or Anthropology Course |

¹Recommended for Medical School

[†]Recommended for Physician Assistant

Preventive Medicine Minor

A minor in Preventive Medicine requires 20 hours. *Students must also complete two semesters of 80 clinical hours each semester as approved and verified by department. All minor courses must be completed with a grade of C- or better and are included in the minor GPA.*

Minor Requirements

| | | |
|---------|---|--------------------------------------|
| EXS 316 | 3 | Applied Nutrition |
| KIN 221 | 3 | Exercise as Medicine |
| NAS 230 | 2 | Health Education for Behavior Change |
| PBH 100 | 3 | Introduction to Public Health |
| PHI 311 | 3 | Medical Ethics |
| PSY 100 | 3 | Introductory Psychology |
| PSY 395 | 3 | Health Psychology |

Exercise Science Courses

- EXS 111** 3 hours
Foundations of Exercise Science
This course is an introduction to the field of exercise science. The content includes definitions, objectives, and philosophies of the field; basic content of components of exercise science, contemporary issues and research, and potential career options. This introduction to the field of exercise science will have a foundation of the Christian perspective of vocational gifting, calling, preparation and service to humankind. Offered Fall and Spring semesters.
- EXS 170** 1-4 hours
Selected Topics
A course offered on a subject of interest but not listed as a regular course offering.
- EXS 214** 3 hours
Health and Sexuality
This course is designed to prepare future health educators to teach the relationship between health and human sexuality. The class activities will include lectures/discussions, peer teaching, development of an abstinence-based curriculum, and lectures by outside resource personnel.
- EXS 215** 2 hours
Health, Exercise, and Aging
The course is designed to examine common health-related physiological changes, current issues, and concerns as they pertain to the aging individual. Prerequisite: EXS 111 or permission of instructor.
- EXS 217** 3 hours
Health Promotion Program Planning
This course is a study of the philosophy, goals, objectives, organization, content, and methods of wellness programs. Characteristics of various clientele and how programs can be developed to meet their specific needs will be studied. Prerequisite: EXS 111.
- EXS 270** 1-4 hours
Selected Topics
A course offered on a subject of interest but not listed as a regular course offering.
- EXS 273** 1 hour
Introduction to Exercise Science Research
Students will gain a basic introduction to research through a field experience in an exercise science research project. Students will help with data collection, data entry, and data analysis portions of the study. May be repeated once for credit. By permission of instructor only.
- EXS 274** 1 hour
Introduction to Exercise Testing
This course will introduce students to the basic skills of cardiovascular disease risk assessment, anthropometric measures, basic muscle strength and endurance assessment, EKG preparation, and data collection.
- EXS 280** 1 hour
Exercise Techniques for Physical Fitness
A course designed to teach various motor skills needed to effectively improve physical fitness such as proper running mechanics, basic lifting techniques, and common stretches. Students will also develop presentation and group exercise leadership skills. Meets foundational core stewardship of the body requirement beyond KIN 100. Exercise Science majors and Coaching minors only.
- EXS 290** 3 hours
Principles of Strength Training and Conditioning
This course is the study of the essentials of strength training and conditioning for practitioners and prepares students for certification with the National Strength and Conditioning Association (NSCA). The course will cover the following: biomechanics of exercise, rehabilitation, bioenergetics of training, aerobic exercise prescription, resistance training, and speed and plyometric training. Prerequisites: EXS 111 or permission of instructor.
- EXS 306** 3 hours
Physiology of Exercise
A study of how the body adapts and responds to acute and chronic exercise. Attention is given to skeletal muscle structure and function, neurological control of movement, metabolic systems, and cardiovascular and pulmonary systems. Prerequisite: BIO 310 or permission of instructor.
- EXS 316** 3 hours
Applied Nutrition
This course is a study of basic principles of human nutrition including fundamentals of digestion, absorption, and metabolism; nutrients and their roles for the lifespan; eating disorders; and nutrition for performance. Exercise Science, Pre-Nursing, and Human Physiology and Preventative Medicine majors only or by permission of instructor. Offered Fall and Spring semesters.
- EXS 317** 2 hours
EKG and Stress Testing
This course is designed to provide the undergraduate exercise science student with the basic knowledge and skills needed to interpret resting and exercise EKG's. Emphasis will be placed on 1) learning normal vs. abnormal EKG patterns at rest and during exercise; and, 2) the effects of cardiovascular medication on the resting or exercise EKG and various physiologic responses to exercise testing. An additional purpose of the course is to introduce the undergraduate exercise student to selected cardiac assessment techniques. Prerequisite: EXS 306 or permission of instructor.
