

Exercise Science Handbook (2019-2020)

THE EXERCISE SCIENCE MAJOR

The King's College Exercise Science major provides students with an understanding of the physiological, biomechanical, and psychological effects of exercise on the human body. This unique and challenging program is designed to prepare students for a wide range of careers in the fast-growing fields of health, wellness, and fitness. The Exercise Science major at King's College provides students with a foundation of both theoretical and clinical knowledge while adhering to the King's mission to "teach its students not only how to make a living, but how to live."

Specifically, King's College offers three tracks within the major of Exercise Science:

- The Applied Exercise Science Track
- The Exercise Physiology Track
- The Exercise Science & Chiropractic Track (3+4)

Both the Applied Exercise Science and Exercise Physiology tracks will prepare students to enter the field of Exercise Science directly. However, these two tracks differ in terms of their preparation of students for varying post-graduate degree programs. Please refer to specific description of these two tracks in the later part of this handbook.

The Exercise Science & Chiropractic Track allows students to achieve a Bachelor of Science Degree (B.S.) in Exercise Science at King's College, as well a Doctor of Chiropractic (D.C.) degree at New York Chiropractic College. This unique track allows qualified students to complete both degrees in a total of 7 years (3+4) instead of 8 (4+4). Please refer to the specific description of this track in the later part of this handbook.

Degree offered

Bachelor of Science (B.S.) in Exercise Science

Admission

For students interested in pursuing a degree in Exercise Science at King's College applications for admission may be obtained by contacting the Office of Admission at King's College. Applications are also available online at www.kings.edu.

Graduation Requirements

1. Completion of all courses in the Exercise Science curriculum
2. A minimum grade of "C" in all Exercise Science or related courses (sciences, math, psychology, and education)
3. A minimum cumulative grade point average of 2.33 (an equivalent of a C+ letter grade).
4. A minimum cumulative Exercise Science major grade point average of 2.33.
5. Current CPR/AED certification.
6. Successful completion of all required internship credits

Program Faculty

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CORE CLASS REQUIREMENTS FOR EXERCISE SCIENCE

College Seminar

Quest for Meaning CSEM 100 3cr

Communication & Creative Expression

Writing ENGL 110* 3cr

Oral Communication COMM 101 3cr

Literature ENGL 140-149 3cr

The Arts ARTS 100-149 3cr

Citizenship

History HIST 100-149 3cr

Intercultural Competence FREN/GERM/SPAN 100-level or Study Abroad** 3cr

Global Connections ECON 150-199; GEOG 150-199; HIST 150-199; PS 150-199; SOC 150-199 3cr

Quantitative & Scientific Reasoning

Quantitative Reasoning MATH 126* 3cr

Scientific Endeavor NSCI 100 3cr

Science in Context NSCI 171-199 3cr

Human Beh. & Soc. Inst. SOC 101* 3cr

Wisdom, Faith, & the Good Life

Introduction to Philosophy PHIL 101 3cr

Philosophical Investigations PHIL 170-199; MSB 287 3cr

Theology & Wisdom THEO 150-159 3cr

Theology & the Good Life THEO 160-169 3cr

*Cross listed under core and major requirements

GRADING SCALE FOR EXERCISE SCIENCE

LETTER GRADE	STANDARD	PERCENTAGE	GPA
A	SUPERIOR LEVEL OF COMPETENCY	93-100%	4.00
A-	NOTABLE LEVEL OF COMPETENCY	90-92%	3.67
B+	GOOD LEVEL OF COMPETENCY	87-89%	3.33
B	SATISFACTORY LEVEL OF COMPETENCY	83-86%	3.00
B-	ADEQUATE LEVEL OF COMPETENCY	80-82%	2.67
C+	MARGINALLY SATISFACTORY LEVEL OF COMPETENCY	77-79%	2.33
C	MINIMAL LEVEL OF COMPETENCY	73-76%	2.00
C-		70-72%	1.67
D		65-69%	1.00
F	UNSATISFACTORY LEVEL OF COMPETENCY	below 65%	0.00

APPLIED EXERCISE SCIENCE TRACK

Description

This track will prepare students to either enter the field of exercise science directly or help prepare them for exercise science or occupational therapy graduate programs. Students will take a substantial amount of applied exercise science classes and perform an internship. During the senior year, students will take applied research classes and develop an original research project. Additionally, students have room for four elective courses in their Junior and Senior year.

Careers

A student graduating from this exercise science program with a concentration in Applied Exercise Science could work in areas such as health promotion, fitness development, colleges and universities, clinical and hospital rehabilitation, and sport and athletic programs.

Examples of specific careers immediately available upon graduation:

- Small business owners and entrepreneurs in the exercise science industry
- Sports and wellness program instructors and directors
- Researchers in companies that make physiological equipment for testing and evaluation
- Managers and exercise leaders in corporate wellness programs
- Instructors in health and fitness clubs
- Supervisors of specialized health, fitness, wellness, or lifestyle programs in correctional services, police, fire, and emergency response organizations
- Fitness instructors in YMCAs, spas and resort centers
- Fitness directors and managers in the military
- Exercise technologists in cardiology suites
- Fitness instructors and supervisors at the state, regional, and national levels in sports and athletic programs
- Sports consultants in areas of psychology and training, biomechanics, efficiency and metabolism, and nutrition
- Electrophysiology technologists in hospital settings

Examples of careers requiring post-graduate education:

- Educators/Researchers at institutions of higher learning in Exercise Physiology, Exercise Psychology, Public Health.
- Occupational Therapists in hospitals, in-patient/out-patient/in-home rehabilitation settings
- Cardio-pulmonary rehabilitation specialists
- Strength coaches for college, university and professional sports programs
- Exercise and/or Sport Psychologists
- Clinical Psychologists
- Healthcare Administrators

Major Requirements

29 courses – 73 credits

BIOL 219	Anatomy & Physiology I (3)
BIOL 219L	Anatomy & Physiology I Lab (1)
BIOL 220	Anatomy & Physiology II (3)
BIOL 220L	Anatomy & Physiology II Lab (1)
CHEM 107	General, Organic, and Biochem. (3)
CHEM 107L	General, Org., and Biochem. Lab (1)
EXSC 101	Introduction to Exercise Science (3)
EXSC 150	Prev., Treatment & Em. Care (3)
EXSC 245	Principles of Health (3)
EXSC 280	Clinical Kinesiology & Anatomy (3)
EXSC 290	Exercise Physiology (3)
EXSC 309	Electrocardiology (3)
EXSC 310	Assessment & Measurements in Ex. (3)
EXSC 310L	Assessment & Measurements in Ex. Lab (1)
EXSC 320	Exercise and Special Populations (3)
EXSC 325	Nutrition and the Athlete (3)
EXSC 330	Alternative Methods of Exercise (3)
EXSC 400	Science of Strength & Conditioning (3)
EXSC 400L	Science of Strength & Cond. Lab (1)
EXSC 440	Admin. & Org. for Exercise Facilities (3)
EXSC 450 or 460	Applied Strength & Conditioning OR Corrective Exercise Training (2)
EXSC 480	Research & Design (2)
EXSC 499	Field Experience/Internship (3)
MATH 126	Introduction to Statistics (3)*
PHYS 108	Applied Biophysics (3)
PHYS 108L	Applied Biophysics Lab (1)
PSYC 101	Introduction to Psychology (3)
PSYC 340	Health Psychology (3)
SOC 101	Introduction of Sociology (3)*

*Cross listed under core and major requirements

Suggested Curriculum Sequence – Applied Exercise Science Track

First Year					
Fall		Credits	Spring		Credits
EXSC 101	Introduction to Exercise Science	3	EXSC 150	Prev., Treat., & E. Care of Injuries	3
PHYS 108	Applied Biophysics	3	CHEM 107	General, Organic, and Biochemistry	3
PHYS 108L	Applied Biophysics Lab	1	CHEM 107L	General, Organic, and Biochem. Lab	1
HCE 101	Holy Cross Experience	1	PSYC 101	Introduction to Psychology	3
SOC 101	Introduction to Sociology	3	CORE	<i>Writing</i>	3
CORE	<i>Quest for Meaning</i>	3	CORE	<i>Oral Communication</i>	3
		14			16
Second Year					
Fall		Credits	Spring		Credits
EXSC 245	Principles of Health	3	EXSC 280	Clinical Kinesiology & Anatomy	3
BIOL 219	Anatomy & Physiology I	3	EXSC 290	Exercise Physiology	3
BIOL 219L	Anatomy & Physiology I Lab	1	BIOL 220	Anatomy & Physiology II	3
CORE	<i>Literature</i>	3	BIOL 220L	Anatomy & Physiology II Lab	1
CORE	<i>The Arts</i>	3	CORE	<i>Intercultural Competence</i>	3
CORE	<i>History</i>	3	CORE	<i>Global Connections</i>	3
		16			16
Third Year					
Fall		Credits	Spring		Credits
EXSC 309	Electrocardiology	3	EXSC 310	Assessment & Meas. in Ex.	3
EXSC 330	Alternative Methods of Exercise	3	EXSC 310L	Assessment & Meas. in Ex. Lab	1
CORE	<i>Introduction to Philosophy</i>	3	EXSC 320	Exercise and Special Populations	3
CORE	<i>Theology and Wisdom</i>	3	EXSC 325	Nutrition and the Athlete	3
Elective		3	MATH 126	Introduction to Statistics	3
			Elective		3
		15			16
Fourth Year					
Fall		Credits	Spring		Credits
EXSC 400	Science of S&C	3	EXSC 450/460	Applied S&C or Corrective Exercise Training	2
EXSC 400L	Science of S&C Lab	1	EXSC 499	Field Experience/Internship	3
EXSC 440	Admin. & Org. for Exercise Fac.	3	PSYC 340	Health Psychology	3
EXSC 480	Research & Design	2	CORE	<i>Philosophical Investigations</i>	3
CORE	<i>Theology and the Good Life</i>	3	Elective		3
Elective		3			
		15			14

TOTAL CREDITS: 122

*If students intend to go on to Occupational Therapy graduate school, it is recommended that the following classes are taken as electives (check specific psychology prerequisites at the school you intend to apply to):

Fall Junior Year: PSYC 355 - Developmental Psychology: Childhood and Adolescence
 Spring Junior Year: PSYC 356 - Developmental Psychology: Adulthood & Aging
 Fall Senior Year: Psychology Elective (see specific graduate program for pre-requisites)
 Spring Senior Year: Psychology Elective (see specific graduate program for pre-requisites)

EXERCISE PHYSIOLOGY TRACK

Description

This track will prepare students to either enter the field of exercise science directly or help prepare them for physical therapy, biomechanics, or similar allied health graduate programs. Elective courses, Principles of Health (EXSC 245), and Administration & Organization of Exercise Facilities (EXSC 440) are replaced by general biology, physics, and chemistry courses with labs, as well as an additional psychology class.

