Transportation to SUNY Downstate

The SUNY Downstate Admissions Office is located at 450 Clarkson Avenue, just off New York Avenue (Building 2).

**BY AUTOMOBILE**

**From Manhattan:**
- Manhattan Bridge: exit onto Flatbush Avenue. Continue approximately three and one-half miles to Parkside Avenue. Turn left onto Parkside Avenue and travel four blocks to New York Avenue. Turn right at New York Avenue and continue one block to Clarkson Avenue.
- Brooklyn Bridge: stay to the left at the end of the bridge, following the ramp to Brooklyn Place, which becomes Adams Street. Continue along Adams Street to Atlantic Avenue. Turn left onto Atlantic Avenue and continue to Flatbush Avenue. Turn right onto Flatbush Avenue and continue approximately two and one-half miles to Parkside Avenue. Turn left onto Parkside Avenue and travel four blocks to New York Avenue. Turn right at New York Avenue and continue one block to Clarkson Avenue.
- Brooklyn-Battery Tunnel (toll): exit one block to Clarkson Avenue.

**BY BUS**

- The SUNY Downstate Campus bus serves the Kissena Corridor.
- Connections to the SUNY Downstate Campus can be made at the corner of Clarkson and New York Avenues.
- The SUNY Downstate Campus bus stops at 450 Clarkson Avenue.
- For more information on the SUNY Downstate Campus bus, visit the SUNY Downstate website.

**BY SUBWAY**

- **From Queens:** Take the 7 train to the Jamaica station. Change to the B-44 bus. Travel along the Prospect Expressway from there.
- **From Manhattan:** Take any IRT Brooklyn-bound train (#2, 3, or 5) to Nevins Street in Brooklyn, change to the B-36 bus, and travel for about 1 mile to the SUNY Downstate Medical Center.
- **From Brooklyn:** Take the F train to the Flatbush Avenue station. Travel along the Prospect Expressway from there.
- **From New Jersey:** Take the PATH train to the World Trade Center station. Travel along the Prospect Expressway from there.

**BY RAILROAD**

- **From Long Island:** Take the LIRR to the Jamaica station. Change to the B-44 bus. Travel along the Prospect Expressway from there.
- **From Metro-North Railroad:** Take the Metro-North Railroad to the Jamaica station. Change to the B-44 bus. Travel along the Prospect Expressway from there.

**BY PLANE**

- **From JFK International Airport:** Take the JFK Expressway to the SUNY Downstate Medical Center.
- **From LaGuardia Airport:** Take the LaGuardia Expressway to the SUNY Downstate Medical Center.
- **From Newark Liberty International Airport:** Take the Newark Liberty Expressway to the SUNY Downstate Medical Center.

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SUNY Downstate Medical Center, formally known as the State University of New York Health Science Center at Brooklyn, is one of four academic health centers within the 64-unit State University of New York. Located on an urban campus in the East Flatbush section of Brooklyn, SUNY Downstate includes the College of Nursing, College of Health Related Professions, College of Medicine, School of Graduate Studies, School of Public Health, and University Hospital of Brooklyn.

Downstate is a major provider of medical education, health care, and research. BS, MS, MPH, MD, DPT, and PhD degrees are granted.

The oldest and largest component of SUNY Downstate Medical Center, founded in 1860 as the Long Island College Hospital, this country’s first teaching hospital and the prototype for all subsequent medical centers. In 1931, the school was rechartered as the Long Island College of Medicine, with affiliated hospitals throughout Brooklyn. The ‘Downstate’ era began on October 9, 1950, when a merger contract was signed with the newly constituted State University of New York. The College of Nursing and College of Health Related Professions were founded in 1966 in recognition of the critical need for multidisciplinary health-care professionals.

Today, SUNY Downstate is the focal point of a health education network that encompasses a broad network of hospitals, clinics, and community centers. In 1998, one of its researchers, Dr. Robert F. Furchgott, received the Nobel Prize in Medicine.

EDUCATIONAL FOCUS STATEMENT

MISSION:

• To provide outstanding education of physicians, scientists, nurses and other healthcare professionals.
• To advance knowledge through cutting-edge research and translate it into practice.
• To care for and improve the lives of our globally diverse communities.
• To foster an environment that embraces cultural diversity.

VISION:

SUNY Downstate will be nationally recognized for improving people’s lives by providing excellent education for healthcare professionals, advancing research in biomedical science, health care and public health, and delivering the highest quality, patient-centered care.

VALUES:

PRIDE — To take satisfaction in the work we do every day, and to value our collective contributions to the Downstate community.

Professionalism — We commit to the highest standards of ethical behavior and exemplary performance in education, research, and patient care.

Respect — We value the contributions, ideas and opinions of our students, coworkers, colleagues, families and partnering organizations.

Innovation — We research and develop new and creative approaches and services for the anticipated changes in healthcare.

Diversity — We embrace our rich diversity and commit to an inclusive and nurturing environment.

Excellence — We commit to providing the highest quality of education and service to our students, patients and community by holding ourselves, our coworkers and our leaders to high standards of performance.

EDUCATIONAL FOCUS STATEMENT

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To foster an environment that embraces cultural diversity.

• To care for and improve the lives of our globally diverse communities.

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The Founding of Downstate Medical Center

SUNY Downstate Medical Center had its beginnings as a small charitable medical service set up in 1856 by a group of German physicians. This free dispensary, organized to treat indigent German-Americans living in Brooklyn, was staffed by five physicians. The original intention was to build a large hospital to care for the German population of Brooklyn. But changing population trends, which brought a largely Irish patient load to the dispensary, necessitated a review of the original intentions.

In 1857, physicians from the German General Dispensary, then located on Court Street, resolved to organize a charitable institution in the City of Brooklyn, to be called St. John’s Hospital. From November 7 until December 23, the name of the hospital was changed to The Long Island Hospital, to be called St. John’s Hospital. From November 7 until December 23, the name of the hospital was changed to The Long Island Hospital and Medical College. It was on this date that a medical college with a hospital was first projected.

Dr. Louis Bauer and Dr. John Byne, the prime movers in the establishment of the medical college, were trained in Europe, where it was customary for medical schools to be associated with hospitals. The two physicians naturally wanted to adopt this system to prepare the future physicians of Brooklyn. A bill to incorporate the Long Island College Hospital of the City of Brooklyn was introduced in the State Legislature on January 20, 1858, and passed on March 6. The hospital itself was forced to close in late September 1859. Meanwhile, several outstanding physicians were secured to fill the professorships at the college, and on March 29, 1860, the institution reopened, following financial arrangements underwriting the expense of the collegiate department and settling various liens.

The following day, the instruction of students began. The first teaching faculty was a distinguished one. Most eminent of all was Dr. Austin Flint, Sr., professor of practical medicine and pathology, who had been a professor of medicine at Rush Medical College in Chicago.

A medical student’s training in 1860 consisted of his three-year preceptorship under the direction of a practicing physician and attendance at two courses of lectures of at least sixteen weeks each. The lectures that were given one year were repeated the next, sometimes verbatim, so many students took their first course of lectures at one school and their second at another. The first class had 57 students, as well as a number of graduates of other institutions. The first commencement took place July 24, 1860, with 21 students graduating.

In 1861, in anticipation of the medical needs of the Civil War, the curriculum included a one-month course on military surgery, dissection, and clinical instruction on the wards. By 1869, major changes were introduced into the teaching curriculum. Daily class examinations were instituted to ensure more exact knowledge, especially in the demonstrative and elementary branches. Another change, made in 1872, was the establishment of a reading and recitation term that began early in October and extended to the beginning of the regular term in March. This term included dissection and clinical instruction as well as reading and quizzes.

By 1879, the faculty of the Long Island College Hospital concluded that the system of teaching medicine in the United States was radically wrong. They debated the possibility of instituting a compulsory, full-graded, three-year course of instruction, but abandoned the idea because of their fears that such a plan would result in the loss of many students, when the college was entirely dependent for its existence on students’ fees. Certain changes were made, however, to improve the curriculum. The regular term was lengthened from sixteen weeks to five months, but the four-month reading and recitation term remained optional. Thus, a total of eighteen months’ instruction was available to any student electing two regular and two reading and recitation terms.

Between 1888 and 1897, the Long Island College Hospital grew rapidly. The Hoagland Laboratory building, built primarily for research in bacteriology, was constructed. At its opening, it was considered one of the best-equipped buildings for research and medical training in the country. In December 1897, the Polhemus Memorial Clinic Building was completed. The new building, eight stories high, was erected on the southwest corner of Henry and Amity streets.

The year 2010 marked the 150th anniversary of SUNY Downstate Medical Center’s emergence as a leader in American medicine education. Since 1860, when the first class graduated from what was then the Long Island College Hospital Collegiate Division, both Downstate and the practice of medicine and healthcare have changed dramatically.

Today, SUNY Downstate is a major medical university with five professional schools, a teaching hospital, and a center for biotechnology development that is the first of its kind in Brooklyn. We are proud of our history of achievement and look forward to an even brighter future.

In 2016, the College of Health Related Professions, the College of Nursing, the School of Graduate Studies, and University Hospital of Brooklyn will celebrate the 50th anniversary of their founding.
The College of Health Related Professions (CHRP), established in 1966, serves as an engine of educational opportunity for diverse students from Brooklyn, New York City and the tri-state area, providing education in Diagnostic Medical Imaging (BS), Medical Informatics (MS), Midwifery (MS and Advanced Certificate), Occupational Therapy (MS), Physician Assistant (BS), and Physical Therapy (BS/DPT). Students who hold an RN also have the option to obtain a master’s degree in Nursing with a specialization in Midwifery.

Each undergraduate educational program requires that students complete at least two years of undergraduate course work prior to enrollment in CHRP.

MISSION

The mission of the College of Health Related Professions is to educate health professionals in the delivery of excellent health-care service by developing their scientific competence and fostering their humane spirit. The College seeks to accomplish this by providing a challenging and supportive atmosphere for learning that offers opportunities for structured experiences as well as independent inquiry. Faculty contribute to knowledge in allied health through advancements in clinical practice, scholarly activities, and basic and applied research.

Collaboration is emphasized among students, faculty, clinicians, and professionals in health care and related disciplines. Students are prepared for professional leadership roles through course work and professional and campus activities. The College fosters ongoing professional growth by sponsoring continuing education opportunities in several disciplines. The College strives to serve the urban community in which it is located by providing health services and education to the population.

EDUCATIONAL ENVIRONMENT

The College’s highly qualified and dedicated faculty is committed to helping students realize their highest potential. It provides students with personal attention and guidance as they acquire the principles of their profession and develop proficiency in its essential skills. Themselves committed to scholarship, research, and ongoing professional education, faculty members serve as excellent role models for student leadership.

As part of a large, academic health science center, students in the College of Health Related Professions have the opportunity to exchange ideas with professionals in every area of health care through participation in interdisciplinary conferences, seminars, and presentations. They have the use of one of the most prestigious medical libraries in the country and enjoy the benefits of close ties among each of the professional colleges, the research center, and the University Hospital of Brooklyn. Students are encouraged to become active and lifelong participants in the SUNY Downstate community.

The College, which has graduated close to 5,000 health professionals to date, has a nationwide reputation for its education of first-rate health-care professionals. Many of the College’s graduates hold academic appointments and department directorships in their specialties throughout the United States. Some are employed in key positions at the hospitals affiliated with SUNY Downstate, and make ongoing contributions as teachers of their alma mater’s current students. The high regard in which graduates of the College of Health Related Professions are held is evidenced by the strong recruiting efforts made by the many health-care organizations that seek to employ them.

Requirements for admission and prerequisites for each educational program can be found within this section.

Since admissions requirements, procedures, and policies are subject to change, it is important to check for any new requirements and application materials at:
http://downstate.edu/admissions/chrp/index.html.

OPEN HOUSE AND CAMPUS INFORMATION SESSIONS

Each fall, the College of Health Related Professions sponsors an Open House for prospective applicants. During the Open House, participants obtain general information about each professional program of study offered in the college as well as general information about the campus and student services. The Open House is designed to help potential applicants learn more about the campus and the health professions programs offered.

The College also offers frequent, small-group Information Sessions, designed to provide the following services: (1) specific information about the educational programs offered; (2) an opportunity to meet the faculty; and (3) advising about prerequisite course requirements and admissions criteria. Students who wish to receive course advisement at the Information Sessions are encouraged to bring unofficial copies of their college transcripts and an up-to-date worksheet for their program of interest.

Program advisement worksheets can be downloaded from http://downstate.edu/admissions/info_sessions/worksheets.html.

To register for an Information Session, students must complete the required registration form online at:
http://downstate.edu/admissions/info_sessions or send an e-mail message to admissions@downstate.edu. Potential applicants must include their name, the name of the program of interest, and the date of the Information Session they plan to attend.

ADMISSIONS CRITERIA

Listed below are the specific admissions criteria for each CHRP program.

DIAGNOSTIC MEDICAL IMAGING PROGRAM

1. A minimum of 60 semester credits from a college or university accredited by a regional accrediting organization recognized by the Council for Higher Education Accreditation (CHEA), such as the Middle States Association of Colleges and Schools, New England Association of Schools and Colleges, and the Western Association of Schools and Colleges.

2. A minimum, cumulative undergraduate Grade Point Average (GPA) of 3.0 on a 4.0 scale.

3. Basic computer programming and statistics courses are highly recommended but not required for admissions.

MIDWIFERY PROGRAM

The Midwifery Program offers three options for prospective students: those with backgrounds other than nursing (direct entry), for those who are registered nurses, and for those who are midwives.

OPTIONS FOR APPLICANTS WITH BACKGROUND OTHER THAN NURSING (DIRECT ENTRY)

Advanced Certificate, Midwifery

1. A master’s degree in a related field (as determined by the Midwifery faculty) from a college or university accredited by a regional accrediting organization recognized by the Council for Higher Education Accreditation (CHEA), such as the Middle States Association of Colleges and Schools, New England Association of Schools and Colleges, and the Western Association of Schools and Colleges.

2. A minimum cumulative Grade Point Average (GPA) of 3.0 on a 4.0 scale.

3. A grade of “C” or better in the following prerequisite courses:

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>CREDITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatomy &amp; Physiology 1 with lab</td>
<td>4</td>
</tr>
<tr>
<td>Anatomy &amp; Physiology 2 with lab</td>
<td>4</td>
</tr>
<tr>
<td>General Chemistry 1 with lab</td>
<td>4</td>
</tr>
<tr>
<td>General Chemistry 2 with lab</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics (not Remedial Math or Statistics)</td>
<td>3</td>
</tr>
<tr>
<td>Psychology</td>
<td>3</td>
</tr>
<tr>
<td>English</td>
<td>6</td>
</tr>
</tbody>
</table>

* All science courses must have labs.

CPR certification is required by August 15, if you are accepted for admission.

MEDICAL INFORMATICS PROGRAM

1. A baccalaureate degree in any discipline from a college or university accredited by a regional accrediting organization recognized by the Council for Higher Education Accreditation (CHEA), such as the Middle States Association of Colleges and Schools, New England Association of Schools and Colleges, North Central Association, Northwest Commission on Colleges and Universities, Southern Association of Colleges and Schools, and the Western Association of Schools and Colleges.

2. A minimum, cumulative undergraduate Grade Point Average (GPA) of 3.0 on a 4.0 scale.
1. A baccalaureate degree in any discipline from a college or university accredited by a regional accrediting organization recognized by the Council for Higher Education Accreditation (CHEA), such as the Middle States Association of Colleges and Schools, New England Association of Schools and Colleges, North Central Association, Northwest Commission on Colleges and Universities, Southern Association of Colleges and Schools, and the Western Association of Schools and Colleges.

2. A letter grade of “C” or better in the following prerequisite courses:

**SUBJECT** | **CREDITS**
---|---
Anatomy & Physiology with lab | 2 semesters
General Biology | 1 course
Microbiology | 1 course
General Chemistry | 1 course
Pathophysiology | 1 course
Nutrition | 1 course
Sociology | 1 course
General Psychology | 1 course
Life Span* | 1 course
Developmental Psychology | 1 course
Statistics | 1 course

*More than one course may be required to fulfill this requirement.

**Master of Science, Midwifery**

1. A baccalaureate degree in any discipline from a college or university accredited by a regional accrediting organization recognized by the Council for Higher Education Accreditation (CHEA), such as the Middle States Association of Colleges and Schools, New England Association of Schools and Colleges, North Central Association, Northwest Commission on Colleges and Universities, Southern Association of Colleges and Schools, and the Western Association of Schools and Colleges.

2. A grade of “C” or better in a statistics course.

3. A minimum cumulative Grade Point Average (GPA) of 3.0 on a 4.0 scale.

**Advanced Certificate in Midwifery & Master of Science, Nurse Midwifery**

1. A baccalaureate degree in nursing from a college or university accredited by a regional accrediting organization recognized by the Council for Higher Education Accreditation (CHEA), such as the Middle States Association of Colleges and Schools, New England Association of Schools and Colleges, North Central Association, Northwest Commission on Colleges and Universities, Southern Association of Colleges and Schools, and the Western Association of Schools and Colleges.

2. A grade of “C” or better in the following prerequisite courses:

**SUBJECT** | **CREDITS**
---|---
Anatomy & Physiology 1 with lab and | 8
Anatomy & Physiology 2 with lab | 4
General Biology 1 with lab | 4
General Chemistry 1 with lab or | 4
Physiological Psychology or Behavioral Neuroscience | 3-4
Statistics 3 | 3
Sociology or Anthropology | 3
General Psychology | 3
Abnormal Psychology | 3
Developmental/Life Span Psychology (from Birth to Aging) | 3
Child Psychology and Aging | 3
Child Psychology and Psychology of Aging | 3

Additional, for information on the collaborative program which offers both an Advanced Certificate in Midwifery from the College of Health Related Professions and a Master of Science in Nurse Midwifery from the College of Nursing, go to http://sls.downstate.edu/admissions/nursing/nurse_midwifery/index.html

**OPTIONS FOR MIDWIVES**

**Master of Science Completion, Midwifery**

1. A baccalaureate degree in any discipline from a college or university accredited by a regional accrediting organization recognized by the Council for Higher Education Accreditation (CHEA), such as the Middle States Association of Colleges and Schools, New England Association of Schools and Colleges, North Central Association, Northwest Commission on Colleges and Universities, Southern Association of Colleges and Schools, and the Western Association of Schools and Colleges.

2. A grade of “C” or better in a statistics course.

3. A minimum cumulative Grade Point Average (GPA) of 3.0 on a 4.0 scale.

**PHYSICIAN ASSISTANT PROGRAM**

1. A minimum of 60 semester credits from a college or university accredited by a regional accrediting organization recognized by the Council for Higher Education Accreditation (CHEA), such as the Middle States Association of Colleges and Schools, New England Association of Schools and Colleges, North Central Association, Northwest Commission on Colleges and Universities, Southern Association of Colleges and Schools, and the Western Association of Schools and Colleges.

2. A minimum, cumulative Grade Point Average (GPA) of 2.95 on a 4.0 scale.

3. A minimum of 225 hours of health-related experience. This work experience can include a nurse, nurse’s aide, compter, medical laboratory technician, respiratory therapist, emergency medical technician, or any health-care setting. Direct patient care experience must be obtained as a result of clinical training in the health professions. Volunteer direct patient care experiences and shadowing may also be used as meeting this requirement. However, non-clinical experiences completed in a hospital setting, such as candy striper or any other such experiences, cannot be applied towards meeting this requirement.

4. A minimum of 150 hours non-clinical volunteer work (i.e., community service). Acceptable experiences must be socially responsive and lean heavily towards meeting human needs. Please visit these and other appropriate sites to explore your opportunities. Volunteer community service hours, if needed.

5. New York Cares (www.newyorkcares.org)

6. VoluntaryNYS.org (www.voluntarynys.org)

7. SUNY Downstate Medical Center

**OPTIONS FOR REGISTERED NURSES**

Advanced Certificate, Midwifery

1. A master’s degree in a related field (as determined by the Midwifery faculty) from a college or university accredited by a regional accrediting organization recognized by the Council for Higher Education Accreditation (CHEA), such as the Middle States Association of Colleges and Schools, New England Association of Schools and Colleges, North Central Association, Northwest Commission on Colleges and Universities, Southern Association of Colleges and Schools, and the Western Association of Schools and Colleges.

