

Kinesiology

The undergraduate major in Kinesiology at Montana State University is a general pre-health professional curriculum that prepares students for health-related graduate programs (e.g., physical therapy, occupational therapy, medical school, etc.), exercise science graduate programs (e.g., exercise physiology, health promotion, biomechanics), as well as entry-level occupations within the health and wellness industry. Kinesiology majors can choose to focus their course work within one of the following curriculum options: exercise science or health and fitness. Students within the exercise science option intend to pursue a health-related graduate degree to meet their career aspirations, whereas students within the health and fitness option will pursue careers within the health and wellness industry that do not require a graduate degree.

Exercise Science Option

The exercise science option within the Kinesiology major focuses on both clinical and performance-based understandings of human movement. The exercise science option emphasizes a cross-disciplinary understanding of human movement through non-departmental courses in biology, anatomy and physiology, chemistry, physics, math, and statistics. These courses then serve as the foundation for mechanical (e.g., biomechanics), physiological, and nutritional perspectives within the departmental courses. The exercise science option specifically allows students to customize their junior and senior year course work as needed for later application to health-related graduate programs in physical therapy, occupational therapy, medical physician assistant, sports medicine, exercise science graduate programs (exercise physiology, health promotion, biomechanics), as well as medical school. Additional careers for exercise science students can include those within the health and fitness industry (e.g., those requiring ACSM Certified Exercise Physiologist or the NCSA Certified Strength and Conditioning Specialist), corporate wellness programs, exercise rehabilitation programs (cardiac rehabilitation, gait laboratories, sport medicine facilities, older adult programs, etc.), as well as careers in the sport and rehabilitative medicine equipment industries.

Students must receive a grade of "C" or higher in all required courses as outlined in the major.

Freshman Year	Credits	
	Fall	Spring
CHMY 141 - College Chemistry I & CHMY 142 - College Chemistry I Lab	4	
M 161Q - Survey of Calculus	4	
Choose one of the following: PSYX 100IS - Intro to Psychology or KIN 105 - Foundations of Exercise Science	3-4	
Choose one of the following: WRIT 101W - College Writing I or University Core	3	
CHMY 143 - College Chemistry II & CHMY 144 - College Chemistry II Lab		4
COMX 111US - Introduction to Public Speaking		3
Choose one of the following: KIN 105 - Foundations of Exercise Science or PSYX 100IS - Intro to Psychology		3-4
NUTR 221CS - Basic Human Nutrition		3
Choose one of the following: University Core or WRIT 101W		3

Year Total:	14-15	16-17
	Credits	
Sophomore Year	Fall	Spring
	BIOH 201 - Human Anatomy and Physiology I	5
KIN 210 - Principles of Strength and Conditioning	3	
PHSX 205 - College Physics I	4	
STAT 216Q - Introduction to Statistics	3	
BIOH 211 - Human Anatomy and Physiology II		4
KIN 320 - Exercise Physiology		4
PHSX 207 - College Physics II		4
University Core		3
Year Total:	15	15
Junior Year	Credits	
	Fall	Spring
HDFS 371 - Research Methods in HHD	3	
KIN 322 - Kinesiology	4	
STAT 337 - Intermediate Statistics with Introduction to Statistical Computing	3	
Directed Electives	6	
KIN 325R - Biomechanics		4
Kinesiology Directed Electives		9
Year Total:	16	13
Senior Year	Credits	
	Fall	Spring
KIN 330 - Motor Control and Learning	4	
NUTR 411 - Nutrition for Sports and Exercise	4	
Directed Electives	6	
Directed Electives		6
University Core and/or General Electives		10
Year Total:	14	16
Total Program Credits:	120	

Kinesiology Directed Electives

Choose a minimum of 9 credits* from the list below:

HMED 440	Clinical Observation	2
KIN 335	Tissue Injury & Adaptation	3
KIN 370	Exercise Program for Older Adults	3
KIN 410	Advanced Strength Training and Conditioning	3
KIN 415	Advanced Exercise Testing and Prescription	4
KIN 435	Advanced Motor Control	3
KIN 440R	Sport Psychology	3
KIN 490R	Undergraduate Research	1-6
KIN 496	Student Assistant Practicum in Kinesiology	2
KIN 498	Internship	1-6