- EXS 318** 3 hours
Therapeutic Exercise and Pharmacotherapy
A detailed study of the role exercise plays in preventing and treating chronic diseases and conditions including metabolic diseases, obesity, cardiovascular conditions, systemic inflammatory diseases, neurological diseases, cancer, orthopedic conditions, and aging. Prerequisite: EXS 306 or permission of instructor. Offered January interterm.
- EXS 320** 3 hours
Community Health Promotion
This course introduces students to health promotion in a community setting. The content explores the theoretical and practical issues of the field of community health that enable students to identify and apply health education principles to health challenges facing individuals, groups, and communities. Local cultures will be explored throughout the trip and students will be expected to reflect on their experience. Meets foundational core cross-cultural requirement. Prerequisite: Permission of instructor.
- EXS 353** 3 hours
Physical Fitness Assessment
This course will provide a comprehensive study of the components of physical fitness and methods of assessing fitness levels within each component. Health assessment and risk analysis instruments will also be examined. The course consists of classroom work, practical assessment projects, and some field experiences. Each student will participate in "hands-on" fitness assessments of various population groups. Prerequisites: EXS 111, EXS 274, and EXS 306; or permission of instructor. Offered Fall and Spring semesters.
- EXS 360** 1-4 hours
Independent Study
An individualized, directed study involving a specified topic.
- EXS 370** 1-4 hours
Selected Topics
A course offered on a subject of interest but not listed as a regular course offering.
- EXS 381** 3 hours
Kinesiology
An analysis of human movement based on anatomic and mechanical principles. Emphasis is given to the application of these principles to the understanding of athletic performance. Prerequisites: BIO 310 or permission of instructor.
- EXS 393** 1-4 hours
Practicum
Supervised learning involving a first-hand field experience or a project. Generally, one hour of credit is awarded for a minimum of 40 hours of practicum experience. Prerequisite: Permission of KIN department.
- EXS 450** 1-4 hours
Directed Research
Investigative learning involving closely directed research and the use of such facilities as the library or laboratory. Prerequisite: Permission of instructor.
- EXS 453** 3 hours
Physical Fitness Prescription
This course provides a study of the prescription and development of appropriate exercise programs based on accurate assessment of each component. Appropriate programs for various populations groups will be considered. The course will consist of classroom work, practical prescription projects, and some field experiences. Each student will participate in "hands-on" prescription and program development for a variety of individuals. Prerequisite: EXS 306.
- EXS 480** 2 hours
Seminar
A limited-enrollment course designed especially for upper-class majors with emphasis on directed readings and discussion.
- EXS 482** 3 hours
Lifespan and Environmental Physiology
This is a seminar-style course which will examine the differences in pediatric physiology and geriatric physiology as well as address physiological adaptations to different natural environments. A variety of topics related to pediatric and geriatric physiology will be explored including growth, maturation and aging, underlying mechanisms for changes in fitness in children and older adults, and specific health challenges facing these populations. Topics relevant to environmental physiology that will be explored include adaptations related to hot, humid, and hypoxic environments. Prerequisite: EXS 306.
- EXS 490** 1-2 hours
Honors
Individualized study or research of an advanced topic within a student's major. Open to students with at least a 3.00 GPA in the major field.

Human Physiology Courses

HPH 310

3 hours

Cardiorespiratory Physiology and Chronic Disease

This course explores the physiology of the cardiac, respiratory, and vascular systems, pathophysiology of the most common cardiorespiratory diseases, and current evidence and mechanisms for disease prevention through lifestyle modification. *Prerequisites: BIO 201; BIO 310; BIO 311; and CHE 202 or CHE 212.*

HPH 315

3 hours

Pathophysiology of Immunological & Metabolic Chronic Diseases

This course explores the pathophysiology of immunological and metabolic chronic diseases with specific emphasis on cancer, hyperlipidemia, diabetes, obesity, and frailty, as well as the major organ systems most commonly impacted by those diseases and current evidence and mechanisms for disease prevention through lifestyle modification. *Prerequisites: BIO 201; BIO 310; BIO 311; and CHE 202 or CHE 212.*

