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|  | **Department of Exercise and Nutrition Sciences****Bachelor of Science in Exercise Science 2024 – 2025** |

**Program Director GWSPH Undergraduate Advisors**

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Note: All curriculum revisions will be updated immediately on the website [http://publichealth.gwu.edu.](http://publichealth.gwu.edu/)

**Program Mission Statement**

The mission of the Bachelor of Science (BS) in Exercise Science (EXSC) program is to advance the scientific basis of the benefits of regular physical activity and proper nutrition to health and function throughout the life-span. The BS in EXSC program trains students in the science and practice of exercise, physical activity, and health in the greater context of public health and human performance by developing critical thinking skills and fostering life-long learning.

**Goals/Competencies of the BS Program in Exercise Science at GW**

The goals of this program in Exercise Science are to ensure that the graduates are able to:

1. Demonstrate knowledge of systems and functions underlying physical activity, exercise, and health across levels of the human organism.
2. Demonstrate knowledge of human responses and adaptations to physical activity and exercise.
3. Develop critical thinking skills to evaluate, interpret, and synthesize physical activity, exercise, and health related interventions, outcomes, and research.
4. Utilize oral and written communication skills to summarize, critically evaluate, and discuss scientific evidence on key physical activity, exercise, and health related topics.
5. Develop and apply physical activity, exercise, and behavioral interventions to improve human health, function, and performance.
6. Translate physical activity and exercise science principles across public health settings.

**Careers**

The BS in Exercise Science prepares students for professional careers in the field and for entrance into professional graduate programs:

* Athletic Training
* Coaching
* Corporate Fitness and Wellness Programs
* Exercise Rehabilitation
* Health Promotion
* Medicine (Physician Assistant, Nursing, Physician)
* Nutrition
* Personal Training
* Physical Therapy
* Sport Psychology
* Strength and Conditioning
* Other health and public health professions

**Degree Requirements**

All students accepted to the BS with a major in Exercise Science complete 124 credit hours and maintain a minimum 2.5 grade point average in the core Exercise Science courses. In addition, students must earn a minimum of a C- in each exercise science core course. There are four levels of requirements for the BS with a major in Exercise Science: University general education requirements, Exercise Science core requirements, guided electives, and general electives. University general education requirements are taken by all University undergraduate students and form the liberal arts education component of the BS degree with a major in Exercise Science. Students with a declared concentration must meet the requirements for the concentration in addition to the four levels of requirements listed above.

**PROGRAM AT A GLANCE**

**2024-2025 DEPARTMENT OF EXERCISE and NUTRITION SCIENCES**

**BACHELOR OF SCIENCE in EXERCISE SCIENCE**

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| **University General Education Requirements (GenEd) Courses*****(See University Bulletin for GenEd’s under University Regulations) Credits*** |
| **University Writing** | UW 1020 UNIVERSITY WRITING OR HONR 1015 | 4 |
| **WID** | TWO WID COURSES; These may also be counted in another category | 6 |
| **Humanities** | ONE COURSE IN HUMANITIES<http://bulletin.gwu.edu/university-regulations/general-education/> | 3 |
| **Mathematics or Statistics\*** | ONE COURSE IN EITHER MATH OR STATISTICS*Can be satisfied with STAT 1051 or STAT 1053 or STAT 1127*  | 3 |
| **Science\*** | ONE NATURAL OR PHYSICAL SCIENCE COURSE WITH LABORATORY EXPERIENCE*Can be satisfied with BISC 1111 which is required for the BS in Exercise Science* | 4 |
| **Social Science\*** | TWO COURSES IN THE SOCIAL SCIENCES*Can be satisfied with ANTH and COMM*<http://bulletin.gwu.edu/university-regulations/general-education/> | 6 |
| **TOTAL GenEd** | **26** |

\*Specific course selection may count for both Gen Ed and Exercise Science Core.

Prerequisite Requirements: Please note that these are prerequisites for required core courses, rather than prerequisites to apply to the program.