*All KIN 491 courses will count as kinesiology directed electives

Additional Directed Electives

Choose a minimum of 18 credits from the list below:

BCH 380 & BCH 381	Biochemistry and Biochemistry Lab	5
BIOB 160	Principles of Living Systems	4
BIOB 260	Cellular and Molecular Biology	0,4

BIOB 375	General Genetics	3
BIOH 320	Biomedical Genetics	3
BIOH 411	Advanced Human Appendicular Anatomy	4
BIOM 250 & BIOM 251	Microbiology for Health Sciences: Infectious Diseases and Microbiology for Health Sciences Lab	4
BIOM 360	General Microbiology	5
BIOO 412	Animal Physiology	3
CHMY 211	Elements of Organic Chemistry	4
CHMY 212	Elements of Organic Chemistry Lab	1
CHMY 321	Organic Chemistry I	3
CHMY 322	Organic Chemistry I Lab	1
CHMY 323	Organic Chemistry II	3
CHMY 324	Organic Chemistry II Lab	1
CHTH 317	Health Behavior Theories	3
CHTH 325	Leadership & Public Policies in Aging	3
CHTH 405	Caregiving & Aging Families	3
CHTH 430	Mental Health & Social Issues in Aging	3
CHTH 435	Human Response To Stress	3
CHTH 440	Principles of Epidemiology	3
HADM 445	Managing Healthcare Organizations	3
HDFS 461	Principles Wellbeing in Aging	3
HTH 455	The Ethic of Care	3
NEUR 313	Neurophysiology	3
NEUR 409	Human Neuroanatomy	4
NEUR 425	Sensory Neurophysiology	3
NUTR 321	Nutrition in the Life Cycle	3
NUTR 351	Nutrition and Society	3
NUTR 421	Macronutrient Metabolism	3
NUTR 422	Micronutrient Metabolism	3
PHL 321	Philosophy & Biomedical Ethics	3
PHL 345	Philosophy of Science	3
PHL 353	Philosophy and Technology	3
PSYX 333	Psychology of Aging	3
PSYX 340	Abnormal Psychology	3
PSYX 350	Physiological Psychology	3
PSYX 375	Behavior Modification	3
PSYX 380	Memory & Cognition	3
PSYX 383	Health Psychology	3
SOCI 380	Sociology of Health & Medicine	3

Health and Fitness Option

The health and fitness option within the Kinesiology major prepares graduates for careers requiring leadership in organizing, directing, and managing fitness and wellness programs in corporate and commercial settings. The overall goal of the health and fitness option is to develop basic knowledge, comprehension, and appreciation of a) historical and cultural perspectives of human movement, b) social and psychological influences of human movement, and c) physiological and biomechanical correlates of human performance. From this broad knowledge base, the program's inherent flexibility allows students to pursue a variety of areas related to physical activity and sport. This option also prepares students for professional certifications in fitness and conditioning through professional organizations such as the American College of Sports Medicine (ACSM) and the National Strength and Conditioning Association (NSCA).

Students must receive a grade of "C" or higher in all required and approved elective courses as outlined in the major.

Freshman Year	Credits	
	Fall	Spring
CHMY 141 - College Chemistry I & CHMY 142 - College Chemistry I Lab	4	
M 151Q - Precalculus	4	
Choose one of the following:	3-4	
PSYX 100IS - Intro to Psychology or KIN 105 - Foundations of Exercise Science		
Choose one of the following:	3	
WRIT 101W - College Writing I or University Core		
University Core	3	
BGEN 204 - Business & Entrepreneurship Fundamentals		3
COMX 111US - Introduction to Public Speaking		3
Choose one of the following:		3-4
KIN 105 - Foundations of Exercise Science or PSYX 100IS - Intro to Psychology		
NUTR 221CS - Basic Human Nutrition		3
Choose one of the following:		3
University Core or WRIT 101W		
Year Total:	17-18	15-16
Sophomore Year	Credits	
	Fall	Spring
BIOH 201 - Human Anatomy and Physiology I	5	
KIN 210 - Principles of Strength and Conditioning	3	
PHSX 205 - College Physics I	4	
University Core	3	
BIOH 211 - Human Anatomy and Physiology II		4
STAT 216Q - Introduction to Statistics		3
Directed Electives		4
Elective		3
Year Total:	15	14
Junior Year	Credits	
	Fall	Spring
Choose one of the following:	3	
BMGT 335 - Management and Organization or CHTH 317 - Health Behavior Theories		
HDFS 371 - Research Methods in HHD	3	
KIN 322 - Kinesiology	4	
Kinesiology Directed Electives	6	
Choose one of the following:		3
CHTH 317 - Health Behavior Theories or BMGT 335 - Management and Organization		
KIN 320 - Exercise Physiology		4
KIN 370 - Exercise Program for Older Adults		3
KIN 325R - Biomechanics		4
Year Total:	16	14
Senior Year	Credits	
	Fall	Spring
KIN 330 - Motor Control and Learning	4	
NUTR 411 - Nutrition for Sports and Exercise	4	