Careers

The Exercise Physiology track is specifically designed to prepare students for graduate programs in Physical Therapy or Biomechanics. Course requirements will satisfy most pre-requisite classes required for application to these programs. Since these course requirements are mostly science-based classes, minimal additional course work (besides the required course in the Exercise Physiology curriculum) would qualify students for application to other allied health professions such as Physician Assistant Studies, Medical School, Dental School, Veterinary School etc.

Examples of specific careers immediately available upon graduation:

- Small business owners and entrepreneurs in the exercise science industry
- Sports and wellness program instructors and directors
- Researchers in companies that make physiological equipment for testing and evaluation
- Managers and exercise leaders in corporate wellness programs
- Instructors in health and fitness clubs
- Supervisors of specialized health, fitness, wellness, or lifestyle programs in correctional services, police, fire, and emergency response organizations
- Fitness instructors in YMCAs, spas and resort centers
- Fitness directors and managers in the military
- Exercise technologists in cardiology suites
- Fitness instructors and supervisors at the state, regional, and national levels in sports and athletic programs
- Sports consultants in areas of psychology and training, biomechanics, efficiency and metabolism, and nutrition
- Electrophysiology technologists in hospital settings

Examples of careers requiring post-graduate education:

- Educators/Researchers at institutions of higher learning in Exercise Physiology, Exercise Psychology, Biomechanics, Physiology, Biomedical Science, Public Health
- Physical Therapists in hospitals, in-patient/out-patient/in-home rehabilitation settings
- Cardio-pulmonary rehabilitation specialists
- Strength coaches for college, university and professional sports programs
- Exercise and/or Sport Psychologists
- Dieticians
- Chiropractors
- Physician Assistants*
- Physicians*
- Veterinarians*
- Pharmacists*

*Additional coursework in organic chemistry, biochemistry, and/or microbiology may be required depending on the specific graduate program

Major Requirements

36 courses – 86 credits

BIOL 113	Evolution and Diversity (3)
BIOL 113L	Evolution and Diversity Lab (1)
BIOL 210	Organisms and Their Ecosystems (3)
BIOL 210L	Organisms and Their Ecos. Lab (1)
BIOL 219	Anatomy & Physiology I (3)
BIOL 219L	Anatomy & Physiology I Lab (1)
BIOL 220	Anatomy & Physiology II (3)
BIOL 220L	Anatomy & Physiology II Lab (1)
CHEM 113	General Chemistry I (3)
CHEM 113L	General Chemistry I Lab (1)
CHEM 114	General Chemistry II (3)
CHEM 114L	General Chemistry II Lab (1)
EXSC 101	Introduction to Exercise Science (3)
EXSC 150	Prev., Treatment & Em. Care (3)
EXSC 280	Clinical Kinesiology & Anatomy (3)
EXSC 290	Exercise Physiology (3)
EXSC 309	Electrocardiology (3)
EXSC 310	Assessment & Measurements in Ex. (3)
EXSC 310L	Assessment & Measurements in Ex. Lab (1)
EXSC 320	Exercise and Special Populations (3)
EXSC 325	Nutrition and the Athlete (3)
EXSC 330	Alternative Methods of Exercise (3)
EXSC 400	Science of Strength & Conditioning (3)
EXSC 400L	Science of Strength & Cond. Lab (1)
EXSC 450 or 460	Applied Strength & Conditioning OR Corrective Exercise Training (2)
EXSC 480	Research & Design (2)
EXSC 499	Field Experience/Internship (3)
MATH 126	Introduction to Statistics (3)*
PHYS 111	Physics for the Life Sciences I (3)
PHYS 111L	Physics for the Life Sci. I Lab (1)
PHYS 112	Physics for the Life Sciences II (3)
PHYS 112L	Physics for the Life Sci. II Lab (1)
PSYC 101	Introduction to Psychology (3)
PSYC 340	Health Psychology (3)
PSYC 351	Psychopathology (3)
SOC 101	Introduction of Sociology (3)*

*Cross listed under core and major requirements

Suggested Curriculum Sequence – Exercise Physiology Track

First Year					
Fall		Credits	Spring		Credits
EXSC 101	Introduction to Exercise Science	3	EXSC 150	Prev., Treat., & E. Care of Injuries	3
CHEM 113	General Chemistry I	3	CHEM 114	General Chemistry II	3
CHEM 113L	General Chemistry I Lab	1	CHEM 114L	General Chemistry II Lab	1
HCE 101	Holy Cross Experience	1	PSYC 101	Introduction to Psychology	3
SOC 101	Introduction to Sociology	3	CORE	<i>Writing</i>	3
CORE	<i>Quest for Meaning</i>	3	CORE	<i>Oral Communication</i>	3
		14			16
Second Year					
Fall		Credits	Spring		Credits
BIOL 219	Anatomy & Physiology I	3	EXSC 280	Clinical Kinesiology & Anatomy	3
BIOL 219L	Anatomy & Physiology I Lab	1	EXSC 290	Exercise Physiology	3
PHYS 111	Physics for the Life Sciences I	3	BIOL 220	Anatomy & Physiology II	3
PHYS 111L	Physics for the Life Sciences I Lab	1	BIOL 220L	Anatomy & Physiology II Lab	1
CORE	<i>Literature</i>	3	PHYS 112	Physics for the Life Sciences II	3
CORE	<i>The Arts</i>	3	PHYS 112L	Physics for the Life Sciences II Lab	1
CORE	<i>History</i>	3			
		17			14
Third Year					
Fall		Credits	Spring		Credits
EXSC 309	Electrocardiology	3	EXSC 310	Assessment & Meas. in Ex.	3
EXSC 330	Alternative Methods of Exercise	3	EXSC 310L	Assessment & Meas. in Ex. Lab	1
BIOL 113	Evolution & Diversity	3	EXSC 320	Exercise and Special Populations	3
BIOL 113L	Evolution & Diversity Lab	1	EXSC 325	Nutrition and the Athlete	3
CORE	<i>Intercultural Competence</i>	3	BIOL 210	Organisms & Their Ecosystems	3
CORE	<i>Global Connections</i>	3	BIOL 210L	Organisms & Their Ecosystems Lab	1
			MATH 126	Introduction to Statistics	3
		16			17
Fourth Year					
Fall		Credits	Spring		Credits
EXSC 400	Science of S&C	3	EXSC 450/460	Applied S&C or Corrective Exercise Training	2
EXSC 400L	Science of S&C Lab	1	EXSC 499	Field Experience/Internship	3
EXSC 480	Research & Design	2	PSYC 340	Health Psychology	3
PSYC 351	Psychopathology	3	CORE	<i>Philosophical Investigations</i>	3
CORE	<i>Introduction to Philosophy</i>	3	CORE	<i>Theology and the Good Life</i>	3
CORE	<i>Theology and Wisdom</i>	3			
		15			14

