Exercise Science and Fitness Majors Handbook

2020-2021

2020-21 Academic Year

MISSION STATEMENT

The Department of Exercise Science and Athletic Training (ESAT) is an active participant in the educational mission of Manchester University. Through undergraduate and graduate teaching, research, service, and clinical activities, the department emphasizes practical application of discipline-specific content knowledge, technological expertise, and scholarly advancement to develop young professionals in multiple health, sport, and physical activity fields.

ESAT MAJORS AND MINORS

The Exercise Science and Athletic Training department offers three majors and one minor.

Majors

Clinical and Rehabilitation Sciences: prepares students for graduate programs in one of the exercise sciences (e.g., biomechanics, exercise physiology, nutrition, and fitness). It is expected that students completing this concentration will seek advanced degrees. This is also an appropriate major for those students desiring to pursue graduate study in physical or occupational therapy.

Human Performance: prepares students for entry-level careers in fitness (e.g. fitness instructor) and recreation (e.g. recreation center management). It is expected that this degree would be the terminal degree. While being educational partners with the National Strength and Conditioning Association students are prepared to take the certification examination to become a Certified Strength and Conditioning Specialist (CSCS) through the NSCA.

Human Performance Education: prepares students for physical education teaching and potential licensure in the state of Indiana as a physical education teacher. This major is a combination of Human Performance and Education courses. Meets all standards to sit for licensure exam for the state of Indiana.

Minor

Coaching minor — Chosen by students wishing to prepare for coaching at various levels within a community. Scientific, psychological and administrative principles are presented that focus on appropriate coaching behaviors with young people.

SPECIFIC MAJOR INFORMATION

Clinical and Rehabilitation Objectives

Learning Objectives

Upon completing the requirements for this major, students should be able to:

Demonstrate knowledge of:

- Normal structure and function of the human body
- Typical acute and chronic adaptations of the body to exercise
- Nutritional concepts as they effect the exercising human
- Administrative principles associated with health and fitness organizations, including facility design, human resources, budgeting, and risk management
- Fundamental concepts of inorganic chemistry
- Accepted research procedures in human performance
- Statistical concepts as applied to human performance

Demonstrate skill in:

- Accurate measurement of various physiological parameters (e.g. oxygen consumption, body composition, blood pressure)
- Accurately and critically interpreting relevant research in human performance

Academic Advising

Your First Year Seminar instructor will serve as your academic advisor during your first year. After your first year, you will have an advisor from your major area. The department chair of the ESAT department will place each student with a department advisor initially. Any student has the ability to change advisors through the registrar office as long as the student has the permission of the new advisor the student is choosing.

Academic advising is a very important process. Good advising helps ensure that you're meeting your major and CORE requirements, and thereby assists you in graduating on time. Meet with your advisor frequently, make appointments well in advance of deadlines, keep those appointments, and most importantly, DO NOT BE AFRAID TO APPROACH YOUR ACADEMIC ADVISOR WITH QUESTIONS! If you are struggling academically, your academic advisor is one person you can talk with.

Required Courses

DEPARTMENT OF EXERCISE SCIENCE AND ATHLETIC TRAINING
EXERCISE SCIENCE MAJOR – CLINICAL AND REHABILITATION SCIENCES

Core Courses (24 hrs)

ESAT	103	Foundations of Physical Education and Sport Sciences	(3)	_____
ESAT	200	Basic Principles of Nutrition	(3)	_____
ESAT	325	Exercise Physiology	(3)	_____
ESAT	325L	Exercise Physiology Lab	(1)	_____
ESAT	410	Administration of Health and Physical Activity Programs	(3)	_____
ESAT	476	Internship in Health/Fitness/Wellness	(3)	_____
BIOL	202	Fundamentals of Human Anatomy	(3)	_____
BIOL	202L	Fundamentals of Human Anatomy Lab	(1)	_____
BIOL	204	Fundamentals of Human Physiology	(3)	_____
BIOL	204L	Fundamentals of Human Physiology Lab	(1)	_____
BIOL	422	Advanced Physiology	(3)	_____
BIOL	422L	Advanced Physiology Lab	(1)	_____
MATH	210	Statistical Analysis with Lab	(4)	_____

Choose <u>ONE</u> 8-hr chemistry sequence from Group A <u>or</u> B below.
Please note that graduate physical therapy programs typically prefer Group B.

