

UNDERGRADUATE STUDENT MANUAL

FOR

PROGRAM IN HUMAN PHYSIOLOGY

Graduating Class Years 2022, 2023, 2024, 2025

AY 2021-2022

<https://www.bu.edu/sargent/academics/departments-programs/health-sciences/bs-in-human-physiology/>

Table of Contents

Introduction to Sargent College	3
Academic Programs	3
Scope of the Program Manual	3
Mission of Sargent College	3
The Bachelor of Science Program in Human Physiology	4
Full-Time Faculty	4
Affiliated Faculty	6
Undergraduate Curriculum	7
Field Experience: Human Physiology SAR HS 410/412	9
Senior Thesis for Distinction	10
Early Decision BS-MS in Human Physiology Program	11
Curriculum for Combined BS-MS in Human Physiology Program	12
Ethical Standards and Policies of Sargent College; Petitions, Appeals	15
Responsibility of the College to Students	15
Responsibility of the College to Consumers of Health Care Services	16
Professional Behavior Statement	16
Academic Honesty	16
Attendance	17
Absence for Religious Reasons	17
Disability Accommodations	18
Academic Probation	18
Suspension or Dismissal	18
Student Guide for Maintaining Academic Continuity During Quarantine or Isolation Due to COVID-19	19
Termination of Enrollment for Academic Reasons and Appeals	19
Graduation	19
Double Majors within Sargent College	20
Freshman Program Changes and Transfers	20
Dean's List	21
Courses Taken Outside Sargent College	21
Intra-University Minors	22
Sargent College Degree Requirements	23
Academic Policies, Standards and Requirements Specific to the Human Physiology Program	24
Program in Human Physiology	24
Deviations from Program Course Requirements	24
Special Considerations for Pre-Med/Pre-Clinical Students	26
Sample Curricula for Students Preparing for Post-Baccalaureate Study	27
Appendix I: How to Request a Letter of Recommendation	29
Appendix II: Sargent College Standard Operating Procedures for Labs	32

INTRODUCTION TO SARGENT COLLEGE, BOSTON UNIVERSITY

Sargent College of Health and Rehabilitation Sciences became part of Boston University in 1929. It was originally founded as a School of Physical Training in Cambridge, Massachusetts by Dr. Dudley Allen Sargent in 1881. Dr. Sargent built an international reputation as an innovator in health promotion and physical conditioning. With the expansion of knowledge about health and the increase in complexity of society's health care needs, Sargent College continuously improves our degree programs to meet the needs of future professionals in health fields.

Academic Programs

The Human Physiology program sits in the Department of Health Sciences at Sargent College. Other majors in our department include Health Science (also known as Global Public Health) and Nutrition, offering degrees in Dietetics, Nutritional Science (pre-med) and Nutrition and Health Promotion (public health nutrition). Our department also offers a minor in Human Physiology and the Public Health minor.

Other undergraduate programs in Sargent College include Health Studies (undergraduate portion of the Doctor in Physical Therapy program), Speech, Language and Hearing Sciences, and Behavior & Health (undergraduate portion of the Occupational Therapy program).

Graduate programs are offered in Human Physiology (MS and PhD), Nutrition, Audiology, Occupational Therapy, Physical Therapy, Rehabilitation Sciences and Speech-Language Pathology.

Scope of the Program Manual

Information in this manual is not intended to be fully comprehensive. The student should also refer to policies, data, or listings that are found in:

- Sargent College Graduate or Undergraduate Bulletins
- Academic Conduct Code
- The Boston University or Sargent College Websites

While every effort is made to keep all sources accurate, up-to-date and in agreement with one another, occasional discrepancies may occur and will be resolved by consultation with your Academic Advisor who reports to the Program Director.

Mission of Sargent College

The mission of Boston University Sargent College is to advance, preserve, disseminate, and apply knowledge in the health and rehabilitation sciences. BU Sargent College strives to

create an inclusive environment that fosters critical and innovative thinking to best serve the health care needs of society.

THE BACHELOR OF SCIENCE PROGRAM IN HUMAN PHYSIOLOGY

The Human Physiology Program in the Department of Health Sciences has prepared many students for successful admission to professional health care programs. For those individuals seeking a career in one of the health care professions, including medical school, and who have a strong interest in the sciences, the Human Physiology major provides an alternative to the traditional biology degree. With its focus on the study of human biology, a major in Human Physiology expands upon the required premedical requirements (listed below) with the addition of classes such as gross human anatomy, exercise physiology, muscle physiology, neuroanatomy and neurophysiology, and cardiopulmonary pathophysiology. Breadth of academic preparation is insured by elective distribution requirements in the humanities and social sciences.

Health career schools prefer students who display a variety of interests with the quality and scope geared to meet the admission requirements of one's institutional choice. Above all, admission will depend upon academic achievement, unique interest and skills, clinical experiences, and letters of recommendation. In addition, medical schools require that all applicants complete the minimally required premedical courses (see Appendix II).

Many of the faculty in the Health Science Department hold joint appointments with various departments in the School of Medicine and have extensive research laboratories where students can gain insights regarding medical research programs in specialized areas. The department has extensive collaborative research relationships with various universities, hospitals, and industrial research laboratories both in the greater Boston area and the surrounding New England states.

Each student in the department is assigned an academic/career advisor who works closely with the student in career planning, course selection, and determining the professional school best suited for their particular health career.

FULL-TIME FACULTY IN HUMAN PHYSIOLOGY

Each faculty member has a faculty webpage. Find them in the faculty directory to read more about their education, specialization, research areas, and teaching activity.

<https://www.bu.edu/sargent/directory/>

Faculty in Human Physiology Program and Areas of Specialization

Paula A. Quatromoni, DSc, RD

Associate Professor of Nutrition, Department of Health Sciences, Chair, Programs in Human Physiology, Interim Program Director

paulaq@bu.edu

<https://www.bu.edu/sargent/profile/paula-a-quatromoni-dsc-rd/>

Office: SAR - Rm 443B

Dustin Allen, PhD

Lecturer, Cardiovascular & Exercise Physiology, EdTech

drallen@bu.edu

<https://www.bu.edu/sargent/profile/dustin-allen/>

Office: SAR- Rm 423

Helen Barbas, PhD

Professor, Neuroscience, Organization of Prefrontal Cortex

barbas@bu.edu

<https://www.bu.edu/sargent/profile/helen-barbas-ph-d/>

Office: SAR - Rm 431

Elizabeth C. Co, PhD

Clinical Assistant Professor, Immunology, Reproductive Physiology, Education

eco@bu.edu

<https://www.bu.edu/sargent/profile/elizabeth-co-phd/>

Office: SAR - Rm 427

Kathleen G. Morgan, PhD

Professor, Cardiovascular Cell Biology and Cytoskeleton

kmorgan@bu.edu

<https://www.bu.edu/sargent/profile/kathleen-morgan-ph-d/>

Office: SAR - Rm 429

Kelley Pesanelli, PT, MSPT

Senior Lecturer

kpesan@bu.edu

<https://www.bu.edu/sargent/profile/kelly-pesanelli/>

Office: SAR - Rm 401-C

Lisa Roberts, PhD

Lecturer, Physiology, Aging, Education

lmrob@bu.edu

<https://www.bu.edu/sargent/profile/lisa-roberts-phd/>

Office: SAR - Rm 416

Vasileios Zikopoulos, PhD

Associate Professor, Neuroscience, Organization of Prefrontal Cortex in Autism

zikopoul@bu.edu

<https://www.bu.edu/sargent/profile/vasileios-zikopoulos-ph-d/>

Office: SAR - Rm 401D

AFFILIATED FACULTY

Christina M. Dieli-Conwright, PhD, MPH, CACSM, CSCS

christinam_dieli-conwright@dfci.harvard.edu

<https://dieli-conwrightlab.dana-farber.org/people.html>

Jingyan Han, PhD, (BUMED)

jingyanh@bu.edu

<https://www.bumc.bu.edu/busm/profile/jingyan-han/>

Claus Hilgetag, PhD

Adjunct Associate Professor, Computational Neuroscience

Professor & Director, Department of Computational Neuroscience, University Medical Center Eppendorf

claus@bu.edu

[https://www.uke.de/allgemein/arztprofile-und-](https://www.uke.de/allgemein/arztprofile-und-wissenschaftlerprofile/wissenschaftlerprofilseite_claus_hilgetag.html)