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| ***Required Course*** | ***Prerequisite(s)*** |
| EXNS 2116 | PSYC 1001 |
| EXNS 2119 | BISC 1111 |
| EXNS 3110 | EXNS 3311 (co-requisite) |
| EXNS 3311 | EXNS 2210, 2211 |
| EXNS 3312 | EXNS 3311 |
| EXNS 3313 | EXNS 2210 or ANAT 2181 or BISC 2581  |

**Exercise Science Core**

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| **BS in Exercise Science Core Courses (same for all concentrations)** |
| **Course Number** | **Course Title** | **Credits** |
| PUBH 1010 | First Year Experience Course | 1 |
| EXNS 1103 | Professional Foundations in Exercise Science | 1 |
| EXNS 2116 | Exercise and Health Psychology | 3 |
| EXNS 2119 | Introduction to Nutrition Sciences | 3 |
| EXNS 2210 | Applied Anatomy & Physiology I & Lab | 4 |
| EXNS 2211 | Applied Anatomy & Physiology II & Lab | 4 |
| EXNS 3110 | Field Experience in Exercise and Nutrition Sciences | 2 |
| EXNS 3111W | Exercise and Nutrition Sciences Research Methods | 3 |
| EXNS 3311 | Exercise Physiology I & Lab | 4 |
| EXNS 3312 | Exercise Physiology II & Lab | 4 |
| EXNS 3313 | Kinesiology | 4 |
| PUBH 1010 | First Year Experience Course | 1 |
| PUBH 1101 | Introduction to Public Health | 3 |
| PSYC 1001 | General Psychology | 3 |
| ANTH\* G | 1002 or 1003 or 1004 (satisfies Social Science & Global/Cross Cultural Perspective requirement) | (G) |
| BISC 1111\*G | Intro Biology: Cells & Molecules | (G) |
| COMM\* G | 1040 or 1041 (satisfies Social Science & Oral Communication requirement) | (G) |
| STAT\*G | STAT 1051 or 1053 or 1127 | (G) |
| **Total Exercise Science Core *(\*G = excluding GenEd requirements)***  | **39** |
| **Students must maintain/earn a minimum of 2.5 GPA in the Exercise Science Core Courses****and earn a C- or better in each core course to graduate** |

**Concentration Requirements:**

**No Concentration**

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| **BS Exercise Science - No Concentration****Must Fulfill the Following Degree Requirements** |
| * All General Education Requirements (GenEd) & WID Courses
 | 26 Credits |
| * All Core Exercise Science Requirements
	+ C- or better required in core Exercise Science courses
 | 39 Credits |
| * Guided Electives Planned with Advisor
	+ Please see the “Guided Electives” worksheet for a list of approved courses
 | 41 Credits |
| * General Electives
 | 18 Credits |
| **Total Exercise Science No Concentration Requirements**  | **124** |

**Pre-Athletic Training/****Sports Medicine Concentration**

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| **Pre-Athletic Training/Sports Medicine Concentration Requirements** |
| **Course Number** | **Course Title** | **Credits** |
| CHEM 1111 | General Chemistry I | ~~4~~ |
| EXNS 1113 | Medical Terminology | 3 |
| EXNS 3123W | Psychology of Injury and Rehabilitation | 3 |
| EXNS 3125 | Athletic Training Practicum | 3 |
| PHYS 1011 | General Physics I | 4 |
|  | **Total**  | **17** |
|  **Selective Courses:** Choose two-three courses from the following list: (6-8 credits): CHEM 1112-General Chem II (4) PHYS 1012-General Physics II (4) EXNS 2110-Injury Prevention and Control (3) EXNS 2121-Orthopedic Taping and Bracing (1) EXNS 3328-Scientific Principles of Strength & Conditioning (3) EXNS 4103-Training & Conditioning Program Design & Application I (4) EXNS 3117-Injury Assessment (4) | 6-8  |
| **Total Pre-Athletic Training/Sports Medicine Concentration Requirements** | **23-25** |

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| **BS Exercise Science - Pre-Athletic Training/Sports Medicine Concentration** **Must Fulfill the Following Degree Requirements** |
| * All General Education Requirements (GenEd) & WID Courses
 | 26 Credits |
| * All Core Exercise Science Requirements
	+ C- or better required in core Exercise Science courses
 | 39 Credits |
| * Pre-Athletic Training/Sports Medicine Concentration Requirements
 | 23-25 Credits |
| * Guided Electives Planned with Advisor
	+ Please see the “Guided Electives” worksheet for a list of approved courses
 | 16-18 Credits |
| * General Electives
 | 18 Credits |
| **Total Exercise Science Pre-Athletic Training/Sports Medicine Concentration** **Degree Requirements** | **124** |

