Duquesne University is pleased to announce the FIRST dual undergraduate degree in biomedical engineering and nursing in the U.S. Biomedical Engineers are charged with advancing healthcare treatment for diagnostic and therapeutic purposes. A healthcare background with requisite clinical experience will greatly enhance a biomedical engineer’s ability to solve clinical problems. The dual BME/BSN degree is cost effective as it provides additional clinical knowledge and skills via a holistic nursing approach in a 5-year format.

The biomedical engineer/nursing majors will gain a deep clinical perspective and will learn to develop technologies and solve real clinical problems as a result of this novel and forward-thinking dual degree program. Nurses are in the best position to assess the functional health status and technology needs of patients given their close interactions with patients. The biomedical engineering/nursing major will develop technologies to assist patients and create efficiencies for nurses in the hospital, outpatient, and home care arenas, and also develop life-saving technologies for developing countries in a cost-effective manner.

<table>
<thead>
<tr>
<th>Fall of 1st Year – 17 Credits</th>
<th>Spring of 1st Year – 16 Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMED-100 Intro to Biomed Engineering (3 cr.)</td>
<td>BMED-110 Intro to Programming for Engin (3 cr.)</td>
</tr>
<tr>
<td>CHEM-121/L/R Gen Chemistry I/Lab (5/0 cr.)</td>
<td>CHEM-122/L/R Gen Chemistry II/Lab (5/0 cr.)</td>
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<tr>
<td>MATH-115 Calculus I (4 cr.)</td>
<td>MATH-116 Calculus II (4 cr.)</td>
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<tr>
<td>PHYS-211/L/R General Analytical Physics I /Lab/Recitation (3/1 cr.)</td>
<td>PHYS-212/L/R General Analytical Physics II /Lab/Recitation (3/1 cr.)</td>
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<tr>
<td>UCOR-103 IPE Health Research Skills (1 cr.)</td>
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<tr>
<th>Fall of 2nd Year – 18 Credits</th>
<th>Spring of 2nd Year – 17 Credits</th>
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<tbody>
<tr>
<td>BIOL-111/L Biology I/ Lab (4/0 cr.)</td>
<td>BIOL-112/L Biology II/ Lab (4/0 cr.)</td>
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<tr>
<td>BIOL-207/8 Anatomy and Physiology I/ Lab (3/1 cr.)</td>
<td>BIOL-209/10 Anatomy and Physiology II/ Lab (3/1 cr.)</td>
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<tr>
<td>BMED-201 Biomed Electronics &amp; Instr I (3 cr.)</td>
<td>BMED-202 Biomed Electronics &amp; Instr II (3 cr.)</td>
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<tr>
<td>MATH-215 Calculus III (4 cr.)</td>
<td>MATH-314 Differential Equations (3 cr.)</td>
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<tr>
<td>UCOR-101 Thinking &amp; Writing Across the Curric (3 cr.)</td>
<td>UCOR-102 Imaginative Literature &amp; Critical Writing (3 cr.)</td>
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<th>Fall of 3rd Year (18 Credits)</th>
<th>Spring of 3rd Year – 19 Credits</th>
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<tbody>
<tr>
<td>BMED-210 Thermodynamics (3 cr.)</td>
<td>BIOL-203/4 Introductory Microbiology/Lab (3/1 cr.)</td>
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<tr>
<td>BMED-310 Biomedical Signals and Systems (3 cr.)</td>
<td>BMED-220 Introduction to Biomaterials (3 cr.)</td>
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<tr>
<td>BMED-430 Engineering Computation (3 cr.)</td>
<td>BMED-320 Biofluid Mechanics (3 cr.)</td>
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<tr>
<td>MATH-301 Intro Probability &amp; Stat I (3 cr.)</td>
<td>MATH-302W Intro Probability &amp; Stat II (3 cr.)</td>
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<tr>
<td>UPNS-103 Nutrition for Wellness (3 cr.)</td>
<td>UPNS-113 Hmn Dev &amp; Hlth Prom Acrs Lfspn (3 cr.)</td>
</tr>
<tr>
<td>Faith and Reason Theme Area (3 cr.)</td>
<td>Social Justice Theme Area (3 cr.)</td>
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### Fall of 4th Year (16 Credits)
- UPNS-119 Contemp Prof Nrsng & Tech (3 cr.)
- UPNS-124 Cultural Issues in Health Care (3 cr.)
- UPNS-200 Fund of Nsg Pract & Clini Eth (6 cr.)
- UPNS-218 Health Assessment (4 cr.)

### Spring of 4th Year – 18 Credits
- UPNS-309 Pharmacology (3 cr.)
- UPNS-323 Adult Health and Illness (6 cr.)
- UPNS-411W Nursing Ethics Across Lifespan (3 cr.)
- Global Diversity Theme Area (3 cr.)
- Theology Core Area (3 cr.)

### Summer of 4th Year (12 Credits)
- BMED-490 Research in Biomedical Engr (3 cr.)
- BMED Elective (3 cr.)
- BMED Elective (3 cr.)
- UPNS-423 Evdnce-Bsd Apprchs to Prof Pct (3 cr.)

### Fall of 5th Year (17 Credits)
- BMED-440W Biomedical Eng Capstone I (5 cr.)
- UPNS-326 Pathophysiology for Nsg Prac (3 cr.)
- UPNS-339W Genetics in Nursing & Health (3 cr.)
- UCOR-132 Basic Philosophical Questions (3 cr.)
- Creative Arts Theme Area (3 cr.)

### Spring of 5th Year (20 Credits)
- BMED-441W Biomed Engineering Capstone II (5 cr.)
- BMED Elective (3 cr.)
- UPNS-344 Nursing for Children’s Health (3 cr.)
- UPNS-348 Nrsing for Maternal-Nwbrn Hlth (3 cr.)
- UPNS-355 Behavioral Health (3 cr.)
- UPNS-357 Population Health (3 cr.)

### Summer of 4th Year (18 Credits)
- UPNS-400 Critically Ill Adult (6 cr.)
- UPNS-422 Role Preparation II (3 cr.)
- UPNS-426 Ldrshp & Mgmt in Clin Envir (6 cr.)
- UPNS-430 Gerontological Nursing Pract (3 cr.)

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**IMPORTANT NOTE:** The material contained herein is subject to change, and this publication cannot be considered an agreement or contract between individual students and the School. The Rangos School of Health Sciences reserves the right to alter or amend the terms, conditions, and requirements herein, and to eliminate programs or courses as necessary. Once enrolled, students should consult on a regular basis with their Faculty Mentor and/or Academic Advisor for specific information regarding academic policies pertaining to their respective program.