Health Sciences Schools

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This chapter provides an overview of Stony Brook’s Health Sciences Schools and describes the programs to which West Campus students may apply. Complete information about Health Sciences programs and courses as well as admission and graduation requirements can be found in the Health Sciences Bulletin at http://www.uhmc.sunysb.edu/studserv/hscbulletin.html. Enrollment in courses is limited to students enrolled in health sciences programs but there are some courses that are open to West Campus students. The list of open courses is available at the beginning of each enrollment period. Students can also consult the Course Descriptions section at the end of this Bulletin.

Overview

The Health Sciences consists of these professional schools: the schools of Medicine, Dental Medicine, Health Technology and Management, Nursing, and Social Welfare. The Stony Brook University Medical Center consists of the School of Medicine and Stony Brook University Hospital. The Health Sciences schools offer professional education to approximately 3,000 students annually and conduct programs in research, service, and continuing professional education. The Hospital and the Long Island State Veterans Home are major teaching facilities for the educational programs of the Center. Professional, technical, and laboratory resources support the academic and research activities of the students and faculty.

The Health Sciences schools have four primary objectives. They seek to increase the supply and proficiency of health professionals in fields of demonstrated regional, state, and national need; provide health care of sufficient variety and quality to enable professional education and related research to occur; sustain an environment in which research in health and related disciplines can flourish; and emerge as a regional resource for advanced education, patient care, and research in broad areas of health.

Program Offerings

Current offerings include both undergraduate and post-baccalaureate programs. The Health Sciences Schools offer the following programs and degrees:

School of Health Technology and Management
- B.S. Athletic Training
- B.S. Clinical Laboratory Sciences
- B.S. Cytotechnology
- B.S. Health Science
- B.S. Respiratory Care
- B.S. Health Science/M.S. Occupational Therapy multi-award degree
- M.S. Health Care Policy and Management
- Advanced Certificate in Health Care Management
- M.S. Physician Assistant (entry-level or post-professional)
- D.P.T. Doctor of Physical Therapy (entry-level or post-professional)

School of Nursing
- B.S., B.S./M.S., M.S. Nursing
- Post Master’s Nursing Certificates

School of Social Welfare
- B.S., M.S.W., Ph.D. Social Work
- M.S.W./J.D. (Touro Law Center)

School of Dental Medicine
- D.D.S. Doctor of Dental Surgery
- M.S., Ph.D. Oral Biology and Pathology
- Post-Doctoral Certificates in Endodontics, Orthodontics, and Periodontics

School of Medicine
- M.D. Doctor of Medicine
- M.D./Ph.D., M.S., Ph.D. Basic Sciences

Graduate Program in Public Health
- M.P.H. Master of Public Health

Undergraduate Eligibility

All Health Sciences Center undergraduate programs begin in the junior year except for two programs, the 12-month accelerated program in the School of Nursing and the senior-year B.S. Health Science in the School of Health Technology and Management.

Students who have 57 university credits, including specific courses, are eligible to apply for admission to the individual programs offered by the Schools of Health Technology and Management, Social Welfare, and Nursing. In addition to the academic courses, HSC programs have additional admissions requirements such as minimum g.p.a. and related health care experience. Programs have different prerequisites, as listed in the sections below, and students are advised to consult with appropriate academic advisors.

Students interested in the School of Nursing’s 12-month accelerated program must have a B.S. or B.A. degree in a non-nursing major as well as specific course prerequisites. Students in the Health Science major are considered for advancement to the HSC senior year curriculum after completion of 91 university credits, including specific courses and program prerequisites. Students in the lower-division Clinical Laboratory Sciences and Respiratory Care majors are advanced to the upper-division program after successful completion of 57 credits and program prerequisites.

Most undergraduate programs are full-time. Part-time studies are offered by the registered nurse program in the School of Nursing.

Admissions Procedures

Admission to Health Sciences Center (HSC) programs is highly selective since enrollment for each program is limited. HSC programs require a formal application except for the Health Science major in the School of Health Technology and Management. Students can declare as a four year lower division major beginning in freshman year: Clinical Laboratory Sciences and Respiratory Care. Students in these two programs are advanced to the upper-division level after successful completion of program prerequisites.

