Exercise Science

Exercise science is an interdisciplinary field which spans the physiological, psychological, nutritional, motor, and functional adaptations and responses to exercise, physical activity, and sport. Mount Mercy University's exercise science program prepares students interested in pursuing careers and graduate/professional degrees in physical therapy, athletic training, occupational therapy, sports medicine, cardiac rehabilitation, dietetics, personal training, health promotion, strength and conditioning, coaching, and sport & performance psychology. Students choose electives that support their desired career path. In their final year of study, students complete an internship to increase practical understanding of course knowledge and help gain insight into their work world.

Exercise Science Major

BI 125	Foundations of Biology & Scientific Inquiry I	3
BI 125L	Biostatistics and Scientific Investigation I	1.5
BI 273	Human Anatomy	4.5
Choose One:		3 - 4.5
BI 274	Human Physiology	
BI 374	Integrated Physiology	
EX 101	Introduction to Exercise Science	3
EX 255	Prevention and Care of Athletic Injuries	3
EX 295	Exercise Science Field Experience I	1
EX 305	Exercise Physiology	4
EX 307	Environmental Exercise Physiology	3
EX 315	Structural and Functional Kinesiology	4
EX 355	Principles of Strength and Conditioning	3
EX 375	Exercise Testing and Prescription	3
NU 320	Essentials of Nutrition	2
EX 395	Exercise Science Field Experience II	1
EX 450	Exercise Science Internship	6
PS 101	Introductory Psychology	3
Choose One:		3
PS 211	Sport Psychology	
PS 212	Exercise Psychology	
PS 390	Critical Perspectives in Sport and Physical Activity	3
Total Hours		54-55.5

The following is the typical sequence of courses required for the major*:

Freshman

Fall	Hours	Winter	Hours	Spring	Hours
BI 125	3	CO 101	3	Writing Competency	4
BI 125L	1.5			CH 112	4.5
CH 111	4.5			EX 255	3
EX 101	3			MA 135	3
Portal	3				
	15		3		14.5

Sophomore

Fall	Hours	Winter	Hours	Spring	Hours
Literature Domain	3	Holistic Health Domain	3	SO 122	3
BI 127	4.5			BI 273	4.5
MA 139 or 164	4			PS 124	3
PS 101	3			PS 211	3
				EX 295	1
	14.5		3		14.5

Junior

Fall	Hours	Winter	Hours	Spring	Hours
BI 374	4.5	N/A		EX 305	4
EX 315	4			PH 152	4
PH 151	4			NU 320	2
EX 395	1			EX 450	6
	13.5		0		16

Senior

Fall	Hours	Winter	Hours	Spring	Hours
EX 307	3	N/A		Fine Arts Domain	3
EX 375	3			Historical Roots Domain	3
PS 306	3			Global Awareness Domain	3
PL 269	3			EX 355	3
Religious Studies Domain	3			ME 450	1
				PS 390	3
	15		0		16

Total Hours: 125

Note: Elective courses could be used for a second major, a minor, a course of interest, internship or study abroad experience.

Note: See the Curriculum section (http://catalog.mtmercy.edu/curriculum/#corecurriculumtext) *for more information on Portal, Competency, Domain, and Capstone courses.*

*Disclaimer

The course offerings, requirements, and policies of Mount Mercy University are under continual examination and revision. This *Catalog* presents the offerings, requirements, and policies in effect at the time of publication and in no way guarantees that the offerings, requirements, and policies will not change.

This plan of study represents a typical sequence of courses required for this major. It may not be applicable to every student. Students should contact a department faculty member to be sure of appropriate course sequence.

Courses

EX 101 Introduction to Exercise Science: 3 semester hours
Exercise science is an interdisciplinary field that spans the physiological, psychological, nutritional, motor, and functional adaptations and responses to exercise, physical activity, and sport. This course introduces students to foundational terms and concepts in the field. A broad overview of the various subdisciplines in exercise science is provided. Career opportunities within exercise science will be reviewed and explored so that students can make informed decisions regarding their academic and professional goals.

EX 255 Prevention and Care of Athletic Injuries: 3 semester hours
This course provides instruction and practice in the prevention, care, and evaluation of common sport-related injuries. Students gain familiarity with managing injury and emergency situations when an athletic trainer or physician is not available.

EX 295 Exercise Science Field Experience I: 1 semester hour
Students gain indirect experience by shadowing a professional in an exercise science-related career. Students are jointly supervised by a faculty member and an employer. Typically completed during the sophomore year. Prerequisite: EX 101 is required; EX 255 is recommended.

EX 305 Exercise Physiology: 4 semester hours
This course provides information on the nature and function of metabolism, circulation, respiration, and acid-base balance as it pertains to exercise. In the laboratory portion, students are exposed to research methods and equipment evaluating physiological responses at rest and during exercise. Prerequisite: BI 274 OR BI 374.

EX 307 Environmental Exercise Physiology: 3 semester hours
This course offers an exploration of the acute and chronic effects of exercise on physiological systems under various environmental conditions, including heat, cold, hypoxia, hyperbaria, microgravity, and pollution. Prerequisite: EX 305.

EX 315 Structural and Functional Kinesiology: 4 semester hours
Kinesiology is the study of human movement. This course specifically applies anatomical principles to examine the causes and effects of motion produced by human biological systems. Functional movements pertaining to physical activity, human performance, and physical rehabilitation are emphasized. Three hours of lecture and two hours of laboratory per week. Prerequisite: BI 273.

EX 355 Principles of Strength and Conditioning: 3 semester hours
This course explores scientific theories and principles of strength and conditioning for the purposes of optimizing health and human performance. Students evaluate popular (mis)conceptions of resistance training by examining scholarly evidence in the discipline. Instruction on proper form and technique is also provided. Students gain hands-on experience by participating in multiple resistance training activities and assignments. Prerequisite: EX 315.

EX 375 Exercise Testing and Prescription: 3 semester hours
This course includes an overview of testing protocols for assessing health-related components of physical fitness, including cardiovascular endurance, muscular strength, muscular endurance, flexibility, and body composition. Exercising prescription principles (frequency, intensity, time, and mode) are also addressed. Students gain experience working with a client, assessing their health/fitness and creating an appropriate exercise plan using American College of Sports Medicine guidelines. Prerequisite: EX 305.

EX 395 Exercise Science Field Experience II: 1 semester hour
Students gain indirect experience by shadowing a professional in an exercise science-related career. Students are jointly supervised by a faculty member and an employer. Typically completed during the junior year. Field placement must be different from the one used in EX 295. Prerequisite: EX 295; EX 255 is recommended.

EX 450 Exercise Science Internship: 6 semester hours
Students gain direct and indirect educational experience by working with a professional in an exercise science-related career. Students are jointly supervised by a faculty member and an employer. Typically completed during the senior year. Prerequisite: EX 395.