TOTAL CREDITS: 123

EXERCISE SCIENCE & CHIROPRACTIC TRACK (3+4)

Description

King's College and New York Chiropractic College (NYCC) have a mutual articulation agreement, whereby students that matriculate at King's College for a minimum of three academic years in the "Exercise Science & Chiropractic" track of the Exercise Science major will be automatically admitted to the Doctor of Chiropractic Program at NYCC (provided the below requirements are met). Completion of the first three trimesters of the Doctor of Chiropractic program at NYCC (equivalent to one academic year), will result in the award of the Bachelor of Science in Exercise Science degree from King's College (provided the below academic standards are met). Students are then able to continue their studies at NYCC in the pursuit of the Doctor of Chiropractic program. This mutual agreement ensures that students interested in Chiropractic and Exercise Science are able to save one year of undergraduate education and tuition (7 instead of 8 total years), as well as gain guaranteed admission to the Doctor of Chiropractic degree program at NYCC.

Requirements

- While at King's College, students will complete all required College Core courses in the King's College curriculum as stated in the catalog of King's College.
- Students will complete the course of study with a cumulative grade point average of at least 3.00, and earn a minimum of "C" (2.0) in major courses.
- Students will furnish New York Chiropractic College with a letter of intent identifying themselves as pre-chiropractic students and identifying the desired date of admission to New York Chiropractic College. Students must furnish New York Chiropractic College with such a letter of intent *no later than* the end of their first year of studies at King's College.
- Students will make applications to New York Chiropractic College *one year prior to their desired term of entry* and will complete all procedures required of candidates for admission, including submission of official college transcripts, furnishing of three character references (at least one from a Doctor of Chiropractic and two from faculty members at King's College), and satisfactory participation in an admissions interview.
- Students enrolled in the joint "3 + 1" program who successfully complete all courses offered during the first three trimesters at New York Chiropractic College with a grade point average of 2.00, will receive the B.S. degree from King's College upon submission of an official transcript from NYCC to King's College and completion of the King's College application for graduation and payment of appropriate fees on a timely basis.
- Under this joint program, each institution shall directly charge the student for courses enrolled in at that institution. Students in the joint program may continue to utilize King's College's library without charge and may take advantage of other benefits offered to students at King's College as long as they obtain a King's College ID while enrolled in the New York Chiropractic College portion of the program.
- In recognition of students' successful completion of the program and procedures outlined above, New York Chiropractic College shall accept all students who earn a GPA of 3.00 or above for the entrance date of their choice. Students who maintain a grade point average less than a 3.00, but earn at least a 2.5 GPA, may be given priority consideration for admission into the entrance date of their choice.

Careers

Although the main goal of the track is to obtain both a Bachelor of Science in Exercise Science and Doctor of Chiropractic degree in the pursuit of a chiropractic career, graduates of both degree program have a multitude of career options provided by each degree. The Doctor of Chiropractic degree allows students pursue chiropractic licensure which allows graduates to work as a chiropractor in a variety of settings provided by said profession. Additionally, the Exercise Science degree presents the following additional career options:

- Sports Performance Coaches with professional or collegiate teams
- Sports Medicine Personnel with professional or collegiate team
- Small business owners and entrepreneurs in the exercise science industry
- Sports and wellness program instructors and directors
- Researchers in companies that make physiological equipment for testing and evaluation
- Managers and exercise leaders in corporate wellness programs
- Instructors in health and fitness clubs
- Supervisors of specialized health, fitness, wellness, or lifestyle programs in correctional services, police, fire, and emergency response organizations
- Fitness instructors in YMCAs, spas and resort centers
- Fitness directors and managers in the military
- Exercise technologists in cardiology suites
- Fitness instructors and supervisors at the state, regional, and national levels in sports and athletic programs
- Sports consultants in areas of psychology and training, biomechanics, efficiency and metabolism, and nutrition