[wissenschaftlerprofile/wissenschaftlerprofilseite_claus_hilgetag.html](https://www.uke.de/allgemein/arztprofile-und-wissenschaftlerprofile/wissenschaftlerprofilseite_claus_hilgetag.html)

Deepak Kumar, PT, PhD (BU, SAR)

kumard@bu.edu

<https://www.bu.edu/sargent/profile/deepak-kumar-pt-phd/>

Cara Lewis, PT, PhD (BU, SAR)

lewisc@bu.edu

<https://www.bu.edu/sargent/profile/cara-l-lewis/>

LaDora Thompson, PhD (BU, SAR)

lvthomp@bu.edu

<https://www.bu.edu/sargent/profile/ladora-thompson-phd-bs-pt/>

Richard Wainford, PhD (BU, MED)

rwainf@bu.edu

<https://www.bumc.bu.edu/busm-pm/faculty/faculty-profiles/richard-d-wainford-ph-d-assistant-professor-of-pharmacology-and-medicine-division-of-cardiovascular-medicine/>

STAFF in HUMAN PHYSIOLOGY PROGRAM

Danuta (Danka) Charland, MCJ, CAGS

Assistant to the Program Director

charland@bu.edu

UNDERGRADUATE CURRICULUM

Sargent College of Health and Rehabilitation Sciences
Department of Health Sciences

Curriculum Outline – B.S. in HUMAN PHYSIOLOGY

PDP courses are optional and not required for graduation but highly encouraged any semester. Most PDP courses are 1-2 credits. A maximum of 2 PDP credits will count towards the 128-credits graduation requirement.

Course	Course Name	Credits
FIRST-YEAR STUDENTS		
First Semester		
CAS BI 107	Biology I (with discussion and lab)	4
CAS CH 101	General Chemistry I (with discussion and lab)	4
CAS WR 120	First-Year Writing Seminar	4
CAS PS 101	General Psychology (non-lab)	4
SAR HP 150	First-Year Sargent Seminar	0
	Semester Credit Total:	16
Second Semester		
CAS BI 108	Biology II (with discussion and lab)	4
CAS CH 102	General Chemistry II (with discussion and lab)	4
CAS WR 151/152/153	Writing, Research, & Inquiry	4
SAR HP 151	Introduction to Health & Rehabilitation Sciences	2
PDP Electives or HUB Elective	Activity (optional but highly encouraged any semester; most are 0.5 credit, 1 credit or 2 credits) ¹	2
	Semester Credit Total:	16
SOPHOMORE YEAR		
First Semester		
CAS BI 203	Cell Biology (with discussion)	4
CAS CH 203	Organic Chemistry I (with discussion and lab) ²	4
CAS MA 121	Calculus for the Life and Social Sciences I (with discussion)	4
HUB Electives https://www.bu.edu/hub/	BU Hub electives outside the major ³	4
	Semester Credit Total:	16
Second Semester		
CAS BI 315	Systems Physiology (with lab)	4
CAS CH 204 or CAS CH 214	Organic Chemistry II or Organic Chemistry with Qualitative Analysis (with discussion and lab) ²	4
CAS MA 122 or CAS MA 115	Calculus for the Life and Social Sciences II (with discussion) or Statistics I (with discussion)	4
HUB Electives https://www.bu.edu/hub/	BU Hub electives outside the major ³	4
	Semester Credit Total:	16

JUNIOR YEAR		
First Semester		
CAS CH 373 or CAS CH 421	Principles of Biochemistry (CAS CH 373 or Biochemistry I (CAS BI 421) (both courses include discussion and lab) ²	4
CAS PY 105	Elementary Physics I (no discussion; non-lab)	4
SAR HS 251	Human Nutrition Science (non-lab)	4
HUB Electives https://www.bu.edu/hub/	BU Hub requirements outside the major or SAR HP 252 (Health and Disability across the Lifespan) or SAR HP 353 (Organization and Delivery of Health Care in the US)	4
	Semester Credit Total:	16
Second Semester		
SAR HS 342	Exercise Physiology (with lab)	4
CAS PY 106	Elementary Physics II (non-discussion and non-lab)	4
CAS PS 211	Introduction to Experimental Design (with discussion)	4
HUB Electives https://www.bu.edu/hub/	BU Hub requirements outside the major or SAR HP 252 (Health and Disability across the Lifespan) or SAR HP 353 (Organization and Delivery of Health Care in the US)	4
	Semester Credit Total:	16
SENIOR YEAR		
First Semester		
SAR HS 369	Gross Human Anatomy (with lab)	4
SAR HS 375	Cardiovascular Pathophysiology (non-lab) ⁵	4
SAR HS 410 or SAR HP 495	Field Experience: Human Physiology <i>SAR HS 410 can be taken fall OR spring; if taken in fall and student needs to continue their field experience at the same site that requires a 2-semester commitment, they may take SAR HS 412 in spring. Note: A maximum of 8 credits of SAR HS 410/412 will count toward the 128-credit graduation requirement</i> OR SAR HP 495 Thesis for Distinction (can be taken in place of SAR HS 410 in fall or spring semester)	4
HUB Electives https://www.bu.edu/hub/	BU Hub requirements and/or general electives ³	4-8
	Total Semester Credits	16
Second Semester		
SAR HS 371	SAR HS 371 Pulmonary Pathophysiology (non-lab) ⁵	4
SAR HS 410 or SAR HS 412 or SAR HP 495	Field Experience: Human Physiology <i>SAR HS 410 can be taken fall OR spring; if taken in fall and student needs to continue their field experience at the same site that requires a 2-semester commitment, they may take SAR HS 412 in spring. Note: A maximum of 8 credits of SAR HS 410/412 will count toward the 128-credit graduation requirement</i> SAR HP 495 Thesis for Distinction (can be taken in place of SAR HS 410 in fall or spring semester)	4
Electives	Two Human Physiology Electives ⁴	8
HUB Electives https://www.bu.edu/hub/	BU Hub electives ³	4-8
	Semester Credit Total:	16
	BS/HP Curriculum Credits Total:	128

¹ PDP courses are optional and not required for graduation but highly encouraged any semester. Most PDP courses are 1-2 credits. A maximum of 2 credits of PDP will count toward the 128-credit graduation requirement. For a listing of BU Hub electives, click [here](#).

² For students planning to apply to medical school, the Department recommends taking biochemistry CAS CH 421, but CAS CH 373 is acceptable. CAS CH 214 is the recommended 2nd semester organic chemistry course for those planning to take CAS CH 421 Biochemistry with lab. CAS CH 422 Biochemistry II may be taken as a general elective. Students planning to take CAS CH 421 Biochemistry should take CAS CH 214 Organic Chemistry instead of CAS CH 204. For students planning to apply to BS/MS in HP, the Department recommends taking biochemistry CAS CH 421 and not CAS CH 373.