Applications are available online at http://www.uhmc.sunysb.edu/studserv/applyhsc.html and should be obtained in the fall preceding the year of anticipated admission. Applications are accepted from both Stony Brook students and from students transferring to Stony Brook from other educational institutions. Stony Brook undergraduate students are not automatically admitted to Health Sciences Center programs.

Admissions are conducted for the spring, summer, or fall, depending on the starting date of the program. Each School in the Health Sciences Center is responsible for determining its own admissions policy and for selecting its own students. Admissions decisions are made by com-
mittees in each of the programs. Application processing and records are administered by the HSC Office of Student Services.

Pre-Application Advising
Before applying for admission to the health professions programs, West Campus students can receive advising about course sequences and requirements in the Academic and Pre-Professional Advising Center. In addition, programs in the Health Sciences Center hold informational meetings during the academic year at which advisors present overviews of the programs, explain admissions procedures, and advise students individually. The HSC Office of Student Services provides individual advising and general information regarding all Health Sciences Center Programs.

Health Sciences Center Academic Calendars
Health Sciences Center courses may consist of one term (semester) or one or more session codes (module) as determined by the faculty of each school. Terms are the traditional academic periods from September to December (fall) and January to May (spring). Session codes are academic periods of approximately five weeks in length. When combined, session codes can become a fall term of September to December or a spring term of January to May or June. HSC programs offer courses using both the term and session codes.

Term and session dates, including the beginning and ending dates, add/drop periods, and the session codes required for course registration are listed in the Academic and Pre-Professional Advising Center. In addition, programs in the Health Sciences Bulletin and in the Health Sciences academic calendar published by the HSC Office of Student Services.

School of Health Technology and Management
The School of Health Technology and Management offers a general Bachelor of Science degree in Health Science with areas of concentration. Students may declare an interest in the major at any time and, upon completion of certain requirements, may advance to the senior year courses in the major.

Undergraduate students enter other Health Sciences Center programs at the junior level, although the School of Health Technology and Management also offers students interested in clinical laboratory sciences or respiratory care the opportunity to begin their studies in their freshman year. Freshman applicants who have been admitted to the University and who have accepted the offer of admission may be eligible to declare the four-year, lower-division major in Respiratory Care or Clinical Laboratory Sciences, after an interview with the program director.

Athletic Training
The athletic training program is designed for students interested in an allied health profession specializing in the health care of physically active individuals. Working under a physician’s supervision, certified athletic trainers are members of the sports medicine field who specialize in the prevention, evaluation, management, treatment, and rehabilitation of athletic injuries. Certified athletic trainers work with a variety of physically active individuals and may be employed by secondary schools, colleges and universities, professional athletic teams, hospitals, private clinics, and industrial settings.

The student’s professional preparation is directed toward the development of specified competencies in the following domains: risk management and injury prevention; pathology of injuries and illnesses; clinical evaluation and diagnosis; acute care of injury and illness; pharmacology; therapeutic modalities; therapeutic exercise; general medical conditions and disabilities; nutritional aspects of injury and illness; psychosocial intervention and referral; health care administration; and professional development and responsibilities. In addition, all students are required to fulfill their clinical education requirements under the direct supervision of an approved clinical instructor. Major emphasis is placed on the development of psychomotor skills in addition to cognitive knowledge.