Group A

CHEM	105	Introduction to Inorganic Chemistry	(3)	_____
CHEM	105L	Introduction to Inorganic Chemistry Lab	(1)	_____
CHEM	106	Introduction to Organic Chemistry	(3)	_____
CHEM	106L	Introduction to Organic Chemistry Lab	(1)	_____

Group B

CHEM	111	General Chemistry I	(3)	_____
CHEM	111L	General Chemistry I Lab	(1)	_____
CHEM	113	General Chemistry II	(3)	_____
CHEM	114L	General Chemistry II Lab	(1)	_____

Directed Electives
Selected in consultation with advisor and approval of Department Chair (12)

_____	_____	_____	(__)	_____
_____	_____	_____	(__)	_____
_____	_____	_____	(__)	_____
_____	_____	_____	(__)	_____

Total Hours 52

Exercise Science and Fitness Major, Exercise Science Concentration
Suggested Sequence of Courses

1st Year

Course	SH	Course	SH	Course	SH
ESAT 103-Found. Of Phys. Ed. & Sport Sciences	3			Directed Elective	3
Total SH		Total SH		Total SH	

2nd Year

Course	SH	Course	SH	Course	SH
BIOL 204 – Fund. Of Human Physiology	3			BIOL 202 – Fund. of Anatomy	3
BIOL 204L – Fund. Human Phys. Lab	1			BIOL 202L – Human Anatomy Lab	1
ESAT 200 – Basic Principles of Nutrition	3			Directed Elective	3
Directed Elective	3				
Total SH		Total SH		Total SH	

3rd Year

Course	SH	Course	SH	Course	SH
ESAT 325 – Exercise Physiology	3	Math 210-Statistical Analysis w/ lab	4	*Chem 106 – Intro to Organic Chemistry	3
ESAT 325L – Exercise Physiology Lab	1			*Chem 106L – Intro to Organic Chemistry Lab	1
*Chem 105-Intro to Inorganic Chemistry	3				
*Chem 105l-Intro to Inorganic Chem. Lab	1				
Total SH		Total SH		Total SH	

4th Year

Course	SH	Course	SH	Course	SH
ESAT 410 – Administration	3	ESAT 476-Internship in Health/Fitness/Wellness	3	Bio 422-Advanced Physiology	3
Directed Elective	3			Bio 422L-Advanced Physiology Lab	1
Total SH		Total SH		Total SH	

***This 8 hr sequence of chemistry and lab can be replaced by CHEM 111, 111L, 113, and 113L (8 hrs) Please note that graduate physical therapy programs typically prefer this substitution.**

Exercise Science Club

The Exercise Science Club is a student organization designed to promote a departmental identification for students and to provide a forum for exchange of information related to the exercise science disciplines. Evening meetings are held monthly, last about an hour, and usually feature an outside guest speaker from an exercise science-related field. Attendance is strongly encouraged, but not required. Club activities include several social events throughout the year. The club affords leadership opportunities for students. You will receive e-mails announcing the meetings and posters are placed around campus.

Internships

A 3-credit internship is required in the major and is typically completed in the summer between the junior and senior years or in January Session of the senior year. Although faculty members can assist you in securing an internship, the ultimate responsibility is yours. There are forms to fill out and sign, objectives to be designed, and deadlines to meet BEFORE you can even enroll in an internship, so you are advised to work well in advance of the proposed internship semester and to work closely with your academic advisor on the process.