For students planning to apply to physician assistant or nursing graduate programs, the Department recommends taking microbiology with a lab: CAS BI 311 (CAS BI 206, genetics, is a prerequisite). Depending upon the specific programs to which students apply, CAS BI114 or GMS BT426 may also fulfill the requirement.

³ For students planning to apply to medical school, the Department recommends taking CAS SO 100 or CAS SO 215 for MCAT preparation.

⁴ **Select two electives from the following list**

- SAR HS 370 Neuroanatomy and Neurophysiology (Spring)
- SAR HS 331 Physiology of Sex and Human Reproduction (Spring)
- SAR HS 332 Analyzing Bias and Discrimination in Medicine, Health, & Science (2 cr) (Spring)
- SAR HS 341 Physiology Across the Lifespan (Fall)
- SAR HS 362 Muscle Physiology (Spring)
- SAR HS 371 Pulmonary Pathophysiology (Spring) ⁵
- SAR HS 375 Cardiovascular Pathophysiology (Fall) ⁵

⁵ Register for either SAR HS 371 Pulmonary Pathophysiology or SAR HS 375 Cardiovascular Pathophysiology
NOTE: If both SAR HS 371 and SAR HS 375 are taken, one course counts as a pathophysiology requirement and the other course counts as a human physiology BU HUB elective

Field Experience: Human Physiology SAR HS 410/412

The goal of a field experience is to provide students with an experience that is different from the classroom in which they can apply much of the knowledge gained in previous course work. Exposure to a hospital setting, research laboratory or clinical environment, direct patient contact, and various laboratory responsibilities are certainly all within the realm of available experiences. This field experience will give students a stronger sense of careers available in the health professional world while providing them with valuable first-hand experience for their future endeavors.

Students will be exposed to a myriad historical, racial, socio-economic, political, gender, linguistic, religious and/or cultural backgrounds based on their individual internship site placement. Students are required, through journal entries, to reflect upon their exposure to the aforementioned dimensions while on site. A minimum of 140 hours is required on site. This course will provide students with a HUB unit – Individual in the Community.

The application process begins two months prior to work on site. Just after course registration, all students who register, will receive a formal confirmation and welcome letter indicating the next steps to take.

SAR HS410 can be taken fall OR spring. If SAR HS 410 is taken in fall and student needs to continue their field experience (internship) at the same site that required a 2-semester

commitment, they must register for SAR HS 412 in the spring. Please note that **a maximum of 8 credits of SAR HS 410/412 will count toward the 128-credit graduation requirement.**

SAR HP 495 (Thesis with Distinction) can replace the SAR HS 410/412 requirement. See more information below.

<https://www.bu.edu/academics/sar/courses/sar-hp-495/>

Professor Kelly Pesanelli, PT, MSPT, serves as the Human Physiology field experience placement director. <https://www.bu.edu/sargent/profile/kelly-pesanelli/>

Questions regarding field experience should be emailed to hpintern@bu.edu

Process for Filing a Complaint for an Issue Regarding Distance Education (including field placements, clinical rotations, and academic internships)

Boston University makes every attempt to resolve student complaints within its academic and administrative departments. Students should first attempt to resolve any concerns by utilizing existing University procedures.

The [BU Compliance website](#) and the [Academic Bulletin](#) provide information about ways that students and prospective students can report concerns and utilize University complaint procedures. The Massachusetts Department of Higher Education, in its capacity as the State Authorization Reciprocity Agreement (SARA) portal entity for Massachusetts, reviews and evaluates student complaints regarding distance education activities offered by Boston University in accordance with 610 CMR 12.07.

If an issue regarding distance education cannot be resolved internally, please see the [process here](#).

Senior Thesis for Distinction

The [Senior Thesis for Distinction](#) is an opportunity for undergraduate seniors enrolled in the College of Health and Rehabilitation Sciences: Sargent College to complete an in-depth research experience within their major or minor field of study. **Students will work closely under the guidance of a faculty member who will lead them through their research project.** This is a rewarding, research stimulating endeavor that calls for dedication, intellectual curiosity, maturity, and self-discipline in accomplishing the project by the student. Successful completion of the Thesis will result in the designation of “graduation with distinction” appearing on the student’s diploma and transcript.

A minimum **Grade Point Average of 3.50** is required to be eligible for submitting an application to participate in a Sargent Senior Thesis for Distinction project.

Detailed information can be found in the [Sargent Senior Thesis for Distinction Guidelines](#), or feel free to contact the [Association Dean of Academic Affairs, Dr. Gael Orsmond \(gorsmond@bu.edu\)](#).

EARLY DECISION BS-MS IN HUMAN PHYSIOLOGY PROGRAM

The Combined Bachelor of Science/ Master of Science in Human Physiology degree is designed to 1) prepare students for a research career in a hospital, pharmaceutical or biotechnology setting; 2) strengthen professional school applications (MD, PA, NP, etc.); and 3) provide a strong foundation for doctoral-level studies in biology, physiology or neuroscience.

In addition to gaining a strong background in basic lab sciences during the undergraduate portion of the program, students are invited to explore a variety of research topics. Working together with a faculty advisor, a graduate plan of study is customized based on the individual's research interests and career goals. The combined BS/MS includes coursework, research, training, and completion of a thesis.

Application:

1. This is an early application/admission program for a BS/MS in Human Physiology.
 - a. Apply after completing 2 years of undergraduate study with minimum 3.2 GPA.
 - b. One year of general chemistry, one year of organic chemistry, and one year of general biology must be completed by the end of sophomore year.
 - c. Application deadline is April 1 of sophomore year; official transcript must be submitted by June 1 and decision will be made by July 1 for acceptance into program for fall semester of junior year.
 - d. Admission is based on academic record, letters of recommendation, an interview, and involvement in college and community activities. The faculty will look for evidence of a student's curiosity, responsibility, integrity, and maturity in the application documents. Matching the student's interests with an appropriate research mentor is also required.
 - e. To remain in the program, students must maintain a 3.00 GPA both cumulatively, and in the sciences, with no graduate level course grade below B-.
2. The curriculum is essentially the same as the BS-Human Physiology course of study through the junior year with the exception that students will be required to take the year-long Biochemistry sequence (CAS CH 421/422) which is optional for BS only students.
3. Students will begin master's thesis research in their senior year.
4. Students will graduate with a BS degree at the end of their 4th year in the program.
5. By the end of their 5th year, students will have completed a master's thesis and will graduate with an MS degree.

Curriculum for Combined BS-MS in Human Physiology

Begin BS in Human Physiology

Course	Course Name	Credits
FIRST-YEAR		
First Semester		
CAS BI 107	Biology I (with discussion and lab)	4
CAS CH 101	General Chemistry I (with discussion and lab)	4
CAS WR 120	Writing Seminar	4
CAS PS 101	General Psychology (with discussion)	4
SAR HP 150	First-Year Experience Seminar	0
	Semester Credit Total:	16
Second Semester		
CAS BI 108	Biology II (with discussion and lab)	4
CAS CH 102	General Chemistry II (with discussion and lab)	4
CAS WR 151/152/153/	Writing, Research, & Inquiry	4
SAR HP 151	Introduction to Health & Rehabilitation Sciences	2
PDP ¹	Activity (optional) (may be taken as 0.5 cr, 1 cr, or 2 cr)	2
		16
SOPHOMORE YEAR		
First Semester		
CAS CH 203	Organic Chemistry I (with discussion and lab)	
CAS BI 203	Cell Biology (with discussion and lab)	4
CAS MA 121	Calculus for the Life and Social Sciences I (with discussion)	4
HUB	BU Hub requirements outside the major ²	4
	Semester Credit Total:	16
Second Semester		
CAS CH 204 or 214 ²	Organic Chemistry II (with discussion and lab) or Organic Chemistry with Qualitative Analysis (with discussion and lab)	4
CAS BI 315	Systems Physiology (with lab)	4
CAS MA 122	Calculus for the Life and Social Sciences II (with discussion)	4
HUB Electives https://www.bu.edu/hub/	BU Hub requirements outside the major ³	4
	Semester Credit Total:	16

¹ PDP courses are optional and not required for graduation but highly encouraged any semester. Most PDP courses are 1-2 credits. A maximum of 2 credits of PDP will count toward the 128-credit graduation requirement. For a listing of BU Hub electives, click [here](#).