2. A grade of “C” or better in a statistics course.

3. A minimum cumulative Grade Point Average (GPA) of 3.0 on a 4.0 scale.

**More than one course may be required to fulfill this requirement.

**PHYSICAL THERAPY PROGRAM**

1. A minimum of 80 semester credits from a college or university accredited by a regional accrediting organization recognized by the Council for Higher Education Accreditation (CHEA), such as the Middle States Association of Colleges and Schools, New England Association of Schools and Colleges, North Central Association, Northwest Commission on Colleges and Universities, Southern Association of Colleges and Schools, and the Western Association of Schools and Colleges.

2. At least 5 semester credits must be completed at the college at the junior or senior level.

3. A minimum, cumulative undergraduate Grade Point Average (GPA) of 3.0 on a 4.0 scale.


5. A minimum of 50 hours of clinical experience in a physical therapy setting. At least 25 hours of the volunteer/paid work or with a Medicare reimbursement.

6. Letters of recommendation: one from a physical science professor, the other from a physical therapist.

7. Online courses are accepted for prereq- uisites, but in a physical therapy setting (wet lab) for science courses that require labs.

8. Admissions preference will be given to applicants who have engaged in interactive classroom and extracurricular activities during their undergraduate college experience.

9. Online courses are accepted for prerequisites, but we prefer a college laboratory setting (wet lab) for science courses that require labs.

10. A grade of “C+” is the acceptable minimum in the following prerequisite courses.

**SUBJECT** | **CREDITS**
---|---
Anatomy & Physiology 1 with labs and | 8
Anatomy & Physiology 2 with labs | 8
General Biology 1 with lab | 8
General Chemistry 1 with lab | 8
Microbiology (not Bacteriology) with labs | 8
General Chemistry 2 with lab | 8
Psychology | 3
Abnormal Psychology or Life Span Psychology | 3
English ** | 3
Humanities or Social Science courses | 6

1. One upper-division science course.

2. A minimum cumulative Grade Point Average (GPA) of 2.95 on a 4.0 scale.

3. A minimum of 225 hours of health-related experience. This work experience can include a nurse, nurse’s aide, compter, medical laboratory technician, respiratory therapist, emergency medical technician, or any health-care setting. Direct patient care experience must be obtained as a result of clinical training in the health professions. Volunteer direct patient care experiences and shadowing may also be used as meeting this requirement. However, non-clinical experiences completed in a hospital setting, such as candy striper or any other such experiences, cannot be applied towards meeting this requirement.

4. A minimum of 150 hours non-clinical volunteer work (i.e., community service). Acceptable experiences must be socially responsive and lean heavily towards meeting human needs. Please visit these and other appropriate sites to explore your opportunities. Volunteer community service hours, if needed.

5. New York Cares (www.newyorkcares.org)

6. VoluntaryNYS.org (www.voluntarynys.org)

7. SUNY Downstate Medical Center

**OPTIONS FOR MIDWIVES**

**Master of Science Completion, Midwifery**

1. A baccalaureate degree in any discipline from a college or university accredited by a regional accrediting organization recognized by the Council for Higher Education Accreditation (CHEA), such as the Middle States Association of Colleges and Schools, New England Association of Schools and Colleges, North Central Association, Northwest Commission on Colleges and Universities, Southern Association of Colleges and Schools, and the Western Association of Schools and Colleges.

2. A grade of “C” or better in a statistics course.

3. A minimum cumulative Grade Point Average (GPA) of 3.0 on a 4.0 scale.

**PHYSICIAN ASSISTANT PROGRAM**

1. A minimum of 60 semester credits from a college or university accredited by a regional accrediting organization recognized by the Council for Higher Education Accreditation (CHEA), such as the Middle States Association of Colleges and Schools, New England Association of Schools and Colleges, North Central Association, Northwest Commission on Colleges and Universities, Southern Association of Colleges and Schools, and the Western Association of Schools and Colleges.

2. A minimum, cumulative Grade Point Average (GPA) of 2.95 on a 4.0 scale.

3. A minimum of 225 hours of health-related experience. This work experience can include a nurse, nurse’s aide, compter, medical laboratory technician, respiratory therapist, emergency medical technician, or any health-care setting. Direct patient care experience must be obtained as a result of clinical training in the health professions. Volunteer direct patient care experiences and shadowing may also be used as meeting this requirement. However, non-clinical experiences completed in a hospital setting, such as candy striper or any other such experiences, cannot be applied towards meeting this requirement.

4. A minimum of 150 hours non-clinical volunteer work (i.e., community service). Acceptable experiences must be socially responsive and lean heavily towards meeting human needs. Please visit these and other appropriate sites to explore your opportunities. Volunteer community service hours, if needed.

5. New York Cares (www.newyorkcares.org)
8. A letter grade of "C" or better in each of the following prerequisite courses:

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>CREDITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatomy &amp; Physiology 1</td>
<td>4</td>
</tr>
<tr>
<td>Anatomy &amp; Physiology 2 with labs*</td>
<td>4</td>
</tr>
<tr>
<td>Anatomy &amp; Physiology 2 with labs** or General Biology 1 with labs</td>
<td>4</td>
</tr>
<tr>
<td>General Biology 2 with labs</td>
<td>4</td>
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<tr>
<td>General Chemistry 1 with labs and General Chemistry 2 with labs</td>
<td>8</td>
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<tr>
<td>General Physics 1 with labs and General Physics 2 with labs</td>
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<td>General Psychology</td>
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<td>Psychology Elective</td>
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<tr>
<td>Statistics</td>
<td>3</td>
</tr>
<tr>
<td>English</td>
<td>Three (3), Upper Division (junior/senior) courses***</td>
</tr>
</tbody>
</table>

Please note: A minimum grade of "B" is preferred in all science prerequisite courses. Only science courses designed for science majors are acceptable. All required sciences must be less than 10 years old for all applicants.

* You must complete at least 1 semester of Anatomy & Physiology

** The same Anatomy & Physiology course can only be counted once, either above or here

*** These courses must all be from the same area of study or the same discipline (e.g., nine upper-division credits in biology or history).

ADMISSIONS PROCEDURES

Applicants are reminded to read the SUNY Downstate Application Instructions before applying online to their program of interest.

A self-administered application package is required for admission to all programs. A complete application includes all of the items listed on the Application Cover Sheet. The entire application must be submitted in one envelope at one time, and it should include the web application summation, application fee, cover sheet, sealed transcripts, sealed letters of recommendation, and any other documents mentioned on the Application Cover Sheet. Applicants are reminded to adhere to the admission deadlines.

Application questions may be forwarded by e-mail to: admissions@downstate.edu.

Specific questions regarding admissions requirements or course equivalencies may be sent to the program office. Since the admission process relies on e-mail as the primary means of communication with applicants, it is essential for all applicants to provide a valid e-mail account on the application form as well as timely updates as necessary.

GENERAL ADMISSIONS POLICIES AND INFORMATION

The Admissions Committee considers the individual qualifications of each applicant. Decisions regarding admission are based on a number of factors, including, but not limited to, the following:

• prior academic performance;
• completion of prerequisite courses and the grades received in those courses;
• results of standardized tests, when required;
• letters of recommendation, communication skills, and motivation to pursue the profession; and
• volunteer or observational experience in the career field.

Entrance requirements vary by individual program. Competitive applicants have completed all prerequisite courses at the time of application. All prerequisites must be completed with a grade of "C" or better (a grade of "C minus" is not acceptable). In some programs, higher grades may be required to be competitive for admission.

Prerequisite science courses taken more than 10 years ago may be accepted at the discretion of the Admissions Committee.

Once completed applications are reviewed, the Admissions Committee will notify applicants by letter, email, or telephone about their status. Please do not telephone the Admissions Office to inquire about your status, as this will only delay processing.

The following programs require a personal interview as part of the application process:

• Diagnostic Medical Imaging
• Medical Informatics
• Midwifery
• Advanced Certificate in Midwifery
• Bachelor’s in Nursing/Midwifery
• Occupational Therapy
• Physician Assistant
• Physical Therapy

We recommend that you have volunteer or observational experience in a setting appropriate to your career choice, preferably before you apply. In some programs, direct patient care or specific health-care experience is required for admission.

Educational programs at SUNY Downstate Medical Center are open to all qualified prospective students regardless of race, religion, sex, color, creed, age, national origin, disability, sexual orientation, marital status, or status as a disabled veteran or veteran of the Vietnam era. Admissions preference is given to New York State residents.

Official transcripts from all U.S. colleges/universities you have attended must be submitted in your application package, regardless of how long ago you attended and whether or not courses from those colleges/universities are being used for prerequisite courses. Please indicate on the application any courses in progress, or the processing of your application will be delayed.

We only accept credits from the Council of Higher Education (CHEA) regional accreditation organizations such as Middle States Association of Colleges and Schools, New England Association of Schools and Colleges, North Central Association, Northwest Commission on Colleges and Universities, Southern Association of Colleges and Schools, and Western Association of Colleges and Schools.

The College Board (CLEP) (609) 771-7665
www.collegeboard.com/clbp

Dantes Subject Standardized Tests (877) 471-0660 www.gotcollegecredit.com

Excelsior College (888) 647-3588 excelselor.edu/exams

STUDIES COMPLETED OUTSIDE OF THE UNITED STATES

Applicants who have completed all or part of their post-secondary, college/university education in a country other than the United States are required to have a course-by-course, detailed educational credential evaluation. The evaluation must be completed by a member of the National Association of Credential Evaluation Services (NACES). For a list of approved evaluation agencies, please review the NACES website at www.naces.org.

If your courses taken outside the U.S. have already been evaluated by an accredited U.S. college or university, and your grades are listed on the college transcript individually with credit hours and grades, you may submit the transcript without a separate credential evaluation. However, if you are using any of the credits toward prerequisite courses for admission, you must still submit a complete course-by-course evaluation from a NACES member agency, even if the course are listed on a transcript from a U.S. college or university.

CREDIT BY EXAMINATION PROGRAMS

If you are fulfilling admissions requirements through the College-Level Examination Program (CLEP) examination, Regents College examinations, or Excelsior College examinations, you must follow the list of approved CLEP tests at the College Board or the University. For more information, email admissions@downstate.edu.

Applications are reviewed on a modified rolling admissions basis. For specific information regarding application processing fees and admissions deposits, go to: http://sls.downstate.edu/admissions/chrp/ProcessingFee.html

NOTE: Applicants to programs in the College of Health Related Professions are limited to a maximum of 12 credit hours of prerequisite coursework credit by exam.

Credit by exam cannot be used for prerequisite courses that require a laboratory component.

NOTIFICATION OF ADMISSION STATUS

Notification of admissions decisions is made in writing. We cannot communicate an admissions decision over the telephone. Once you are sent notification that your application has been sent to the Admissions Committee, please be patient and wait for written notification of your status.

Applicants to programs starting in June must submit their completed applications by mid-November to receive full consideration. Early applications are encouraged. Late applications will be reviewed on a space-available basis.

In general, programs with a June entry date will reach their final admissions decisions by mid-May, although admissions decisions may be reached earlier. Applicants to programs starting in the fall should submit their completed applications by March 1 to receive full consideration. Early application is encouraged. Late applications will be reviewed on a space-available basis.

In general, programs with a fall entry date reach their final admissions decisions by August 1, although admissions decisions may be reached earlier.

Applications are reviewed on a modified rolling admissions basis. For specific information regarding application processing fees and admissions deposits, go to: http://sls.downstate.edu/admissions/chrp/ProcessingFee.html

Admissions decisions are final and may not be appealed.

Applicants who are not accepted for admission may reapply with enhanced credentials. You may register on-line to receive an Information Session and receive re-applicant advisement.

NOTE: Applicants to programs in the College of Health Related Professions are limited to a maximum of 12 credit hours of prerequisite coursework credit by exam.

Credit by exam cannot be used for prerequisite courses that require a laboratory component.

HEALTH-CARE EXPERIENCE

All applicants are urged to seek professional observational or volunteer experience in an appropriate setting prior to applying for admission. In most programs, it is assumed that you will have made at least one visit to a health-care facility or other appropriate health-related organization. Please familiarize yourself with your chosen career field at the time of your application. Please review the admissions requirements for specific health-care experience as listed by each program.

REQUIRED EXAMINATIONS

Graduate Record Examination (GRE) is only required for Physical Therapy applicants. For information about the exam, contact GRE

Box 600
Princeton, NJ 08541
www.gre.org
(609) 771-7670

Use the SUNY Downstate Institutional Code: 8639

Test of English as a Foreign Language (TOEFL) is required for all applicants for whom English is a second language and who have not completed at least one year of full-time study in a regionally accredited college or university in the United States (at least 24 semester credits, including both courses in English composition).

TOEFL Box 6151
Princeton, NJ 08541
(609) 771-7100
www.toefl.org

Use the Downstate Institutional Code: 2534

Please note: Your application is not considered complete without the required standardized test score(s).
CERTIFICATION/LICENSE DOCUMENTATION
Midwifery:
a. Registered nurse applicants: RN license to practice as a professional nurse in any of the 50 states.
b. Master of Science Completion Program applicants by the American College of Nurse-Midwives (ACNM) Certification Council or its successor since 2008, the American Midwifery Certification Board (AMCB). You must submit photocopies of your certification and bachelor’s degree (or its equivalent);

or
Evidence of alternative eligibility to practice (such as New York State licensure).

PART-TIME STUDY
Part-time study is available in the following programs:
• Medical Informatics
• Midwifery
• Occupational Therapy

(early first semester)

SECOND DEGREE APPLICANTS
If you already hold a bachelor’s, master’s, or doctoral degree, you must still fulfill the same admission requirements, including prerequisite courses, and follow the same procedures as other applicants.

EDUCATIONAL OPPORTUNITY PROGRAM (EOP)
If you were previously enrolled in a SUNY EOP, a CUNY SEEK, or a College Discovery Program, or HEOP at an affiliated college or university in New York State, you may be eligible to continue in this program. If you believe you meet this criterion, go to: http://sds.downstate.edu/finan_cialaid/documents/eopform.pdf to complete the required form, which is independent of the application process (and does not have to be included in your self-administered application).

INTERNATIONAL APPLICANTS
Our entering classes are small and admissions priority is given to U.S. citizens and permanent residents, who are New York State residents. Applicants to highly competitive programs may have difficulty being accepted due to the large number of qualified applicants. International students may apply but must demonstrate their ability to finance their education as part of the admissions process (see Department of State requirements for an F-1 visa). Federal financial aid or private grants for international students are not available. All international applicants must document their ability to finance their entire education (total length of the program) as part of the admissions process. Student financial aid offers are posted on the SUNY Downstate Financial Aid website. The costs of attendance will be based on a 12-month budget for an out-of-state student, including tuition, fees, educational and living expenses.

TRANSFER CREDIT
There are two types of transfer credit: transfer credit to meet admission requirements, and Program of Study transfer credit.

Transfer Credit to Meet Admission Requirements
Courses taken in the United States must be from a college or university accredited by a Council for Higher Education Accreditation (CHEA) recognized regional organization, or the Middle States Association of Colleges and Schools, New England Association of Schools and Colleges, North Central Association, Northwest Commission on Colleges and Universities, Southern Association of Colleges and Schools, and the Western Association of Schools and Colleges. All courses must be presented on original official transcripts from the educational institution where the courses were completed. For courses taken at institutions outside the United States, a course-by-course, detailed educational credential evaluation must be submitted from a NACES-affiliated agency.

Program of Study Transfer Credit
This type of transfer credit is considered on an individual basis for select programs. (Note: The Physician Assistant Program does not grant Program of Study transfer credit.) The credits are applied to your program of study at SUNY Downstate. Transfer credit may be offered whenever:
1. the nature, content, and level of the course are comparable to the course offered by SUNY Downstate;
2. the credit earned is appropriate and applicable to the programs offered by SUNY Downstate; and
3. a minimum letter grade of “C” or better has been earned in an accredited course, or a grade of “B” or better is needed for a graduate course.

Students should initiate a request for Program of Study transfer credit through their faculty advisor/program office during the first semester after matriculation in their program.

The Occupational Therapy program may award graduate transfer credits for courses comparable to those offered by the college. When necessary to meet the content requirements of the Accreditation Council for Occupational Therapy Education, students will be required to complete specified course components or assignments before transfer credit is awarded.

Certified nurse-midwives and certified midwives who graduated from a midwifery program accredited by the Accreditation Commission for Midwifery Education (ACME) applying to a master’s degree should meet all the admissions requirements for the master’s degree program.

The Midwifery program faculty will evaluate the number of transfer credits the applicant is eligible to receive.

For more information on Program of Study transfer credit, please speak to a representative of the program to which you are seeking admission.

APPLICATION DEADLINES AND TIMELINES

Programs starting in June
The deadline for submitting a completed application for the Occupational Therapy, Physician Assistant and Physical Therapy programs is mid-November. The specific deadline will be posted on the Admissions page on the Downstate website. An early submission of application is encouraged. Applications received after the deadline will be considered on a space-available basis. Prepare your application package in advance, and mail it to insure receipt by the posted deadline.

a. If you are currently enrolled in college or taking prerequisite courses, download a photocopy of your fall semester course registration and most recent grade report (the one you receive in the mail or printout from your college’s student information system) in your application. Also download a printout or photocopy of your spring semester course registration. This information (course names, credit hours, etc.) will give us the most up-to-date information about your academic background.

b. If you will be taking prerequisite courses at your current college during the fall and spring semesters in the year of application, include a photocopy of your course registration confirmation form, if available. If it is not available, please forward your spring registration and fall transcripts to the Office of Admissions by January 15th. This will give us the most up-to-date information about your academic background.

Programs starting in August
The Diagnostic Medical Imaging, Medical Informatics, and Midwifery programs begin in August of the academic year.

Early March: Deadline for Diagnostic Medical Imaging
Mid-April: Deadline for Medical Informatics
Mid-April: Deadline for Midwifery

Early submission of application is highly recommended. If you are currently enrolled in college or taking prerequisite courses, include a photocopy of your fall semester course registration and most recent grade report (the one you receive in the mail or printout from your college’s student information system) in your application package. Also, include a printout or photocopy of your spring semester course registration. This information will give us the most up-to-date information.

RE-APPLICANTS TO DEGREE PROGRAMS
Within one year of the initial application, reapplicants must submit the supplemental application and fee, one new letter of recommendation, and updated official college transcripts. Additional information may be required. Only those reapplicants who have enhanced their applications are encouraged to reapply.

Reapplicants who applied more than one year ago must resubmit the same information and follow the same instructions as first-time applicants.

DEFERRALS
If you are accepted for admission and wish to request a deferral, you must submit a written request to the Admissions Office by fax or e-mail at least two weeks prior to the registration deadline for your class. The letter must include the reason you are requesting a deferral, your name, and the name of your program. All requests for deferrals must be approved by the College Admissions Committee. Approval will be sent to you in writing. In general, deferrals are only granted for one year.

The following programs offer deferral:
• Medical Informatics
• Midwifery

College of Health Related Professions – Program E-mail Addresses
Diagnostic Medical Imaging: DMI.CHRP@downstate.edu
Medical Informatics: MIF.CHRP@downstate.edu
Midwifery: Midwifery.CHRP@downstate.edu
Occupational Therapy: OT.CHRP@downstate.edu
Physical Therapy: PT.CHRP@downstate.edu
Physician Assistant: PA.CHRP@downstate.edu
downstate.edu

APPLYING INSTRUCTIONS
Follow all instructions found on our website at: http://sds.downstate.edu/admissions/chrp/index.html for the program of your choice. This is an online application, and you will be downloading transcripts and other information.

PLEASE NOTE: Admissions requirements, procedures, and policies are subject to change. Check the website for any new requirements and application materials.

[The rest of the text continues with information about specific programs and their requirements.]

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COLLEGE OF HEALTH RELATED PROFESSIONS
Academic Programs

Diagnostic Medical Imaging Bachelor of Science
Medical Informatics Master of Science
Midwifery Program Master of Science Advanced Certificate
Occupational Therapy Program Master of Science
Physical Therapy Program Combined Bachelor of Science/Doctor of Physical Therapy
Physician Assistant Program Bachelor of Science

CHRP offers courses of study in Diagnostic Medical Imaging and Physician Assistant leading to a bachelor of science degree. These programs are open to upper-division transfer students.