HPH 320

3 hours

Neuromuscular Physiology and Chronic Disease

This course explores the physiology of the central and peripheral nervous system with specific emphasis on neuromuscular control, the pathophysiology of the most common neurological and neuromuscular diseases (e.g., stroke, Parkinson's, Alzheimer's, mental illness), and the current evidence and mechanisms for disease prevention through lifestyle modification. *Prerequisites: BIO 201; BIO 310; BIO 311; and CHE 202 or CHE 212.*

HPH 493

3 hours

Human Physiology Capstone

This course will revisit and add to the theological and philosophical underpinnings of human health and medicine that were initially explored in KIN 221 Exercise as Medicine. Students will review their reflective writings from their freshmen year and develop an updated philosophy of human health and flourishing and the practice of medicine. In addition, students will be required to research a specific chronic disease and present an in depth presentation of the current scientific evidence for disease prevention. This course will culminate in a multi-day retreat where students will give their presentations and engage their peers and faculty in discussions centered around their philosophy papers. *Must be a graduating senior to enroll. Offered Interterm.*

Kinesiology Courses

KIN 100

2 hours

Living Well

This course will assist students in developing an understanding of human flourishing founded on biblical principles and scientific evidence in the areas of sleep, stress and time management, nutrition, and various aspects of physical fitness. Students will engage in various assignments and physical activities related to these areas with the purpose of providing the abilities to make healthy lifestyle and behavior choices. *This course satisfies two of the three hours of foundational core requirements for stewardship of the body.*

KIN 150

3 hours

Faith and the Embodied Life

The main objective of this course is to aid students in understanding how their faith intersects with an embodied existence. Throughout the course, students will engage in physical (cloister walks, etc.), mental, and spiritual exercises to assist them in the formation of their personal health philosophies. Students will gain a better understanding of how care (or lack thereof) for our bodies has spiritual ramifications and that we may worship the One who created our bodies through proper care and respect of them. *Meets the 3-hour foundational core stewardship of the body requirement.*

KIN 170

1-4 hours

Selected Topics

A course offered on a subject of interest but not listed as a regular course offering.

KIN 200I

1 hour

Individualized Physical Education

The individualized physical education course is designed for students who fit into one of the following categories: (1) the student has a physical problem that prohibits completion of another KIN 200 course; (2) the student would like to do an activity that is not offered as a KIN 200 course; or (3) the student is near graduation and cannot schedule another KIN 200 course. Students design a program with the instructor's supervision and then engage in that program throughout the semester. Physical fitness assessments may be included as well as cognitive assignments. *Students must apply for acceptance into the class and be approved by the instructor in order to register for the course. Prerequisite: EXS 111, KIN 100, or KIN 221.*

KIN 200Z

1 hour

Athletic Participation

The athletic participation course is designed for students who compete on an NAIA intercollegiate athletic team. *Students must be approved by the athletic department to receive academic credit for this course. Credit is awarded only during the sport season and credit will not be granted retroactively for athletic participation from a previous season.*

KIN 200

1 hour

General Physical Education Activity Courses

These courses encourage students to adopt an active physical lifestyle and maintain physical fitness and wellness throughout their lives. Students learn about activities and develop skills for participation in lifetime activities. *One KIN 200 course is taken after KIN 100 to meet the three-hour foundational core requirement. Prerequisite: EXS 111, KIN 100, or KIN 221.*

| | |
|-----------|-------------------------------|
| KIN 200A | Aerobic Conditioning |
| KIN 200AW | Aerobic Walking |
| KIN 200B | Badminton |
| KIN 200C | Weight Control and Fitness |
| KIN 200CC | Camping and Canoeing |
| KIN 200D | Square Dance |
| KIN 200DF | Self Defense/Safety for Women |
| KIN 200F | Softball |
| KIN 200FD | Folk Dances of Other Cultures |
| KIN 200FF | Fly Fishing |
| KIN 200FN | Functional Fitness |
| KIN 200G | Golf |
| KIN 200H | Beginning Horsemanship |
| KIN 200J | Acting |
| KIN 200JG | Jogging |
| KIN 200K | Basketball |
| KIN 200KT | Karate |
| KIN 200L | Bowling |
| KIN 200M | Challenge Adventures |
| KIN 200N | Total Fitness |
| KIN 200P | Personal Fitness |
| KIN 200PB | Pickleball |
| KIN 200Q | Outdoor Activities |
| KIN 200R | Racquetball |
| KIN 200RU | Running |
| KIN 200S | Soccer |
| KIN 200SB | Beginning Swimming |
| KIN 200SF | Fitness Swimming |
| KIN 200T | Tennis |
| KIN 200U | Circuit Training |
| KIN 200V | Volleyball |
| KIN 200W | Weight Training |
| KIN 200WA | Well Aerobics |
| KIN 200Y | Cycling |
| KIN 200YO | Yoga |

