

# MAJOR IN HEALTH AND EXERCISE SCIENCE, SPORTS MEDICINE CONCENTRATION

The Sports Medicine concentration provides a strong science background and a solid grounding in the foundations of human movement. This track is dedicated to preparing students both professionally and academically for their future careers. The Sports Medicine concentration provides excellent preparation for those students

seeking pre-professional preparation in medical fields, physical therapy or other allied health fields or students planning on pursuing an advanced degree (master's and/or Ph.D.) in exercise science or a related field.

Some of the courses required for this concentration include chemistry, biology, physics, anatomy, kinesiology, exercise physiology, biomechanical principles and neuromuscular aspects of human movement, and human nutrition. This concentration provides a comprehensive understanding of health and exercise science while preparing students for post graduate programs.

## Requirements

### Effective Spring 2017

#### Freshman

		AUCC	Credits
CO 150	College Composition (GT-CO2)	1A	3
FSHN 150	Survey of Human Nutrition		3
HES 145	Health and Wellness		3
MATH 118 <sup>1</sup>	College Algebra in Context II (GT-MA1)	1B	1
MATH 124 <sup>1</sup>	Logarithmic and Exponential Functions (GT-MA1)	1B	1
MATH 125 <sup>1</sup>	Numerical Trigonometry (GT-MA1)	1B	1
PSY 100	General Psychology (GT-SS3)	3C	3
Biology - Select one group from the following:			4
Group A			
LIFE 102	Attributes of Living Systems (GT-SC1)	3A	
Group B			
BZ 110	Principles of Animal Biology (GT-SC2)	3A	
BZ 111	Animal Biology Laboratory (GT-SC1)	3A	
Chemistry - Select one group from the following: <sup>2</sup>			5
Group A			
CHEM 107	Fundamentals of Chemistry (GT-SC2)	3A	
CHEM 108	Fundamentals of Chemistry Laboratory (GT-SC1)	3A	
Group B			
CHEM 111	General Chemistry I (GT-SC2)	3A	
CHEM 112	General Chemistry Lab I (GT-SC1)	3A	
Arts and Humanities			6
Total Credits			30

#### Sophomore

BMS 300	Principles of Human Physiology		4
BMS 302	Laboratory in Principles of Physiology		2
CHEM 113	General Chemistry II		3
CHEM 114	General Chemistry Lab II		1
HES 207	Anatomical Kinesiology		3
SPCM 200	Public Speaking		3
Statistics - Select one course from the following:			3
STAT 201	General Statistics		
STAT 301	Introduction to Statistical Methods		
STAT 307	Introduction to Biostatistics		
Global and Cultural Awareness			3E
Historical Perspectives			3D

Electives			6
	Total Credits		31
<b>Junior</b>			
CHEM 245 <sup>3</sup>	Fundamentals of Organic Chemistry		4
CHEM 246 <sup>3</sup>	Fundamentals of Organic Chemistry Laboratory		1
CO 301B	Writing in the Disciplines: Sciences (GT-CO3)	2	3
FSHN 350	Human Nutrition		3
HES 307	Biomechanical Principles of Human Movement		4
HES 340	Exercise Prescription		3
HES 354	Theory of Health Behavior		3
HES 403	Physiology of Exercise	4B	4
PH 121	General Physics I (GT-SC1)	3A	5
	Total Credits		30
<b>Senior</b>			
BMS 301	Human Gross Anatomy		5
HES 319	Neuromuscular Aspects of Human Movement		4
HES 345	Population Health and Disease Prevention		3
HES 492	Health and Exercise Science Seminar	4A,4C	3
Sports Medicine Guided Electives - Select 10 credits from the list below:			10
Electives <sup>4</sup>			4
	Total Credits		29
Program Total Credits:			120

### Sports Medicine Guided Electives List:

Code	Title	AUCC	Credits
Select a minimum of 10 credits from the list.			
BC 351	Principles of Biochemistry		4
BMS *** Upper-Division course not required elsewhere			3-5
BZ 310	Cell Biology		4
BZ 350	Molecular and General Genetics		4
FSHN 470	Integrative Nutrition and Metabolism		3
HES 379	Psychology and Sport		3
HES 410	Bioethics: Concepts and Controversies		3
HES 420	Electrocardiography and Exercise Management		3
HES 434	Physical Activity Throughout the Lifespan		3
LIFE 103	Biology of Organisms-Animals and Plants		4
LIFE 201A	Introductory Genetics: Applied/ Population/Conservation/Ecological (GT-SC2)	3A	3
LIFE 201B	Introductory Genetics: Molecular/ Immunological/Developmental (GT-SC2)	3A	3
LIFE 205	Microbial Biology		3
LIFE 210	Introductory Eukaryotic Cell Biology		3
MATH 155	Calculus for Biological Scientists I (GT-MA1)	1B	4

or MATH 160	Calculus for Physical Scientists I (GT-MA1)	
MIP 300	General Microbiology	3
MIP 315	Human and Animal Disease	3
PH 122	General Physics II (GT-SC1)	3A 5
or PH 142	Physics for Scientists and Engineers II (GT-SC1)	
PSY 260	Child Psychology	3
or PSY *** Upper-Division course		