Master’s degree programs are available in Medical Informatics, Occupational Therapy, and Midwifery. CHRP offers a master’s degree and an advanced certificate in Midwifery to registered nurses as well as non-RNs. Nurses who have an RN and a bachelor’s degree can obtain a master’s degree with a specialization in Midwifery through the College of Nursing.

ACCRREDITATION
SUNY Downstate Medical Center is accredited by the Middle States Commission on Higher Education. The academic programs of the College of Health Related Professions are accredited with the New York State Department of Education and by their respective national professional organizations.

STUDENT RETENTION
The College’s student retention rate is excellent. Over 80 percent graduate within 150 percent of the normal program time.

PROGRAMS AND HEGIS CODES

<table>
<thead>
<tr>
<th>Bachelor of Science Programs</th>
<th>Diagnostic Medical Imaging</th>
<th>1225</th>
<th>Physician Assistant</th>
<th>1299.10</th>
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<tr>
<td>Combined BS/DPT Program</td>
<td>BS Health Sciences</td>
<td>1201</td>
<td>DPT Physical Therapy</td>
<td>1212</td>
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<td>Master of Science Programs</td>
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<td>Midwifery</td>
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<td>Advanced Certificate Programs</td>
<td>Midwifery</td>
<td>1203.10</td>
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DIAGNOSTIC MEDICAL IMAGING

Bachelor of Science
Chairperson and Associate Professor
Yuefei Hou
Medical Director
Harri L. Cohen
Program Administrator
Kanseelah Faizan
Assistant Professor
Rivka Hellmann
Clinical Assistant Professor
Douglas Denet, Matthew Panasen, Erynn Struk, Jason Tang-Semmon

Advance Faculty
Armour Bajaj, Robert Carson, Choua Danielle, Tom Hoffman, Mike Kalogranis, Jason Latar, Kenneth Martinez, Joyce Miller, Chepa Sara Neubach, Shyaml Panai, Dorryn Scipioni, Daniel Zien

Clinical Faculty

Diagnostic medical sonography is one of the fastest growing diagnostic fields. It is used in nearly every medical specialty and in every type of medical care setting. The technology uses a noninvasive, painless, and acceptably safe energy source—high frequency sound—to obtain detailed and dynamic images of the organs within the body. Medical sonographers must have extensive knowledge of anatomy, pathophysiology, physics, and the medical and biological sciences.

The Diagnostic Medical (DMI) Program of SUNY Downstate was established in 1972 and was the first program of its kind in the United States to offer a Bachelor of Science degree with a major in sonography. Accredited in General and Cardiac Concentrations, our curriculum integrates the basic and medical sciences with sonography courses, and provides coursework and clinical training in all major disciplines and specialties of ultrasound (abdomen, obstetrics and gynecology, cardiology, vascular). With this strength, our graduates are prepared to enter the workforce with multiple skill sets, and are highly sought by clinical affiliates and other clinical institutions. Our state-of-the-art student laboratory incorporates technology, innovation, and the latest teaching techniques including simulation and hands-on activity. Our graduates are all registry-eligible and qualify to take the National ARDMS examinations with very successful results.

CAREER OPPORTUNITIES
Students who graduate from the Diagnostic Medical Imaging program are qualified for careers as clinicians, educators, and administrators in private or academic practice. Most graduates find employment in hospitals and health-related settings. Others are educators and administrators in universities and colleges, while some work for equipment manufacturers as clinical education and or application specialists.

ADMISSION REQUIREMENTS
Please refer to pp. 9-15 of this Bulletin. Check for the latest requirements and apply online through the Admissions section of Downstate’s website: http://slc.downstate.edu/admissions/chrp/dmi/index.html.

GRADUATION HONORS
Overall Excellence Award – presented to a graduating student with a cumulative grade point average (GPA) of 3.3 or higher, who has consistently received good evaluations from clinical instructors and who contributes significantly to either the Diagnostic Medical Imaging program, student life, or the community.

Academic Excellence Award – presented to a graduate with a GPA of 3.5 or higher with a minimum of “good” evaluations for clinical performance. This award will be given to the individual with the highest GPA meeting these criteria.

Outstanding Student Contribution Award – presented to a graduating student for outstanding contributions to the program, the profession, and the SUNY Downstate community. The student must have a minimum GPA of 2.5.

Certificate of Achievement Award – presented to a graduating student who passed the American Registry of Diagnostic Medical Sonography while in the program.

Research Award – presented to a graduating student or group who have conducted the best research project.

Please refer to pp. 9-15 of this Bulletin. Check for the latest requirements and apply online through the Admissions section of Downstate’s website: http://slc.downstate.edu/admissions/chrp/dmi/index.html.

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Because of the rapidly changing technological developments in sonography, job opportunities and new roles continue to emerge, offering graduates excellent opportunities for employment and career growth. According to the Bureau of Labor and Statistics employment for sonographers is expected to grow 46 percent by the year 2022.

**CURRICULUM**

- **College of Health Related Professions**
- **SUNY Downstate Medical Center**
- **Course Descriptions**

The curriculum is reviewed periodically. Please consult the program webpage http://www.downstate.edu/CHRP/dmi/culriculum.html.

**ANAT 3105 Introduction to Human Gross Anatomy**

Anatomy is the study of the structure and shape of the body, body parts, and their relationships to each other. This course is designed to provide the student with a systematic description of the anatomical structures, their functions and their topographical relationships, while enabling them to accurately identify and differentiate normal versus abnormal tissue. The student will also learn to describe the gross anatomy of all organ systems with special emphasis on those systems relevant to the ultrasound profession. Lecture and presentations. 3 credits.

**DIMI 3101 Sonography I (Abdomen-Gyn)**

This course provides a comprehensive study of the sonography of the abdomen and female pelvis (obstetrics and gynecology). The course includes sonographic terminology, indications for testing, sonoanatomic techniques, and appearances. The student will also learn the criteria for developing diagnostic and interpretative skills based on sonoanatomic findings. Course co-requisites: DIMI 3110, DIMI 3235. Lecture. 3 credits.

**DIMI 3102 Sonography II**

This course provides an overview of the basic concepts of ultrasound physics, including the theory of sound waves, ultrasonic energy, medium interaction, including the theory of sound waves, and Doppler principle and color and spectral Doppler instrumentation. Lecture. 3 credits.

**DIMI 3106 Physical Human Physiology**

This course provides an understanding of physiological mechanisms with a focus on the human body. Basic concepts, cellular physiology, including cellular metabolism, membrane transport, action potential, and cellular communication are covered. A comprehensive study of the functions and interrelationships of the nervous, endocrine, muscular, circulatory, respiratory, digestive, endocrine, and reproductive systems are studied with an emphasis on the homoeostatic nature of these systems with reference to human disease states. Lecture. 3 credits.

**DIMI 3107 Medical and Surgical Diseases of the Abdomen**

This course covers the study of diseases affecting the abdominal organ systems. Pathophysiology is described as well as clinical symptoms, applicable diagnostic techniques, treatment procedures, and adult prognoses. This course provides the background for understanding manifestations of disease as seen on sonograms. Lecture. 2 credits.

**DIMI 3108 Scanning Skills Lab**

This course will introduce sonography students to the basics of ultrasound scanning, including transducer orientation, machine knowledge, and basic scanning techniques. Real-time scanning and simulation activities will be utilized to enable the first semester student to develop the skills needed in the clinical setting. Course co-requisites: DIMI 3101, DIMI 3110. 1 credit.

**DIMI 3110 Clinical Internship I**

This course is an introductory lab for acquiring basic skills in area of specialty ultrasound training. The student will learn to properly manipulate ultrasound machine controls and operate equipment in the lab and demonstrate the ability to use proper scanning technique in performing abdominal and obstetrical and gynecologic examinations. They will continue to develop increased ability to interpret sonographic findings and formulate differential diagnosis in common pathologies. Instructional settings include hospitals, clinics, and simulation laboratories. Clinical project required. Lectures and practical demonstrations. 1 credit.

**DIMI 3115 Cross-Sectional Anatomy of the Abdomen and Pelvis**

This course involves extensive study of the abdominal organ systems. These are studied primarily in adult, sagittal, and coronal tomographic planes. Emphasis is placed on the anatomic relationships among organs. Prerequisite: ANAT 3105. Lecture-laboratory. 3 credits.

**DIMI 3200 Sonography II (Ob-Gyn and Abdomen)**

Advanced study in obstetric, gynecologic, and abdominal ultrasound with emphasis on differential diagnoses, clinical correlation, and familiarization with state-of-the-art applications of sonography. Small clinics ultrasound included as well as introduction to pediatric screening. Lecture. Prerequisites: DIMI 3101, ANAT 3105, DIMI 3102, DIMI 3106, DIMI 3110, DIMI 3235, and corequisite DIMI 3210, DIMI 3202. 4 credits.

**DIMI 3202 Sonographic Physics II**

This course provides for the advanced study in wave theory with special emphasis on spectral power, color, and Doppler as they pertain to all sonographic applications. Also, special emphasis on quality assurance and quality control as well as innovations in sonography, e.g., 3D and 4D imaging, the use of contrast mediums to improve image quality, enhance diagnosis, harmonic imaging, picture archival and communication systems, anatomical and thermal indices, and M-Mode imaging are covered. Lecture-laboratory. Prerequisite: DIMI 3200. Lecture. 3 credits.

**DIMI 3203 Obstetrics and Gynecology**

The normal anatomy and physiology of the reproductive system is taught. Normal and abnormal fetal development are explained, including etiology, treatment procedures, and diagnostic techniques for abnormalities. Students also learn basic concepts of birth control, family planning, and infertility treatment. Diseases affecting the reproductive tract are studied in terms of clinical symptoms, appropriate diagnostic techniques, treatment procedures and prognosis. This course provides the foundation for understanding manifestations of disease on sonograms. Lecture. 2 credits.

**DIMI 3210 Clinical Internship II**

This course is a continuation of Clinical Internship I. The student will spend two days a week at a clinical site. The student will learn to properly manipulate ultrasound machine controls and operate equipment in the lab and demonstrate the ability to use proper scanning technique in performing abdominal and obstetric and gynecologic examinations. They will continue to develop increased ability to interpret sonographic findings and formulate differential diagnosis in common pathologies. Instructional settings include hospitals, clinics, and simulation laboratories. Clinical project required. Lecture. Prerequisites: DIMI 3110. 2 credits.

**DIMI 3217 Cross-Sectional Anatomy of the Abdomen and Pelvis**

This course involves extensive study of the abdominal organ systems. These are studied primarily in adult, sagittal, and coronal tomographic planes. Emphasis is placed on the anatomic relationships among organs. Prerequisite: ANAT 3105. Lecture-laboratory. 3 credits.

**DIMI 3228 Monitoring and Assistance of the Patient**

This course teaches the student sonographer techniques for assisting and monitoring the patient who is being examined. Lectures and practical demonstrations are given on patient privacy and safety. This course is an introduction to current sonographic applications. Correlation with cardiology, neurology, genitourinary, and physical therapy will also be introduced. Lecture, laboratory. Prerequisites: DIMI 3101, DIMI 3200, DIMI 3208. 3 credits.

**DIMI 3235 Medical and Surgical Diseases of the Thorax and Head**

This course teaches the student sonographer techniques for assisting and monitoring the patient who is being examined. Lectures and practical demonstrations are given on patient privacy and safety. This course is an introduction to current sonographic applications. Correlation with cardiology, neurology, genitourinary, and physical therapy will also be introduced. Lecture, laboratory. Prerequisites: DIMI 3101, DIMI 3200, and DIMI 4009; course co-requisite DIMI 4110. 4 credits.

**DIMI 4009 Cardiology**

Normal anatomy, physiology and hemodynamics of the heart is taught. Diseases affecting the heart are described, including pathophysiology, clinical symptoms, diagnostic techniques, treatment procedures and prognosis. This course provides the background for understanding manifestations of disease on echocardiograms. Lecture. 2 credits.

**DIMI 4010 Clinical Internship III**

Abdominal and obstetrical and gynecologic 5-day week, five-days-a-week clinical rotation. Students hone their scanning skills in the clinical setting while learning to formulate and report preliminary impressions and differential diagnosis in common pathologies. Instructional settings include hospitals, clinics, and simulation laboratories. Clinical project required. Clinical project required. Prerequisites: DIMI 3110, DIMI 3200, and DIMI 3210. 3 credits.

**DIMI 4013 Vascular Principles and Instrumentation**

This course teaches the anatomy and physiology of the cerebrovascular, peripheral arterial and venous systems. The carotid system, circle of wills, and upper and lower extremity arterial and venous vessels that are evaluated by ultrasound are identified and correlation to their sonographic appearance is taught. Also covered are concepts in vascular hemodynamics as related to current sonographic applications. Description of other imaging modalities that correlate with sonographic findings are covered in this course as well. This course also requires students to achieve scanning competence in carotid scanning. Lecture, laboratory. 5 credits.

**DIMI 4015 Introduction to Medical Statistics**

The fundamental principles of statistics are taught, including descriptive statistics, measures of central tendency, correlation, and measures of significance. This course is intended to provide a foundation for MSCI 4100 Research Methods and DIMI 4214 Research and Independent Study. Lecture, laboratory. 3 credits.

**DIMI 4035 Case Presentations**

Presentation of cases scanned or identified by students in their clinical experiences. This course focuses on the application of increasing skill in the following areas: correlation of didactic knowledge with actual pathology, critique of sonographic images for technique, experience researching topics in ultrasound journals, as well as broadening student exposure to unusual pathologies. Lecture, presentations. 1 credit.

**DIMI 4104 Sonography III (Echocardiography)**

Echocardiography is an imaging technique that uses ultrasound to examine the heart, its chambers, walls, and valves. Cardiac ultrasound is a unique way to evaluate the heart’s anatomy, structure, and function and is used to aid in diagnosis of cardiovascular disease. This course focuses on the adult heart. Scanning techniques, protocol, image acquisition, and instrumentation including 2D, M-mode spectral, and color-flow Doppler are taught, as well as hemodynamics. Tissue Doppler, strain, and strain rate are introduced. Topics such as normal and abnormal systolic/diastolic function, valvular disease, cardiomyopathy, coronary artery disease, aortic disease, pericardial disease, tumors, and infection are covered, as well as the diagnosis of congenital heart disease in the adult. Stress echo and TEE are also introduced. Correlation with cardiac physiology is stressed. Lecture, laboratory. Prerequisites: DIMI 3101, DIMI 3200, and DIMI 4009; course co-requisite DIMI 4110. 4 credits.

**DIMI 4110 Cross-Sectional Anatomy of Thorax and Head**

Examining the thorax, neck, and head regions. These are studied in axial, sagittal, and coronal planes. Emphasis is placed on the relationship between organs. Lecture, laboratory. Prerequisite: Anat 3105. 3 credits.
Clinical Internship IV
The student will spend two days a week at a cardiac clinical site. The student will practice proper cardiac scanning techniques using M-mode, 2D, and Doppler modalities to produce diagnostic echocardiograms. The student will integrate the didactic coursework with clinical practice to arrive at diagnostic interpretations. Instructional settings include hospitals, other healthcare facilities, or educational sites. Clinical project required. Prerequisites: DIMI 3110. DIMI 3210, DIMI 4009 and DIMI 4010. Co-requisite: DIMI 4104. 3 credits.

Fundamental Principles of Imaging Modalities
This course provides an overview of diagnostic imaging modalities that are complementary to diagnostic ultrasound. These include nuclear medicine, radiography, digital subtraction angiography, cardiac catheterization, positron emission tomography, CT, and MRI. The fundamental physical principles, technique, technology, and interpretive criteria of each modality are taught. Lecture. 2 credits.

Sonography IV (Pediatric Echocardiography)
An overview of normal and abnormal pediatric echocardiography with a focus on understanding the segmental approach to the anatomic and physiologic concepts of congenital heart disease. This course will include cardiac echocardiography with study of congenital anomalies and its imaging as seen on echocardiograms. Surgical and palliative repairs are introduced as well. Lecture. Prerequisites: DIMI 4009, DIMI 4104. 1.5 credits.

Clinical Internship V
This clinical rotation is the final clinical experience prior to graduation. It is a full-time, six-week experience. In this final rotation, the student learns to demonstrate competent entry-level sonographer skills. They should be able to deliver diagnostic quality examinations in Obstetrics/Gynecology, abdominal, small parts, vascular, and/or cardiac sono-graphic examinations by evaluating patient history, signs, and symptoms, using proper scanning technique, and appropriate equipment manipulation. The student will demonstrate the ability to interpret sonographic findings and provide a preliminary diagnostic impression, including differential diagnosis, and explain, appropriately, the sonographic examination procedure and findings to patients and health professionals. Instructional settings and assignments include hospitals, other healthcare facilities, or educational sites. Clinical project required. Prerequisites: DIMI 4310. 3 credits.

Sonography V (Vascular Ultrasound)
This course is an in-depth study of cerebrovascular and peripheral arterial and venous Duplex ultrasound. Cerebrovascular, venous, and peripheral arterial disease is studied, as well as identification of what imaging techniques are appropriate. Students learn advanced scanning techniques and complete scanning assignments as applied to abdominal vasculature, and peripheral arterial and venous protocols. Course also includes lectures, advanced topics, and emerging trends in ultrasound. Lecture, laboratory. Prerequisite: DIMI 4013. 2.5 credits.

Research and Independent Study
This course provides students who are on a modified course of study with an opportunity to bolster their skills in a specific area of interest/need. A faculty member is assigned as the course director to identify their specific goals and objectives to be achieved, select and describe methodology, and designate a final product. Students and faculty preceptors confer at mutually agreed upon intervals regarding the progress of the study. Elective offered on an as-needed basis. 1-3 credits.

Interdisciplinary Courses
See p. 46 for course descriptions.

MADM 3100 Health Care Delivery in the United States

INDI 5012 Technology-Free Clinic Experience

MSCI 4100 Research Methods

Medical Informatics
Master of Science Degree Chairperson and Associate Professor Joan T. Palley
Assistant Professor Valerie A. Noth Mohammad Fazel

Adjuvant and Clinical Faculty
Arzu Babayigit, Michael Beale, Lorraine Blake-Red, Chae Daniels, Michelle Daniels-DeVire, Darold Doshof, Frank Lau Dilip Nath, Peter ("Bunny") Passick, Ernest Prosh Fooks Tolle, Chifumnanya Umejei, Thomas Walker, Sumana Yan

Medical informatics professionals implement and manage a wide range of applications and systems that process health-generated information with the support of information technology. Informaticians integrate computerized health-information databases that store clinical information, radiographic images, and laboratory data that are critical for quality patient care. Several clinical settings have been found to influence the need for educational programs in informatics: expanding information technology, enhanced attention to quality assurance and patient safety, HIPPA regulations, and disease surveillance. The curriculum in medical informatics reflects the knowledge and skills necessary to organize, store, and retrieve complex health-information systems. Students are taught to work as members of the health-care team and to interact with health providers, technologists, and administrators to maximize medical data management. Students also learn the use of new technologies in communication and information management, including telecommunication, medical imaging systems, and digital libraries.

The Program
The Medical Informatics Master’s Degree Program is a 39-credit full-time or part-time course of study. The curriculum is designed to meet the needs of students from a wide range of backgrounds. The courses are sequenced to encompass an overview of the discipline of medical informatics and to develop competencies and skills required by the discipline.

The courses include database systems, network architecture, medical imaging systems, Internet integration, and medical decision support systems. Students are required to conduct an independent research study in medical informatics.

Accreditation
SUNY Downstate Medical Center is accredited by the Middle States Commission on Higher Education. The academic programs of the College of Health Related Professions are registered with the New York State Department of Education.

Admission Requirements
A bachelor’s degree or equivalent from an accredited academic institution is required for admission. Please refer to pp. 9-15 of this Bulletin. Check for the latest requirements and apply online through the Admissions section of Downstate’s website: http://sls.downstate.edu/admissions/chrp/mii/index.html.

Graduation Honors
Award for Excellence in Research—presented to a graduating student in recognition of excellence in student research work.
Award for Outstanding Service—presented to a graduating student outstanding contributions to the Medical Informatics Program, profession, and the Downstate community.
Award for Outstanding Leadership—presented to a graduating student for demonstrating outstanding leadership qualities.
Award for Academic Excellence—presented to a graduating student for outstanding academic performance.
Award for Clinical Excellence—presented to a graduating student for outstanding clinical performance and professionalism.