Midpoint Academic Review (some departments call this the "Entry-to-the-Major")

In December or January of your sophomore year, you will be asked to make an appointment to meet with your academic advisor and one other ESAT faculty member to assess your academic progress to that point. Your educational goals and career objectives will be discussed, as well as your academic performance. You will have an opportunity to ask any questions about your program and your discipline. Each student must complete this process before the Election of Major form is signed by the Department Chair. A signed "EOM" is required before registering for your junior year classes.

Senior Comprehensive Evaluation

A Senior Comprehensive Evaluation (SCE) is required for every major. The process is completed in the final semester at Manchester and varies from major to major. Details about the SCE for the Exercise Science/Exercise Science Concentration can be found in the accompanying table. All components of the SCE must be successfully completed by May 1 of the senior year. Notices about the SCE are sent to students on December 1 of the senior year. Students will be given specific dates for attending the SCE exam and must complete and pass the SCE to qualify for graduation. The SCE can be graded and retaken to pass for graduation. The student is not guaranteed to have the same questions for the coursework the student has taken if attempting for a second time.

SENIOR COMPREHENSIVE EVALUATION

Exercise Science & Fitness Major/Exercise Science Concentration

The SCE for ESAT concentration consists of the following:
1) a comprehensive written examination that covers several different courses.

EXSCI Concentration – Comprehensive Examination

Communication with Student/Deadlines	Content Areas	Successful Completion	Remediation
Notice sent 12/1 of senior year All sections must have been taken at least once by 4/1 Reminders sent to students 1/15, 2/1, 3/1 and 3/15 Exam sections must be successfully passed by 5/1	Human Anatomy Human Physiology Exercise Physiology Inorganic Chemistry Nutrition Administration Foundations of Exercise Science Statistics 1 area chosen by Chair from directed electives per EOM	80% on each section	Meet with professor with expertise in failed section. Retake examination in that section.

KEY EVENTS IN COMPLETING THE MAJOR

WHEN	WHAT	WHO
September, 1st year	Attend organizational meeting of the Exercise Science Club	Professor Beer will be sending you an e-mail. Watch for posters in PERC
Spring, 1st year	Academic advisor in your major department chosen	Decided by Department Chair
December, 2nd year	E-mail announcing Midpoint Academic Review appointments. Election of Major form signed following Review	Meeting in January or February with ESAT advisor and one other ESAT faculty member.
December, 4th year	Begin SCE process	You will receive notification from Department Administrative Assistant
September, 4th year	Begin internship plans, if not already started	Academic Advisor or other ESAT Faculty member
May 1, 4th year	SCE successfully completed	Advisor and department chair

ANY QUESTIONS REGARDING THE CONTENTS OF THIS HANDBOOK OR THE MAJOR SHOULD BE DIRECTED TO EITHER THE DEPARTMENT CHAIR (PROFESSOR JEFF BEER), YOUR ACADEMIC ADVISOR, OR THE DEPARTMENT OFFICE MANAGER (TAMI HOAGLAND).

SPECIFIC MAJOR INFORMATION

Human Performance

LEARNING OBJECTIVES

Upon completing the requirements for this major, students should be able to:

Demonstrate knowledge of:

- Normal structure and function of the human body
- Typical acute and chronic adaptations of the body to exercise
- Nutritional concepts as they effect the exercising human
- Administrative principles associated with health and fitness organizations, including facility design, human resources, budgeting, and risk management
- Principles of biomechanics as applied to the human body
- Appropriate exercise prescription based on client objectives, physical condition, and available resources
- Appropriate techniques for teaching of exercises designed to enhance fitness

Demonstrate skill in:

- Accurate measurement of various physiological parameters (e.g. flexibility, heart rate, body composition, blood pressure)
- Performing accurate biomechanical analysis of human movement
- Prescribing appropriate exercise based on client objectives, physical condition, and available resources, including progression or regression of intensity, frequency, duration, and mode of exercise
- Teaching appropriate exercise techniques to clients

Academic Advising

Your First Year Seminar instructor will serve as your academic advisor during your first year. After your first year, you will have an advisor from your major area, chosen in collaboration between you, your FYS instructor, and an ESAT department faculty member. YOU MUST SECURE PERMISSION OF THE ESAT FACULTY MEMBER BEFORE NAMING HIM/HER AS YOUR ADVISOR.