² For students planning to apply to medical school, the Department recommends taking biochemistry CAS CH 421, but CAS CH 373 is acceptable. CAS CH 214 is the recommended 2nd semester organic chemistry course for those planning to take CAS CH 421 Biochemistry with lab. CAS CH 422 Biochemistry II may be taken as a general elective. Students planning to take CAS CH 421 Biochemistry should take CAS CH 214 Organic Chemistry instead of CAS CH 204. For students planning to apply to BS/MS in HP, the Department recommends taking biochemistry CAS CH 421 and not CAS CH 373.

For students planning to apply to physician assistant or nursing graduate programs, the Department recommends taking microbiology with a lab: CAS BI 311 (BI 206, genetics, is a prerequisite). Depending upon the specific programs to which students apply, CAS BI114 or GMS BT426 may also fulfill the requirement.

³ For students planning to apply to medical school, the Department recommends taking CAS SO 100 or CAS SO 215 for MCAT preparation.

Apply to BS/MS combined program

Course	Course Name	Credits
JUNIOR YEAR		
First Semester		
CAS CH 421	Biochemistry I (with discussion and lab)	
CAS PY 105	Elementary Physics I (non-discussion and non-lab)	
SAR HS 251	Human Nutrition Science (non-lab)	4
HUB https://www.bu.edu/hub/	BU Hub requirements outside the major	4
Semester Credit Total:		16
Second Semester		
CAS CH 422	Biochemistry II (with discussion and lab)	4
CAS PY 106	Elementary Physics II (non-discussion and non-lab)	4
HUB https://www.bu.edu/hub/	BU Hub requirements outside the major	8
Semester Credit Total:		16
SENIOR YEAR		
First Semester		
SAR HS 342	Exercise Physiology (with lab)	4
SAR HS 369	Gross Human Anatomy (with lab)	4
SAR HS 375	Cardiovascular Pathophysiology (non-lab) or SAR HS 371	4
SAR HS 791	Directed Study and Research (MS course)	4
Semester Credit Total:		16
Second Semester		
SAR HS 370 or SAR HS 371	Neuroanatomy and Neurophysiology (with lab) or Pulmonary Pathophysiology (non-lab)	4
SPH BS 704	Introduction to Biostatistics (MS course)	3
HUB https://www.bu.edu/hub/	BU Hub requirements and/or general elective	4
SAR HS 791	Directed Study and Research (MS course)	5
		16
BS Curriculum Total Credits: 128		128

Complete BS in Human Physiology Begin MS in Human Physiology

MS Program		
First Semester		

SAR HS 750	The Physiologist's Toolbox	2
CAS BI 552	Molecular Biology I (with discussion)	4
	Elective^	4
SAR HS 791	Directed Study and Research	4
	Semester Credit Total:	14
Second Semester		
CAS BI 553	Molecular Biology II (with discussion)	4
	Elective^ (see list below)	4
	Elective^ (see listed below)	4
SAR HS 791	Directed Study and Research	4
	Semester Credit Total:	16
	MS HP Credit Total	30
	BS/MS HP Credit Total	158

Shading = MS Courses

Complete MS in Human Physiology

^ Electives to be chosen from the following list (in consultation with your advisor):

SAR HS 331 Physiology of Sex and Human Reproduction (Spring) *undergraduate level*
 SAR HS 534 Physiology of Sex and Human Reproduction (Spring) **graduate level**
 SAR HS 341 Physiology Across the Lifespan (Fall) *undergraduate level*
 SAR HS 541 Physiology Across the Lifespan (Fall) **graduate level**
 SAR HS 362 Muscle Physiology (Spring) *undergraduate level*
 SAR HS 592 Muscle Physiology (Spring) **graduate level**
 SAR HS 370 Neuroanatomy and Neurophysiology (Spring) *undergraduate level*
 SAR HS 582 Neuroanatomy and Neurophysiology (Spring) **graduate level**
 SAR HS 371 Pulmonary Pathophysiology (Spring) *undergraduate level*
 SAR HS 572 Pulmonary Pathophysiology (Spring) **graduate level**
 SAR HS 375 Cardiovascular Pathophysiology (Fall) *undergraduate level*
 SAR HS 575 Cardiovascular Pathophysiology (Fall) **graduate level**
 SAR HS 550 Neural Systems (Spring) *graduate level*
 SAR HS 710 Graduate Field Experience: Human Physiology (Fall or Spring)
 SAR HS 745 Advanced Regional Anatomy (Fall or Spring)
 SAR HS 755 Readings in Neuroscience (Spring)
 CAS BI 520 Sensory Neurobiology (Fall)
 CAS BI 576 Carcinogenesis (Spring)
 GRS BI 645 Cellular and Molecular Neurophysiology (Fall)
 GRS BI 681 Molecular Biology of the Neuron (Spring)

ETHICAL STANDARDS AND POLICIES OF SARGENT COLLEGE OF HEALTH AND REHABILITATION SCIENCES; PETITIONS, APPEALS

Sargent College has a commitment to excellence in the education of Health and Rehabilitation Professionals. Individually and collectively, those associated with Sargent are responsible for maintaining and promoting those ethical standards below:

Responsibility of the College to Students:

1. In the process of recruiting students, the College and its program should be represented accurately.
2. The admissions procedures should indicate a fair and impartial review of student's credentials.
3. A learning environment should be provided which is safe and conducive to learning.
4. The curriculum should be consistent with the best practices, philosophies, and patterns within the allied health professions.
5. The College and its programs should attempt to respond to changing patterns and concepts in the process of educating allied health professionals.
6. The faculty should be competent educators in their respective field.
7. Procedures used to evaluate students should be fair and clearly presented to the students at the beginning of each course and throughout the program.
8. Grievance and appeals procedures for students should exist and be clearly presented to students.
9. The College should make every effort to ensure that the students will be competent in their professional areas at the completion of their program requirements.

Responsibility of the College to Consumers of Health Care Services

1. The College should make every effort to ensure that each graduate of the college be competent for service in their respective profession.
2. The College should emphasize through its instruction that the graduates of the college respect the dignity and privacy of each individual with whom they come in contact in a professional setting.

Professional Behavior Statement

The mission of Sargent College is to advance, preserve, disseminate, and apply knowledge in the health and rehabilitation sciences. Sargent College strives to create an inclusive environment that fosters critical and innovative thinking to best serve the health care needs of society. This environment is made possible only through full participation of all members of the Sargent College community. A key expectation of this community of scholars, educators, practitioners, and students is the adherence to the highest standards of professional and ethical behavior.

Academic performance is only one indicator of success for Sargent College students. Students are expected to demonstrate professional behavior, to accept responsibility for their actions, and to expect the same from their peers. Professional behavior is expected across environments, whether the student is engaged in clinical practice, classroom instruction, peer or faculty interaction, and research or laboratory activities. Students are expected to know and comply with the specified rules for each of their academic and clinical experiences.

Students are evaluated on professional behavior in addition to academic performance. Failure to meet the standards for professional behavior may result in dismissal from the program. The specific responsibilities of students are outlined in the manual for each program of study.