Career Opportunities
An increasing number of health-care employers are looking for graduates who possess knowledge and skills in the multifaceted field of medical informatics. Employers are looking for people with technical knowledge of computer and networks, problem-solving skills, communication skills, and experiences in health information systems. Job titles include Systems Administrator, Health Informaticist, Network Manager, Health Information Administrator, Clinical Services Manager, Application Analyst, Healthcare IT Software Trainer, Clinical Analyst, Clinical Information Specialist, EMR Application Analyst, Decision Support Administrator, Clinical Systems Integration Support Analyst, Clinical Systems Trainer, Informatics Nurse Specialist, Epic Support Analyst, and Physician Office Field Coordinator.

Joint Degree/MS/MPH
A joint degree program is offered with the School of Public Health leading to an MS/MPH degree. Please consult the Medical Informatics chairperson for further information.

Course Descriptions
MIMS 5001 Clinical Experience for Medical Informatics
This course provides an overview of computer science as a science of abstraction. The course introduces computer programming as the way of thinking. Students create modules and implement abstractions using data structures and algorithms. This course is intended for students with limited computer background. Lecture and computer lab experience. 3 credits.

MIMS 5002 Internet Integration in Health Care
This course provides an overview of the Internet and web integration into health care. The course addresses legal, social, and ethical issues as well as various techniques for creating attractive and functional web-based applications Lecture and computer lab. 3 credits.
MIMS 5100 Introduction to Medical Informatics
This course provides an overview of the medical informatics field from multiple perspectives: from medicine, computer science, and social science. The course covers the organization of medical information, the effective management of computer use, and the impact of technology on medical research, education, and patient care. Lecture and computer lab. 3 credits.

MIMS 5101 Database System Applications in Biomedicine
This course provides an introduction to the fundamentals of database system. Current database structures such as views, denormalization, and object-oriented are described and compared in terms of their applications in the health field. Emphasis is placed on relational database systems in health care. Lecture and computer lab. 3 credits.

MIMS 5102 Health Care Across the Lifespan
This course is designed to examine the health care from infancy to old age. This model will be drawn from disease states as they evolve across the lifespan. The course also includes a review of anatomy, physiology, and pathology of selected organ systems and their associated diseases. 3 credits.

MIMS 5110 Health-care Computer Network Architecture
This course provides an introduction to computer networks and their use in medicine. An overview of topologies of computer networks are covered. Network security as it applies to HIPPA regulations is also explored. Lecture and computer lab. 4 credits.

MIMS 5111 Research Methods
This course introduces students to the basics for performing in the develop- ment, implementation, and evaluation of research studies in medical informatics. Lecture and computer lab. 3 credits.

MIMS 5112 Medical Decision Support System
This course provides an introduction to methods of medical decision making in the face of uncertainty, as well as the implementation of electronic health record systems. The course includes training in methods of implementation, including project management, use of appropriate tools, and workflow analysis and redesign. It also covers the design and implementation of decision support and related topics, such as security, working remotely and in multidisciplinary teams, interoperability and HL7, healthcare terminologies, mobile devices, and meaningful use. Lecture and computer lab. 3 credits.

MIMS 5211 Master’s Essay in Medical Informatics
Students are required to develop a proposal for a research project in medical informatics to be carried out under the supervision of a faculty advisor, and to conduct the research. A written report on the results of a research project in medical informatics must be presented. Lecture. 3 credits.

MIMS 5201 Topics in Medical Informatics
This course provides a forum for analysis and discussion of various topics in the medical informatics literature under the direction of a faculty advisor. Lecture. 2 credits.

MIMS 5202 User Interface in Medical Informatics
This course provides an overview of theoretical, development, design, and assessment models and techniques in the field of intelligent user interfaces under an interdisciplinary approach (computer science, psychology, cognitive science, and artificial intelligence). Lecture. 3 credits.

MIMS 5203 Information Retrieval and Digital Libraries
This course provides an overview of information-retrieval methods with an emphasis on biomedical information retrieval. Lecture and computer lab. 3 credits.

MIMS 5204 Medical Imaging Systems
This course provides an introduction to computer graphics and medical imaging techniques. Methods of digital image processing are explored. 2-D and 3-D image modalities are reviewed and demonstrated through on-site medical equipment. Lecture and computer lab. 3 credits.

MIMS 5205 Evaluation of Health-care Information Systems
This course provides an overview of methods to evaluate the use of information and information systems in health care. Issues specific to information systems in health care—usability, quality, effect, difficulty, usability, knowledge-base evaluation, etc.—are highlighted. Case studies will be used to illustrate concepts. Elective. Lecture. 3 credits.

MIMS 5206 Independent Study
Students are provided an opportunity to independently explore current issues affecting Medical Informatics through evaluation and critical analysis of the current literature and practices. This course (for each student) would like to study a specific issue under the guidance of a faculty member or as a hands-on experience with a clinical proctor. Elective. 1–3 credits.

MIMS 5207 Clinical Internship in Medical Informatics
This course is designed to prepare students to meet the challenges of integrating computer systems into the framework of hospital administration, patient care, medical practice, and other aspects of the practice of informatics. Students may evaluate health-care information systems and their integration in clinical facilities and participate in use, integration, and observing clinical contexts of health-care information systems. Students may also participate in research and observation of those in various informatics roles, depending on their interests. Student activities depend on the needs of the clinical sites and can include devising evaluation criteria and tools, reviewing stakeholders, evaluating system interfaces, and analyzing the integration of the systems in the overall patient care effort of the clinical facility. 3 credits.

Interdisciplinary Courses
See p. 46 for course descriptions.

INDI 5014 Brooklyn Free Clinic Experience

MIDWIFERY

Master of Science in Midwifery

Advanced Certificate
Chairperson and Professor
Bonnie Lofgran

Clinical Associate Professor
Alison Lino-Okonaron

Clinical Assistant Professor
Maryanne Allyn, Suzanne Schenker

Clinical Professor (CNM/CHC)

The MIDWIFERY profession

Midwives who are certified by the American Midwifery Certification Board (AMCB) are prepared to provide prenatal care, labor and delivery management, postpartum care, well-woman gynecologic care, and newborn care. In addition, they are qualified for nurse-midwife. Nurses can choose either an MS degree in midwife- ry or nurse-midwife. The nurse-midwifery option requires a bachelor’s degree in nursing.

Requirements for Admission
Please refer to p. 9-15 of this Bulletin. Check for the latest requirements and application deadlines. You can view the section of Downstate’s website: http://sls.downstate.edu/admissions/chp/midwifery/index.html.

Program Objective

The objective of the program is to prepare midwives who are able to provide competent, appropriate, compassionate, and comprehensive primary health care to women from adolescence through their postmenopausal years; assume responsibility for the management of essentially normal women; and manage collaboratively the care of women selected with obstetrical, gynecologic, and medical problems.

The faculty has developed a curriculum that recognizes the special needs of adult learners and builds upon previous education and experience related to women’s health. Clinical practice is provided at a variety of facilities within the New York metropolitan area. Special provisions are also possible for clinical placements outside the state of New York. A 2.1 student/faculty ratio is maintained within the clinical and academic settings. The faculty works collaboratively with the College of Medicine’s Department of Obstetrics and Gynecology and shares teaching/research learning experiences with other programs within the College of Health Related Professions and the College of Nursing.
PROGRAM HISTORY
This program evolved from the first nurse-midwifery school in the United States. Initially founded in 1932 at the Maternity Center Association (MCA) in New York City, the program moved to Kings County Hospital in 1958 and in 1974 became an integral part of Downstate Medical Center.

Midwifery Program offers one of the first academic units of the College of Health Related Professions.

DIRECT ENTRY
In 1996, an innovative direct-entry option was created for qualified individuals from a variety of backgrounds who desire to become certified midwives. Prerequisite science and social science courses are tailored for this option. Once accepted, students may be required to successfully complete between one and three courses that have been specifically designed for them; in all other areas they will be fully integrated into the Midwifery Program along with their nurse peers. At the completion of their program of study, all students will have achieved the same program competencies as comparable levels of performance and may apply for licensure to practice midwifery in New York State. Certified midwives (as compared to certified nurse-midwives), may not receive automatic recognition in New York State. Perseverance, therefore, once licensed, their professional practice may be limited to those states with specific statutes recognizing this certification.

ACCREDITATION
The program is fully accredited by the Accreditation Commission for Midwifery Education (ACME) and is registered and approved by the New York State Education Department. For more information on midwifery accreditation, contact the ACME, 8403 Colville Road, Suite 1550, Silver Spring, MD 20910-6574; (204) 485-1802, http://www.acme.org/accreditation.

CAREER OPPORTUNITIES
Midwives work in private or group practices, alternative birth centers, health maintenance organizations, hospitals, and ambulatory-care centers. Although midwives are independent practitioners, they collaborate and consult with physicians and other health-care providers and initiate referrals as appropriate.

AWARDS FOR ACADEMIC AND CLINICAL EXCELLENCE IN MIDWIFERY
Academic Excellence Award

Clinical Excellence Award

Excellence in Research Award

Joan B. Ditchik Memorial Award

Laurie Ohrleit Faculty Recognition Award

Lily Hua Midwifery Student Scholarship Award

The Suzanne Lewis Reddick Spirit of Midwifery Award

The Nancy Moly Positionality Award

The Gigi Robbin Joval Midwifery Award

The Marilyn Carroll Award for Family Planning

In addition, the following awards are given to members of the midwifery graduating class by their peers:

Joan Zavitz Memorial Award for Persistence

Outstanding Student Leadership Award (only for Master’s students)

THE CHALLENGE MECHANISM
The Midwifery Program allows selected students to take certain courses via a challenge mechanism. Eligibility for the challenge mechanism as well as appropriate courses to challenge are determined after acceptance in consultation with the faculty. Eligible students include those who have graduated from an accredited nurse practitioner or physician assistant program, hold national certification or licensure in any state in an accepted health profession, or who have graduated from a regionally accredited midwifery or medical program in another country as verified by a member of the National Association of Credential Evaluation Services (NACES).

Challenge courses may be didactic or clinical. The student is accepted to the Midwifery Program, faculty will review whether or not he or she is eligible to take any of the midwifery courses via a challenge mechanism and will determine the student which courses they may challenge. The faculty and student will then develop a time frame for challenging courses. All challenged courses must be registered and paid for. There is no penalty for failing the challenge mechanism. The student who fails a challenge will then complete the course in the usual manner. Examinations are included in the challenge mechanism and will be made available to qualified students.

PROGRAM HANDBOOK
Note: MIDW courses must be taken by direct-entry students who do not hold RN credentials, unless exempted by the midwifery faculty. Course descriptions and requirements are subject to change and updated course descriptions are found on the program’s website.

MIDW 4001 Basic Health Skills
This course is designed to provide the student with the opportunity to learn or reinforce basic health skills in a classroom/laboratory setting. Upon completion of the course, the student will be able to: 1) demonstrate basic competence; 2) concern for human and environmental safety; and 3) sensitivity and respect for patients. Skills covered in this course include an introduction to: assessment of the patient—physical and psychosocial; medical ethics: principles of primary, secondary, and tertiary prevention; as well as crisis intervention; documentation and standard terminology; quality assurance; risk management, and health-care policy; understanding and obtaining basic laboratory and diagnostic tests, culture, and specimens; intervention skills such as bed-making, bed bath, transferring to chair/wheelchair/stretcher; feeding techniques; newborn resuscitation and postpartum; as well as a variety of other basic health care skills used in midwifery. 3 undergraduate credits.

MIDW 4002 Integrated Medical Sciences I
Unifying a systems approach, this course is designed to provide the student with an introduction to common health problems encountered among adult and pediatric populations and their appropriate medical and/or surgical interventions. Emphasis is placed on general health-status assessment and on the identification of deviations from the expected norms. The clinical component will include the student’s observation of a variety of female clients who are experiencing major biophysical health problems, to evaluate the effectiveness of the therapeutic programs already in place for them, and to formulate plans of care for their ongoing care. 3 undergraduate credits.

MIDW 4003 Integrated Medical Sciences II
The first segment of this course is designed to provide the student with an introduction to common health problems encountered among adult and pediatric populations and their appropriate therapeutic modalities. Emphasis is placed on general health status assessment and on the identification of deviations from the expected norms. The clinical component will include the student’s observation of a variety of infants and children who are experiencing biophysical health problems to evaluate the effectiveness of therapeutic programs already in place for them, and to formulate plans of care for ongoing management. The second segment of this course focuses upon mental health and psychosocial across all age groups. Emphasis is placed upon acute and long-term management of emotional problems. 3 undergraduate credits.

NRMW 5009 Obstetric Pharmacotherapeutics
This course provides basic concepts and underlying principles of pharmacologic management during pregnancy. Emphasis is given to pharmacokinetics during pregnancy, assessment of the newborn, knowledge and skills of resuscitation, as well as crisis intervention; documentation and updated course descriptions are included in the challenge mechanism and will be made available to qualified students. 3 graduate credits.

NRMW 5010 Professional Issues and Leadership in Midwifery
The purpose of this course is to prepare the student to assume the role and responsibilities associated with professional midwifery practice. The course introduces the student to the development of the professional midwifery role, the history, structure, and functions of the American College of Nurse-Midwives (ACNM), midwifery’s professional organization. Seminar will cover issues and politics of health-care delivery and midwifery practice on the local, national, and international level. Students will participate in field trips and professional activities, including coding professional meetings and meeting with local legisladores. The goal is to promote the development of the professional midwifery leader. 3 undergraduate credits.

NRMW 5014 Neonatology
This course focuses on the care and management of the normal newborn from birth through the neonatal period. Knowledge and skills of resuscitation, immediate delivery-room management, and comprehensive physical examination, including neurological and gastrointestinal assessment, are presented and practiced. Problems, normal variations in the neonate, pathophysiology, common congenital anomalies, growth and development, and anticipatory guidance are integrated with the midwifery management process. Emphasis is also placed on the midwife’s role as an advocate and liaison for families during the early postpartum delivery system. 3 graduate credits.

NRMW 5105 Postpartum Care
This course emphasizes the care and management of women from delivery of the infant to four to six weeks postpartum. Topics covered include physiology of involution, comprehensive postpartum care, maternal discomfort, infant and mother and family counseling, regarding self-care, initiation and support for lactation, feeding infants, nutritional needs, and behavior. Management of postpartum complications and infections are also covered in this course. Students will provide assessment and follow-up of women during their expected postpartum period. 3 undergraduate credits.

NRMW 5108 Primary Health Care of Women
This course focuses on the primary and preventive ambulatory health-care needs of women. It stresses the role of midwives in health promotion and disease prevention as educators and promoters of women’s wellness. Primary preventive and early diagnosis is integrated into the curriculum. Assessment and evaluation of undiagnosed symptoms and physical signs; management of common acute and chronic medical conditions; and identification, consultation, and appropriate referral for other needed services are discussed. Implications for early diagnosis of diseases, appropriate screening and prevention strategies based on genetic, environmental, and behavioral risk factors during various phases of women’s lives are covered. 3 graduate credits.

NRMW 5112 Physical Assessment of Women
This course is designed to provide basic knowledge and skills needed for the practice of primary women’s health care. Emphasis is placed on history-taking and physical examination, exclusive of the reproductive system. Relevant anatomy and physiology and normal and abnormal findings are included. Students may take this course as part of the Midwifery Program challenge option. Students will register for the course in the Summer Semester. All materials and requirements will be given students if the student passes the course requirements, the student may then register for Physical Assessment of Women, Clinical (1 grade credit) for the Fall Semester. If the student fails to pass the course requirements, the student will have the rest of the semester to complete this course, along with Physical Assessment of Women, Clinical. 1 graduate credit.

NRMW 5113 Physical Assessment of Women, Clinical
This course is designed to provide basic skills needed for the practice of primary women’s health care. It is a pre-requisite to this course. Emphasis is placed on history-taking and physical examination, exclusive of the reproductive system. Emphasis is on the sequence and timing of physical examination. Students may take this course as part of the physical examination during the fall semester, along with Physical Assessment of Women, Clinical. 3 graduate credits.
NRMW 5114 Pelvic Assessment of Women, Clinical
This course is designed to provide basic knowledge and skills needed to assess a woman’s reproductive system. Emphasis is placed on history-taking and pelvic examination techniques. Relevant anatomy and physiology, and normal and abnormal findings are included. Students will register for the course in the Summer or Fall semesters. Physical Assessment of Women, Didactic, is a pre- or co-requisite. Students may take this course as part of the Midwifery Program challenge options. These students will register in the Summer Semester. All materials and requirements will be given to the students. If the student passes the course requirements, the student may then register for Pelvic Assessment of Women, Clinical in the Fall Semester. If the student fails to pass the course requirements, the student will complete this course in the Fall Semester, along with Pelvic Assessment of Women, Clinical. 0.5 graduate credit.

NRMW 5117 Continuity of Care in Midwifery Practice
This course is an elective that, with Continuity of Care 2 and 3, is designed to allow the student midwife to experience the entire childbearing cycle—antenatal, intrapartum, and postpartum—and newborn care—with one woman and family in a home birth setting. The student will be mentored by a home birth midwife. Students will work closely with this midwife, as well as with a faculty clinical liaison, throughout the course. This course is the third part of a three-course didactic and clinical area, in adult health clinics or facilities. They are not expected to achieve independence in management skills, but, rather, to be exposed to the variety of health problems with which women present for care, and to begin to develop management skills in these areas. 1 graduate credit.

NRMW 5205 Pharmacology
This course will begin with the basic concepts of pharmacology and the principles of pharmacokinetics and pharmacodynamics. Students will be introduced to the mechanisms by which commonly used pharmacotherapeutics alter normal physiology as well as the pathophysiology of selected disease states. Emphasis will be placed upon the students’ knowledge of classifications of drugs rather than individual drug therapies. Students will be encouraged to consider the indication for use, mechanism of action, routes of administration, contraindications, precautions, adverse reactions, and interactions of commonly prescribed pharmacotherapeutics. The legal basis of prescribing authority is also addressed. 3 graduate credits.

NRMW 5208 Clinical Practicum in Primary Care
Clinical Practicum in Primary Care is designed to augment the midwifery class Primary Health Care of Women (NRMW 5108), given in the students’ first semester. This clinical practicum will take place after the students have already had clinical practice in ambulatory care in the midwifery specialties of well-woman gynecology and antepartum. This will allow the students to be precepted by midwives and thus socialized into the midwifery role before they have primary clinical care experience, which is more general and will include supervision by either adult or family nurse practitioners, primary care physicians, or physician assistants. In addition, students have some introduction to common bodily systems problems in their well-woman gynecology and antepartum clinical rotation, and Clinical Practicum in Primary Care will build upon that introduction.

In Clinical Practicum in Primary Care, students will spend 42-48 hours in the clinical area, in adult health clinics or facilities. They will see only female patients who present with the variety of health problems for initial or follow-up care. They are not expected to achieve independence in management skills, but, rather, to be exposed to the variety of health problems with which women present for care, and to begin to develop management skills in these areas. 0.5 graduate credit.

NRMW 5209 Medical and Obstetric Complications of Pregnancy
This course focuses on the identification, diagnosis, evaluation, and follow-up of women with selected obstetric and medical complications during pregnancy. Emphasis is on the midwife’s role in collaborating with physician(s)/care and management of the high-risk woman during the antenatal, intrapartum, and postpartum periods. Students will learn about the midwife’s role in managing women with complications. The legal basis of prescribing authority is also addressed. 3 graduate credits.

NRMW 5215 Antepartum Care, Clinical
This course is an elective that, with Continuity of Care 1 and 3, is designed to allow the student midwife to experience the entire childbearing cycle—antenatal, intrapartum, and postpartum—and newborn care—with one woman and family in a home birth setting. The student will be mentored by a home birth midwife. Students will work closely with this midwife, as well as with a faculty clinical liaison, throughout the course. The student midwife to experience the midwifery's role in collaborating with the physician(s)/care and management of the high-risk woman during the antepartum, intrapartum, and postpartum periods. Students may take this course as part of the Midwifery Program challenge option. All materials and requirements will be given to the students at the time of registration, including the Competency Performance Examination (CPE). The student will take the CPE within the first week of the semester. If the student passes the CPE, the student may move on to the next didactic and clinical course in the Midwifery Program. If the student fails to pass the CPE, the student will have the rest of the semester to complete this course by attending the usual classes. 1.5 graduate credits.