**Pre-Medical Professionals Concentration**

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| **Pre-Medical Professionals Concentration Requirements** |
| **Course Number** | **Course Title** | **Credits** |
| BISC 1112 | Intro Biology: The Biology of Organisms/Lab | 4 |
| CHEM 1111 | General Chemistry I | 4 |
| CHEM 1112 | General Chemistry II | 4 |
| CHEM 2151 | Organic Chemistry I | 3 |
| CHEM 2153 | Organic Chemistry I Lab | 1 |
| CHEM 2152 | Organic Chemistry II | 3 |
| CHEM 2154 | Organic Chemistry II Lab | 1 |
| MATH ≥1220\*G | Calculus with Precalculus I (or higher-level MATH) | 3 |
| PHYS 1011 | General Physics I | 4 |
| PHYS 1012 | General Physics II | 4 |
|  **Total Pre-Medical Professionals Concentration Requirements**  | **31** |

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| **Additional Courses Recommended for Pre-Medical Professionals** |
| English or Writinga | Required/Strongly Recommended | 6 |
| PUBH 2142 or STAT 1051, 1053, or 1127b | Required/Strongly Recommended | 3 |
| BISC 3261 or CHEM 3165: Intro to Biochemistry or Biochemistry 1c | Required/Strongly Recommended | 3 |
| BISC 2202: Cell Biologyc | Helpful/Not Required | 3 |
| BISC 2207-8: Geneticsc | Helpful/Not Required | 3-4 |
| BISC 2322: Human Physiologyc | Helpful/Not Required | 3 |
| BISC 2337W: Intro Microbiologyc | Helpful/Not Required | 4 |
| **Total PMP Additional Recommended Courses** | **25-26** |

a May be fulfilled with UW20/WID courses; also meets GenEd requirements

b This course is also required for BS Exercise Science major

c This course is a guided elective for BS Exercise Science major

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| **BS Exercise Science - Pre-Medical Professionals Concentration****Must Fulfill the Following Degree Requirements** |
| * All General Education Requirements (GenEd) & WID Courses
 | 26 Credits |
| * All Core Exercise Science Requirements
	+ C- or better required in core Exercise Science courses
 | 39 Credits |
| * Pre-Medical Professionals Concentration Requirements
 | 31 Credits |
| * Guided Electives Planned with Advisor
	+ Please see the “Guided Electives” worksheet for a list of approved courses
 | 10 Credits |
| * General Electives
 | 18 Credits |
| **Total Exercise Science Pre-Medical Professionals Concentration Degree Requirements**  | **124** |

**Pre-Physical Therapy Concentration**

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| **Pre-Physical Therapy Concentration Requirements** |
| **Course Number** | **Course Title** | **Credits** |
| BISC 1112 | Intro Biology: The Biology of Organisms/Lab | 4 |
| CHEM 1111 | General Chemistry I | 4 |
| CHEM 1112 | General Chemistry II | 4 |
| MATH =/> 1220 | Calculus or pre-calculus I (or higher-level math | 3 |
| PHYS 1011 | General Physics I | 4 |
| PHYS 1012 | General Physics II | 4 |
| PSYC 2013 or PSYC 2011 | Developmental Psychology OR Abnormal Psychology | 3 |
| **Total Pre-Physical Therapy Concentration Requirements** | **26** |

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| **BS Exercise Science - Pre-Physical Therapy Concentration****Must Fulfill the Following Degree Requirements** |
| * All General Education Requirements (GenEd) & WID Courses
 | 26 Credits |
| * All Core Exercise Science Requirements
	+ C- or better required in core Exercise Science courses
 | 39 Credits |
| * Pre-Physical Therapy Concentration Requirements
 | 26 Credits |
| * Guided Electives Planned with Advisor
	+ Please see the “Guided Electives” worksheet for a list of approved courses
 | 15 Credits |
| * General Electives
 | 18 Credits |
| **Total Exercise Science Pre-Physical Therapy Concentration Degree Requirements** | **124** |

**Strength & Conditioning Concentration**

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| **Strength & Conditioning Concentration Requirements** |
| **Course Number** | **Course Title** | **Credits** |
| EXNS 1117  | Principles of Coaching  | 3 |
| EXNS 2118  | Sport and Nutrition  | 3 |
| EXNS 2117  | Sport Psychology | 3 |
| EXNS 3328  | Scientific Principles of Strength & Conditioning  | 3 |
| EXNS 4103 | Training & Conditioning Program Design & Application I  | 4 |
| EXNS 4104 | Training & Conditioning Program Design & Application II  | 4 |
| EXNS 3123W | Psychology of Injury and Rehabilitation | 3 |
| EXNS 3110 | Field Experience in Exercise and Nutrition Sciences | 4 |
| **Total Exercise Science Strength & Conditioning Concentration Requirements**  | **27** |