| | | | |
|---|------------------|--|------------------|
| KIN 220 | 3 hours | KIN 334 | 1 hour |
| Principles of Coaching | | Lifeguard Training Instructor | |
| This course is a study of the duties and responsibilities of coaches and the potential problems and issues they may face. The content will include the four major areas of coaching certification programs: medical aspects, physiological aspects, psychological aspects, and organizational and administrative aspects. Methods and strategies of handling the responsibilities and the problems will be studied. | | Acquisition of the skills, terminology, and progressions for teaching American Red Cross Lifeguard Instructor Training. The course includes both knowledge of the skills and physical performance of the skills. Successful completion of the American Red Cross requirements leads to certification as a Red Cross LGI. Meets <i>foundational core stewardship of the body requirement beyond KIN 100</i> . Prerequisites: <i>KIN 302 and permission of instructor</i> . | |
| KIN 221 | 3 hours | KIN 355 | 3 hours |
| Exercise as Medicine | | Research Methods | |
| This class examines the impact of physical activity, exercise, nutrition, and lifestyle related factors on health and the prevention and treatment of chronic disease. Students will learn the physiological basis of cardiorespiratory and musculoskeletal fitness, how these are influenced by exercise and physical activity, and their relation to health and disease. The therapeutic effect of exercise will be compared to traditional pharmacological treatment approaches where applicable. In addition, students will be challenged to consider the personal, spiritual, and social responsibilities of maintaining an optimal level of fitness as they apply course content to their own life. Meets the <i>3-hour foundational core stewardship of the body requirement</i> . Open to <i>Pre-Med students and Public Health, Pre-Nursing, and Human Physiology and Preventative Medicine majors only or by permission of instructor</i> . | | An exploration of the basic methods of research and data collection in the realms of sport management, physical education, and exercise science in a lecture format. Topics include defining a research question, reviewing and analyzing past research, designing a research project, collecting and analyzing data, and interpreting results. Students will also learn basic statistics and Excel and PowerPoint table and figure making skills. Prerequisite: <i>EXS 111 or KIN 221</i> . Exercise Science, Health Science, and Human Physiology and Preventative Medicine majors only. Offered Fall and Spring semesters. | |
| KIN 223 | 3 hours | KIN 360 | 1-4 hours |
| Emergency Health Care | | Independent Study | |
| Prevention, treatment, and emergency care of various health problems and injuries will be examined. Skills will be obtained in CPR, AED, first aid, blood and airborne pathogens, and use of PPEs according to guidelines of the Emergency Care and Safety Institute and American Red Cross. | | An individualized, directed study involving a specified topic. | |
| KIN 231 | 2 hours | KIN 367 | 3 hours |
| Officiating Sports | | Coaching Methods | |
| A study of the officiating skills and techniques needed for various sports. The opportunity to earn official's rating is provided. | | This course will assist the student in learning how to teach the skills and strategies of selected sports and how to utilize that information to be an effective coach. The content includes basic sport skills, types of offenses and defenses, special situation strategies, and other strategies specific to selected sports. The student will learn correct techniques of skills and skill progressions as well as drills to teach skills and strategies. | |
| KIN 270 | 1-4 hours | KIN 370 | 1-4 hours |
| Selected Topics | | Selected Topics | |
| A course offered on a subject of interest but not listed as a regular course offering. | | A course offered on a subject of interest but not listed as a regular course offering. | |
| KIN 271 | 1 hour | KIN 393 | 1-4 hours |
| CPR for Healthcare Providers | | Practicum | |
| Successful completion of this course will certify participants in the techniques of CPR and AED use for adults, children, and infants; foreign body obstruction; and cardiac emergency management according to American Red Cross standards. Priority registration for this course is given to students in the KIN majors. | | Supervised learning involving a first-hand field experience or a project. Generally, one hour of credit is awarded for a minimum of 40 hours of practicum experience. Prerequisite: <i>Permission of KIN department</i> . | |