Academic Honesty

Sargent College of Health and Rehabilitation Sciences is committed to creating an intellectual community in which both faculty and students participate in the free and uncompromising pursuit of learning. This is possible only in an atmosphere of mutual trust where the discovery and communication of truth are marked by scrupulous, unqualified honesty. The college expects all students to adhere strictly to the accepted norms of intellectual honesty in their academic and clinical work. It is the responsibility of the student to abide by the Sargent College Academic Conduct Code that is distributed annually to each student at the college. <https://www.bu.edu/academics/policies/academic-conduct-code/>

Attendance

Students are expected to attend each class session unless they have a valid reason for being absent. Students may be required at any time to account for undue irregularity in attendance, either by personal explanation to their faculty advisor or dean or by written statement from a parent or another authority. Any student who has been excessively absent from a course may be required to withdraw from that course without credit. Students who expect to be absent from class for more than five days should notify their dean promptly.

Absence for Religious Reasons

1. Religious Holidays: According to Chapter 151C of the General Laws, Commonwealth of Massachusetts, any student in an educational or vocational training institution, other than a religious or denominational educational or vocational training institution, who is unable, because of his or her religious beliefs, to attend classes or to participate in any examination, study, or work requirements on a particular day, shall be excused from any such examination or study or work requirement, and shall be provided with an opportunity to make up such examination, study, or work requirement that may have been missed because of such absence on any particular day; provided, however, that such makeup examination or work shall not create an unreasonable burden upon such school.
2. Students are permitted to be absent from class, including classes involving examinations, labs, excursions, and other special events, for purposes of religious observance. Class and other work shall be made up in consultation with the student's instructors. All religious observances, within all religious traditions, are subject to this accommodation. You are encouraged to seek out services at Boston University or in the Boston metropolitan area. Marsh Chapel <http://www.bu.edu/chapel/life/index.html> is an excellent source of information about local services. A list of religious groups currently active on campus may be found at the [Religious Life](#) link on the University's website.
3. To that end, please identify potential schedule conflicts with religious observances (class attendance, exams, assignment due dates) *very early in the semester* and communicate these to the course instructor. We will arrange mutually acceptable alternative arrangements for class work and examinations that is equivalent to the original examination, assignment, or other academic exercise. This could be the same work with a different due date, or a substantially similar exercise at another time. To avoid misunderstandings, the agreed-upon arrangement should be put in writing. If, after discussion, the instructor and student cannot agree on an accommodation, the advice of the college Dean's office should be sought
4. If you would like advice or counsel about religious observance, you may call or email the Dean of Marsh Chapel (Robert Allan Hill, 617-358-3394, rahill@bu.edu) or the Director of Marsh Chapel (Raymond Bouchard, 617-358-3390, dymphna@bu.edu) for help in the administration of this policy.

Disability Accommodations

Boston University provides reasonable accommodations to eligible individuals with disabilities in conformance with Section 504 of the Rehabilitation Act of 1973 and with the Americans with Disabilities Act of 1990. Requests for disability accommodations must be made in a timely fashion to the Office of Disability Services, 19 Deerfield Street, Boston, MA 02215; 617-353-3658 (Voice/TTY). Students seeking accommodations must submit appropriate medical documentation and comply with the policies and procedures of the Office of Disability Services. Please see also, <https://www.bu.edu/disability/accommodations/>

Academic Probation

Any student whose grade point index is below a 1.7 will be placed on academic probation and will be notified by Sargent College. To remove the probationary status from the academic record, a student must achieve a 2.0 GPI in the following semester.

Any student who has two consecutive semesters of a GPI below a 1.7 will be academically dismissed from the College and will be allowed a transitional semester as an undeclared student to raise their GPA to transfer to another college within the University or elsewhere. If, at the end of the transitional semester, they are unable to successfully transfer, they will be dismissed from the University. The academic probation policies include coursework completed during summer term at Boston University. Students can make an appointment with an academic counselor in the Academic Services Center (Room 207) at (617) 353-2713 to discuss their status.

No student on probation may hold office in any college or university organization, participate in any intercollegiate event or program, including athletics, or otherwise represent the university or college. A student on probation is not excluded from membership in a student organization. A student on probation may be ineligible to receive any financial aid from the university or college.

A letter is sent to each student informing him/her of academic probation status. Copies of this letter are sent to the faculty advisor and parents, and it is recorded at the Registrar's Office on the University Record System. Students on probation are encouraged to seek advice from an academic counselor at the college.

Suspension or Dismissal

Boston University, through its various faculties and appropriate committees, reserves the right to suspend or dismiss any student for failure to maintain a satisfactory academic record, acceptable personal behavior, or satisfactory standards of health. Copies of Boston University's Code of Student Responsibilities are available from the Office of the Dean of Students, East Tower, George Sherman Union, 775 Commonwealth Avenue, Boston, MA 02215.

Students absent from classes more than two days for illness should be under a doctor's care. Students who are absent five days or more for illness should present to Student Health Services a certificate of fitness from their physician or be examined at the University Clinic.

Student Guide for Maintaining Academic Continuity During Quarantine or Isolation Due to COVID-19

In the event students need to quarantine or undergo isolation this semester, they are encouraged to take the following steps:

- Reach out to Sargent College, Academic Continuity Coordinator, Sharon Sankey, Assistant Dean of Student Services at ssankey@bu.edu, 617-353-4652 to receive support on making arrangements to keep up with academic work. Students should let Sharon Sankey know any specific concerns they have.
- Review the syllabus for each of their classes to get a sense of what they will miss during their period of quarantine or isolation. Students should ensure they have access to readings and other course materials so that they can keep up with the assignments when they are unable to attend class. Also, please refer to this guide <https://www.bu.edu/dos/2021/10/05/student-guide-for-maintaining-academic-continuity-during-quarantine-or-isolation-due-to-covid-19/>

Additional resources for students are available at this link

- <https://www.bu.edu/healthway/academic-support-for-students/>
- <https://www.bu.edu/erc/resource-guide/>
- <https://www.bu.edu/shs/behavioral-medicine/>
- <https://www.bu.edu/provost/wellbeingproject/>

Termination of Enrollment for Academic Reasons and Appeal Process

A student is permitted only two consecutive semesters of a GPI below a 1.7. Termination of matriculation within the college shall occur for any student at the end of the second semester of unsatisfactory work but a transitional semester will be granted as stated above. This decision can be appealed and a formal petition can be submitted to the College Academic Policies and Procedures Committee by contacting the Academic Services Center (Room 207).

Graduation

All students must complete Sargent College Application for Graduation after they meet with their advisors to certify that all degree requirements are met. The application for Graduation must be signed by your advisor and returned to the Academic Services Center (ASC - Room 207). It is essential that this form be submitted by February 1st of your last year of study to ensure that your name is included in the May graduation list and commencement programs. Please see the following link:

<https://www.bu.edu/sargent/student-resources/commencement/sargent-college-application-for-graduation/>

All students (January, May, and September grads) are invited to participate in the May commencement ceremony if they have completed all coursework by that date. Commencement materials will be sent by email and postal mail so please be sure that BU has your updated contact information. Check the Sargent College and Boston University websites for important details about the ceremonies or stop by the Academic Services Center (Room - 207) if you have any questions.