NRMW 5216 Complementary Care in Midwifery Practice 2
This course is an elective that, with Continuity of Care 1 and 3, is designed to allow the student midwife to experience the entire childbearing cycle—antenatal, intrapartum, and postpartum—and newborn care—with one woman and family in a home birth setting. The student will be mentored by a home birth midwife. Students will work closely with this midwife, as well as with a faculty clinical liaison, throughout the course. The student midwife to experience the midwifery's role in collaborating with the physician(s)/care and management of the high-risk woman during the antepartum, intrapartum, and postpartum periods. Students may take this course as part of the Midwifery Program challenge option. All materials and requirements will be given to the students at the time of registration, including the Competency Performance Examination (CPE). The student will take the CPE within the first week of the semester. If the student passes the CPE, the student may move on to the next didactic and clinical course in the Midwifery Program. If the student fails to pass the CPE, the student will have the rest of the semester to complete this course by attending the usual classes. 1.5 graduate credits.

NRMW 5309 Medical Complications of Pregnancy
This course focuses on the identification, diagnosis, evaluation, and follow-up of patients with complications serve as a home birth setting. The student will be mentored by a home birth midwife. Students will work closely with this midwife, as well as with a faculty clinical liaison, throughout the course. The student midwife to experience the midwifery's role in collaborating with the physician(s)/care and management of the high-risk woman during the antepartum, intrapartum, and postpartum periods. Students may take this course as part of the Midwifery Program challenge option. All materials and requirements will be given to the students at the time of registration, including the Competency Performance Examination (CPE). The student will take the CPE within the first week of the semester. If the student passes the CPE, the student may move on to the next didactic and clinical course in the Midwifery Program. If the student fails to pass the CPE, the student will have the rest of the semester to complete this course by attending the usual classes. 1.5 graduate credits.

NRMW 5401 Research I—online course
This course provides the student with the knowledge and skills necessary to conduct and evaluate research studies. Emphasis is on the application of the research process. The student is expected to identify a research topic with appropriate conceptual framework, research questions, criteria for measurement, and methodology for data collection and analysis. An undergraduate course in statistics is a prerequisite for this course. 3 graduate credits.
NRMW 5402 Research II—online course

This course provides the student with the opportunity to further develop a research project initiated in Research I through the collection and analysis of data. The application of statistical methods and standard computer analysis techniques and programming is an integral part of the course. The student will interpret the results of the study and make recommendations for future research. A research paper is required. 3 graduate credits.

NRMW 5403 Health-Care Policy and Community Assessment—online course

This course provides the student with an overview of the health-care delivery system in the U.S. Students will have an opportunity to participate in health-care policy analysis from a socioeconomic, ideological, political, and technological perspective as well as development of strategies for improving health-care policy within the community. Other areas covered are issues related to health-care organizations, mechanisms of financing, the role of the provider and consumer, as well as the influences of the local, state, and federal government in participation of health-care delivery. Elective. 3 graduate credits.

NRMW 5404 Intrapartum Care

This course emphasizes management of care of normal women during labor, delivery, and the immediate postpartum period. Topics covered include anatomy of the pelvis, physiology and mechanisms of labor, care of the laboring woman, maternal and fetal assessment, delivery techniques and procedures, and early maternal/family and newborn bonding. Students will provide complete care and management of the intrapartum woman, including delivery and immediate postpartum with faculty supervision. Lecture. 5.5 graduate credits.

NRMW 5405 Integration of Clinical Studies

In this course, the student acquires increased responsibility for clinical management of patients from adolescence through the post-menopausal period, including antepartum, intrapartum, postpartum, and well-woman gynecologic care. The clinical study allows the student to integrate previously learned knowledge, skills, and judgment essential for safe practice of midwifery. The student is required to pass a written comprehensive examination in addition to clinical field practice. 4 graduate credits.

NRMW 5407 Introduction to Teaching—online course

This course provides the student with the theories and methodology of curriculums planning, implementation, and evaluation. Students will learn the principles of teaching/learning, instructional objectives, methods of teaching, testing, and evaluation. Students will have hands on experience in designing a micro-curriculum based on theories learned in the classroom. Knowledge of administration and theories of management and change will also be discussed in detail. 3 graduate credits.

NRMW 5409 Obstetric Complications of Pregnancy

This course focuses on the identification, diagnosis, evaluation, and follow-up of women with selected obstetric complications during pregnancy. Emphasis is on the midwife’s role in collaborating with physician(s) in the care and management of the high-risk woman during the antepartum, intrapartum, and the immediate postpartum periods. Seminars and lectures utilize a case management approach to foster understanding of the pathophysiology, screening methods, diagnosis, treatment, and follow-up of selected complications. Faculty and experienced midwives who have had hands-on experience co-managing patients with complications serve as lecturers and seminar leaders. 1.5 graduate credits.

NRMW 5700 Independent Study

This course provides the student with an opportunity to explore, in-depth and in a self-directed manner, a topic of interest. Students, either individually or in groups, select a faculty member with whom they: 1) identify their specific focus; 2) define goals to be achieved; 3) select and describe methodology; and 4) designate a final project. Students and faculty precursors confer at mutually agreed upon intervals regarding the progress of the study. Elective offered on an as-needed basis. 1-3 graduate credits.

See the College of Nursing Bulletin for descriptions of the following courses:

NRMW 5504 Philosophical and Theoretical Perspectives for Advanced Nursing Practice

NRMW 5100 Population Health and Clinical Outcomes

NRMW 5160 Organizational and Systems Leadership for Advanced Nursing Practice

NRMW 5170 The Advanced Practice Nurse as Nurse Educator (elective)

NRMW 5580 Research and Evidence-based Practice I

NRMW 5580 Research and Evidence-based Practice II

Interdisciplinary Courses

See p. 46 for course descriptions.

INDI 5014 Brooklyn Free Clinic Experience

OCCUPATIONAL THERAPY

Master of Science Degree

Chairperson and Associate Professor Joyce S. Saberi

Associate Professor Emeritus Patricia Trossman

Associate Professor Margaret Kaplan

Clinical Associate Professor Suzanne White

Assistant Professors Brigette Dupont, Beth Eldrid, Nancy Kline, Joan Murray, Alasha Old (voluntary)

Clinical Assistant Professor Richard Sabel, Jaimin Thomas, Dauna Trouble

Academic Fieldwork Coordinator Jaimin Thomas

Occupational therapy is the therapeutic use of self-care, work/productive activities, and play/leisure activities designed to achieve functional outcomes that increase independence, function, enhance development, promote health, and prevent injury or disability. It includes adapting tasks and the environment to maximize independence and quality of life. The term “occupation” refers to activities that are meaningful to the individual within the environment in which he or she lives and functions.

Occupational therapists work with individuals whose abilities to cope with the tasks of daily living are threatened or impaired by developmental deficits, injury, illness, or disability.

THE MS PROGRAM

This two-and-one-half-year graduate curriculum is designed to prepare students for professional practice as occupational therapists. Students must have completed a baccalaureate degree program in any field of study, as well as specific course requirements.

The curriculum comprises integrated course sequences in the health sciences, occupational therapy foundations, occupational therapy practice, research theory and application. Fieldwork placements are integrated with related academic courses. Students are required to maintain a 3.0 GPA for retention and graduation from the program. The degree requirement includes six to nine months of full-time fieldwork experience (Fieldwork II Affiliates). A student may extend his/her course work over a three-year period and change to a part-time program after completing the first semester full-time. The full-time program begins at the beginning of June.

ACCREDITATION, CREDENTIALING, AND LICENSURE

The program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), located at 4720 Montgomery Lane, Bethesda, Maryland, 20814-3229. The program is registered by the New York State Education Department. Graduates are eligible for the national certification examination for occupational therapists administered by the National Board for Certification in Occupational Therapy (NBCOT®); (301) 990-7797. After successful completion of this examination, the individual is entitled to use the designation, “Occupational Therapist, Registered” (OTR). A passing score on the examination fulfills the examination requirement for professional licensure in the State of New York. Some states require licensure in order to practice; state licenses are based on the results of the NBCOT examination. (Applicants for the NBCOT examination will be asked to answer questions related to the topic of felony convictions.)

ADMISSION REQUIREMENTS

Please refer to pp. 9-15 of this Bulletin. Check for the latest requirements and apply online through the Admissions section of Downstate’s website: http://sls.downstate.edu/admissions/chrp/index.html.

CAREER OPPORTUNITIES

Graduates of an accredited occupational therapy program can expect excellent career opportunities in a variety of settings including hospitals, rehabilitation centers, ambulatory care centers, homes health agencies, nursing homes, schools, psychiatric facilities, community agencies, and private practice. Graduates of the SUNY Downstate program are well prepared to work as clinicians, supervisors, administrators, consultants, and educators in a wide variety of settings with diverse populations.

GRADUATION HONORS

Sigrid A. Hansen Award—presented to the graduating student who best exemplifies exceptional levels of academic excellence, service, and professionalism.

Patricia B. Trossman Award—presented to the graduating student who best exemplifies commitment to innovation and advancement of the occupational therapy profession.

Pr. Thessa Epsilon (Alpha Kappa Chapter)—national honor society for occupational therapy students.
Occupational performance, including its role and function in occupational therapy practice. Opportunities to develop clinical reasoning will occur during the laboratory experiences in assessment and use of groups in occupational therapy.

**Laboratory. Fall. 1 credit.**

- **OTMS 5002**
  - **Kinesiology Laboratory**
  - Laboratory experiences in assessment of muscle and joint function, goniometry, manual muscle testing, kine- matics, and kinetic analysis of activity.
  - Laboratory. Fall. 1 credit.

**OTMS 5003**

- **Assisitive Technology**
  - Principles of assistive technology in occupational therapy practice. Opportunities to practice basic setup and application of computer software and other technological systems used in occupational therapy prac- tice.
  - Lecture-laboratory. Fall. 2 credits.

**OTMS 5005**

- **Group Processes**
  - Principles and theories of group dynamics and use of groups in occupational therapy.
  - Skill development in planning, leading, and evaluating theory-based activity groups.
  - Participation in and observation of group process will occur during the class.
  - Lecture-laboratory. Fall. 2 credits.

**OTMS 5008**

- **Introduction to Therapeutic Occupations**
  - Principles of occupation, activity, and occupational performance, including performance areas, contexts, and components.
  - Exploration of sociocultural variables as they influence adaptive behavior and the health-illness continuum.
  - Skill development in administering assessments of occupational performance.
  - Skill development in activity analysis to facilitate engagement in meaningful occupation.
  - Lecture-laboratory. Fall. 2 credits.

**OTMS 5100**

- **Foundations of Occupational Therapy II**
  - Analysis of principles, ethical guidelines, and theories which provide the foundations of occupational therapy practice.
  - Analysis of theoretical, social, political, and cultural influences upon contemporary occupational therapy practice.
  - Lecture-Seminar. Fall. 1 credit.

**OTMS 5102**

- **Neurophysiology**
  - Neurophysiology of motor function and posture, spatial skills, sensory systems, emotions, cognition, perception, and language.
  - Mechanisms of neural plasticity in learning, memory, and recovery after brain injury.
  - Lecture. Spring. 1.5 credits.

**OTMS 5105**

- **Theory and Practice I: Psychosocial Intervention**
  - Introduction to the practice of occupational therapy in psychosocial dysfunction with a focus on issues in the mental health practice area.
  - Application of frames of reference to evaluation, treatment planning, and implementation.
  - Development in case study method; group process techniques; and clinical reasoning.
  - “OTMS 5111 Fieldwork I: Psychosocial Intervention” must be taken concurrently.
  - Lecture-Laboratory-Seminar. 4 credits.

**OTMS 5110**

- **Occupational Therapy in Early Intervention**
  - This elective course provides an overview of Early Intervention, a specialized area of practice for children under 3 years of age and their families. Students analyze common issues in working with young children and families.
  - Lecture. Spring. (when available). 0.5 credit.

**OTMS 5111**

- **Fieldwork I: Psychosocial Intervention**
  - Clinical fieldwork in a mental-health setting which provides practical experience in the application of occupational therapy for a variety of psychiatric conditions.
  - Emphasis on development of clinical reasoning.
  - Co-requisite: “OTMS 5105 Theory and Practice I: Psychosocial Intervention.”
  - Must be taken concurrently.
  - Fieldwork–Seminar. Spring. 2 credits.

**OTMS 5112**

- **Master’s Project I**
  - Students select from a faculty-generated research projects and develop an initial draft for a formal research proposal.
  - Seminar introduces students to the components of a research proposal and provides an opportunity to learn from the experiences of peers.
  - Students begin preparation of abstract and materials for presentation to the Research Review Board.
  - Independent study and seminar. Spring. 0.5 credits.

**OTMS 5121**

- **Fieldwork IV: Adult and Geriatric Rehabilitation**
  - Clinical fieldwork in a setting serving adult and/or geriatric clients.
  - Supervised exploration of the occupational therapy for adults of all ages with a variety of orthopedic, neurological, med- ical, and psychiatric conditions.
  - Emphasis on the development of clinical reasoning.
  - OTMS 5123 Fieldwork I: Psychosocial Intervention and OTMS 5301 Fieldwork III: Neurorehabilitation and OTMS 5305 Fieldwork II: Adult and Geriatric Rehabilitation must be taken concurrently.
  - Fieldwork–Seminar. Fall. 2 credits.

**OTMS 5122**

- **Fieldwork V: Developmental Assessment**
  - Clinical fieldwork in a setting serving children and/or geriatric clients.
  - Supervised exploration of the occupational therapy for children under 3 years of age with a variety of orthopedic, neurological, med- ical, and psychiatric conditions.
  - Emphasis on the development of clinical reasoning.
  - OTMS 5121 Fieldwork IV: Adult and Geriatric Rehabilitation and OTMS 5312 Master’s Project II: Childhood and Adult Rehabilitation must be taken concurrently.
  - Fieldwork seminar. Fall. 2 credits.

**OTMS 5201**

- **Cognition and Perception**
  - Theory of information processing applied to occupational therapy intervention for children and adults who demonstrate dysfunction or perceptual- functional function.
  - Lab sessions allow for skill development in evaluation and treatment of clients with cognitive or perceptual impairments that impact upon functional performance.
  - Lecture-Laboratory. Summer. 1.5 credits.

**OTMS 5202**

- **Community Practice I: Relationship and Assessment**
  - Occupational therapy practice in community settings.
  - Students identify and participate in a field experience to learn to develop interdisciplin ary relationships and assess community needs for occupational therapy services.
  - Community experience and seminar. Summer. 1 credit.

**OTMS 5205**

- **Intervention with Children**
  - Developmental milestones for children aged 3 to 5 years.
  - Lab experience develops skills in design and fabrication of splints using various materials.
  - Lecture-laboratory. Fall. 2 credits.

**OTMS 5206**

- **Intervention with Children II**
  - Designing Therapeutic Interventions.
  - Opportunities to work with children in facility-based, private practice, and educational settings.
  - Lecture-Seminar. Spring. 3 credits.

**OTMS 5301**

- **Orthotics and Prosthetics**
  - Principles of orthotic and prosthetic process in rehabilitation with a focus on the upper limb.
  - Includes static and dynamic splinting, and commercial orthotic devices and general overview of lower limb orthotics and prosthet- ics.
  - Laboratory experience develops skills in design and fabrication of splints using various materials.
  - Lecture-laboratory. Spring. 2 credits.

**OTMS 5303**

- **Theory and Practice II: Neurorehabilitation**
  - Theory and practice of occupational therapy in the assessment, formulation, and implementation of treatment plans for adult clients who have sustained stroke and head injury, as well as those with progressive neurological disorders.
  - Lab sessions allow for skill development in treatment approaches and clinical reasoning.
  - OTMS 5305 Theory and Practice III: Physical Rehabilitation and Geriatrics must be taken concurrently.
  - Lecture-Laboratory. Fall. 1.5 credits.

**OTMS 5305**

- **Theory and Practice IV: Physical Rehabilitation and Geriatrics**
  - Theory and practice of occupational therapy for adults who participate in therapeutic programs, rehabilitation programs, geriatric, and home care set- tings.
  - Includes special problems of the geriatric population and methods of screening, assessment, clinical reasoning, and formulation and implementation of treatment plans.
  - OTMS 5311 Fieldwork I: Adult and Geriatric Rehabilitation and OTMS 5303 Theory and Practice II: Neurorehabilitation must be taken concurrently.
  - Lecture-Seminar. Fall. 2 credits.

**OTMS 5312**

- **Master’s Project III**
  - Students work independently on data col- lection and analysis for Master’s Project, meeting regularly with advisor. A group mentor provides an opportunity to discuss implementation of project and meaning of results with faculty and peers.
  - The work of other student researchers.
  - Independent study and seminar. Fall. 2 credits.

**OTMS 5401**

- **Administration and Professional Issues**
  - Theories, concepts, and principles of management, supervision, professional ethics, and other issues relevant to practice in occupational therapy.
  - The relationship of health-care systems, organizational structure, financing, and quality assurance to occupational therapy practice.
  - Managerial, supervisory, and other issues relevant to practice.
  - Lecture seminar. Fall. 3 credits.

**OTMS 5411**

- **Fieldwork IV: Pediatrics**
  - Clinical fieldwork in a pediatric setting.
  - Supervised exploration of the practice of occupational therapy for a variety of pediatric conditions.
  - Emphasis on the development of clinical reasoning.
  - OTMS 5407 Theory and Practice IV: Developmental Assessment and OTMS 5411 Fieldwork IV: Pediatrics must be taken concurrently.
  - Lecture. Spring. 3 credits.

**OTMS 5410**

- **Theory and Practice V: Intervention with Children**
  - Clinical reasoning, intervention formulation, and implementation of intervention for various groups and conditions.
  - OTMS 5407 Theory and Practice IV: Developmental Assessment and OTMS 5411 Fieldwork IV: Pediatrics must be taken concurrently.
  - Lecture. Spring. 3 credits.
OTMS 5412 Master’s Project IV Students work independently on writing research reports in a format suitable for publication and preparing a poster session for presentation to peers and faculty. Seminar presents basic principles of professional writing and presentation. Independent study and seminar. Spring. 1 credit.

OTMS 5612 Independent Study in Occupational Therapy This elective course is designed to provide a learning opportunity for a student to expand knowledge within a specific area of OT practice. The student and assigned instructor work collaboratively to design the course objectives and experiences. Requires permission from the Program Chair. Elective. Any semester. 1-2.5 credits (PAS/Fail).

OTMS 6011 Fieldwork II: Affiliation I Full-time clinical fieldwork of three months’ duration. Implementation of knowledge, skills, values, and ethics within an occupational therapy practice setting. Refinement of specific practice skills as used in the assigned setting. Application of clinical reasoning skills to individualized client assessment, treatment planning, and treatment. Utilization of the clinical supervision process for professional growth. Collaboration with clinical educators on research and clinical projects of mutual interest. Development of professional leadership skills. Fieldwork-seminar. Fall. 5 credits.

OTMS 6111 Fieldwork II: Affiliation II Full-time clinical fieldwork of three months’ duration. Implementation of knowledge, skills, values, and ethics within an occupational therapy practice setting. Refinement of specific practice skills as used in the assigned setting. Application of clinical reasoning skills to individualized client assessment, treatment planning, and treatment. Utilization of the clinical supervision process for professional growth. Collaboration with clinical educators on research and clinical projects of mutual interest. Development of professional leadership skills. Fieldwork-seminar. Spring. 5 credits.

OTMS 6211 Fieldwork II: Specialty Elective Full-time clinical fieldwork of six- to twelve-weeks’ duration in a setting that differs from the student’s prior Fieldwork I experiences. Fieldwork-seminar. Spring. 2-5 credits.

Interdisciplinary Courses See p. 46 for course descriptions.