Pre-Application Requirements
1. 3 credits of English composition: WRT 102
2. 6 credits in the arts and/or humanities, excluding studio, skills, and techniques courses
3. 6 credits of psychology: PSY 103, 201
4. 8 credits of chemistry with labs
5. 8 credits of biology with labs (to include 4 credits in human physiology)
6. 8 credits of physics with labs
7. 3 credits of math: MAT 125
8. CPR at the professional level
9. 50 observational hours with a certified athletic trainer
10. 2.50 cumulative g.p.a

The program also requires candidates to successfully complete each of the following courses with a grade of B or higher:

- HAL 205 Introduction to Athletic Training
- HAL 210 Emergency Care of Athletic Injuries
- HAL 300 Kinesiology
- ANP 300 Human Anatomy

Clinical Laboratory Sciences
Clinical laboratory scientists utilize a wide variety of sophisticated equipment and skills to perform tests that analyze specimens to produce data for the diagnosis, prevention and treatment of disease. Many of the same tests are used for organ transplants, therapeutic drug monitoring, crime investigation, genetic studies and research. The program now offers three expansion tracks (Forensic Medical Diagnostics, Laboratory Information Systems and Diagnostic Instrumentation) within its traditional clinical laboratory curriculum. A double major in clinical laboratory sciences and biology is available.

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Pre-Application Requirements
1. 3 credits of English composition
2. 6 credits in the arts and/or humanities, excluding performance, studio, skills, and techniques courses
3. 6 credits in the social and behavioral sciences
4. 12 credits of biology with labs (including inorganic and one course in organic chemistry or biochemistry)
5. 8 credits of biology with labs (See Note 1)
6. 3 credits of college-level mathematics
7. 2.50 cumulative g.p.a.

Notes:
1. Students completing the courses at Stony Brook should take BIO 202 and 203 Fundamentals of Biology.
2. Courses in anatomy, computer literacy, general microbiology, genetics, molecular biology, and physiology are recommended.
3. Stony Brook freshmen are eligible to declare clinical laboratory sciences as a major. In addition to the requirements listed above, students in this four-year program must successfully complete HAD 210 Introduction to Clinical Laboratory Sciences with a grade of B+ or higher.

Cytotechnology
Cytotechnologists are skilled laboratory scientists who employ microscopic and other analytic methods to evaluate clinical biological cellular specimens for the presence of disease. Detecting changes in cells that may lead to early, life-saving treatment, cytotechnologists are employed as practitioners in hospital and private laboratories, and as researchers, managers, and educators.

Pre-Application Requirements
1. 3 credits of English composition
2. 6 credits in the arts and/or humanities, excluding performance, studio, skills, and techniques courses
3. 6 credits in the social and behavioral sciences
4. 12 credits of biology with labs (See Note 1)
5. 8 credits of biology with labs
6. 3 credits in college-level mathematics
7. 2.50 g.p.a.

Notes:
1. Students completing the courses at Stony Brook should take BIO 202 and 203 Fundamentals of Biology and HBM 320, 321 Microbiology and Laboratory, though other biological science courses may be substituted for HBM 320, 321.
2. Courses in genetics, cell biology, anatomy, general microbiology, organic chemistry, computer literacy, sociology and human sexuality are recommended.

Health Science
The School of Health Technology and Management offers a Bachelor of Science degree in Health Science with areas of concentration in Anesthesia Technology; Environmental Health; Health Care Informatics; Health Care Management; Medical Billing and Coding; Medical Dosimetry; Pharmacy Technician; Public Health/Community Health Education; Emergency and Disaster Management; Emergency Medical Service Specialist; Disability Studies; Nuclear Medicine; Radiologic Technology and Radiation Therapy. This major is designed to prepare students for entry into the clinical and non-clinical fields of health care. The curriculum requires that students receive a broad liberal arts education during the first three years. In the senior year, the curriculum focuses on healthcare related topics.

See the Health Science major entry in the alphabetical listings of Approved Majors, Minors, and Programs in this Bulletin for more details and program requirements.

Occupational Therapy
Occupational therapy is the art and science of directing an individual's participation in selected tasks to restore, reinforce, and enhance performance in activities that are important and meaningful to their health and well-being. Reference to occupation in the title is in the context of an individual's goal directed use of time, energy, interest, and attention. An occupational therapist's fundamental concern is the client's development and maintenance of the capacity to perform, throughout the life span and with satisfaction to self and others, those tasks and roles essential to productive living and to the mastery of self and the environment.