Academic advising is a very important process. Good advising helps ensure that you're meeting your major and CORE requirements, and thereby assists you in graduating on time. Meet with your advisor frequently, make appointments well in advance of deadlines, keep those appointments, and most importantly, DO NOT BE AFRAID TO APPROACH YOUR ACADEMIC ADVISOR WITH QUESTIONS! If you are struggling academically, your academic advisor is one person you can talk with.

Required Courses

DEPARTMENT OF EXERCISE SCIENCE AND ATHLETIC TRAINING
EXERCISE SCIENCE MAJOR – HUMAN PERFORAMNCE

Core Courses (24)				
ESAT	103	Foundations of Physical Education and Sport Sciences	(2)	_____
ESAT	200	Basic Principles of Nutrition	(3)	_____
ESAT	325	Exercise Physiology	(3)	_____
ESAT	325L	Exercise Physiology Lab	(1)	_____
ESAT	410	Administration of Health and Physical Activity Programs	(3)	_____
ESAT	476	Internship in Health/Fitness/Wellness	(4)	_____
BIOL	202	Fundamentals of Human Anatomy	(3)	_____
BIOL	202L	Fundamentals of Human Anatomy Lab	(1)	_____
BIOL	204	Fundamentals of Human Physiology	(3)	_____
BIOL	204L	Fundamentals of Human Physiology Lab	(1)	_____
Fitness and Recreation Concentration (24.5)				
ESAT	209	Principles of Coaching	(2)	_____
ESAT	243	Principles of Fitness	(2)	_____
ESAT	243L	Principles of Fitness Lab	(0)	_____
ESAT	205	Team Performance Training	(3)	_____
ESAT	250	Performance Teaching Lab I	(1)	_____
ESAT	206	Individual/Dual Performance	(3)	_____
ESAT	260	Performance Lab II	(1)	_____
ESAT	276	Practicum in Health/Fitness/Wellness	(2)	_____
ESAT	339	Fundamental Techniques of Exercise and Fitness	(3)	_____
ESAT	345	Functional Kinesiology	(3)	_____
Directed Electives selected in consultation with advisor And approval of Department Chair			(4)	
_____		_____	( )	_____
_____		_____	( )	_____
_____		_____	( )	_____
_____		_____	( )	_____
			Total Hours	**48**

Exercise Science and Fitness Major, Fitness and Recreation Concentration
Suggested Sequence of Courses

1st Year

Course	SH	Course	SH	Course	SH
ESAT 103-Found. Of Phys. Ed. & Sport Sciences	2			Directed Elective	2
Total SH		Total SH		Total SH	

2nd Year

Course	SH	Course	SH	Course	SH
ESAT 205- Teaching Team Activities	3			BIOL 202 – Fund of Human Anatomy	3
ESAT 250- Teaching Lab I	1			BIOL 202 – Fund of Human Anatomy	1
ESAT 209 – Principles of Coaching	2			ESAT 243 - Principles of Fitness	2
Total SH		Total SH		Total SH	

3rd Year

Course	SH	Course	SH	Course	SH
ESAT 200 – Basic Principles of Nutrition	3	ESAT 276 – Practicum in Health / Fitness / Wellness	2	ESAT 206 – Teaching Individual/Dual Activities	3
BIOL 204 – Fund of Human Physiology	3			ESAT 260 – Teaching Lab II	1
BIOL 204 – Fund of Human Phys Lab	1			ESAT 345 – Functional Kinesiology	3
				ESAT 339 – Fund Technique of Exercise & Fitness	3
Total SH		Total SH		Total SH	