| KIN 300M | 3 hours | KIN 450 | 1-4 hours |
| Marathon | | Directed Research | |
| This course consists of training for and completing a marathon. Students will follow a 15-week training plan culminating in successful completion of a sanctioned marathon at the end of the semester. Training for a marathon teaches many values, including but not limited to goal-setting, discipline, withstanding present discomfort for long-term success, accountability, and self-esteem. Training will be completed both individually and in a group, emphasizing the importance of individual ownership of challenge and success as well as the overwhelming importance of community in achieving personal goals. Meets the <i>3-hour foundational core stewardship of the body requirement</i> . | | Investigative learning involving closely directed research and the use of such facilities as the library or laboratory. Prerequisite: <i>Permission of instructor</i> . | |
| KIN 302 | 2 hours | KIN 472 | 2 hours |
| Lifeguard Training | | Psychology of Coaching | |
| This course is designed to train an individual in the proper methods for rescue, water safety, first aid, CPR, and other skills necessary for lifeguarding. Meets <i>foundational core stewardship of the body requirement beyond KIN 100</i> . Prerequisite: <i>KIN 100</i> . | | This course is a study of the role of psychology in coaching and how coaches can use psychology to enhance the performance of athletes and teams. Topics include psychology, philosophy of sport, motivation, self-confidence, goal setting, attention/concentration, imagery, arousal, self-talk, stress management, and mental skill methods/training. An application of appropriate mental skills will be addressed for each topic. Biblical principles of psychology will be integrated into topics. | |
| KIN 307 | 1 hour | KIN 480 | 2 hours |
| Basic Swimming Skills | | Seminar | |
| For KIN majors who have satisfactorily completed a basic swimming, intermediate swimming, or emergency water safety course at another institution. Students will receive credit for basic proficiency in swimming skills and water safety upon submission of official transcript. Meets <i>foundational core stewardship of the body requirement beyond KIN 100</i> . | | A limited-enrollment course designed especially for upper-class majors with emphasis on directed readings and discussion. Students examine <i>contemporary issues in sport</i> . | |
| KIN 324 | 2 hours | KIN 490 | 1-2 hours |
| Motor Learning | | Honors | |
| A study of the theories and research of the processes of learning motor skills. The application of appropriate methods of teaching motor skills is studied and practiced to enable the students to understand how they can be used effectively. Prerequisite: <i>EXS 111 or permission of instructor</i> . | | Individualized study or research of an advanced topic within a student's major. Open to students with at least a <i>3.00 GPA in the major field</i> . | |
| KIN 333 | 2 hours | KIN 492 | 4 hours |
| Water Safety Instructor | | Internship | |
| Instruction in the skills, terminology, and progressions of teaching swimming strokes and water safety. The course includes knowledge of the skills, physical performance of the skills, and teaching skills. Successful completion of the American Red Cross requirements leads to certification in Red Cross WSI. <i>Advanced swimming skills are necessary</i> . Meets <i>foundational core stewardship of the body requirement beyond KIN 100</i> . Prerequisites: <i>KIN 100 and permission of instructor</i> . | | This field experience is designed to have the students apply what they have learned in their courses and to extend that learning by working in an organization that is appropriate for their major. Students work on a regular basis at the organization under the supervision of approved staff members. Students are also under the supervision of a member of the Taylor University Department of Kinesiology. Each student must comply with the guidelines for credit hours, clock hours, and other criteria that are specific for the internship in his/her major. To register for this internship, the student must submit a proposal for the internship and have it approved by the KIN department and the internship organization. Prerequisites: <i>All designated prerequisites for the internship in that major</i> . | |