ANAT 5001 Human Gross Anatomy

ANAT 5101 Human Neuroanatomy

INDI 5002 Kinesiology

INDI 5100 Research Methods

MSCI 5211 Medical Sciences

PHYSICAL THERAPY

Combined Bachelor of Science in Health Sciences/Doctorate in Physical Therapy

Chairperson and Associate Professor Joneen K. Saxe
Associate Professor Teresa M. Miller
Assistant Professor Angela Griffin
Farkhad Hurri
Laurie Socol
Saman Abrams
Clinical Assistant Professor Tony A. Zacaro
Clinical Instructor Betsy Soffer
Program Administrator Yutaka Ali

Adjunct and Clinical Faculty

Physical therapists are involved in the restoration, maintenance, and promotion of optimal physical function. Their services prevent, minimize, or eliminate impairments of body functions and structures, activity limitations, and participation restrictions. Physical therapists work to diagnose and manage movement dysfunction; restore, maintain, and promote optimal physical function; promote wellness and fitness; and prevent the onset and progression of impairments, functional limitations, and disabilities due to various diseases, injuries, conditions, or disorders. They perform examination, evaluation, and the establishment of a diagnosis and a prognosis in order to determine the most appropriate intervention(s) for patients/clients with neuromuscular, musculoskeletal, cardiovascular/pulmonary, and integumentary disorders.*

Physical therapist intervention includes patient/client instruction, airway clearance techniques, assistive technology, biophysical agents, functional training, interventional exercise techniques, manual therapy techniques, motor function training, and therapeutic exercise. These interventions are chosen on the basis of patient examination and re-examination findings and the goals and expected outcomes of a particular patient/client diagnostic group.*


CAREER OPPORTUNITIES

There is a high demand for physical therapists in the workforce. According to the Bureau of Labor Statistics, employment of physical therapists is expected to grow by 36 percent from 2012 through 2022. Physical therapists work in a variety of primary, secondary, and tertiary care settings. Although many practice in hospitals, physical therapists also work in private practice, schools, wellness and prevention settings, home health, hospice, industry, government settings, and research centers. Physical therapists today earn the Doctor of Physical Therapy (DPT) degree and may specialize in orthopedics, neurology, pediatrics, geriatrics, cardiovascular and pulmonary physical therapy, sports physical therapy, women’s health, or clinical electrophysiology.

PHYSICAL THERAPY PROGRAM: COMBINED BS/ DPT CURRICULUM

The physical therapy program at SUNY Downstate is a long-standing accredited program, which has been in existence since 1966 and graduated its first class in 1969. In 2006, the BS/DPT program was awarded approval by the Board of Trustees of the New York State Education Department. In April 2013, it was granted a 10-year full re-accreditation status by Commission on Accreditation in Physical Therapy Education (CAPTE) to offer a post-baccalaureate entry-level physical therapy program.

ADMISSION REQUIREMENTS

Please refer to pp. 9-15 of this Bulletin. Check for the latest requirements and apply online through the Admissions section of Downstate’s website: http://sdc.downstate.edu/admissions/chp/ps/index.html.

THE BS/DPT DEGREE PROGRAM

The combined BS/DPT curriculum requires completion of 80 credits of pre-professional (prerequisite) courses and 135.5 credits of physical therapy professional courses. Of the 135.5 credits, 43 credits are at the undergraduate level and the remaining 92.5 credits are at the doctoral level.

The program starts in June each year and is divided into nine semesters. During the first year, students concentrate on the foundational sciences, clinical sciences, research methodology, psychosocial aspects of patient care, and ethics in clinical practice. In the second year, students take Introduction to Clinical Practice, begin their first clinical internship, focus on developing their knowledge and skills in the theory and practice of physical therapy, begin to implement their group research/capstone project, and explore the basic concepts of education as they relate to the profession. Understanding of the psychosocial and cultural issues that affect patients and their families, and the role of the physical therapist in helping patients function in a variety of environments (home, work, school) is stressed in all professional courses.

In the third year, students continue with courses focused on the theory and practice of physical therapy, complete and present their group research/capstone project, and participate in more advanced topics in professional practice such as administration and differential diagnosis. They engage in extensive clinical education and grand rounds courses, which enable them to integrate theoretical and practical skills, develop self-confidence, and become aware of their responsibilities as members of the health team. Students are supervised by experienced clinicians who will metically and competently evaluate their clinical performance in an effort to maximize their overall
effectiveness. This curriculum helps stu-
dents develop the critical thinking and
clinical decision-making skills needed for
training of graduates of a Doctor of Physical
Therapy degree program.

In the various professional courses,
students make class presentations and/or
provide critical analyses of journal
articles and case studies. They will learn to
write effectively, using the highest form of
evidence, the randomized controlled clinical
trial, upon which to base their clinical deci-
sions.

Students complete a research/capstone
project with a small group of 2-4 stu-
dents under the guidance of a faculty
mentor. They are required to present their
research/capstone project in a plat-
form presentation at a center-wide col-
loquium, and display their project in a
poster format. They may also submit an
abstract of their project for presentation
at a state-wide or nationwide physical therapy
conference.

CLINICAL EDUCATION
Over 100 physical therapy centers repre-
senting a variety of practice settings are
affiliated with SUNY Downstate’s physi-
ological therapy programs. The majority of
these clinical centers are located in the
New York metropolitan area. However, to accommodate the needs and
interests of students who would like to explore other
settings and cultures, clinical affiliation
sites outside of New York City are also
available. Introduction to Clinical Practice in the second year, students are
assigned to hospitals, ambulatory care
centers, geriatric facilities, or outpatient
practices. Following Car, and internsh-
ships, the students learn more advanced
theory and skills. Problem-solving ses-
sions and discussions give the students
an opportunity to build on experiences from
Clinical Internship I.

Clinical Internship II is a 9-week, full-
time clinical experience that is scheduled
for the summer semester of the third
year. This course will foster the develop-
ment of more advanced skills in patient
management. The goal is for stu-
dents to continue to integrate their aca-
demic knowledge with clinical skills and
experiences and to continue to develop
as doctoral-prepared practitioners. By
the time the students engage in Clinical
Internship II, they have successfully
completed course work in all founda-
tional sciences, as well as physical ther-
apy professional courses in all major areas
of physical therapy practice, including
neurological, neuromusculoskeletal, cardio-
vascular/pulmonary, and integumentary
areas. The students are assigned to a
wide variety of clinical settings, includ-
ing acute care, adult rehabilitation,
orthopedic outpatient, and cardiovascular/
pulmonary settings.

Clinical Internship III is a 10-week, full-
time clinical educational experience
that occurs in the fall semester of the third
year, following most of the academic
course work. This course will foster the
development of entry-level skills in
patient/client management and continue the
integration of academic knowledge
with clinical skills and experience as
students continue to develop to become

doctoral-prepared practitioners. They
will be assigned to the broadest range
of clinical (and interprofessional) expe-
riences, including specialty areas, such as
depediatrics, geriatrics,burn rehabilitation,
physical therapy, and home care.

Clinical Internship IV is a 12-week,
full-time clinical educational experience
that takes place in the third year. This course fosters the develop-
ment of more advanced patient/client
management skills. The ultimate goal is
for the student to become a competent,
docent, preparation-level,Physical
therapist who utilizes clinical reasoning
and clinical decision-making skills.

Clinical Internship V is the most
advanced course in the clinical edu-
cation program. Following Clinical
Internship III, the student returns to the
classroom to integrate all academic
knowledge learned in the program with the
clinical educational experiences through
Differential Diagnosis.
The student then returns to the clinical
in Clinical Internship IV in a culminating
clinical educational experience. Before
entering his/her second year of full-time
clinical experience, the student has satisfactorily completed all
course work in the foundational sciences, clinical
sciences, and professional courses.
Learning experiences are planned with
the student to allow him/her to demon-
strate increasing ability in the skills of
examination, evaluation, diagnosis,
prognosis and intervention, and flexibil-
ity in sequencing of services, as well as
the ability to accurately screen, examine,
evaluate, diagnose, and treat patients
with their anatomical substrates; major
disabilities. In an off-campus assignment,
the Americans with Disability
Act, and issues surrounding people with
disabilities. In an off-campus assignment,
students will meet the accessibility of
a public facility in N.Y.C. and compare
their findings to ADA guidelines. Lecture/di-
agnosis and clinical experience. Spring. 2 credits.

PH3101 Physical Therapy Examination I

This laboratory course, taught con-
temporary with knowledge of
disabilities, issues related to
professions, and clinical
therapists. To be licensed as a physical
program at SUNY Downstate

students who might face in the clinical or work
place environment. Discussion/laboratory. Spring. 2 credits.

PH3100 Physical Therapy Examination I

This course covers the psychosocial
interpersonal communication, the
anatomical publications and disabilities. In an off-campus assignment,
students will meet the accessibility of
a public facility in N.Y.C. and compare
their findings to ADA guidelines. Lecture/di-
agnosis and clinical experience. Spring. 2 credits.

PH3101 Physical Therapy Examination I

This laboratory course, taught con-
temporary with knowledge of
disabilities, issues related to
professions, and clinical
therapists. To be licensed as a physical
program at SUNY Downstate

students who might face in the clinical or work
place environment. Discussion/laboratory. Spring. 2 credits.

PH3100 Physical Therapy Examination I

This course covers the psychosocial
interpersonal communication, the
anatomical publications and disabilities. In an off-campus assignment,
students will meet the accessibility of
a public facility in N.Y.C. and compare
their findings to ADA guidelines. Lecture/di-
agnosis and clinical experience. Spring. 2 credits.

PH3101 Physical Therapy Examination I

This laboratory course, taught con-
temporary with knowledge of
disabilities, issues related to
professions, and clinical
therapists. To be licensed as a physical
program at SUNY Downstate

students who might face in the clinical or work
place environment. Discussion/laboratory. Spring. 2 credits.

PH3100 Physical Therapy Examination I

This course covers the psychosocial
interpersonal communication, the
anatomical publications and disabilities. In an off-campus assignment,
students will meet the accessibility of
a public facility in N.Y.C. and compare
their findings to ADA guidelines. Lecture/di-
agnosis and clinical experience. Spring. 2 credits.

PH3101 Physical Therapy Examination I

This laboratory course, taught con-
temporary with knowledge of
disabilities, issues related to
professions, and clinical
therapists. To be licensed as a physical
program at SUNY Downstate

students who might face in the clinical or work
place environment. Discussion/laboratory. Spring. 2 credits.

PH3100 Physical Therapy Examination I

This course covers the psychosocial
interpersonal communication, the
anatomical publications and disabilities. In an off-campus assignment,
students will meet the accessibility of
a public facility in N.Y.C. and compare
their findings to ADA guidelines. Lecture/di-
agnosis and clinical experience. Spring. 2 credits.

PH3101 Physical Therapy Examination I

This laboratory course, taught con-
temporary with knowledge of
disabilities, issues related to
professions, and clinical
therapists. To be licensed as a physical
program at SUNY Downstate

students who might face in the clinical or work
place environment. Discussion/laboratory. Spring. 2 credits.

PH3100 Physical Therapy Examination I

This course covers the psychosocial
interpersonal communication, the
anatomical publications and disabilities. In an off-campus assignment,
students will meet the accessibility of
a public facility in N.Y.C. and compare
their findings to ADA guidelines. Lecture/di-
agnosis and clinical experience. Spring. 2 credits.

PH3101 Physical Therapy Examination I

This laboratory course, taught con-
temporary with knowledge of
disabilities, issues related to
professions, and clinical
therapists. To be licensed as a physical
program at SUNY Downstate

students who might face in the clinical or work
place environment. Discussion/laboratory. Spring. 2 credits.

PH3100 Physical Therapy Examination I

This course covers the psychosocial
interpersonal communication, the
anatomical publications and disabilities. In an off-campus assignment,
students will meet the accessibility of
a public facility in N.Y.C. and compare
their findings to ADA guidelines. Lecture/di-
agnosis and clinical experience. Spring. 2 credits.

PH3101 Physical Therapy Examination I

This laboratory course, taught con-
temporary with knowledge of
disabilities, issues related to
professions, and clinical
therapists. To be licensed as a physical
program at SUNY Downstate

students who might face in the clinical or work
place environment. Discussion/laboratory. Spring. 2 credits.
PTP 3401 Physical Therapy Examination II
This course is designed to integrate the tests and measures covered in Physical Therapy Examination I into a patient evaluation process that is based on subjective and objective evidence. The elimination of biases and errors in the clinical decision-making process and the role of the examiner as an instrument in the physical therapy patient examination process will be covered, with an emphasis on performing the subjective examination. This course will also provide an introduction to the differential diagnosis of sensory complaints by integrating the “MBS” process into the objective examination. The pathophysiologic underlying the onset of upper motor signs in traumatic brain injury will also be presented. This course will also cover specific tests and measurements that can be used to, indirectly blood pressure measurement, pulse oximetry, cutaneous sensory testing, Sensory Organ Test, the Baseline Balance Test, the Multidirectional Reach Test, the Toned Up and Go Test, the Diffusion Handbook, and the Glasgow Coma Scale. Lecture/Laboratory/Self-study. Spring 1 credit.

PTP 3402 Patients/Client Management I
In this course, students discuss, identify, select, and implement hands-on therapy, based upon current evidence, the needs of the individual patient, and the requirements of current examination and evaluation. Conceptual frameworks for clinical decision-making models are reviewed, the development of the Nagi Model of Disability with regard to complementary and alternative therapies. Lecture/Laboratory/Self-study. Fall. 2.5 credits.

PHYS 3212 Neurophysiology of Motor Control
This course expands upon the neurophysiology presented in Principles of Human Physiology and Biochemistry, going into greater depth in aspects of sensorimotor control, especially relevant in understanding patients. The approach to sensorimotor control will usually initially stress the importance of studying human neuronal disease in providing the first clues as to the function of brain structures. Subsequent understanding of structure-function relationships has usually depended heavily on animal experimentation. Such animal experiments have led to explanations at progressively finer structural levels, especially membrane function. The intellectual challenge is to reverse the reductionist trend and deploy the membrane mechanisms that have been elucidated to explain motor behavior. In recent years, technical advances, both non-invasive and invasive, have transformed our ability to investigate the mechanisms operating in human sensorimotor control. When appropriate, these will be discussed in lecture or demonstrator on human subjects during lectures. Thus, our understanding of human sensorimotor control now rests on the study of sensory, motor, and cognitive control of movement, especially relevant with regard to complementary and alternative therapies. Lecture/Laboratory/Self-study. Spring 1 credit.

PTP 6106 Clinical Electrotherapy
This course is the first course in the clinical education sequence. The clinical education experience is planned by the Academic Coordinator of Clinical Education (ACE) and faculty to augment the individual learning needs and goals of the student. Students will participate in a clinical site for an eight-week clinical educational experience. Clinical experience. Spring. 1 credit.

PTP 6102 Grand Rounds
This course is the final round in the grand rounds sequence. This seminar will focus on exploring the expectations of physical therapy students in a clinical setting.

Issues related to the therapist-patient relationship and student-clinician interaction (C1C1) will be emphasized. Issues related to the physical examination process, and management and enhancement of circulation and wound and bone healing. Lecture/Laboratory/Self-study. Spring. 2 credits.

PTP 6108 Patient/Client Management III: Physical Agents
This course focuses on critically analyzing the thermal and mechanical agents that are used by physical therapists. The physical principles and physiological effects of heat, cold, water, light, traction, external compression, and high-frequency electrical currents are presented. Clinical decision-making in the selection, application and evaluation of thermal and mechanical modalities is discussed and practiced within the context of a comprehensive plan to address the goals of project.

PTP 6202 Capstone Project II
This is the second course in the three rounds sequence. The ACCE will coordinate the laboratory exam, which each student will be required to present a 20-minute case report concerning one relevant case for physical therapy based on Clinical Internship II. Physical therapy faculty are invited to attend and participate in Grand Rounds. Grand Rounds will be open to members of the Downstate community and the program’s clinical partners.

This course is designed to integrate the concepts learned in the clinical education sequence. This course will focus on exploring the expectations of physical therapy students in a clinical setting. This is a 9-week, full-time clinical educational experience that is scheduled for the summer semester of the third year. This course will culminate in the development of advanced skills in patient/client management, therapeutic plans, and to develop confidence in clinical settings that are appropriate for their knowledge base at that juncture of the program. Clinical sites include, but are not limited to, adult rehabilitation, acute care, orthopedic outpatient, and cardiovascular/pulmonary. Lecture/Laboratory/Self-study. Summer. 3 credits.

PTP 6201 Clinical Internship II
This course is a continuation of the Clinical Internship I. PTDP 6202 Capstone Project II. This is a nine-week, full-time clinical educational experience that is scheduled for the summer semester of the third year. This course will focus on exploring the expectations of physical therapy students in a clinical setting. This is a continuation of PTDP 6201 Clinical Internship I. This course will focus on exploring the expectations of physical therapy students in a clinical setting.
relationship and student-clinical instruc-

tor relationship will be discussed. Issues re-
garding ethical dilemmas and dealing with cli-

cal problems, and the grading scheme used by the CL will be empha-

sized.

PTDP 6204 Musculoskeletal Physical Therapy II

This is a continuation of Musculoskeletal Physical Therapy I. In this lecture/laboratory course, students will critically review the theory and prac-
tice of musculoskeletal physical therapy with emphasis on patient-based, de-
cision, evaluation, and manual therapy interventions for the spine as well as to

analyse the physical therapy management of patients with complex musculo-

skeletal problems. They will also examine the literature regarding the diver-
sity of differential diagnosis of musculoskeletal problems. Therapeutic exercise will also be inte-

grated throughout the course.

The course will be organized around a problem-based and case-based approach, along with learning of advanced manual therapy psychomotor skills in the labo-

ratory. Through critical analysis of case-

based literature related to musculo-

skeletal examination and intervention, students will also learn how to engage in evidence-based practice when dealing with patients.

PTDP 6205 Motor Control and Motor Learning II

This course is a continuation of Motor Control and Motor Learning I and II, in which students integrate screening, examination, evaluation, physical therapy diagnosis, prognosis, plan of care, inter-

vention, reassessment, and discharge plan-

ning into the total care of patients/clients. In this course, students apply the NACI Model of Disability and the patient/ client management model to the physical therapy management of patients/clients with neuromuscular disorders through discussion, role modeling and case-based learning. Students are guided through problem-solving activities to design, supervise, and implement physical therapy inter-

vention based upon the needs of the individual with complex neurological and multi-system impairments. Students integrate the needs of the patient, family, caregivers, and society into the practice of physical therapy. Lecture/ laboratory/ discussion. Spring. 4 credits.

PTDP 6310 Capstone Project III

This is a continuation of Capstone Project III. It is the final course in the capstone project series, which leads to completion of the project under the guidance of a faculty mentor. Students will complete their capstone project and present it as a scientific forum to be arranged by the Physical Therapy Department. Students will also submit their abstract to a professional association for presentation. Students will learn to analyze ethical dilemmas and develop ethical reasoning in professional practice. Students will work closely with their faculty mentor to complete the activities required for this course. Seminar/Independent Study. Fall. 1 credit.

PTDP 6304 Professional Development II

The purpose of this course will examine both the student with the knowledge necessary to visually comprehend plain physical therapy for student development of profession, and to integrate radiologic assessment into physical therapy examination and treatment intervention. The principles of physical therapy and professional resources to the general population. This required course provides a foundation that integrates content across all domains with the skills and knowledge necessary to manage a physical therapy service. Lecture. Spring. 3 credits.

PTDP 6410 Clinical Internship IV

This is the fourth and final course in the Grand Rounds sequence. The ACE will coordinate a general Grand Rounds session, in which each student will be required to present a 20-minute case report consisting of their professional experience, which is directed towards the general population. This course is designed to provide infor-

mation about the evidence-base of physical therapy practice. There is an emphasis on effective management principles, including professional role, organizational structure, human resource management, fiscal planning, and non-clinical quality improvement, and risk manage-

ment. This course will also describe the integration of health-care delivery, such as regulatory requirements, pro-

fessional ethics, and medical-legal issues. The purpose of the doctoral program in physical therapy is to prepare prepa-

tory competent practitioners capable of performing comprehensive physical ther-

apy, differential diagnosis, intervention, and clinical research. Graduates of SUNY Downstate’s curriculum will provide clinical and thorough physical therapy services to a diverse population of clients based on available evidence-based prac-

tice. This will include patients with mus-

culoskeletal, neuromuscular, integumen-

tary, and/or cardio-pulmonary conditions as well as health promotional and wellness

services to the general population. This required course provides a foundation that integrates content across all domains with the skills and knowledge necessary to manage a physical therapy service. Lecture. Spring. 3 credits.