MAJOR COURSE REQUIREMENTS

26 course – 62 credits

BIOL 113	Evolution and Diversity (3)
BIOL 113L	Evolution and Diversity Lab (1)
BIOL 210	Organisms and Their Ecosystems (3)
BIOL 210L	Organisms and Their Ecosystems Lab (1)
BIOL 219	Anatomy & Physiology I (3)
BIOL 219L	Anatomy & Physiology I Lab (1)
BIOL 220	Anatomy & Physiology II (3)
BIOL 220L	Anatomy & Physiology II Lab (1)
CHEM 107	General, Organic, and Biochem. (3)
CHEM 107L	General, Org., and Biochem. Lab (1)
EXSC 101	Introduction to Exercise Science (3)
EXSC 150	Prevention, Treatment & Emergency Care (3)
EXSC 280	Kinesiology (3)
EXSC 290	Exercise Physiology (3)
EXSC 309	Electrocardiology (3)
EXSC 310	Assessment & Measurements in Exercise (3)
EXSC 310L	Assessment & Measurements in Exercise Lab (1)
EXSC 320	Exercise and Special Populations (3)
EXSC 330	Alternative Methods to Exercise (3)
MATH 126	Introduction to Statistics (3)*
PHYS 111	Physics for the Life Sciences I (3)
PHYS 111L	Physics for the Life Sci. I Lab (1)
PHYS 112	Physics for the Life Sciences II (3)
PHYS 112L	Physics for the Life Sci. II Lab (1)
PSYC 101	Introduction to Psychology (3)
SOC 101	Introduction to Sociology (3)*

The First Year (three trimesters) at New York Chiropractic College is counted toward the completion of the B.S. degree in Exercise Science from King's College.

*Cross listed under core and major requirements

Suggested Curriculum Sequence – Exercise Science & Chiropractic Track

First Year					
Fall		Credits	Spring		Credits
EXSC 101	Introduction to Exercise Science	3	EXSC 150	Prev., Treat., & E. Care of Injuries	3
HCE 101	Holy Cross Experience	1	CHEM 107	General, Organic, and Biochemistry	3
SOC 101	Introduction to Sociology	3	CHEM 107L	General, Organic, and Biochem. Lab	1
CORE	<i>Quest for Meaning</i>	3	PSYC 101	Introduction to Psychology	3
CORE	<i>Writing</i>	3	CORE	<i>Literature</i>	3
CORE	<i>Oral Communication</i>	3	CORE	<i>The Arts</i>	3
		16			16
Second Year					
Fall		Credits	Spring		Credits
BIOL 219	Anatomy & Physiology I	3	EXSC 280	Clinical Kinesiology & Anatomy	3
BIOL 219L	Anatomy & Physiology I Lab	1	EXSC 290	Exercise Physiology	3
PHYS 111	Physics for the Life Sciences I	3	BIOL 220	Anatomy & Physiology II	3
PHYS 111L	Physics for the Life Sciences I Lab	1	BIOL 220L	Anatomy & Physiology II Lab	1
CORE	<i>History</i>	3	PHYS 112	Physics for the Life Sciences II	3
CORE	<i>Intercultural Competence</i>	3	PHYS 112L	Physics for the Life Sciences II Lab	1
CORE	<i>Global Connections</i>	3	CORE	<i>Philosophical Investigations</i>	3
		17			17
Third Year					
Fall		Credits	Spring		Credits
EXSC 309	Electrocardiology	3	EXSC 310	Assessment & Meas. in Ex.	3
EXSC 330	Alternative Methods of Exercise	3	EXSC 310L	Assessment & Meas. in Ex. Lab	1
BIOL 113	Evolution & Diversity	3	EXSC 320	Exercise and Special Populations	3
BIOL 113L	Evolution & Diversity Lab	1	BIOL 210	Organisms & Their Ecosystems	3
CORE	<i>Introduction to Philosophy</i>	3	BIOL 210L	Organisms & Their Ecosystems Lab	1
CORE	<i>Theology and Wisdom</i>	3	MATH 126	Introduction to Statistics	3
			CORE	<i>Theology and the Good Life</i>	3
		16			17

TOTAL CREDITS: 99

*Additional coursework of three trimesters at NYCC is required to obtain the Bachelor of Exercise Science degree from King's College

**A total of ten trimesters of coursework at NYCC is required to obtain the Doctor of Chiropractic degree

***Student must send a letter of intent to NYCC within the first year of being in this track. Please contact your advisor for more information.

EXERCISE SCIENCE COURSE DESCRIPTIONS

EXSC 101: Introduction to Exercise Science (3)

This course introduces students to the exercise science discipline. Students will examine concepts including professionalism, ethics, certification and licensure, employment opportunities and scientific foundations of the various sub-disciplines. Basic foundations of exercise science will be emphasized, as well as career planning and professional development. This course includes an extensive guest speaker series by professionals in the field of exercise science, as well as hands-on group exercise.

EXSC 150: Prevention, Treatment, and Emergency Care of Injuries (3)

This course will introduce students to emergency and immediate care of injuries. The course will also provide an introduction to the mechanisms of injury, signs and symptoms, and management procedures for common sport/activity-related injuries. Medical emergencies, physical trauma, various disease pathologies, bleeding, respiratory and cardiac emergencies will be explored. The student will also learn emergency bandaging for open wounds and the use of a stethoscope, sphygmomanometer, and a pulse oximeter in a practical setting. Upon completion of the course, students will be certified in American Red Cross First Aid and CPR/AED for Professional Rescuers and Health Care Providers.

EXSC 245: Principles of Health (3)

The student will be introduced to techniques and principles to improve an individual's mental and physical health. Human sexuality and personal relations will be explored. The effects of legal and illegal drugs on the body will be examined. Systemic and acquired diseases and their effects on the human body will be investigated. The final areas of emphasis for this course will be to study the effects of aging, dying, and the various types of medical services available to the consumer.