Occupational therapy provides service to those individuals whose abilities to cope with tasks of living are threatened or impaired by developmental deficits, the aging process, poverty, cultural differences, physical injury or illness, or psychological and social disability. Occupational therapy serves a diverse population in a variety of settings such as hospitals and clinics, rehabilitation facilities, long-term care facilities, extended care facilities, sheltered workshops, schools and camps, private homes, and community agencies.

The occupational therapy program offers an entry-level, multi-award B.S. in Health Science/M.S. in Occupational Therapy (BSHS/MSOT) degree.

Pre-Application Requirements
1. 3 credits of English composition
2. 6 credits in the arts and/or humanities, excluding performance, studio, skills, and techniques courses
3. 6 credits in the social and behavioral sciences including an introduction to psychology course and a course in abnormal psychology
4. 8 credits of biology with labs (See Note 1)
5. 8 credits of chemistry with labs
6. 8 credits of physics with labs
7. Cardiopulmonary resuscitation and first-aid certification
8. A minimum of 40 hours of varied experience in occupational therapy under the supervision of an occupation therapist and documented in writing
9. 2.50 g.p.a. (Preference is given to students with a 3.00 g.p.a. or higher)

Notes:
1. Students completing the courses at Stony Brook should take BIO 202 and 203 Fundamentals of Biology.
2. Preference is given to students who have completed science requirements within the last ten years.

Respiratory Care
These practitioners diagnose and treat patients with a wide range of cardiopulmonary disorders, such as asthma, emphysema, cystic fibrosis, and pneumonia. The respiratory care practitioner (RCP) employs a variety of sophisticated medical equipment and therapies in the management of patients in hospitals, clinics, and home settings. This multifaceted profession involves evaluation of lung and cardiac function, administration
of oxygen and therapeutic medications, remedial breathing exercises, cardiopulmonary respiratory therapy, mechanical ventilation, and other life support procedures. Respiratory care involves a high degree of patient interaction in both critical and long-term situations. The knowledge and skills of the RCP are necessary in many aspects of health care, including medical and surgical intensive care, neonatal intensive care, pediatrics, coronary care and hemodynamic monitoring, pulmonary function and exercise testing, emergency services and trauma care, rehabilitation and home care, land and air patient transport services, discharge planning and patient education, departmental management, clinical research, teaching, and administration.

Pre-Application Requirements
1. 3 credits of English composition
2. 6 credits in the arts and/or humanities, excluding studio, skills, and techniques courses
3. 6 credits in the social and behavioral sciences
4. 11 credits in biological sciences, including 3 credits in microbiology (See Note 1)
5. 8 credits of chemistry with labs
6. 4 credits of physics with lab
7. 3 credits of college-level mathematics
8. Cardiopulmonary resuscitation and first-aid certification
9. 2.50 cumulative g.p.a.

Notes:
1. Students completing the courses at Stony Brook should take BIO 202 and 203 Fundamentals of Biology and HBM 320 or BIO 315 Microbiology.
2. Stony Brook freshmen are eligible to declare respiratory care as a major. In addition to the requirements listed above, students in this four-year program must successfully complete HAT 210 Introduction to Respiratory Care with a grade of B or higher.

School of Nursing
Nurses synthesize knowledge from a variety of fields of study as they are prepared to assist people in the performance of activities that contribute to health, its recovery, or to the alleviation of distress or discomfort in preparing people for a peaceful death.

The goals of the program in nursing at Stony Brook University are to:

- Educate a diverse population of men and women for professional generalist nursing practice in a variety of health care settings.
- Contribute to the scholarly development of the profession by testing and evaluating theoretical formulations, applications of knowledge, and innovative practices.
- Provide an educational foundation for advanced and specialized study in a field of nursing.
- Prepare for improvement of health care at the local, state, and national levels through individual, collaborative, and interdisciplinary efforts.

The curriculum of the School of Nursing emphasizes using the nursing process to provide health promotion, maintenance, and restoration among diverse populations of patients; using theory to conceptualize health responses to those populations; applying research finds to improve nursing practice; applying principles of leadership and management in nursing and health care delivery; and practicing interdisciplinary collaboration to improve health care and health outcomes through advocacy, activism, and courage.