PTDP 6402 Grand Rounds IV

This is the fourth and final course in the Grand Rounds sequence. The ACE will coordinate a general Grand Rounds session, and will submit their abstract to a professional asso-


The physical therapy faculty is invited to attend and participate in Grand Rounds IV. Grand Rounds IV will be open to members of the Downstate community and the program’s clinical sites. This seminar will focus on exploring the expectations of physical therapy students in a clinical setting. Issues relating to the therapist-patient relationship and student-clinical instructor relationship will be discussed. Issues regarding professional behavior, dealing with clinical problems, and the grading scheme used by the clinical instructor will be emphasized. Seminar. Spring. 1 credit.

PDTP 6404 Pharmacology
This course is designed to provide the student with the fundamental knowledge of different drug classifications and the pharmacodynamics of the most frequently used drugs. Learning methods include lecture, audiovisual materials, journal articles, and simulations. Lecture/discussion/lab. Fall. 2 credits.

PDTP 6405 Differential Diagnosis
In this course, students will learn to formulate a diagnosis based upon the screening, examination, and evaluation of impairments and functional limitations of the patient/client. Students and faculty will use role-play and discussion to further integrate the screening, examination, and evaluation of patients/clients with complex multi-system conditions. Through evidence-based clinical decision making, students will discuss the process of making a differential diagnosis. A case-based format will be used to integrate clinical findings in order to arrive at a diagnosis and to determine whether to initiate intervention or refer to another practitioner. Seminar. Handbook. Fall. 2 credits.

PDTP 6406 Musculoskeletal Physical Therapy
This course will develop the student’s skills to appropriately examine, evaluate, and design physical therapy interventions for people who have had musculoskeletal surgeries of the extremity and vertebral column. Lecture. Spring. 1 credit.

Interdisciplinary Courses
See p. 46 for course descriptions.

ADMIN 5400 Health Care Delivery in the US
ANAT 3010 Human Gross Anatomy
ANAT 3210 Human Neuroanatomy
INDI 3110 Kinesiology
MSCI 3211 Medical Sciences
PHTH 3303 Research Methods and Evidence-Based Practice
PHYS 3110 Principles of Human Physiology and Biochemistry
PSYN 5111 Psychiatry

PHYSICIAN ASSISTANT Bachelor of Science Degree
Chairperson and Assistant Professor: Felix N. Nuamah
Medical Director: Sony J. Macellaro, MD
Professor: Dawn Morton-Rau
Assistant Professor: Edison Ruiz, Lorraine Sainee, Ken Martinez
Clinical Assistant Professor: Jennifer O’yey, Andrea Trimingham, Julia Black-Pray
Adjunct and Clinical Faculty: Daniel Agoba, Mary Nguyen, Joseph Turkson, Norine McCullough, Alister Caban, Natalie Killough, Henry Landais, Olga Bely, Yvonne Chernandez, Julia Brownstein

The physician assistant is a professional member of the health-care team who is qualified by academic and clinical education to practice medicine with supervision by a licensed physician. Following a medical model of patient care, physician assistants are qualified to perform a wide range of duties traditionally performed only by physicians. Physician assistants obtain patient histories; perform physical examinations; diagnose illness; determine treatment plans; order and interpret laboratory, diagnostic, and therapeutic procedures; and prescribe medication as well as provide patient education, counseling, and follow-up care.

Physician assistant program graduates in New York State are required to successfully complete the National Commission on Certification of Physician Assistant (NCCA) initial certification examination, before becoming licensed and registered to practice medicine in the state. However, they may obtain a limited permit, which allows physician assistants to practice temporarily prior to passing the board exam. The physician assistant’s scope of practice is determined by medical discipline, practice setting, level of expertise, and institutional guidelines. Detailed information regarding the physician assistant profession in New York State and licensure requirements may be obtained by contacting the Office of the Professions, Board of Medicine (www.op.nysed.gov/prof/med).

NCCPA is the only credentialing organization for physician assistants in the United States and is dedicated to assuring the public that certified physician assistants meet established standards of knowledge and clinical skills upon entry into practice and throughout their careers.

Academic regulations are outlined in the SUNY Downstate Student Handbook and PA Program Handbook, provided on-line to all entering students.

THE PROGRAM
The twenty-seven-month, full-time program is designed to provide the academic and clinical foundations for primary-care physician assistants; foster the development of the attitudes, values, and behaviors appropriate for health-care providers; and prepare students to participate in a team approach to patient care. Emphasis is placed on understanding the role and responsibilities of physician assistants in the provision of quality health care, inclusive of: the treatment and management of disease states, meeting the health-care needs of a richly diverse patient population, and fostering health promotion and disease prevention.

PROGRAM BACKGROUND
The SUNY Downstate Physician Assistant Program was developed in 1990 to meet the expanding health-care needs of the underserved in Brooklyn and New York City. The program graduated its first class in 1992 and currently enrolls a richly diverse, well-qualified applicant pool. The program is nationally recognized for its leadership in urban PA education and deployment of diverse physician assistants.

The program, which begins in late May or early June, offers a 27-month, upper-division professional course of study leading to the BS degree. The curriculum integrates the basic sciences, social sciences, medical sciences, and clinical experiences needed to provide a comprehensive introduction to the practice of medicine. The four-semes- ter didactic phase consists of lectures, laboratories, and practical and simulation experiences designed to provide students with the knowledge necessary to address patients in a clinical context. The clinical phase consists of ten supervised clerkships (clinical training experiences) at a broad range of clinical affiliates, designed to provide senior students with a valuable opportunity to develop and refine their professional clinical skills. Graduates of the program are trained with an emphasis on primary care but are qualified to practice in a broad range of medical disciplines under the supervision of a licensed physician.

ADMISSION REQUIREMENTS
Please refer to pp. 9-15 of this Bulletin. Check for the latest requirements and apply online through the Admissions section of Downstate’s website: http://sls.downstate.edu/admissions/chrp/pa/index.html.

ACCREDITATION
The program is accredited by the Accreditation Review Commission on Education for the Physician Assistant, Inc. and is approved by the New York State Board of Higher Education and Board of Regents. The next accreditation review will take place in 2019.

GRADUATION HONORS
Academic Excellence – to the student who has maintained a high GPA during the didactic phase and has demonstrated outstanding professionalism.
Clinical Excellence – to the student who has demonstrated outstanding clinical acumen, professionalism and other qualities, which typify the PA Profession.
Patricia Devine Award for Achievement, Perseverance and Professional Commitment – to a senior student who performed very well while experiencing extraordinary personal circumstances.
Research Award – to the student who has demonstrated exceptional performance in clinical research.
PA Class Facilitator – to the student who demonstrates exemplary faciliti-


**CAREER OPPORTUNITIES**

Employed in all health-care settings and in various medical and surgical specialties, physician assistants function to increase access and enhance the quality of patient care while contributing to medical cost containment. Demand for physician assistants is steadily increasing, with appointment of graduation into employment opportunities for every new graduate.

For detailed information regarding the physician assistant profession on a national level, contact the American Academy of Physician Assistants (AAPA) at www.aapa.org; and the Physician Assistant Education Association (PAEA) at www.paconline.org.

**COURSE DESCRIPTIONS**

**PHAS 3006 Interviewing and Physical Diagnosis**

This course introduces the student to the fundamentals of the medical interview and physical examination. Students will acquire the knowledge and skill necessary to obtain a complete medical history. Topics will include family and life history, cultural barriers, and effective communication methods. Students develop the skill necessary for performing and to deliver a complete physical examination, including medical note taking. This course is also designed to prepare the physician assistant student for the clinical phase of the curriculum. Emphasis is on the development of the skills and techniques necessary for performing comprehensive and focused physical examinations, utilizing specific techniques and diagnostic procedures. (Prerequisite: ANAT 3010: Human Gross Anatomy) **Lecture: 4 credits.**

**PHAS 3011 Neuroanatomy for PA Students**

This course is designed to enhance the student to the major functional components of the central nervous system. Emphasis is given to those aspects that relate to the role of the central nervous system in health and disease. The course content provides students with the basic knowledge of neuroanatomy essential to clinical physician assistant practice. The course consists of lectures, labs, and independent study. (Prerequisite: ANAT 3010: Human Gross Anatomy) **Lecture, Labs: 5 credits.**

**PHAS 3100 Clinical Microbiology/Immunology**

This course builds upon general principles of microbiology and immunology and examines the role of bacteria, protozoa, parasites, viruses, and rickettsia and helminths in disease and public health. Included are the systemic diseases caused by these organisms, host-parasite relationship, and chemotherapy agents. Topics of immunology, including resistance to disease, immunity, xenology, and immune disorders, are also considered. Emphasis is placed on medical application of basic clinical diagnostic procedures. **Lecture: 2 credits.**

**PHAS 3101 EKG Interpretation**

This course provides students with basic knowledge electrocardiogram (EKG) interpretation, essential for patient care. The emphasis will be on normal and pathologic finding EKG tracings. In addition, students will consider the differential diagnoses of EKGs with related pathologic context. This module presents normal electrocardiograms, from which students are paired with and observe a practicing physician assistant. (Prerequisites: PHAS 3006: Interviewing and Physical Diagnosis and PHAS 3301 Adult Primary Care Medicine) **Lecture and observation: 2 credits.**

**PHAS 3207 Physician Assistant Practice**

This course provides physician assistant students with an introduction to clinical practice through the study of the development of the physician assistant profession. Emphasis is placed on understanding the physician assistant’s role in the team approach to primary health care through cost-effective treatment and management, health promotion and disease prevention, and patient/healthcare education. **Lecture-Field Work: 0.5 credits.**

**PHAS 3211 Clinical Decision Making**

This course is designed to teach and refine skills acquired in “Interviewing and Physical Diagnosis” and to further prepare students for the clinical phase of the curriculum. Through the process of developing a patient history and patient examination, students will be able to integrate components of clinical preventive services into their daily clinical PA practice. Students consider the concepts of preventive services, health promotion, and disease prevention for the individual, family, and community. Students are introduced to the principles of adult learning, teaching, and counseling relative to the health education and counseling of patients throughout the life cycle. Emphasis includes development of daily learning-informative responses to patient and injury, stress reaction, and stress reduction. Students are introduced to the concepts of morbidity and mortality in relation to disease states, incidence, prevalence, relative risk, health screening, and immunization guidelines, as well as life-style and smoking risks. Students also gain a working knowledge of the principles and tools of epidemiology and their relative to clinical practice, individual and community health. (Prerequisites: LEC 100: Introduction to System Based Practice (SBP) and Problem Based Learning (PBL). (Preparatory for MSCI 4100 Research Methods) **Lecture, presentation, community service: 2 credits.**

**PHAS 3212 Introduction to Psychiatry**

This course will provide an overview of the physiologic and psychosocial aspects of aging and will demonstrate the physician assistant’s role and responsibilities in the care of the mentally ill patient as encountered in ambulatory care settings. Students are introduced to techniques utilized in performing a psychiatric interview and formulating appropriate treatment and management plans. This course is designed and sequenced as part of the primary practice, techniques for patient education, prevention, and early detection of psychiatric illnesses are highlighted. (Preparatory: PHAS 3006: Interviewing and Physical Diagnosis) **Lecture: 2 credits.**

**PHAS 3241 Clinical Procedures**

A series of lectures and practical lab sessions will introduce the physician assistant student with basic knowledge and clinical skill necessary to perform common medical and surgical procedures. Emphasis will be on microsurgical and abnormal physiology. Students will be able to identify and manage abnormal findings. Students will participate in the performance of common procedures relevant to primary care, and manage patient conditions. (Prerequisites: ANAT 3010: Human Gross Anatomy) **Lectures: 2 credits.**

**PHAS 3251**

**Human Sexuality**

This course is designed to introduce the student to the biologic basis of gender development, including sex, gender and sexual orientation, variety of sexual behaviors, values and attitudes, and dysfunction. This course is designed for students pursuing careers in clinical phy- sician assistant’s education, biology, psychology, and sociology, including the study of human sexuality, human behavior, and human development. **Lecture: 1 credit.**

**PHAS 3252**

**Long-Term Care and Gerontology**

This course will provide an overview of the physiologic and psychosocial aspects of aging and will demonstrate the physician assistant’s role and responsibilities in the care of the mentally ill patient as encountered in ambulatory care settings. Students are introduced to techniques utilized in performing a psychiatric interview and formulating appropriate treatment and management plans. This course is designed and sequenced as part of the primary practice, techniques for patient education, prevention, and early detection of psychiatric illnesses are highlighted. (Preparatory: PHAS 3006: Interviewing and Physical Diagnosis) **Lecture: 1 credit.**

**PHAS 3300**

**Pathophysiology**

This course provides a basic introduction to the study of disease and disease processes as a scientific basis for understanding health and disease in the study of medicine. A clear understanding of structural and functional changes in cells, tissues, and organs is important for optimal patient management, including appropriate utilization of diagnostic techniques, therapeutic management, and patient education and counseling. This course is designed to develop the behavioral and attitudinal preparation of students for the information that will be provided in "Adult Primary Care Medicine." The course is designed to prepare students for the necessary linkage between the basic sciences and the clinical presentation of disease. (Prerequisites: ANAT 3010: Human Gross Anatomy, Corequisites: PHAS 3310: Principles of Physiology and Biochemistry) **Lecture, laboratory: 3 credits.**

**PHAS 3301**

**Adult Primary Care Medicine**

This medical clinic course provides students with the didactic foundation and common clinical conditions, orientation, social, and emotional factors. It introduces the fundamentals of internal and primary care medicine through the presentation of common signs and symptoms associated with disease entities of the human physical examination, utilizing specific techniques and diagnostic procedures. (Prerequisites: ANAT 3010: Human Gross Anatomy) (Corequisites: PHAS 3101: Adult Primary Care Medicine) **Lecture: 3 credits.**
attitudes appropriate for professional clinical practice, clinical assignments in pediatrics and gynecology are included in this course. The clinical assignments provide an opportunity for students to refine their skills in physical diagnosis relative to women and children. Utilizing educational methods such as lecture, readings, self-directed learning, and clinical assignments, students gain greater insight into broader aspects of health care, including health promotion and disease prevention through patient education. (Prerequisite: PHAS 3301 Adult Primary Care Medicine.) Lectures, community service. 4 credits.

PHAS 3421 Essentials of Emergency Medicine and Surgery
This clinical medicine course provides an opportunity for students to examine disease through the disciplines of emergency medicine and the general and subspecialty surgical focus. Building upon the basic knowledge acquired in the prerequisite courses, this course assists students in their ability to recognize emergent and surgical conditions, and to treat and manage patient conditions commonly encountered in emergency departments and surgical units. (Prerequisite: PHAS 3301 Adult Primary Care Medicine.) Lectures, CBL module. 5 credits.

PHAS 3501 Issues of Professional Practice
This course provides a survey of contemporary thoughts on ethical and legal issues concerning medical treatment and professional practice, as well as a personal exploration of individual values. Lecture: 1 credit.

CLINICAL CLERKS
Clinical clerks are assigned by the program. Clinical assignments cannot be refused by students except in extraordinary circumstances. (Prerequisite: successful completion of all didactic courses.)

PHAS 4000 Clerkship in Internal Medicine
This clerkship provides students with a practical clinical experience to interpret and integrate information obtained via the comprehensive history and physical examination, formulate diagnoses, and develop effective treatment plans. In addition, students learn the indications and limitations of diagnostic procedures and therapeutic regimens common to internal medicine. Students also identify areas for SBP and PBI by completing assigned projects. 6 credits/6 weeks.

PHAS 4010 Clerkship in Internal Medicine (Sub-specialty Elective)
This clerkship provides students with an additional opportunity to experience patient management in the medical subspecialties, such as cardiology, hematology, oncology, and infectious disease. 3 credits/3 weeks.

PHAS 4100 Clerkship in Pediatrics
This clerkship focuses on the diagnosis and management of primary care pediatric patients in ambulatory as well as in-patient and Neonatal Intensive Care Unit (NICU) settings. Emphasis is on the recognition of normal as well as abnormal findings, management of neonates, and neonatal diagnoses and complications, genetic disorders, and management of common childhood illness, assessment of development milestones, immunizations, and well-child care from birth through adolescence. 6 credits/6 weeks.

PHAS 4200 Clerkship in Surgery
This clerkship acquaints students with the diagnosis and management of general surgical problems encountered in the hospital as well as ambulatory settings. Students participate in surgical management during the pre-operative phase, assist during surgery, and provide post-operative management. 6 credits/6 weeks.

PHAS 4210 Clerkship in Surgery (Sub-specialty Elective)
This clerkship provides students with an additional opportunity to experience patient management in surgical subspecialties, such as trauma, transplant, neurosurgery, orthopedics, oncology, and/or plastic surgery. 5 credits/5 weeks.

PHAS 4300 Clerkship in Emergency Medicine
This clerkship provides students with practical clinical experience by working in an urban acute-care setting. It enables students to develop a focused and systematic approach to the diagnosis and treatment of common adult and pediatric medical and surgical emergencies. 6 credits/6 weeks.

PHAS 4400 Clerkship in Obstetrics and Gynecology
In this clerkship, students gain practical clinical experience in the diagnosis, evaluation, and management of both normal and abnormal conditions in obstetrics and gynecology. In addition, students learn to provide prenatal and postpartum care, family planning, health education, preventive services, and genetic counseling and other counseling as appropriate to the obstetrics and gynecology patient. 6 credits/6 weeks.

PHAS 4500 Clerkship in Family Practice/Primary Care
This clerkship provides students with the opportunity to gain experience in the treatment and management of ambulatory medical conditions. Emphasis is on effective and empathetic interviewing and counseling, as well as identification and management of the broad spectrum of primary care medical conditions that are encountered in the ambulatory setting. It will also focus on health promotion and disease prevention. 6 credits/6 weeks.

PHAS 4600 Clerkship in Psychiatry
This clerkship provides the training to diagnose and manage patients with psychiatric conditions in the ambulatory, in-patient, and emergency settings, including NICU units. Students learn to recognize and treat acute and chronic mental health disorders, affective and cognitive disorders, as well as disorders associated with substance abuse. 3 credits/3 weeks.

PHAS 4700 Clerkship in Geriatrics
This clerkship provides students with practical clinical experience in the diagnosis and management of common geriatric medical conditions in long-term care settings. Additional emphasis is placed on rehabilitation techniques, nutritional support, and psychosocial issues associated with the care of the elderly patient. 3 credits/3 weeks.

PHAS 4800 Senior Seminar
This course is designed to enhance the student’s clinical experience by thorough review of the content blueprints of organ systems, including but not limited to cardiology, pulmonary, gastroenterology, infectious diseases, endocrinology and hematology. Current changes and trends in medicine are addressed. Students develop the skills necessary to research and prepare formal presentations. Lecture: 1 credit.

PHAS 5000 AND PHAS 5001 Independent Study
This provides students who are on a modified course of study an opportunity to review anatomy and physiology, interviewing, physical examination, fundamentals of pathophysiology, among other areas. Courses are individualized to meet students’ academic and clinical needs. This is accomplished through written assignments, exams, practicals, independent reading, auditing of lectures, reviewing software, audio and video resources, classroom demonstrations, and presentations. Students on a modified course of study are required to register for PHAS 5000 and/or PHAS 5001. PHAS 5000 3 credits; PHAS 5001 4 credits.

Interdisciplinary Courses
See p. 46 for course descriptions.

ADMN 3100 Human Gross Anatomy
INDI 5012 Brooklyn Free Clinic Experience
PHYS 3110 Principles of Human Physiology and Biochemistry
MSC 4100 Research Methods
INTERDISCIPLINARY COURSES

The following courses are taken in common by students in different programs. See the individual Program of Study forms to find out which courses are required for each program.