Cross listed as AT 245

EXSC 280: Clinical Kinesiology & Anatomy (3)

The student will primarily be exposed to functional human anatomy focusing on skeletal muscle origin, insertion, action, and nerve supply. In addition, the student will develop an understanding and appreciation of fundamental principles that relate to human movement and, in particular, an understanding of those principles that apply to efficient, skilled, and safe movement. The student will develop the ability to functionally and mechanically analyze typical and irregular or potentially harmful movements in terms of principles derived primarily from anatomy, physiology and biomechanical physics.

Cross listed as AT 280

EXSC 290: Exercise Physiology (3)

This course presents the student with a comprehensive study of the human body's responses to exercise. Topics include cardiovascular and respiratory response to exercise, principles of training and conditioning and the resulting adaptations of the human body, basic training principles, energy production, metabolism, body composition, and muscular adaptations to exercise.

Cross listed as AT 290; Pre-requisite – BIOL 219/L

EXSC 309: Electrocardiology (3)

This course is designed to provide students with the basic knowledge of the structure and function of the heart and circulatory system. Students will understand the electrical and mechanical events of the cardiac cycle, as well as develop an understanding heart and circulatory diseases and conditions. Additionally, students will set-up electrocardiograph (ECG) monitoring systems and record and interpret ECG data through administration of 12-lead ECGs at rest. Finally, students will interpret normal and abnormal heart rhythms and artifacts.

Pre-requisite – EXSC 290 and BIOL 220/L

EXSC 310/310L: Assessment & Prescription in Exercise/Lab(3)/(1)

This course presents practical and theoretical knowledge about the various modes and protocols used in graded exercise testing, basic electrocardiography and exercise prescription based on testing results. Laboratory sessions provide opportunities for students to gain practical experience in performing various physiological testing procedures as well as various methods of fitness testing. The course focuses on developing expertise in preparation of clients for fitness testing, utilization of various modes of exercise testing and test interpretation. The course will also prepare students to take the ACSM certified personal trainer exam.

Pre-requisite - EXSC 150 and EXSC 309

EXSC 320: Exercise and Special Populations (3)

This course provides an in-depth study of changes that occur due to acute exercise, chronic exercise, and aging. Students will examine the physiologic differences among individuals with various medical conditions. Behavioral modification and counseling skills for various populations are also developed.

Pre-requisite - EXSC 150 and EXSC 309

EXSC 325: Nutrition and the Athlete (3)

The student will understand the relationship between physical fitness, physical performance, injury prevention, and nutritional intake. The student will understand how to conduct a nutritional analysis and how to evaluate various diets to provide appropriate dietary recommendations. The student will develop an understanding of how to improve physical performance and overall health through proper utilization of food, how to identify improper eating habits, the effects of food supplements, techniques and effectiveness of carbohydrate loading, and the construction of pre-event and post-event meals.

Cross listed as AT 325

EXSC 330: Alternative Methods of Exercise (3)

This course examines different exercise modalities including group fitness activities and adapted physical activities such as yoga, pilates, aerobic, aquatics, boxing, boot camp, chair aerobics etc. Students will be exposed to the history, principles, and design guidelines of each activity. Additionally, students will learn and demonstrate proper coaching principles and concepts. Students will be required to design and lead an exercise class themselves as the culminating project.

Pre-requisite - EXSC 280

EXSC 400/400L: Science of Strength & Conditioning/Lab (3)/(1)

This course will expose students to the techniques and training principles of modern strength and conditioning as it applies to athletic and sport settings. Principles of strength, power, plyometrics, speed, speed endurance, endurance, mobility, flexibility, and balance training will be emphasized. Students will learn how to perform an athletic needs analysis based on observation and review of scientific literature, as well as program design based on scientific literature and applied practice. Lab activities will include the performance and application of strength training, plyometrics, speed training, and speed endurance training. Students will also be prepared to take the NSCA Certified Strength and Conditioning Specialist exam.

Pre-requisite - EXSC 280, EXSC 310/L, EXSC 330

EXSC 440: Administration & Organization for Exercise Facilities (3)

The student will gain an understanding of policies and procedures in the operation of an exercise/testing facility. Students will study position statements that describe various aspects of industry standards, appropriate staff to client ratios, budgeting, management strategies of staff and organizational requirements of operating various exercise/fitness facilities. Students will learn appropriate evaluation and care of equipment for exercise and testing and appropriate record keeping and budgeting for facilities. Students will study legal considerations of all aspects of exercise and fitness facilities.

EXSC 450: Applied Strength and Conditioning (2)

This course will further expose students to the techniques and training principles of strength and conditioning as it applies to modern sports performance. Principles such as strength, power development, mobility, acceleration, deceleration, max velocity, etc. Students will learn coaching techniques to apply in a real world setting, as well as program design based on applied practice. This class will be split between lecture and lab like settings. In the lab setting students will put principles learned into practice.

Pre-requisite - EXSC 400/L

EXSC 460: Corrective Exercise Training (2)

This course will expose students to the corrective exercise continuum in order to prescribe exercise for clients that have muscle imbalances or who have come off an injury. This system of training uses corrective exercises to improve movement capabilities and decrease the risk for injury. Students will also be prepared to take the NASM corrective exercise specialist certification exam.

Pre-requisite - EXSC 400/L

EXSC 480: Research & Design (2)

This course is designed to help students understand, evaluate and conduct exercise science research. Students will examine the basic concepts and procedures for conducting research, acquire skills necessary for interpreting research, and develop an understanding of how to apply research findings. Students will perform several journal article discussions culminating in a scientific article presentation and analysis.

Pre-requisite – MATH 126.

EXSC 499: Field Experience/Internship (3)

Internship experience designed to provide students with an opportunity to gain real-world experience in exercise science settings while completing all of the assignments found in the Exercise Science Program internship handbook.

