

# DUAL-DEGREE BS IN BIOMEDICAL SCIENCES/MHS PATHOLOGISTS' ASSISTANT (4+2)

Program Contact: Robert Cottrell (robert.cottrell@qu.edu) 203-582-8676

This unique dual-degree program prepares students for the study of pathology and laboratory medicine with direct exposure to the clinical elements, providing an easy transition to graduate-level study. The BS in Biomedical Sciences grounds students in such subjects as biology, chemistry and microbiology, with a focus on human health and disease and the development of lab skills and research acumen. This positions students for direct entry into our highly competitive, NAACLS-accredited Pathologists' Assistant program, one of only 15 of its kind in the U.S. and Canada.

The graduate PA program blends the classroom and laboratory dynamic for a collaborative and hands-on learning experience. Students will learn to examine, process and prepare tissue specimens for a variety of clinical tests and procedures, such as light microscopy, biomedical imaging and tumor triage. The 12-month rotation places students in both community and university hospitals, where they will apply their skills in settings for both surgical and autopsy pathology. Graduates will be positioned for a range of high-demand careers in hospitals, clinical laboratories, research and medical teaching facilities.

Students begin taking PA courses as early as junior year, not only cutting down time for degree completion and easing the graduate-level course load, but saving costs on graduate education as well. Additionally, as a 4+2 undergraduate, students will still have opportunities to participate in faculty-mentored research, either during the semester as part of an independent study or over the summer as part of the Quinnipiac Interdisciplinary Program for Research and Scholarship (QUIP-RS).

## Dual-Degree BS in Biomedical Sciences/ MHS Pathologists' Assistant (4+2) Undergraduate Curriculum

Course	Title	Credits
<b>First Year</b>		
<b>Fall Semester</b>		
BIO 150	General Biology for Majors	4
CHE 110 & 110L	General Chemistry I and General Chemistry I Lab	4
EN 101	Introduction to Academic Reading and Writing	3
FYS 101	First-Year Seminar	3
MA 140 or MA 141	Pre-Calculus or Calculus of a Single Variable	3
<b>Credits</b>		<b>17</b>
<b>Spring Semester</b>		
BIO 151	Molecular and Cell Biology and Genetics	4
CHE 111 & 111L	General Chemistry II and General Chemistry II Lab	4
EN 102	Academic Writing and Research	3

BMS 278	Research and Technology	3
UC Disciplinary Inquiry		3
<b>Credits</b>		<b>17</b>
<b>Second Year</b>		
<b>Fall Semester</b>		
BIO 211 & 211L	Human Anatomy and Physiology I and Human Anatomy and Physiology Lab I	4
CHE 210 & 210L	Organic Chemistry I and Organic Chemistry I Lab	4
MA 275	Biostatistics	3
UC Disciplinary Inquiry		3
<b>Credits</b>		<b>14</b>
<b>Spring Semester</b>		
BIO 212 & 212L	Human Anatomy and Physiology II and Human Anatomy and Physiology II Lab	4
CHE 211 & 211L	Organic Chemistry II and Organic Chemistry II Lab	4
BMS 370 & 370L	General Microbiology and General Microbiology Lab	4
UC Disciplinary Inquiry		3
<b>Credits</b>		<b>15</b>
<b>Third Year</b>		
<b>Fall Semester</b>		
CHE 315 & 315L	Biochemistry I and Biochemistry I Lab	4
PHY 110 & 110L	General Physics I and General Physics I Lab	4
Science Elective		3
UC Personal Inquiry		3
<b>Credits</b>		<b>14</b>
<b>Spring Semester</b>		
PHY 111 & 111L	General Physics II and General Physics II Lab	4
Choose one of the following		4
BMS 472	Biotechnology ( (Lecture & Lab Combined))	
BIO 471 & 471L	Molecular Genetics and Molecular Genetics Lab	
PA 515	Human Physiology <sup>1</sup>	4
UC Personal Inquiry		3
<b>Credits</b>		<b>15</b>
<b>Fourth Year</b>		
<b>Fall Semester</b>		
BMS 375 & 375L	Immunology and Immunology Lab	4
PA 535	Disease Mechanisms <sup>2</sup>	4
UC Personal Inquiry		3
Open Elective		3
<b>Credits</b>		<b>14</b>
<b>Spring Semester</b>		
BMS 397	Biomedical Sciences Internship	3
BMS 572	Pathogenic Microbiology <sup>1</sup>	4
SHS 420	Integrative Capstone	3
UC Personal Inquiry		3

Open Elective	3
<b>Credits</b>	<b>16</b>
<b>Total Credits</b>	<b>122</b>

<sup>1</sup> Graduate course that also counts for an undergraduate science elective.