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| **BS Exercise Science - Strength & Conditioning Concentration****Must Fulfill the Following Degree Requirements** |
| * All General Education Requirements (GenEd) & WID Courses
 | 26 Credits |
| * All Core Exercise Science Requirements
	+ C- or better required in core Exercise Science courses
 | 39 Credits |
| * Strength & Conditioning Concentration Requirements
 | 27 Credits |
| * Guided Electives Planned with Advisor
	+ Please see the “Guided Electives” worksheet for a list of approved courses
 | 14 Credits |
| * General Electives
 | 18 Credits |
| **Total Exercise Science Strength & Conditioning Concentration Degree Requirements** | **124** |

**Note**: No more than 3 credits of Lifestyle, Sport, and Physical Activity (LSPA) courses may count toward the 124 credits required for the bachelor's degree.

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**EXERCISE SCIENCE GUIDED ELECTIVES 2024-2025**

The courses listed below have been identified as highly relevant to the BS in Exercise Science curriculum.

Guided elective credits are required to be selected from this list.

General electives can also be selected from this list, or any other undergraduate course at the University.

**NOTE**: Courses offered online may only be taken in the summer term.

**ANTHROPOLOGY**

|  |  |  |
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| ANTH 1005 | Biological Bases of Human Behavior | 4 |
| ANTH 2502 | Anthropology of Science and Technology: Twenty-First-Century Brave New Worlds | 3 |
| ANTH 3413 | Evolution of the Human Brain | 3 |
| ANTH 3504 | Illness, Healing, and Culture | 3 |

**BIOCHEMISTRY**

|  |  |  |
| --- | --- | --- |
| BIOC 3261 | Intro Medical Biochemistry | 4 |
| BIOC 3262 | Biochemistry Lab | 2 |
| BIOC 3560 | Diet, Health, & Longevity | 3 |

**BIOLOGICAL SCIENCES**

|  |  |  |
| --- | --- | --- |
| BISC 1112  | Intro Biology: The Biology of Organisms | 4  |
| BISC 2202 | Cell Biology | 3 |
| BISC 2207 | Genetics | 3 |
| BISC 2208 | Genetics Laboratory | 1 |
| BISC 2213 | Biology of Cancer | 3 |
| BISC 2214 | Developmental Biology | 3 |
| BISC 2220 | Developmental Neurobiology | 3 |
| BISC 2320 | Neural Circuits & Behavior | 3 |
| BISC 2322 | Human Physiology | 3 |
| BISC 2336 | Introductory Microbiology | 3 |
| BISC 2337 | Introductory Microbiology Laboratory | 1 |
| BISC 2337W | Introductory Microbiology | 4 |
| BISC 2581 | Human Gross Anatomy | 3 |
| BISC 3122 | Human Physiology  | 3 |
| BISC 3123 | Human Physiology Laboratory | 1 |
| BISC 3165 | Biochemistry I | 3 |
| BISC 3166 | Biochemistry II | 3 |
| BISC 3209 | Molecular Biology | 3 |
| BISC 3208 | Molecular Biology Laboratory | 1 |
| BISC 3261 | Introductory Medical Biochemistry | 4 |
| BISC 3262 | Biochemistry Lab | 2 |
| BISC 3263  | Special Topics in Biochemistry | 2 |
| BISC 3320 | Human Neurobiology | 3 |

**CHEMISTRY**

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| --- | --- | --- |
| CHEM 1111 | General Chemistry I | 4 |
| CHEM 1112 | General Chemistry II | 4 |
| CHEM 2151 | Organic Chemistry I | 3 |
| CHEM 2153 | Organic Chemistry I Lab | 1 |
| CHEM 2152 | Organic Chemistry II | 3 |
| CHEM 2154 | Organic Chemistry II Lab | 1 |
| CHEM 3165 | Biochemistry I | 3 |
| CHEM 3166 or CHEM 3166W | Biochemistry II | 3 |
| CHEM 3262 | Biochemistry Lab | 2 |
| CHEM 3263W | Special Topics in Biochemistry | 2 |

**EMERGENCY HEALTH SERVICES**

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| --- | --- | --- |
| EHS 1002 | CPR & First Aid | 1 |
| EHS 1040 | EMT Basic | 3 |
| EHS 1041 | EMT Basic Lab | 1 |
| EHS 1058 | EMT Instructor Development | 2 |
| EHS 2108 | Emergency Medical Clinical Scribe | 3 |
| EHS 2110 | Emergency Department Critical Care Assessment and Procedures | 4 |