Double Majors Within Sargent College

Currently, students can pursue two undergraduate degrees in separate schools through the Boston University Dual Degree Program or double majors within a school. Here are some general policy considerations for double majors within Sargent College:

- Students must meet all requirements in both programs including GPA, all coursework (major and elective) and internships where applicable.
- Both degrees must be completed before the student can graduate from Boston University.
- Students must complete no fewer than 36 courses (144 credits) for a double major.
- To apply, students must complete their freshman year with a grade point average of 3.0 or higher. Applications can be made during the first or second semester of the sophomore year or by the first semester of the junior year (at least three semesters of enrollment are required).
- Students must meet with Roslyn Abukasis (rozabu@bu.edu), or Deborah Claar Academic Counselor (Room 201). Deborah Claar also serves as the BU and SAR Dual Degree Program Majors coordinator. All paperwork is processed through Deborah Claar.
- The application will then be reviewed by academic advisors who have knowledge of both programs.
- As part of the application, an essay (one-page, typed) must be submitted that describes why the double major is academically beneficial. Dual Degree Program Applications may be downloaded online via link: <https://www.bu.edu/academics/policies/dual-degree-program/>

Freshman Program Changes and Transfers

Freshmen who wish to change programs during their fall semester at Boston University must first meet with Heather Nicholson to discuss the requirements of the target program. Because it is very helpful for everyone involved in the decision-making process to have the first semester grades for freshmen, the following guidelines are proposed.

- Freshmen who have been admitted into a specific program may transfer into new programs only after a full semester at BU.
- Freshmen who have been admitted into the Undeclared program can declare a major only after they have completed a full semester at Boston University.

- Students who become interested in changing majors during the fall semester will be encouraged to register for spring semester coursework in the target major rather than the admitted major.
- Students who have not yet met the transfer requirements, will still be allowed to take crucial freshman spring courses so that they don't fall behind in the curriculum requirements.

Any time after the fall of freshmen year, students who decide to change programs or transfer into Sargent College, BU may begin the process by meeting with one of the academic counselors, H. Nicholson (inside SAR transfers), Roslyn Abukasis (CGS transfers) or D. Claar (intra-university and outside BU transfers). The following actions are possible:

- An academic counselor or program director may recommend supplementary coursework that would help the student to succeed in their target major. This recommended coursework must be completed before the student will be allowed to apply to the target program.
- At their discretion, the program director may counsel that the student is unlikely to succeed in the target major and therefore permission to transfer will not be given.
- A student who meets the GPA and all other guidelines will be officially admitted to their new chosen program after all paperwork has been completed.
- Students who do not meet the GPA requirements of the target program, must remain in their admitted program until their grades are suitable for the new program and then reapply. Please note that transferring into a new major may prolong the time it takes to complete the degree requirements.
- Students are expected to complete a minimum of three semesters in a Sargent College major prior to graduation.

Dean's List

Full-time students are named to the Dean's List for excellence of scholarship upon achieving a grade point index of 3.5 in any one semester with no incomplete grades. At least 12 credits of coursework with letter grades (not pass/fail) are needed for a student to be eligible for the Dean's list.

Courses Taken Outside Sargent College

Matters relating to a course taken by a student in a school or college other than the one in which the student is enrolled are subject to the determination of the school or college in which the course is offered. Disciplinary or academic actions against a Sargent student by other segments of the University will be reviewed by SAR/CAPP. SAR/CAPP will then recommend its decision to the Dean of Sargent College.

Intra-University Minors

1) Minors available within the College of Arts and Sciences (CAS):

African Languages and Literature	German
African Studies	Geography
African American Studies	Greek Language and Literature
American Studies	Hebrew
Ancient Greek	History
Anthropology	Latin American Studies
Archaeology	Linguistics
Art History	Mathematics
Astronomy	Medieval Studies
Biology	Modern Greek Studies
Chemistry	Philosophy
Chinese	Physics
Classical Civilization	Political Science
Computer Science	Psychology
Earth Sciences	Public Health
East Asian Studies	Religion
Economics	Russian
English	Russian and Eastern European Studies
Environmental Analysis and Policy	Sociology
Environmental Science	Spanish
European Literature	Statistics
French	Women's Studies

2) Minors available within College of Fine Arts (CFA)

Dance
 Music
 Theatre Arts
 Visual Arts

3) Minor available within Questrom School of Management (QST)

Business Administration

4) Minors available within Sargent College (SAR)

Public Health
 Human Physiology
 Speech, Language and Hearing Sciences

Sargent College - Degree Requirements

Sargent College requires a minimum of 48 credits be taken at Boston University to fulfill requirements for graduation. Individual departments may require more.

Sargent College baccalaureate degree requirements must be completed within eight years of the initial date of matriculation at Boston University.

All Sargent College students are required to complete a college-level English composition course. Advanced placement units and/or exemption by SAT scores may not be used to meet this requirement.

No incomplete grades will be reported unless the instructor and the student have conferred, the student has presented a sufficient reason why the work of a course cannot be completed on schedule, and the instructor has assigned a date within the succeeding twelve months by which time all course requirements must be completed. No degree credit for incomplete courses will be granted unless the work is completed by the date assigned, which must be no later than one calendar year of the date on which the incomplete date is reported. In the event that coursework remains incomplete on the assigned date or twelve months after the I grade has been awarded, whichever comes first, the I grade will be changed automatically and permanently to an F grade.

ACADEMIC POLICIES, STANDARDS, AND REQUIREMENTS SPECIFIC TO THE HUMAN PHYSIOLOGY PROGRAM

Program in Human Physiology

1. A cumulative G.P.A. of 2.0 must be maintained to remain in good academic standing.
2. An overall G.P.A. of 2.0 is needed to enter the junior year, to enroll for an undergraduate internship, and to graduate.
3. No more than 16 credits of D grades (three 4-credit courses) will be allowed in the course of study. Each student's respective advisor will determine what course, in case of a fourth D, would be retaken.
4. Students taking courses outside Boston University must achieve a grade of C or above in order to receive credit from the college.
5. An application for graduation must be completed one semester prior to graduation and can be obtained from the SAR Academic Services Center (ASC).
6. It is the student's responsibility to become familiar with all policies and procedures concerning academic standing, course requirements, and graduation.

Deviations from Program Course Requirements

The student may petition the Human Physiology faculty for waiver or substitution of program requirements. Petitions should be submitted to the student's academic advisor and be accompanied by information (e.g., course outlines, transcripts, exams, etc.) which will support the proposed change.

Requests for variance from the usual academic or curricular requirements, to include:

- Transfer of credit from another college or university
 - Waiver of a course based upon prior coursework or experience, to include permission for competency testing
 - Course substitution or the determination of course equivalence
 - Waiver of department course prerequisite or corequisite
 - Waiver of academic standard
1. The advisor, at their discretion, may act on petitions seeking: i) course transfer, ii) course waiver, iii) course substitution. When relevant, concurrence with the involved course instructor(s) or program director is required.
 2. The Program faculty will always receive directly from the advisor any petitions having to do with waiver of an academic requirement, or any variances whose approval would be precedent-setting or *de facto* policy formation and will consider such petitions and present its recommendation to the faculty for vote.

3. Petitions will be signed by the advisor or delegate. This may be the advisor, the program director, or the chairperson of the Health Sciences Department.
4. All petitions and any supporting documents, whether approved or denied, will be filed in the student's permanent College record.

Students who seek a variance of departmental policy or regulation or who have a grievance with an instructor or a departmental judgment must attempt to resolve the situation in the department with the individual instructor, the department chairman or by petition to the department academic standards committee.

If the student is not satisfied with the reconsideration of the department as outlined, the student may petition the Committee on Academic Policies and Procedures. The purpose of the Sargent (SAR/CAPP) Committee is to assure that the standards set by the college at large and academic policies set by the faculty of individual programs are consistently applied in a non-prejudicial and non-discriminatory manner. Therefore, SAR/CAPP will consider petitions that involve academic standards and policies if students have pertinent additional information not previously presented; if there are extenuating circumstances that justify deviation from, or exception to, stated rules; or if students feel that the departmental committee or a faculty member has not dealt with them in a fair manner.