ADMN 3100/5400* Health Care Delivery in the United States

This foundation course provides an introduction to the present day health care system in the United States. It provides an overview of historical perspective of health care to present day and changes in the future. Health economics, health care reform and financial reimbursement will be covered. The course provides an opportunity for students to explore issues related to professionalism and professional practice. Computer presentation and discussion. Fall. 3 credits

ANAT 5001 Human Gross Anatomy

This course involves the regional dissection, observation of the human body, and lectures, with emphasis on the musculoskeletal system. Palpation laboratories are correlated with specific areas of dissection. Lecture/laboratory. Summer. 6 credits

ANAT 5101 Human Neuroanatomy

This course covers the study of the central nervous system, including laboratory examination of gross morphology of the human brain in both fresh and stained material. Includes basic anatomy, systems and tracts, vascular system, and integrative function of the nervous system as evidenced in behavioral phenomena. Journal club component requires students to present and discuss information about clinical applications of neuroanatomy concepts. Lecture/laboratory. Spring. 2.5 credits

INDI 5110 Kinesiology

This course focuses on preparation for the foundations of the study of human movement. Principles of biomechanics, kinesiatrics, and kinetics are applied to students’ foundations in musculoskeletal anatomy. Kinetic and kine- matic analysis of normal and abnormal movement. Additional lab and/or journal club component provides application to occupational therapy practice. Lecture. Fall. 3 credits

INDI 5100 Research Methods

This course is an introduction to design- ing and critiquing research studies in the allied health professions. Lectures include the fundamentals of defining research problems, conducting literature reviews, selecting appropriate quantitative or qualitative design, adhering to research ethics, designing studies, and collecting and analyzing data. In a separate program seminar, students apply general research concepts to the occupational therapy profession and research principles to the use of standardized testing in occupational therapy. Lecture-seminar. Fall. 2.5 credits

INDI 5012/S014* Brooklyn Clinic Experience

This elective course is designed to provide a community service experience for undergraduate and graduate CHRP students. Registered students may participate by providing clinical and administrative duties and health care services relevant to their professions, including patient evaluation and referring patients, obtaining patient histories, performing physical exams and providing patient management services under supervision. Fall. 3 credits

INDI 5002 Kinesiology

This course is an introduction to the study of human movement. Principles of biomechanics, kinesiatrics, and kinetics are applied to students’ foundations in musculoskeletal anatomy, kinesic and kinetic analysis of normal and abnormal movement. Additional lab and/or journal club component provides application to occupational therapy practice. Lecture. Fall. 2 credits

MSCI 5211 Medical Sciences

This course covers the clinical concepts, case-study presentations and discussion of etiology, symptoms and medical management of patients with medical, dental, pediatric, orthopedic, and neurological diagnoses. Lecture. Spring. 4 credits

PHYS 3300 Research Methods and Evidence-Based Practice

This course involves the designing and conducting of research studies in the health professions. Lectures include the fundamentals of designing a research problem, constructing a rationale, conducting a literature review, formulating hypotheses, designing a study, measuring variables, selecting a sample and analyzing data. In a separate program seminar, students critique literature and apply general research concepts to the physical therapy profession. This course forms the research foundation for the final research project that will be undertaken in Research Study I. Students will apply the knowledge gained from Human Gross Anatomy, Principles of Human Physiology and Biochemistry, and as well as from courses taken concurrently, such as Kinesiology, Physical Therapy Examination I, and Patient/Client Management I and II, to understand concepts gleaned from the physical therapy literature. Lecture/seminar. Fall. 2.5 credits

PSYH 5111 Psychiatry

This course provides a comprehensive overview of psychiatric diagnosis and symptom complexes of children and adults. Students are introduced to various modalities of treatment and clinical reasoning. Selected topics are presented in such dimensions relevant to occupational and physical therapy practice. Case assignments apply course content relevant to occupational and physical therapy practice. Lecture. Fall. 2 credits

PUBH 5102 Health Care Across the Lifespan

This course is designed to examine health care from infancy to old age. Selected models are presented for understanding development as an individual age. These models will be linked to the health concerns that evolve across the lifespan. That knowledge will be applied to issues of health maintenance and disease prevention. Introduction to public health topics related to human health and disease, including a review of anatomy, physiology, and pathology of selected organ systems.相关的疾病将被讨论。 Lecture. 3 credits

INDI 5002

Kinesiology

This course focuses on the study of human movement. Principles of biomechanics, kinesiatrics, and kinetics are applied to students’ foundations in musculoskeletal anatomy. Kinetic and kinetic analysis of normal and abnormal movement. Additional lab and/or journal club component provides application to occupational therapy practice. Lecture. Fall. 3 credits

MSCI 5211

Medical Sciences

This course covers the clinical concepts, case-study presentations and discussion of etiology, symptoms and medical management of patients with medical, dental, pediatric, orthopedic, and neurological diagnoses. Lecture. Spring. 4 credits

PHYS 3300

Research Methods and Evidence-Based Practice

This course involves the designing and conducting of research studies in the health professions. Lectures include the fundamentals of designing a research problem, constructing a rationale, conducting a literature review, formulating hypotheses, designing a study, measuring variables, selecting a sample and analyzing data. In a separate program seminar, students critique literature and apply general research concepts to the physical therapy profession. This course forms the research foundation for the final research project that will be undertaken in Research Study I. Students will apply the knowledge gained from Human Gross Anatomy, Principles of Human Physiology and Biochemistry, and as well as from courses taken concurrently, such as Kinesiology, Physical Therapy Examination I, and Patient/Client Management I and II, to understand concepts gleaned from the physical therapy literature. Lecture/seminar. Fall. 2.5 credits

PSYH 5111

Psychiatry

This course provides a comprehensive overview of psychiatric diagnosis and symptom complexes of children and adults. Students are introduced to various modalities of treatment and clinical reasoning. Selected topics are presented in such dimensions relevant to occupational and physical therapy practice. Case assignments apply course content relevant to occupational and physical therapy practice. Lecture. Fall. 2 credits

PUBH 5102

Health Care Across the Lifespan

This course is designed to examine health care from infancy to old age. Selected models are presented for understanding development as an individual age. These models will be linked to the health concerns that evolve across the lifespan. That knowledge will be applied to issues of health maintenance and disease prevention. Introduction to public health topics related to human health and disease, including a review of anatomy, physiology, and pathology of selected organ systems.相关的疾病将被讨论。 Lecture. 3 credits

INDI 5002

Kinesiology

This course focuses on the study of human movement. Principles of biomechanics, kinesiatrics, and kinetics are applied to students’ foundations in musculoskeletal anatomy. Kinetic and kinetic analysis of normal and abnormal movement. Additional lab and/or journal club component provides application to occupational therapy practice. Lecture. Fall. 3 credits

MSCI 5211

Medical Sciences

This course covers the clinical concepts, case-study presentations and discussion of etiology, symptoms and medical management of patients with medical, dental, pediatric, orthopedic, and neurological diagnoses. Lecture. Spring. 4 credits

PHYS 3300

Research Methods and Evidence-Based Practice

This course involves the designing and conducting of research studies in the health professions. Lectures include the fundamentals of designing a research problem, constructing a rationale, conducting a literature review, formulating hypotheses, designing a study, measuring variables, selecting a sample and analyzing data. In a separate program seminar, students critique literature and apply general research concepts to the physical therapy profession. This course forms the research foundation for the final research project that will be undertaken in Research Study I. Students will apply the knowledge gained from Human Gross Anatomy, Principles of Human Physiology and Biochemistry, and as well as from courses taken concurrently, such as Kinesiology, Physical Therapy Examination I, and Patient/Client Management I and II, to understand concepts gleaned from the physical therapy literature. Lecture/seminar. Fall. 2.5 credits

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Teaching Facilities

The classroom and laboratory facilities of the College of Health Related Professions are located in both the Health Science Education Building (395 Lenox Road) and the Basic Sciences Building (450 Clarkson Avenue). Clinical content is taught at SUNY Downstate Medical Center’s University Hospital of Brooklyn, Kings County Hospital Center, and a large network of affiliated hospitals and community health facilities.

ADVANCED LEARNING RESOURCE CENTER (ALRC)
Located on the sub-floor of the Medical Library, the ALRC provides immersive and simulation-based educational programs for students, clinical trainees, and faculty. High-fidelity mannequins permit identification of pathologic physical exam findings and foster the development of clinical reasoning and procedural skills in a zero-fault environment.

Partial Task Trainers allow trainees to practice specific skills such as endotracheal intubation, central and peripheral line placement, pericardiocentesis, transvenous pacemaker insertion, and other invasive procedures. Compact ultrasound systems and tissue phantoms permit trainees to learn and practice ultrasound-guided techniques for invasive procedures such as thoracentesis, paracentesis, vascular access, and regional anesthesia.

A live Standardized Patient Program involving trained actors who play the role of patients, family members, and others fosters history taking, physical exam, and communication skills.

COLLEGE COMPUTER LABORATORY
The College of Health Related Professions computer lab is equipped with a laser printer and 24 PCs. Students can use Microsoft Office applications (Word, Excel, and PowerPoint) to create documents, spreadsheets, and slide presentations. In addition, students have fast access to the Internet via the campus network. SPSS and SAS are available throughout the campus. Each student is issued an email account that can be used for local and Internet messages. The computer lab is open 24 hours, seven days a week for CHRP students. A basic orientation to the computers and the network is offered at the beginning of each semester.

The Medical Informatics Program also has a dedicated computer lab on the 8th floor of the Education Building. The lab has 20 stations, fully equipped with software programs specific to the educational needs of students in this master’s program. In this lab, Clinical Works is available for the Medical Informatics students to be able to practice with the Electronic Medical Record.

OTHER LABORATORY FACILITIES
Many programs offer specially equipped laboratories. They include:

- Diagnostic Medical Imaging Laboratory
  This lab houses ultrasound machines, phantom trainers, and a unique collection of models for teaching sectional anatomy.

Clinical Care Facilities

Allied health students receive their clinical training at SUNY Downstate’s University Hospital of Brooklyn and at affiliated institutions and sites throughout the metropolitan area. Clinical sites used in the training program may vary from year to year.

UNIVERSITY HOSPITAL OF BROOKLYN
University Hospital of Brooklyn (UHB) is the 376-bed plus 30-basinet teaching hospital of SUNY Downstate Medical Center and is integral to the clinical education provided to students. As the regional center for Brooklyn and Staten Island, UHB provides, on average, care to approximately 16,000 inpatients and nearly 360,000 visits in its on-site Outpatient Department, Dialysis Center, and office ambulatory care centers. More than 71,000 visits are made to UHB’s Emergency Department yearly. UHB is a full-service hospital fully accredited in all medical subspecialties.

University Hospital of Brooklyn is a regional provider of outstanding primary and advanced medical care. The cardiothoracic surgery, cardiovascular medicine, and interventional cardiology programs at UHB are among the leading cardiac-care teams in Brooklyn.

As part of an academic medical center, UHB has several specialized programs that support its Children’s Hospital and enable it to excel among pediatric services in Brooklyn and New York. The hospital is the designated Regional Perinatal Center for Brooklyn, Interfaith, Lenox Hill, and Long Island College Hospitals. UHB’s Pediatric Kidney Center is the second-largest facility for pediatric dialysis in the state. UHB’s integration with the College of Medicine has made it possible to assemble a full-time staff of clinicians, basic scientists, and other health-care professionals who have strong academic backgrounds in their fields of specialization. Faculty members closely supervise the care of patients while instructing allied health students along with medical and nursing students.

KINGS COUNTY HOSPITAL CENTER
One of the largest acute-care hospitals in the country and the largest municipal hospital in New York City, with 63 acres and 23 buildings, Kings County Hospital Center offers clinical opportunities of every description. Operated by the Health and Hospitals Corporation of the City of New York, Kings County Hospital Center recently completed a state-of-the-art 358-bed inpatient tower as part of its modernization project. Its facilities include one of the country’s busiest emergency rooms, a nationally recognized Level I trauma center, and more than one hundred ambulatory care services.

MEDICAL CENTER, HEALTH AGENCIES, AND CLINICAL SITES
Complementing the clinical experiences available at University Hospital of Brooklyn and Kings County Hospital Center, the College of Health Related Professions maintains affiliations with a broad network of community agencies and hospitals, as detailed in the box “Medical Centers, Health Agencies, and Clinical Sites” in the pages that follow.
Allen Nelson Lewis, Jr., PhD
Dean

Abear, Sarah
DPT (Upstate Medical University), PT
Assistant Professor

Ahearn, Saren
DPT (Upstate Medical University), PT
Assistant Professor

Black-Peart, Julie
MDAS (University of Nebraska), PA-C
Assistant Professor

Desport, Brigitte
DPS (New York University), OTR/L, ATP
Assistant Professor

Donatucci, Douglas
MS (SUNY Stony Brook), RDMS, RDMS
Clinical Assistant Professor

Elenko, Beth
PhD (New York University), OTL
Assistant Professor

Gaffney, Angela
PDMS (University of Nebraska), PA-C
Clinical Assistant Professor

Griffin, Angela
PhD (Rocky Mountain University), PT
Assistant Professor

Hellman, Ron
DPT (Queens College), PT
Assistant Professor

Hoffmann, Richard
MS (SUNY Downstate Medical Center), RDMS
Clinical Assistant Professor

Katz, Joanne
PhD (New York University), PT, DPT
Chairperson and Associate Professor

Kline, Nancy
PhD (New York University), OTR
Assistant Professor

Laffin, MaryAnne
MS (Queens College), RN, FNP, CM, LM, FACN
Clinical Assistant Professor

Lichtman, Ronnie
PhD (Columbia University), CNM, LM, FACN
Chairperson and Professor

Lowe, Allen Nelson, Jr.
PhD (Virginia Commonwealth University)
Dean

Martincic, Kenneth
MS (New York Institute of Technology), RT(R)
Clinical Assistant Professor

Miller, Teresa
PD (Temple University), PT, GCFP
Associate Professor

Monson-Rice, Dawn
EdD (St. John’s University), PA-C
Professor

Murray, Joan
MA (CUNY), OTL, CHT
Assistant Professor

Nwamaghinna, Felix
MSB (Union Graduate College, Mt. Sinai School of Medicine), PA-C
Chairperson and Associate Professor

Pessin, Yosefa Joy
MS (SUNY, Albany), RDMS, RDMS, RVT
Assistant Professor

Prussin, Yousef
MS (SUNY, Albany), RDMS, RDMS, RVT
Clinical Assistant Professor

Ritz, Edson
MPH (Brooklyn College), PA-C
Assistant Professor

Ruiz, Edison
MPH (Brooklyn College), PA-C
Assistant Professor

Sabir, Richard
MA (New York University), MPH (University of Texas), OTR, GCFP
Clinical Assistant Professor

Sanassi, Lorraine
DHS (Nova Southeastern University) MHC, PA-C
Assistant Professor

Schechter, Suzanne
MS (Queens College), CNM, LM, FACN
Clinical Assistant Professor

Seckel, Laurie
DPT (Queens Community College), PT, NCS
Assistant Professor

Teng-Simmons, Jason
BS (SUNY Downstate Medical Center) RDMS
Clinical Assistant Professor

Thomas, Jasmin
MS (Queens College), OTL
Clinical Assistant Professor

Topor, Isaac
EdD (Teachers College, Columbia University), RHIA
Chairman and Associate Professor

Trimingham, Andrea
MA (Queens College), PA-C
Clinical Assistant Professor

Trossman, Patricia
EdD (Teachers College, Columbia University), OTL
Associate Professor Emeritus

* As of August 2015

Alphabetical Faculty Listing
The State University of New York’s 64 campuses are divided into four categories, based on educational mission, the kinds of opportunities available, and degrees offered. SUNY offers students a wide diversity of educational options: short-term vocational/technical courses, certificate programs, associate degree programs, baccalaureate degree programs, graduate degrees, and postdoctoral studies. SUNY offers access to almost every educational option: short-term vocational/technical courses, certificate programs, associate, baccalaureate, master’s, professional degrees, and postdoctoral studies. SUNY offers students the very best and brightest scholars, scientists, artists, and professionals. SUNY campuses boast nationally and internationally recognized figures in all major disciplines. Their efforts are regularly recognized in numerous prestigious awards and honors.

SUNY numbers more than 3 million graduates on its rolls. The majority of SUNY’s alumni resides and pursues careers in communities across New York State, contributing to the economic and social vitality of its people. SUNY is committed to bringing its students the very best and brightest scholars, scientists, artists, and professionals. SUNY campuses boast nationally and internationally recognized figures in all major disciplines. Their efforts are regularly recognized in numerous prestigious awards and honors.

The State University of New York’s 64 campuses are geographically dispersed campuses bring educational opportunity within commuting distance of virtually all New Yorkers and make up the nation’s most diverse system of public higher education. The State University of New York’s 64 campuses are divided into four categories, based on educational mission, the kinds of opportunities available, and degrees offered. SUNY offers students a wide diversity of educational options: short-term vocational/technical courses, certificate programs, associate degree programs, baccalaureate degree programs, graduate degrees, and postdoctoral studies. SUNY offers access to almost every field of academic or professional study somewhere within the system—some 6,688 degree and certificate programs overall.

Students pursue traditional study in classrooms and laboratories or work from home, at their own pace, through such innovative institutions as the SUNY Learning Network and Empire State College. SUNY’s students are predominantly New York State residents, representing every one of the state’s 62 counties. SUNY students also come from every other state in the United States, from four U.S. territories or possessions, and 171 foreign countries. SUNY enrolls 40 percent of all New York State high-school graduates, and has a total enrollment of nearly 468,000 students. SUNY students represent the society that surrounds them. More than 21 percent of all students are minorities.
EDUCATIONAL RIGHTS

The Family Educational Rights and Privacy Act of 1974 protects the rights of students to inspect and review certain educational records and prohibits the non-consensual release of personally identifiable information from such records which is not "directory information." Students currently enrolled at Downstate may object to the release of certain categories of directory information pertaining to them by providing written notification to the Dean’s Office of their college within 14 days following the first day of classes. The categories of directory information at Downstate are:

- Name address, telephone numbers, dates of attendance
- Previous institutions, major field of study, degrees conferred
- Past and present participation in officially recognized activities, student photo, date and place of birth

The failure of any student to object specifically to the release of certain or all categories of directory information within the time indicated is interpreted as approval. Please see policy "Family Education Right and Privacy Act" in the Student Handbook for further information.

EDUCATION LAW

The following applies to students who are unable to attend classes on certain days because of their religious beliefs. Sect. 226-a (New York State Education Law).

1. No person shall be expelled from or be refused admission as a student to an institution of higher education for the reason that s/he is unable, because of religious beliefs, to register or attend classes or to participate in an examination, study, or work requirement on a particular day or days.

2. Any student in an institution of higher education who is unable, because of his or her religious beliefs, to attend classes on a particular day or days shall, because of such absence on the particular day or days, be excused from any examination or any study or work requirements.

3. It shall be the responsibility of the faculty and of the administrative officials of each institution of higher education to exercise the fullest measure of good faith. No adverse or prejudicial effects shall result to any student because of his or her availing himself or herself of the provision of this section.

4. Any student who is aggrieved by the alleged failure of any faculty or administrative officials to comply in good faith with the provisions of this section shall be entitled to maintain an action or proceeding in the supreme court of the country in which such institution of higher education is located for the enforcement of his or her rights under this section.

5. It shall be the responsibility of the administrative officials of each institution of higher education to give written notice to students of their right under this section, informing them that each student who is absent from school, because of his or her religious beliefs, must be given an equivalent opportunity to register for classes or make up any examination, study or work requirements which he or she may have missed because of such absence on any particular day or days. No fees of any kind shall be charged by the institution for making available to such student such equivalent opportunity.

6. As used in this section, the term "institution of higher education" shall mean any institution of higher education, recognized and approved by the Regents of the University of the State of the New York, which provides a course of study leading to the granting of a post-secondary degree or diploma. Such term shall not include any institution which is operated, supervised or controlled by a church or by a religious denominational organization whose education programs are principally designated for the purpose of training ministers or other religious functionaries or for the purpose of propagating religious doctrines. As used in this section, the term "religious belief" shall mean beliefs associated with any corporation organized and operated exclusively for religious purposes, which is not disqualified for tax exemption under section 501 of the United States Code.

* See the Student Handbook for a full description of student rights.

SUNY Downstate Medical Center
(Health Science Center at Brooklyn)

State University of New York
Downstate Medical Center

FINANCIAL AID

Phone: (718) 270-2488, Fax: (718) 270-7592

ADDITIONAL INFORMATION

Office of Minority Affairs
(718) 270-3033
oma@downstate.edu

RESIDENTIAL LIFE AND SERVICES

RESIDENTIAL LIFE AND SERVICES

WEBSITE

www.downstate.edu

E-MAIL

Diagnostic Medical Imaging: DMI.CHRP@downstate.edu

Medical Informatics: Informatics.CHRP@downstate.edu

Midwifery: Midwifery.CHRP@downstate.edu

Occupational Therapy: OT.CHRP@downstate.edu

Physical Therapy: PT.CHRP@downstate.edu

Physician Assistant: PA.CHRP@downstate.edu