Admission to the basic baccalaureate program leading to a B.S. with a major in nursing follows two or three years of study in the arts and sciences during which a student must earn a minimum of 57 credits and a minimum g.p.a. of 2.50. The Nursing major also requires certification in basic life support for health care providers. West Campus students are strongly encouraged to identify themselves as potential Nursing majors by officially declaring an area of interest in Nursing (GNS).

Sample Course Sequence: Requirements for Application to the School of Nursing

<table>
<thead>
<tr>
<th>Freshman Fall</th>
<th>Credits</th>
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<tbody>
<tr>
<td>WRT 102*</td>
<td>3</td>
</tr>
<tr>
<td>MAT 123**</td>
<td>3</td>
</tr>
<tr>
<td>PSY 103</td>
<td>3</td>
</tr>
<tr>
<td>ANP B, D, or G</td>
<td>3</td>
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<tr>
<td>CHE 129/130</td>
<td>4</td>
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<tr>
<td>CHE 133 (optional lab)</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>16-17</td>
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<table>
<thead>
<tr>
<th>Sophomore Fall</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANP 300</td>
<td>4</td>
</tr>
<tr>
<td>BIO 202</td>
<td>3</td>
</tr>
<tr>
<td>PSY 220</td>
<td>3</td>
</tr>
<tr>
<td>D.E.C. B, D, or G</td>
<td>3</td>
</tr>
<tr>
<td>BIO 204 (optional lab)</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>13-15</td>
</tr>
</tbody>
</table>

*If you place into WRT 101, enroll in WRT 101 in the fall of year one; enroll in WRT 102 in the fall of year two (for a total of 16 credits).

**Math and chemistry courses for year one will depend on math placement exam score.

***You should select one of the following options: one each D.E.C. B, D, and G; one D.E.C. B and two D.E.C. G; one D.E.C. D and two D.E.C. G.

The School of Nursing will not accept skills or techniques classes (D.E.C. D) for our Arts and Humanities requirements.

Required Courses
- English Composition 3 credits
- Introduction to Sociology 3 credits
- Introduction to Psychology 3 credits
- Developmental Psychology 3 credits
- Microbiology 3 - 4 credits
- Anatomy and Physiology 6 - 8 credits
- Chemistry I 3 - 4 credits
- Chemistry II 3 - 4 credits (or a second science, e.g. Biology, physics)
- Group Process/Social Psych. 2 - 3 credits
- Statistics 3 credits
- Arts and Humanities 9 credits
- Electives 16 credits
School of Social Welfare

Graduates with a bachelor’s degree in Social Welfare are prepared for entry-level social work professional positions working with individuals, families, groups, communities, and organizations in a wide range of health and human service facilities. Sites include nursing homes, hospitals, mental health services, substance abuse programs, community action agencies, child welfare programs, services for older people, homeless shelters, mental retardation services, youth services, legal service agencies, foster care programs, public health, and family services. Social workers seek to affirm human dignity, strengthen and empower people, and to affirm their strengths as a means to create positive change in their lives. This commitment is carried out by providing services to people and helping communities to organize services that contribute to the welfare of all people.

Pre-Application Requirements
1. 3 credits of English composition
2. 6-8 credits in the fine arts and humanities, excluding elementary languages, design, or skills improvement courses.
3. 3 credits of American political systems
4. 3 credits of introductory anthropology or sociology
5. 3 credits of introductory psychology
6. 3 credits of American history (post-Reconstruction)
7. 3-4 credits of introductory biology
8. 3-4 credits in natural science or college-level mathematics
9. 2.50 cumulative g.p.a.

Applicants should have demonstrated interest in the social welfare field through paid or volunteer experience in programs aimed at social improvement.