**EXERCISE & NUTRITION SCIENCES**

|  |  |  |
| --- | --- | --- |
| EXNS 1112 | Current Issues in Coaching | 3 |
| EXNS 1113 | Medical Terminology | 3 |
| EXNS 1114 | Community Nutrition | 3 |
| EXNS 1117 | Principles of Coaching  | 3 |
| EXNS 1119W | Children and Sport | 3 |
| EXNS 1199 | Topics in EXNS | 1-3 |
| EXNS 2110 | Injury Prevention and Control | 3 |
| EXNS 2117 or2117W | Sport Psychology | 3 |
| EXNS 2118 | Sport and Nutrition | 3 |
| EXNS 2120 | Assessment of Nutritional Status | 3 |
| EXNS 2121 | Orthopedic Taping & Bracing | 1 |
| EXNS 2122 | Food Systems in Public Health | 3 |
| EXNS 2123 | Nutrition and Chronic Disease | 3 |
| EXNS 2124 | Lifecycle Nutrition | 3 |
| EXNS 2126W | International Nutrition | 3 |
| EXNS 3101 | Independent Study | 3 |
| EXNS 3102 | Applied Sport Psychology | 3 |
| EXNS 3110 | Field Experien in Exercise and Nutrition Sciences (beyond the required credits for graduation) | 1-9 |
| EXNS 3117 | Injury Assessment | 4 |
| EXNS 3118 | Therapeutic Modalities in Sports Med. | 4 |
| EXNS 3119 | Therapeutic Exercise in Sports Medicine | 4 |
| EXNS 3121 | Medical Issues in Sports Medicine | 3 |
| EXNS 3123W | Psychology of Injury and Rehabilitation | 3 |
| EXNS 3328 | Scientific Principles of Strength and Conditioning | 3 |
| EXNS 3995 | Undergraduate Research | 3 |
| EXNS 4103 | Training and Conditioning Program Design and Application I | 4 |
| EXNS 4104 | Training and Conditioning Program Design and Application II | 4 |
| EXNS 4199 | Topics in Exercise and Nutrition Sciences (ONLY: Metabolism in Exercise and Nutrition Sciences or Childhood Obesity Prevention) | 3 |

**HEALTH & WELLNESS**

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| --- | --- | --- |
| HLWL 1101 | Special Topics | 1-3 |
| HLWL 1102 | Stress Management | 3 |
| HLWL 1106 | Drug Awareness | 3 |
| HLWL 1108  | Weight & Society | 3 |
| HLWL 1109 | Human Sexuality | 3 |
| HLWL 1114 | Personal Health & Wellness | 3 |
| HLWL 1117 | Lifetime Fitness | 3 |

**HEALTH SCIENCES**

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| --- | --- | --- |
| HSCI 2100 | Writing and Composition in the Health Sciences | 3 |
| HSCI 2101 | Psychological Aspects of Health (Residential and Online\*) | 3 |
| HSCI 2102 | Pathophysiology (ONLINE\* ONLY) | 3 |
| HSCI 2110 | Disease Prevention/Health Promotion (ONLINE\* ONLY) | 3 |
| HSCI 2112 or 2112W | Writing in the Health Sciences | 3 |
| HSCI 2117 | Introduction to Statistics for the Health Sciences (ONLINE\* ONLY) | 3 |

**PHYSICS**

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| --- | --- | --- |
| PHYS 1011 | General Physics I | 4 |
| PHYS 1012 | General Physics II | 4 |

**PSYCHOLOGY**

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| --- | --- | --- |
| PSYC 2011 orPSYC 2011W | Abnormal Psychology | 3 |
| PSYC 2013 | Developmental Psychology | 3 |
| PSYC 2014 | Cognitive Psychology | 3 |
| PSYC 2015 | Biological Psychology | 3 |
| PSYC 2570 | Peer Education | 3 |
| PSYC 3128 | Health Psychology | 3 |

**PUBLIC HEALTH**

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| --- | --- | --- |
| PUBH 1102 | History of Public Health | 3 |
| PUBH 2110 | Public Health Biology | 3 |
| PUBH 2112 | Principles of Health Education and Health Promotion | 3 |
| PUBH 2113 | Impact of Culture Upon Health | 3 |
| PUBH 2117 | Service Learning in Public Health | 3 |
| PUBH 2142 | Introduction to Biostatistics in Public Health | 3 |
| PUBH 3130 | Health Services Management and Economics | 3 |
| PUBH 3131 | Epidemiology: Measuring Health and Disease | 3 |
| PUBH 3135W | Health Policy | 3 |
| PUBH 3151W | Current Issues in Bioethics  | 3 |

**Updated June 2024**