Choose one of the following:	3
KIN 410 - Advanced Strength Training and Conditioning or KIN 430 - Physical Fitness Program Design and Delivery	
Kinesiology Directed Electives	3
Choose one of the following:	3
KIN 430 - Physical Fitness Program Design and Delivery or KIN 410 - Advanced Strength Training and Conditioning	
Directed Electives	4
University Core and/or General Electives	7
Year Total:	14 14
Total Program Credits:	120

Kinesiology Directed Electives

Choose a minimum of 9 credits* from the list below:

KIN 335	Tissue Injury & Adaptation	3
KIN 415	Advanced Exercise Testing and Prescription	4
KIN 435	Advanced Motor Control	3
KIN 440R	Sport Psychology	3
KIN 490R	Undergraduate Research	1-6
KIN 498	Internship	1-6

*All KIN 491 courses will count as kinesiology directed electives.

Additional Directed Electives

Choose a minimum of 8 credits from the list below:

BCH 380 & BCH 381	Biochemistry and Biochemistry Lab	5
BGEN 210	Accounting and Finance Basics	3
BIOB 160	Principles of Living Systems	4
BIOB 260	Cellular and Molecular Biology	4
BIOB 375	General Genetics	3
BIOB 425	Adv Cell & Molecular Biology	3
BIOH 320	Biomedical Genetics	3
BIOH 411	Advanced Human Appendicular Anatomy	4
BIOM 250	Microbiology for Health Sciences: Infectious Diseases	3
BIOM 251	Microbiology for Health Sciences Lab	1
BIOM 360	General Microbiology	5
BIOO 412	Animal Physiology	3
BMGT 410	Sustainable Business Practices	3
BMKT 325	Principles of Marketing	3
BMKT 337	Consumer Behavior	3
BMKT 446	Marketing for Entrepreneurs	3
CHMY 211	Elements of Organic Chemistry	4
CHMY 212	Elements of Organic Chemistry Lab	1
CHMY 321	Organic Chemistry I	3
CHMY 322	Organic Chemistry I Lab	1
CHMY 323	Organic Chemistry II	3
CHMY 324	Organic Chemistry II Lab	1
CHTH 317	Health Behavior Theories	3
CHTH 325	Leadership & Public Policies in Aging	3

CHTH 405	Caregiving & Aging Families	3
CHTH 430	Mental Health & Social Issues in Aging	3
CHTH 435	Human Response To Stress	3
CHTH 440	Principles of Epidemiology	3
HADM 445	Managing Healthcare Organizations	3
HDFS 461	Principles Wellbeing in Aging	3
HTH 455	The Ethic of Care	3
NEUR 313	Neurophysiology	3
NEUR 409	Human Neuroanatomy	4
NUTR 321	Nutrition in the Life Cycle	3
NUTR 351	Nutrition and Society	3
NUTR 421	Macronutrient Metabolism	3
NUTR 422	Micronutrient Metabolism	3
PHL 321	Philosophy & Biomedical Ethics	3
PHL 345	Philosophy of Science	3
PHL 353	Philosophy and Technology	3
PSYX 333	Psychology of Aging	3
PSYX 340	Abnormal Psychology	3
PSYX 350	Physiological Psychology	3
PSYX 375	Behavior Modification	3
PSYX 380	Memory & Cognition	3
PSYX 383	Health Psychology	3
SFBS 429	Small Business and Entrepreneurship in Food and Health	3
SOCI 380	Sociology of Health & Medicine	3