GRADUATE HEALTH PROFESSIONS PROGRAMS

Stony Brook’s Health Sciences Schools offer the following graduate programs: the School of Medicine’s M.D. and M.D./Ph.D. programs; the Dental School’s D.D.S. program; the School of Health Technology and Management’s Physician Assistant program (M.S.), Health Care Policy and Management program (M.S.), Occupational Therapy (B.S./M.S.), and Doctor of Physical Therapy (D.P.T.) programs. The School of Social Welfare offers the M.S.W., dual M.S.W./J.D. (Touro Law Center), and Ph.D. programs. Master’s degree programs are offered in the School of Nursing. The Graduate Program in Public Health M.P.H. is also offered. Ph.D. programs are offered in anatomical sciences, molecular genetics and microbiology, molecular and cellular pharmacology, physiology and biophysics, and oral biology and pathology. For information about these programs, please visit http://www.uhmc.sunysb.edu/studserv.

Admissions requirements for medicine and dental medicine at Stony Brook as well as at other universities generally require completion of the following courses prior to application:

1. One year of biology with laboratory
2. One year of general chemistry with laboratory
3. One year of organic chemistry with laboratory
4. One year of physics with laboratory
5. One year of English (not a requirement as at other universities generally)
6. One year of mathematics, including at least one semester of calculus

(Or including one semester of statistics for Stony Brook School of Dental Medicine)

School of Dental Medicine

Although its program is primarily for post-baccalaureate students, the School of Dental Medicine also offers research opportunities for elective credit to under-graduate students enrolled in courses of study in all departments of the University. To register for these courses, West Campus students should have earned a minimum of 57 University credits, but under appropriate circumstances individuals may be admitted with less than the desirable amount of credit. Permission of the instructor is required for all courses.

School of Medicine

Although its program is primarily for post-baccalaureate students, the School of Medicine offers courses and research
opportunities for elective credit to undergraduate students enrolled in the University. Further information is available from the Academic and Pre-Professional Advising Center.

**Scholars for Medicine**

Scholars for Medicine earn a B.A./M.D. degree with four years of undergraduate course work and four years of medical school. All Scholars for Medicine are individually counseled on their careers throughout their participation in the program. Benefits include full or partial scholarship funds, help in finding laboratory placements for undergraduate research, regular advising from either the Director of the Honors College or WISE Program and the premedical advisor, opportunities to meet faculty in the School of Medicine, and support and encouragement in the exploration of undergraduate and career opportunities.

Scholars for Medicine positions are available to select entering freshmen who have been accepted to either the Honors College or WISE Programs. Eligibility criteria are: nomination of high school seniors by the Honors College; 1350 or above on the SATs; maturity; evidence of social commitment; evidence of interest in science; high moral character; breadth of interests; and strong communication skills.

All acceptances to the Scholars for Medicine Program are conditional. Of critical importance is an ongoing assessment of the candidate’s maturity, academic ability, and motivation and readiness to pursue a medical education. Scholars must continue to present exemplary academic accomplishments and those personal characteristics that exemplify a Scholar for Medicine. Students must accrue a g.p.a. equal to or greater than 3.40 during the first three undergraduate years. All scholars are required to take the MCAT no later than spring of their junior year in college. Students must attain cumulative MCAT scores comparable to the national average of matriculants to medical school. All scholars must attend Scholars for Medicine lectures and seminars, and prepare assignments as required.

Scholars for Medicine accepted into the B.A./M.D. program before matriculating at Stony Brook will have a place reserved in the Stony Brook Medical School contingent upon the above criteria. Final acceptance is dependent upon the ongoing evaluations by program advisors, letters of evaluation and MCAT performance. All students in the B.A./M.D. program must apply for Early Decision to the Stony Brook School of Medicine.

**Health Professions Area of Interest**

West Campus students interested in any of the undergraduate health professions are strongly encouraged to identify themselves by officially declaring an area of interest. Declaration of major/minor/area of interest forms are available in the Academic and Pre-Professional Advising Center.

Note: Declaring an area of interest is not the same as declaring a major and does not assure acceptance into the Health Sciences Center programs. All students should declare a major by the beginning of their sophomore year. Students applying for the New York State Tuition Assistance Program (TAP) must declare a major before the first day of classes of the junior year.