Pre-requisite - Successful completion of all 300-level exercise science courses

FREQUENTLY ASKED QUESTIONS

What is exercise science?

Exercise science deals with the study of both the immediate and long term effects of physical activity focusing on the “how” and “why” the body responds to physical activity. Exercise Science encompasses a wide variety of disciplines including, but not limited to: Biomechanics, Sports Nutrition, Sport Psychology, Motor Control/Development, and Exercise Physiology. The study of these disciplines is integrated into the academic preparation of Exercise Science professionals. Exercise Science professionals work in the health and fitness industry, and are skilled in evaluating health behaviors and risk factors, conducting fitness assessments, writing appropriate exercise prescriptions, and motivating individuals to modify negative health habits and maintain positive lifestyle behaviors for health promotion. They conduct these activities in university, corporate, commercial or community settings where their clients participate in health promotion and fitness-related activities. (Source - CAAHEP)

How is exercise science different than athletic training/physician assistant studies?

Exercise Science is a science-based degree that prepares you to work in many different types of health, fitness and medical fields. Athletic training/physician assistant studies prepare individuals to function in very specific professional roles within the allied healthcare field.

Why study exercise science at King’s College?

King’s college has a long track record of producing graduates that go on to meaningful careers that cultivate and enrich lives of others.

If you are interested in attaining the knowledge, skills, and abilities to succeed as a health, exercise, and fitness professional, and are committed to assisting others in improving their health and physical fitness by increasing their participation in safe and effective exercise.

Are there other requirements?

Yes. You must acquire certification in Cardiopulmonary Resuscitation (CPR), Automated External Defibrillator (AED) for the entirety of the academic program. This certification will be earned in the spring semester of the freshmen year.

What is a national certification? Does the EXSC curriculum prepare me for it?

Most employers expect Exercise Science professionals to have earned professional certification from a nationally recognized organization. Such organizations are:

National Strength and Conditioning Association

- Certified Strength and Conditioning Specialist (NSCA-CSCS)
- Certified Special Population Specialist (NSCA-CSPS)
- Certified Personal Trainer (NSCA-CPT)
- Tactical Strength and Conditioning – Facilitator (NSCA-TSAC-F)

American College of Sports Medicine

- Certified Personal Trainer (ACSM-CPT)
- Certified Group Exercise Instructor (ACSM-GEI)
- Certified Exercise Physiologist (ACSM-EP)
- Certified Clinical Exercise Physiologist (ACSM-CEP) [requires clinical hours]
- Certified Inclusive Fitness Trainer (ACSM-CIFT)

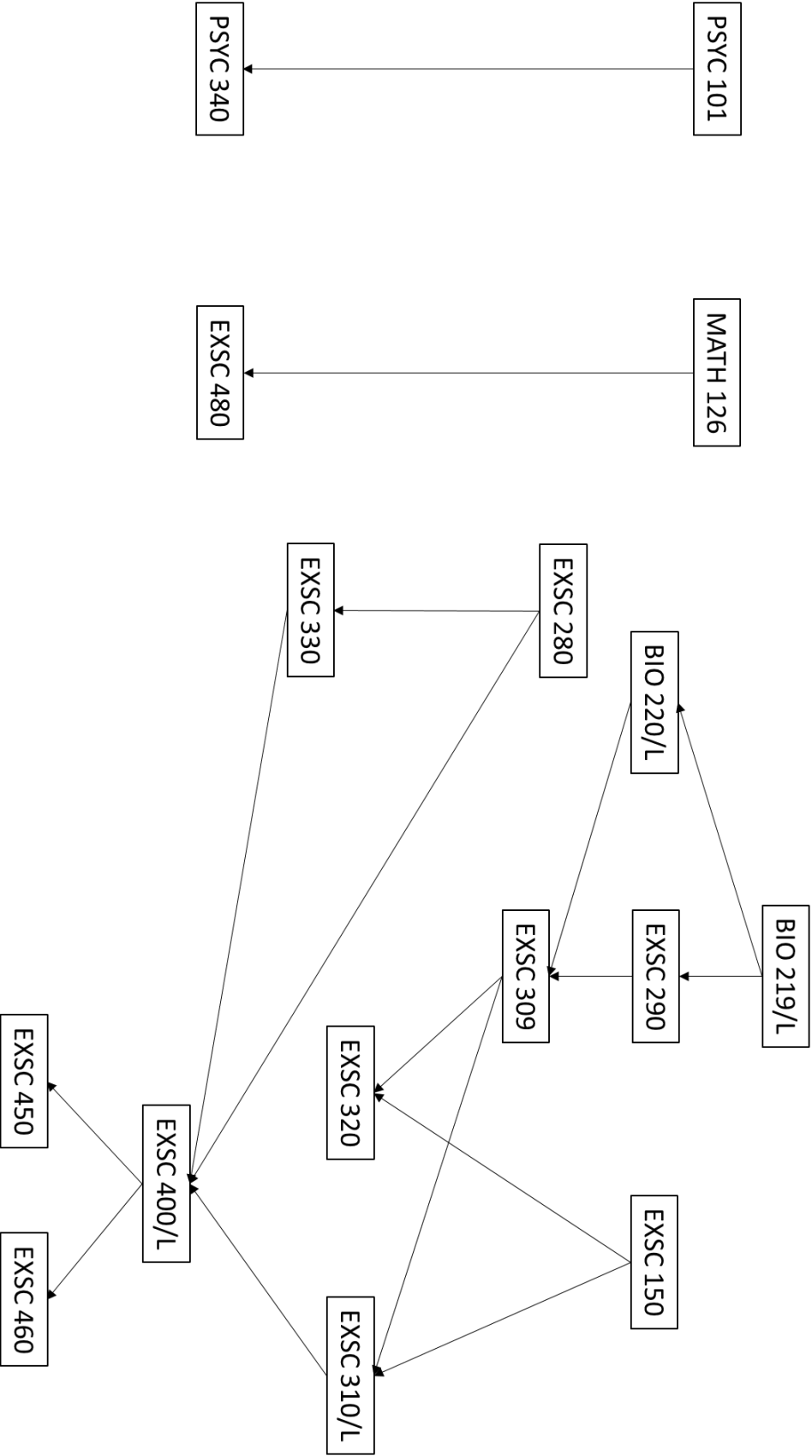
- Certified Cancer Exercise Trainer (ACSM-CET)