<sup>2</sup> Graduate course that fulfills the undergraduate Pathophysiology (BMS 318) requirement.

## Dual-Degree BS in Biomedical Sciences/ MHS Pathologists' Assistant (4+2)

### Graduate Curriculum

Course	Title	Credits
<b>Fifth Year</b>		
<b>Summer Semester</b>		
BMS 532	Histology and Lab	4
PA 502	Medical Terminology: Advanced	2
PA 505	Forensic Pathology	2
PA 506	Forensic Imaging	2
PA 512	Human Anatomy	4
PA 512L	Human Anatomy Lab	
<b>Credits</b>		<b>14</b>
<b>Fall Semester</b>		
BMS 504	Quality and Safety in Healthcare Organization	3
BMS 517	Human Embryology	3
PA 511	Human Microscopic Anatomy	4
PA 513	Basic Human Pathology I	3
<b>Credits</b>		<b>13</b>
<b>Spring Semester</b>		
BMS 535	Histochemistry and Lab	3
PA 514	Basic Human Pathology II	3
PA 516	Clinical Pathology	4
PA 517	Applied Anatomic Pathology	4
<b>Credits</b>		<b>14</b>
<b>Sixth Year</b>		
<b>Summer Semester</b>		
PA 520	Autopsy Pathology I	6
PA 523	Surgical Pathology I	6
<b>Credits</b>		<b>12</b>
<b>Fall Semester</b>		
PA 521	Autopsy Pathology II	6
PA 524	Surgical Pathology II	6
<b>Credits</b>		<b>12</b>
<b>Spring Semester</b>		
PA 522	Autopsy Pathology III	6
PA 525	Surgical Pathology III	6
<b>Credits</b>		<b>12</b>
<b>Total Credits</b>		<b>77</b>

## Mission Statement

The mission of Quinnipiac University's Dual-Degree BS in Biomedical Sciences/MHS Pathologists' Assistant (4+2) program (with concentrations in Medical Sciences or Microbiology) is to provide students with a strong foundation in biology, chemistry, microbiology and biomedical sciences. The curriculum will allow students to easily and effectively transition into the graduate Pathologists' Assistant program. The graduate curriculum, leading to a Master of Health Science, will train candidates to be pathologists' assistants. Upon successful completion of their training, graduates are employed by pathologists in hospital laboratories, private laboratories and medical research centers. Currently, there is a nationwide demand for pathologists' assistants.

## Admission to the Program

Candidates applying for admission into the Dual-Degree BS in Biomedical Sciences/MHS in Pathologists' Assistant from high school are required to have no less than three years of high school college-preparatory mathematics (four years are preferred), one year of biology and one year of chemistry. Students are also encouraged to take advanced Biology electives. In addition, the scores of the Scholastic Assessment Test or the College Entrance Examination board of the American College Testing program are important considerations.

- Minimum high school GPA of 3.20
- Minimum SAT scores of 1200

## Progression into the Graduate Program

In order to successfully progress into the Pathologists' Assistant program, students must meet the following criteria:

- Complete all requirements to fulfill a BS in Biomedical Sciences within four years
- Maintain an overall GPA of 3.20
- Maintain an overall Math and Science GPA of 3.20

## Pre-Medical Studies Program

Students majoring in Health Science Studies, Biology, Biomedical Sciences or the pre-health track of Behavioral Neuroscience may fully participate in the pre-medical studies program. The curriculum in this degree program can fulfill the science prerequisites for most professional schools. Students should refer to Pre-Medical Studies (<http://catalog.qu.edu/academics/premedical-studies/>) for more information about the pre-medical studies program and contact the Health Professions Advisory Committee for further academic advising.