Petitions to SAR/CAPP to reconsider academic or disciplinary actions against a student must be submitted for such consideration no later than two weeks after the student has been notified of the departmental action. SAR/CAPP will inform the student of the scheduled hearing date. The student will be requested to submit all pertinent materials to the Committee in advance of the hearing. The student has the right to present his/her case in person if so desired. The Committee may request the attendance of other individuals who may speak to the issue(s) under consideration. A verbatim transcript of the hearing may be requested by the Committee and will be made available to the student upon request. The student will be notified of the Committee's findings in writing within five days after the hearing.

If the student is not satisfied with the decision of SAR/CAPP, the student may petition the dean of the college for reconsideration. All academic conduct and standards cases are subject to the review and final determination, including determination of sanction, by the provost of Boston University or his or her designated representative.

Any student terminated from a department within Sargent College for disciplinary reasons is automatically terminated from the college.

Students may petition SAR/CAPP to consider non-academic issues such as charges of discrimination or sexual harassment by faculty, staff or students. Students are urged to seek redress within the appropriate department(s) whenever possible, but SAR/CAPP will hear unresolved issues, or those, which might cross departmental lines. As in all cases, due process as described by the Boston University Code of Student Responsibilities will be followed.

SPECIAL CONSIDERATIONS FOR PRE-MED/PRE-CLINICAL STUDENTS

Beginning as early as possible, the student should form a relationship with an advisor in the pre-professional advising office. <http://www.bu.edu/caspreprofessional/>.

Students who hope to go on to Med School, PA School, NP, PT, OP, Dental etc. should research 12-15 programs that they could see themselves attending. Make sure this is a mixture of reach, on-target and safety schools. Populate these schools into an Excel spread sheet. On the spread sheet, create columns for GPA (overall and science), entrance exams score averages, the number of semesters of chem, bio, physics, nutrition, psych, etc., number of patient contact hours and then a misc. column. Fill out the columns for each school so that you know what your goals are throughout your college career.

Bring this grid to your advising appointments so that you can review it with your advisor.

All Human Physiology students are enrolled in a Blackboard course which we keep up-to-date with links and resources to support your journey to professional schools.

Some additional pre-med/pre-clinical resources:

<https://students-residents.aamc.org/advisors/>

<https://www.bu.edu/prehealth/opportunities/groups/>

<https://www.aapa.org/career-central/become-a-pa/>

<https://www.princetonreview.com/med-school-advice/admissions-timeline>

<https://members.aamc.org/eweb/DynamicPage.aspx?site=AAMC&webcode=AAMCOrgSearchResult&orgtype=Medical%20School>

<https://students-residents.aamc.org/applying-medical-school/article/med-schools-looking-for-15-competencies/>

SAMPLE CURRICULA FOR STUDENTS PREPARING FOR POST-BACCALAUREATE STUDY

Below are some sample curricula for students preparing to be competitive for some professional or post-baccalaureate schools. **These are samples only.** The most researched and up-to-date information can be found on the BU preprofessional advising office website: <http://www.bu.edu/caspreprofessional/>

Physician Assistant

Human Physiology program *sample* curriculum:

Includes prerequisites for application to post-baccalaureate physician assistant programs.

<i>Semester I</i>	<i>Semester II</i>
<p><u>First-year students</u> CAS BI 107 Biology I CAS CH 101 General Chemistry I CAS WR 120 Writing Seminar CAS PS 101 General Psychology SAR HP 150 Freshman Experience Seminar (0)</p> <p><u>Sophomore year</u> CAS CH 203 Organic Chemistry I CAS BI 203 Cell Biology CAS MA 121 Calculus HUB BU Hub requirements outside the major</p> <p><u>Junior year</u> CAS CH 421¹ Biochemistry or Principles of Biochemistry (CAS CH 373) CAS PY 105 Elementary Physics SAR HS 251 Human Nutrition Science HUB BU Hub requirements outside the major</p> <p><u>Senior year</u> SAR HS 369 Gross Human Anatomy SAR HS 375 Cardiopulmonary Pathophysiology HUB BU Hub requirements outside the major CAS BI 311 Microbiology</p>	<p>CAS BI 108 Biology II CAS CH 102 General Chemistry II CAS WR 151/152/153 Writing, Research, & Inquiry SAR HP 151 Intro to Health & Rehab Sciences (2) PDP Activity (2); can be taken as 0.5 cr, 1 cr or 2 cr</p> <p>CAS CH 204 Organic Chemistry II CAS BI 315 Systems Physiology CAS MA 122 Calculus or CAS MA 115 Statistics HUB BU Hub requirements outside the major</p> <p>SAR HS 342 Exercise Physiology CAS PY 106 Elementary Physics CAS BI 206 Genetics CAS PS 211 Experimental Design in Psychology</p> <p>SAR HS 370 Neuroanatomy and Neurophysiology SAR HS 371 Pulmonary Pathophysiology SAR HS 410² Field Experience: Human Physiology HUB BU Hub requirements outside the major</p>

*Courses modified for this track are in **bold italics***

Note that most physician assistant programs recommend (and some require) 2000 hours of clinical experience. This is approximately one year of full-time employment.

Nurse Practitioner

Human Physiology program *sample* curriculum:

Includes prerequisites for application to post-baccalaureate nurse practitioner programs.

<i>Semester I</i>	<i>Semester II</i>
<p><u>Freshman year</u> CAS BI 107 Biology I CAS CH 101 General Chemistry CAS WR 120 Writing Seminar CAS PS 101 General Psychology SAR HP 150 Freshman Experience Seminar (0)</p> <p><u>Sophomore year</u> CAS CH 203 Organic Chemistry CAS BI 203 Cell Biology CAS MA 121 Calculus HUB BU Hub requirements outside the major</p> <p><u>Junior year</u> CAS CH 421¹ Biochemistry or Principles of Biochemistry (CAS CH 373) CAS PY 105 Elementary Physics SAR HS 251 Human Nutrition Science CAS PS 241 Developmental Psychology</p> <p><u>Senior year</u> SAR HS 369 Gross Human Anatomy SAR HS 375 Cardiovascular Pathophysiology (F) or SAR HS 371 (S) SAR HS 410² Field Experience: Human Physiology HUB BU Hub requirements outside the major CAS BI 311 Microbiology</p>	<p>CAS BI 108 Biology II CAS CH 102 General Chemistry CAS WR 151/152/153 Writing, Research, & Inquiry SAR HP 151 Intro to Health & Rehab Sciences (2) PDP Activity (2); can be taken as 0.5 cr, 1 cr or 2 cr</p> <p>CAS CH 204 Organic Chemistry CAS BI 315 Systems Physiology CAS MA 122 Calculus or CAS MA 115 Statistics HUB BU Hub requirements outside the major</p> <p>SAR HS 342 Exercise Physiology CAS PY 106 Elementary Physics CAS BI 206 Genetics CAS PS 211 Experimental Design in Psychology</p> <p>SAR HS 370 Neuroanatomy and Neurophysiology SAR HS 371 Pulmonary Pathophysiology (S) SAR HS 410² Field Experience: Human Physiology HUB BU Hub requirements outside the major</p>

*Courses modified for this track are underlined and in **bold italics***

Physical Therapy

Prerequisites for application to most post-baccalaureate physical therapy programs are included in the human physiology curriculum. Some programs require developmental psychology (CAS PS 241) which can be taken as one of your social science electives.