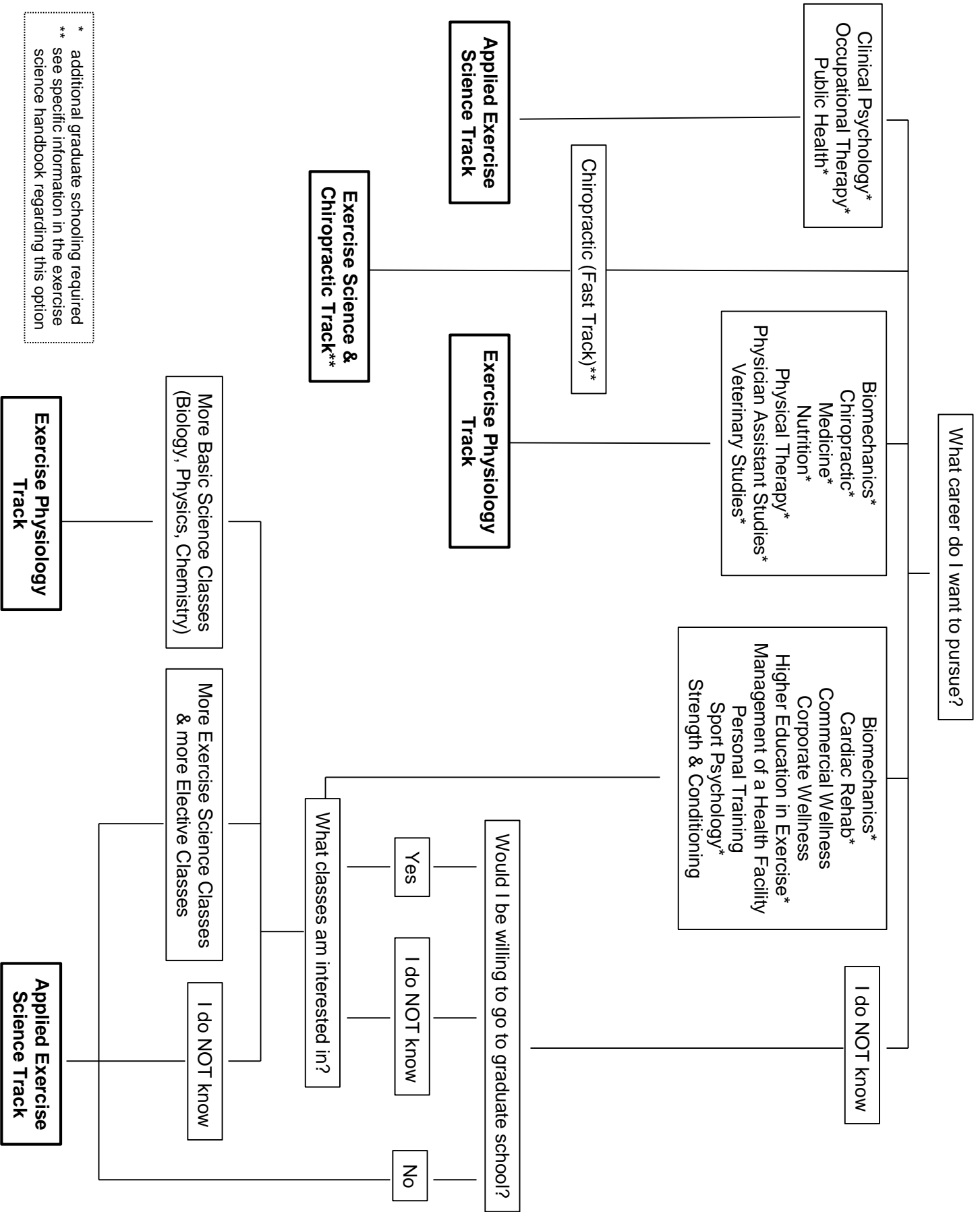
National Academy of Sports Medicine

- Certified Personal Trainer (CPT)
- Corrective Exercise Specialist (CES)
- Performance Enhancement Specialist (PES)
- Fitness Nutrition Specialist (FNS)
- Sports Nutrition Specialist (SNS)
- Group Personal Training Specialist (GPTS)
- Mixed Martial Arts Conditioning Specialist (MMACS)
- Weight Loss Specialist (WLS)
- Women's Fitness Specialist (WFS)
- Senior Fitness Specialist (SFS)
- Youth Exercise Specialist (YES)
- Golf Fitness Specialist (GFS)

Students may be prepared to sit for various certification exams at the conclusion of the Exercise Science curriculum. More information will be presented during actual course work.

Pre-requisite Flow Chart





* additional graduate schooling required
 ** see specific information in the exercise science handbook regarding this option