4th Year

Course	SH	Course	SH	Course	SH
ESAT 410 – Administration	3			ESAT 476-Internship in Health/Fitness/Wellness	4
ESAT 325 – Ex Phys	3			Directed Elective	2
ESAT 325L – Ex Phys Lab	1				
Total SH		Total SH		Total SH	

Exercise Science Club

The Exercise Science Club is a student organization designed to promote a departmental identification for students and to provide a forum for exchange of information related to the exercise science disciplines. Evening meetings are held monthly, last about an hour, and usually feature an outside guest speaker from an exercise science-related field. Attendance is strongly encouraged, but not required. Club activities include several social events throughout the year. The club affords leadership opportunities for students. You will receive e-mails announcing the meetings and posters are placed around campus.

Internships

A 4-credit internship is required in the major and is a crucial component to one's professional development. It is during this internship that the skills learned in the classroom are applied to actual clients. The internship is typically completed in the Spring Semester of the senior year. Although faculty members can assist you in securing an internship, the ultimate responsibility is yours. There are forms to fill out and sign, objectives to be designed, and deadlines to meet BEFORE you can even enroll in an internship, so you are advised to work well in advance of the proposed internship semester and to work closely with your academic advisor on the process.

Midpoint Academic Review (some departments call this the "Entry-to-the-Major")

In December or January of your sophomore year, you will be asked to make an appointment to meet with your academic advisor and one other ESAT faculty member to assess your academic progress to that point. Your educational goals and career objectives will be discussed, as well as your academic performance. You will have an opportunity to ask any questions about your program and your discipline. Each student must complete this process before the Election of Major form is signed by the Department Chair. A signed "EOM" is required before registering for your junior year classes.

Senior Comprehensive Evaluation

A Senior Comprehensive Evaluation (SCE) is required for every major. The process is completed in the final semester at Manchester and varies from major to major. Details about the SCE for the Exercise Science/Fitness and Recreation Concentration can be found in the accompanying table. All components of the SCE must be successfully completed by May 1 of the senior year. Notices about the SCE are sent to students on December 1 of the senior year.

Two versions of the SCE exist for Fitness and Recreation Concentration students in the ESAT department. Each student has the ability to take a mock exam of the CSCS which is the credential aligned with the NSCA for most fitness concentration students. Any student looking to focus on the recreation side of the major if they would like may focus on a project based assignment where an official presentation to faculty is required and graded by the department chair as well as an online portfolio.

SENIOR COMPREHENSIVE EVALUATION

Exercise Science & Fitness Major/Fitness & Recreation Concentration

The SCE for Human Performance consists of one online examination that mimics the CSCS Certified Strength and Conditioning Specialist, Part I – Examination OR Presentation

By December 1 of the senior year, the student will formally elect one of the following two options (the election will be filed with the student's academic advisor):

Fitness Emphasis	Recreation Emphasis
1. Complete practice CSCS examination with an 80% OR 2. Pass actual CSCS examination Completion deadline: April 1 Initial notice sent on December 1 (following election of this option) Reminders sent to students 1/15, 2/1, 3/1 and 3/15	

Part II – Electronic Portfolio (Due 5/1)

Checkpoints	Contents
• At end of ESAT 103 • Midpoint Interview (formerly ETM) • At end of ESAT 339 (if taken in jr. year) • At completion of ESAT 410	Resume Paper from ESAT 103 Research project(s) in major Class projects (from major courses) Presentations (from major courses) Work from each CORE class Examples: Lab Reports Papers

KEY EVENTS IN COMPLETING THE MAJOR

WHEN	WHAT	WHO
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December, 2nd year	E-mail announcing Midpoint Academic Review appointments. Election of Major form signed following Review	Meeting in January or February with ESAT advisor and one other ESAT faculty member.
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