APPENDIX I: HOW TO REQUEST A LETTER OF RECOMMENDATION

As faculty members, we are pleased to support your applications to study abroad, to apply for employment positions after graduation and to support your applications to graduate schools. To facilitate this process, please follow the procedure below.

Human Physiology Program Recommendation Request Procedures

1. Provide at least 30-days notice. It is highly recommended you sign up for office hours with the appropriate faculty member to discuss in person the specific request.
2. Following your meeting, please email (as .doc or .pdf attachments) the following information to your advisor:
 - a) Letter of Recommendation Form(s) provided by schools to which you are applying (if applicable)
 - b) Updated resume
 - c) Copy of your transcript (may be unofficial)
 - d) Program/Job Description (a website link may be appropriate)
 - e) If this is a graduate program, provide your personal statement, letter of intent, or equivalent.
 - f) A completed SAR Recommendation Request Form (see below; copy and renumber information section for each graduate program to which you are applying).
 - g) A photo
3. Place any hard copies of forms in the faculty mailboxes located in Room 443.
4. Letters will be sent in order of receipt. We will notify you by email when letters are completed.



Recommendation Request Form

***** Student Information

Name	Type of Recommendation (grad. school, job, internship)	Total number of Letters requested
Email	ID Number	Date Submitted

Recommendation #1 Request

Name of School or Employer		Name of Program or Name of Hiring Agent	
Mailing Address		City/State/Zip	
Deadline for Letter of Recommendation		Instructions for Delivery	

<p>Does this application require form to be filled out in addition to recommendation?</p> <p>(Note: If so, please make sure you have provided this form via email or hard copy)</p>		<p>Additional Notes/Comments</p>	
---	--	---	--

APPENDIX II: SARGENT COLLEGE STANDARD OPERATING PROCEDURES FOR LABS

(Taken from the Boston University documents, Chemical Hygiene Plan and Chemical Hygiene Officer's Handbook)

Student's Responsibilities:

1. Read and become thoroughly familiar with these procedures.
2. Notify the Teaching Assistant of any spills or accidents or near accidents.
3. Become familiar with the use and location of emergency equipment and facilities such as showers, eyewashes, fire extinguishers, fire blankets, fire alarms, first aid kits, chemical spill control agents and emergency exits.
4. Always use adequate eye protection, protective clothing, and gloves in the laboratory. Details on protective garb are given below for specific classes.
5. Always wash up when finished working with chemicals. Use soap and water and be sure to wash hands and arms thoroughly even when gloves have been worn.
6. Never work alone without explicit permission from the instructor.
7. Never perform unauthorized experiments or preparations.
8. Never eat, drink, smoke or apply cosmetics in laboratory.
9. Never engage in horseplay, pranks or other acts of mischief in the laboratory.
10. Never leave exposed needles or micropipettes on the bench or in washing facilities.
11. Clearly label any containers of any substance.
12. Remove barrier protection (gloves, lab coats and aprons, eye protection) before leaving the laboratory. Potentially contaminated equipment must be kept where it will pose no threat to other persons.
13. Decontaminate, clean or sanitize personal protective equipment on a regular basis.
14. Discard used chemicals, equipment, and any other hazardous-infectious waste as defined below.

Personal Protective Equipment

Eye Protection: All students must wear safety glasses in any laboratory where hazardous chemicals are used. This includes Gross Anatomy and Neuroanatomy laboratories. Wearing of contact lenses in the laboratory is not recommended. Students may wear prescription eyewear or any safety glasses with splash guards.

Protective clothing: Lab coats must be worn in laboratories with hazardous chemicals present and in Gross Anatomy. Students may provide their own or they may borrow coats in the lab. Lab aprons must be worn over lab coats by instructors and students in Regional Gross Anatomy. The lab coat and shoes should provide protection for legs and feet. Perforated or open shoes and sandals are not sufficient protection. Cutoffs and shorts are inappropriate.

Gloves: Gloves must be worn in all laboratories. In Neuroanatomy lab, gloves will be supplied. For Gross Anatomy labs, students must purchase 4 mil nitrile gloves (\$1/pair) or they may purchase them by the box from the Medical School. Nitrile gloves must be short-term protection from chemicals and biological tissue and waste. Most organic chemicals will eventually penetrate virtually any glove. Contaminated gloves must not be reused.

Hazardous Waste Disposal

Solids: Biological waste and contaminated gloves and protective clothing is to be deposited into receptacles designed for that purpose. Usually, these receptacles have red plastic liners. If you are unsure where these containers are located, it is critical that you ask the lab instructor. Sharp objects such as needles and scalpels are to be deposited in the red hard plastic containers designated for this purpose. Disposal of hazardous chemicals will be explained by the laboratory supervisor (refer to the Boston University Chemical Hygiene Plan).

Liquids: When gloved hands or instruments are contaminated with human waste or specific chemicals, use the sinks that are designated for rinsing and cleaning these items. Items not contaminated may be washed using "clean" sinks.

Visitors

There are to be no visitors in any laboratory except those who come for educational or professional purposes. These visitors must wear appropriate eye and protective clothing. Minors under the age of 18 are not permitted to spend time in laboratories where chemicals are used or stored.

Emergency Procedures

Any laboratory accident must be reported to the laboratory instructor immediately. Take directions from the instructor and be familiar with the procedures listed below.

FIRE: If you cause or discover a fire: Activate the fire alarm, evacuate, and call Boston University Police at 617-353-2121; when dialing from BU office phone, dial 3-2121. Only use the fire blanket and fire extinguisher if you know how and you feel confident that you will be successful. Be available to firefighters to give information about how the fire started.

CHEMICAL SPILLS OR EXPOSURE: If you cause or discover a chemical spill, for immediate assistance, please contact:

Facilities and EHS Emergency: 617-353-2105

- For medical assistance related to lab work on both campuses (Research Occupational Health Program, ROHP): 617-414-7648

Warn all others in the area and evacuate. For spills covering small amounts of skin, immediately flush with water for no less than fifteen minutes. Wash with warm water and soap to facilitate removal of any residual materials. If a delayed reaction is noted, seek medical attention and explain carefully what chemicals were involved. For larger spills, quickly remove all contaminated clothing and shoes while using the safety shower. Get medical attention as soon as possible. For eye exposure to chemicals, turn on the eyewash and immerse eyes directly into the eye fountain for several minutes.

INJURIES & FIRST AID: If an injured person is not breathing, provide CPR if you are trained to do so and get medical attention (call BU Police at 617-353-2121; when dialing from BU office phone, dial 3-2121). If an injured person is bleeding severely, control the bleeding by compressing the wound with a cloth or whatever is available. Wrap the injured person to avoid shock and get immediate medical attention. In the case of a less severe cut, wash the cut, cover with a clean cloth and get medical attention. The BU Police will provide transportation to a nearby medical facility.

REPORTING OF ACCIDENTS:

Call BU Police immediately at 617-353-2121; when dialing from BU office phone, dial 3-2121. They will determine if medical care is required and arrange transportation to a clinic or hospital emergency room, if necessary.

The nature and location of the accident must be reported; give your name, telephone number and address. Tell where you will meet the emergency vehicle. If several individuals are involved, report how many, whether they are unconscious, burned or trapped; whether an explosion has occurred; and whether there is or has been a chemical or electrical fire.

- Tell others in the area about the nature of the emergency.
- Meet the BU Police at the place you indicated. Send someone else if you cannot go.
- Do not make any other telephone calls unless they directly relate to the control of the emergency.
- Be prepared to tell emergency workers the nature and amounts of any chemicals involved in the emergency.

- For Facilities and EHS Emergency, call: 617-353-2105
- For medical assistance related to lab work on both campuses (Research Occupational Health Program, ROHP), call 617-414-7648.