Public Health Courses

- PBH 100** 3 hours
Introduction to Public Health
This course is a foundational course for the major and an elective for students wishing only to be introduced to the field. The course is built upon a population perspective and ecological perspective on disease causation and prevention. As a general overview of the field, Introduction to Public Health provides an historical perspective on the role that public health has played in improving the health status of populations, both in the US and globally. Moving beyond the biologic mechanisms of disease causation, students will gain an understanding of the environmental, social and behavioral determinants of health for populations, and factors that contribute to disparities in health between subpopulations. Students will be introduced to the core functions and essential services of public health in the US and how these are met in less economically developed societies. The core disciplines of public health will be defined and described, including epidemiology, biostatistics, environmental health, policy and administration, and the social and behavioral sciences. Students will examine current public health challenges in the US and globally.
- PBH 110** 3 hours
Global Health
This course provides an overview of the determinants of health, burden of disease, risk factors, health systems, and key measures to address the burden of disease in populations for both industrialized and less developed nations. The course will have a global perspective, paying particular attention to links between health and development, environment, human rights, and culture.
- PBH 170** 1-4 hours
Selected Topics
A course offered on a subject of interest but not listed as a regular course offering.
- PBH 210** 3 hours
Human Diseases
Introduction to biomedical concepts associated with human diseases. Emphasis is on understanding the etiology, pathogenesis, diagnosis, treatment, and risk factors of diseases affecting public health and how this impacts the prevention and control of those diseases. Offered Fall semester. Prerequisites: PBH 100 or PBH 110.
- PBH 213** 2 hours
Substance Education
The course is designed to prepare professionals for drug education. The scope of the course is wide and includes the following basic areas: drug terminology, pharmacology, psychodynamics, legal and law enforcement perspectives, social and cultural determinants, ethical and moral alternatives, behavioral aspects, and educational strategies. A strong emphasis is placed on developing guidelines for decision making in our society. The purpose is to exchange the best amount of information on drug use, misuse, and abuse available. Offered Spring semester of even years.
- PBH 224** 2 hours
Healthy Aging
This course will provide an overview of issues related to public health and aging. Topics such as demography and epidemiology of aging, perceptions of aging as viewed in society today, myths and stereotypes of aging, and challenges faced by elders will be addressed. The course will support health promotion for older adults and highlight the roles played by families, government, health care providers, and advocates.
- PBH 244** 3 hours
Health and Human Sexuality
The course examines the basic foundations of human sexuality and incorporates topical issues of interest and importance. In addition to the dissemination of cognitive information, a strong emphasis of the course is placed on the psychosocial aspects of human sexuality and its impact on individuals and society. Students are encouraged to develop and maintain a personal philosophy concerning sexual decision-making and behavior. The broad goals of the course include an increased knowledge of the biological, developmental, and scientific aspects of human sexuality, in addition to developing a greater awareness of self and others.
- PBH 270** 1-4 hours
Selected Topics
A course offered on a subject of interest but not listed as a regular course offering.
- PBH 320** 4 hours
Epidemiology
Study of the distribution and determinants of disease occurrence, including core concepts such as incidence, prevalence, risk, risk factors, relative risk, attributable risk, sensitivity, specificity, and different types of epidemiologic study designs. Students will use data from epidemiologic case studies to calculate odds ratios, relative risk, and confidence intervals as well as calculate sensitivity and specificity of screening tests. Offered Spring semester. Prerequisites: PBH 100; MAT 210 or SOC 355 or PSY 275.
- PBH 330** 3 hours
Assessment for Program Planning
This course will examine intervention approaches in public health for the prevention of infectious disease, chronic disease, injury and disability, and the promotion of community health and wellbeing. Intervention approaches through environmental change, policy and systems change, social change, and behavioral change approaches will be studied. Case studies of interventions will be examined. Offered Fall semester. Prerequisites: PBH 100.
- PBH 330L** 1 hour
Service Learning in Community Assessment
Students will participate in a neighborhood assessment and mapping project in a local community in partnership with a community organization. This will include neighborhood observations, neighborhood survey interviews, and participation in neighborhood events. Offered Fall semester. Prerequisite: PBH 100.
- PBH 335** 4 hours
Environmental Health
This course will explore how both the natural and built environment affect human health by looking at the impact of physical, chemical, biological, and socioeconomic factors external to humans. Environmental health is an interdisciplinary field that focuses on the theory and practice of recognizing, assessing, controlling, and preventing environmental and occupational hazards that may adversely affect the health of the present and future generations. Prerequisites: PBH 100; SUS 200 or SUS 231.
- PBH 340** 4 hours
Community Health Development in Practice
The course will examine the theory and practice of community health development as it is practiced by organizations doing this work internationally. The course will be offered in partnership with a non-governmental organization doing transformational development in one of the countries where they are working. The course will include a service component and discussions of those experiences will emphasize intercultural competencies. Offered Interterm of odd years. Prerequisites: PBH 100 or PBH 110; PBH 330.
- PBH 345** 3 hours
International Humanitarian Response
This course examines the international humanitarian response to disasters from a Christian and public health perspective. Current crises from around the world will be discussed, including causes; effects on population health; problems associated with population displacement; public health responses; and challenges to international collaboration between governments, international organizations, and non-governmental organizations.
- PBH 346** 3 hours
Community Health Education
This course illustrates how the health of populations is promoted and protected by organized public health practice. Students are acquainted with current evolving concepts and performance of these practices and are introduced to essential public health services. The problem-solving approach is emphasized through small-group interaction, case-study method, and critical thinking skills. Meets foundational core civic engagement or general social science requirement. Offered Spring semester.
- PBH 347** 3 hours
Health Policy and Law in National and Global Contexts
The course will provide a framework for understanding and analyzing a range of health policy issues in domestic and global contexts. The course will focus on the U.S. policy-making and legal system in the domestic context. It will provide additional focus on global law and policy as it relates to vulnerable populations of refugees, displaced populations, and populations living in poverty. The course will consider essential issues in health policy and law including health insurance, health economics, individual rights in health care, gender equity, and health care access and quality.
- PBH 350** 3 hours
Determinants of Health and Health Equity
The focus of this course will be on examining the broad range of environmental, social, cultural, and policy factors that contribute to disparate outcomes between population groups. This course will introduce students to the literature and methods of social epidemiology. Structured in a seminar format, with readings and case studies, students will examine specific cases of disparate health outcomes within communities including an analysis of the determinants of those disparities. Approaches to health equity will be discussed. Offered Spring semester. Prerequisites: PBH 100 and PBH 320; MAT 210 or SOC 355 or PSY 275.
- PBH 360** 1-4 hours
Independent Study
An individualized, directed study involving a specified topic.
- PBH 370** 1-4 hours
Selected Topics
A course offered on a subject of interest but not listed as a regular course offering.