- MATH 155 or MATH 160 may be substituted for MATH 118, MATH 124 and MATH 125. You may not count MATH 155 or MATH 160 for a Sports Medicine Guided Elective if you have substituted one of these courses for MATH 118, MATH 124 & MATH 125.
- CHEM 111/CHEM 112 can be substituted for CHEM 107/CHEM 108 and should be seriously considered by students who want to go on to graduate studies. Students should select CHEM 111/CHEM 112 as it better prepares students for CHEM 113/CHEM 114.
- CHEM 341/CHEM 343/CHEM 344 may be substituted for CHEM 245/CHEM 246 provided that all three courses are completed.
- Select enough elective credits to bring the program total to a minimum of 120 credits, of which at least 42 must be upper-division (300- to 400-level).

## Major Completion Map

### Freshman

Semester 1		Critical	Recommended	AUCC	Credits
CO 150	College Composition (GT-CO2)		X	1A	3
HES 145	Health and Wellness		X		3
MATH 118	College Algebra in Context II (GT-MA1)		X	1B	1
MATH 124	Logarithmic and Exponential Functions (GT-MA1)		X	1B	1
Biology - Select one group from the following			X		4
Group A					
LIFE 102	Attributes of Living Systems (GT-SC1)			3A	
Group B					
BZ 110	Principles of Animal Biology (GT-SC2)			3A	
BZ 111	Animal Biology Laboratory (GT-SC1)			3A	
Arts and Humanities			X	3B	3
Total Credits					15
Semester 2		Critical	Recommended	AUCC	Credits
FSHN 150	Survey of Human Nutrition		X		3
MATH 125	Numerical Trigonometry (GT-MA1)	X		1B	1
PSY 100	General Psychology (GT-SS3)		X	3C	3
Chemistry - Select one group from the following:			X		5
Group A					
CHEM 107	Fundamentals of Chemistry (GT-SC2)	X		3A	
CHEM 108	Fundamentals of Chemistry Laboratory (GT-SC1)	X		3A	
Group B					
CHEM 111	General Chemistry I (GT-SC2)	X		3A	
CHEM 112	General Chemistry Lab I (GT-SC1)	X		3A	
Arts and Humanities			X	3B	3
AUCC 1B (MATH) and CO 150 must be completed by the end of Semester 2.			X		
Total Credits					15

### Sophomore

Semester 3		Critical	Recommended	AUCC	Credits
HES 207	Anatomical Kinesiology		X		3
SPCM 200	Public Speaking		X		3
Statistics - Select one course from the following:			X		3
STAT 201	General Statistics				
STAT 301	Introduction to Statistical Methods				

STAT 307	Introduction to Biostatistics				
Global and Cultural Awareness			X	3E	3
Historical Perspectives				3D	3
CHEM 107/CHEM 108 or CHEM 111 /CHEM 112 and LIFE 102 or BZ 110/ BZ 111 must be completed by the end of Semester 3.		X			
Total Credits					15
<b>Semester 4</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
BMS 300	Principles of Human Physiology	X			4
BMS 302	Laboratory in Principles of Physiology		X		2
CHEM 113	General Chemistry II		X		3
CHEM 114	General Chemistry Lab II		X		1
Electives					6
HES 145, FSHN 150, HES 207 and BMS 300 must be completed by the end of semester 4.					
Total Credits					16
<b>Junior</b>					
<b>Semester 5</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
CHEM 245	Fundamentals of Organic Chemistry				4
CHEM 246	Fundamentals of Organic Chemistry Laboratory				1
CO 301B	Writing in the Disciplines: Sciences (GT-CO3)		X	2	3
HES 340	Exercise Prescription		X		3
PH 121	General Physics I (GT-SC1)			3A	5
Total Credits					16
<b>Semester 6</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
FSHN 350	Human Nutrition		X		3
HES 307	Biomechanical Principles of Human Movement		X		4
HES 354	Theory of Health Behavior				3
HES 403	Physiology of Exercise		X	4B	4
Total Credits					14
<b>Senior</b>					
<b>Semester 7</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
BMS 301	Human Gross Anatomy		X		5
HES 319	Neuromuscular Aspects of Human Movement	X			4
HES 345	Population Health and Disease Prevention		X		3
Guided Elective (See List on Concentration Requirements Tab)					3
HES 307, HES 319, HES 340, and HES 403 must be completed by the end of semester 7.					
Total Credits					15
<b>Semester 8</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
HES 492	Health and Exercise Science Seminar	X		4A,4C	3
Guided Elective (See List on Concentration Requirements Tab)		X			7
Electives		X			4
The benchmark courses for the 8th semester are the remaining courses in the entire program of study.					
Total Credits					14
Program Total Credits:					120