PBH 393 **1-4 hours**
Practicum
Supervised learning involving a first-hand field experience or a project. Generally, one hour of credit is awarded for a minimum of 40 hours of practicum experience. Offered primarily during Summer following junior year or Fall of senior year. Prerequisites: PBH 100, PBH 110, PBH 210, PBH 320, PBH 330, PBH 340, and PBH 350.

PBH 425 **1 hour**
CHES Preparation Seminar
This course provides a detailed review of the analysis and application of the Seven Areas of Responsibilities and Competencies. Focus is on helping increase knowledge of the concepts and successfully pass the Certified Health Education Specialist (CHES) examination in either the Fall or Spring semester of the senior year. It is designed to review the health educator responsibilities, competencies, and sub-competencies and also provide an overview of the national certification examination. Additional work will be required by the student to maximize success on the exam. Prerequisite: Senior in Public Health major or permission of instructor. Pass/fail only.

PBH 450 **1-4 hours**
Directed Research
Investigative learning involving closely directed research and the use of such facilities as the library or laboratory.

PBH 480 **1-4 hours**
Seminar
A limited-enrollment course designed especially for upper-class majors with emphasis on directed readings and discussion.

PBH 490 **1-2 hours**
Honors
Individualized study or research of an advanced topic within a student's major. Open to students with at least a 3.00 GPA in the major field.

PBH 493 **2 hours**
Public Health Senior Capstone
This course will be structured as a seminar, pulling together the experiences of all the students into a broad public health framework. Major challenges faced during practicum will be discussed. Readings, videos, guest lectures, and optional workshops will support the discussions that take place in class. An integrative senior paper will provide the structure for students to integrate their faith, public health coursework, and practicum experiences. Part of the comprehensive exam, paper, or project required for graduation will be completed during the practicum. Offered Spring semester. Prerequisites: PBH 100, PBH 110, PBH 210, PBH 320, PBH 330, PBH 393; and PBH 340 or PBH 350.

Notes
