PREMEDICAL-MEDICAL, B.S.

Begin Campus: University Park
End Campus: University Park

Program Description
This is a special accelerated program in cooperation with the Sydney Kimmel Medical College (SKMC) at Thomas Jefferson University in Philadelphia whereby exceptional students have the opportunity to earn both the B.S. and M.D. degrees in seven years. Students are selected for this program while they are seniors in high school and must begin their undergraduate studies the fall immediately following their graduation. The first three years of the program are completed at University Park and the next four at SKMC Jefferson. The Penn State B.S. degree in Premedical-Medical is awarded after completion of 96 Penn State credits and successful completion of the first year of the standard curriculum at SKMC Jefferson Medical College.

What is Premedical-Medical?
This is a cooperative accelerated medical program, which allows students to earn both their B.S. and M.D. degrees in seven years. Students must apply to this program as high school seniors.

The 7 year curriculum of the Premedical-Medical program includes a strong undergraduate science foundation of chemistry, biochemistry, physics, biology, and post-graduate medical school coursework.

You Might Like This Program If...
- You are focused on a future career as a physician.
- You have had meaningful exposure(s) in healthcare settings that lead you to consider becoming a physician by way of a shortened, provisionally assured admission program.
- You like and want to further study science in all of the core disciplines.

MORE INFORMATION ABOUT PREMEDICAL-MEDICAL (https://science.psu.edu/interdisciplinary-programs/premed-med-bsmd/)

Direct Admission to the Major
Incoming first-year students who meet the program admission requirements are admitted directly into the major. Admission restrictions may apply for change-of-major and/or change-of-campus students.

For more information about the admission process for this major, please send a request to the college, campus, or program contact (listed in the Contact tab).

Degree Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education</td>
<td>45</td>
</tr>
<tr>
<td>Electives</td>
<td>0–1</td>
</tr>
<tr>
<td>Requirements for the Major</td>
<td>64-66</td>
</tr>
</tbody>
</table>

15 of the 45 credits for General Education are included in the Requirements for the Major. This includes: 9 credits of GN courses; 6 credits of GQ courses.

Requirements for the Major
To graduate, a student enrolled in the major must earn a grade of C or better in each course designated by the major as a C-required course, as specified by Senate Policy 82-44 (http://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#82-44).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 210</td>
<td>Organic Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 212</td>
<td>Organic Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 213</td>
<td>Laboratory in Organic Chemistry</td>
<td>2</td>
</tr>
<tr>
<td>PHYS 211</td>
<td>General Physics: Mechanics</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 212</td>
<td>General Physics: Electricity and Magnetism</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 213</td>
<td>General Physics: Fluids and Thermal Physics</td>
<td>2</td>
</tr>
<tr>
<td>PHYS 214</td>
<td>General Physics: Wave Motion and Quantum Physics</td>
<td>2</td>
</tr>
</tbody>
</table>

Prescribed Courses: Require a grade of C or better

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 110</td>
<td>Biology: Basic Concepts and Biodiversity</td>
<td>4</td>
</tr>
<tr>
<td>BMB 401</td>
<td>General Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>BMB 402</td>
<td>General Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 110</td>
<td>Chemical Principles I</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 111</td>
<td>Experimental Chemistry I</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 112</td>
<td>Chemical Principles II</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 113</td>
<td>Experimental Chemistry II</td>
<td>1</td>
</tr>
<tr>
<td>MATH 140</td>
<td>Calculus With Analytic Geometry I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 141</td>
<td>Calculus with Analytic Geometry II</td>
<td>4</td>
</tr>
</tbody>
</table>

Supporting Courses and Related Areas

Select 4-5 credits of life science with lab
Select 3-11 credits from program list
Select 0-8 credits in a foreign language^1
Select 3-4 credits of life science

^1 Proficiency demonstrated by examination or coursework to the level of the second semester; if fewer than 8 credits are needed to reach the required proficiency, students choose selections from program list to total 8 credits.

Note: Depending on advanced placement credit and schedule load, it might also be necessary to enroll during one of the other summer sessions before entering SKMC Jefferson Medical College at semester seven.

General Education
Connecting career and curiosity, the General Education curriculum provides the opportunity for students to acquire transferable skills necessary to be successful in the future and to thrive while living in interconnected contexts. General Education aids students in developing intellectual curiosity, a strengthened ability to think, and a deeper sense of aesthetic appreciation. These are requirements for all baccalaureate students and are often partially incorporated into the requirements of a program. For additional information, see the General Education Requirements (https://bulletins.psu.edu/undergraduate/general-education/baccalaureate-degree-general-education-program/) section of the Bulletin and consult your academic adviser.
The keystone symbol appears next to the title of any course that is designated as a General Education course. Program requirements may also satisfy General Education requirements and vary for each program.

**Foundations (grade of C or better is required.)**
- Quantification (GQ): 6 credits
- Writing and Speaking (GWS): 9 credits

**Knowledge Domains**
- Arts (GA): 6 credits
- Health and Wellness (GHW): 3 credits
- Humanities (GH): 6 credits
- Social and Behavioral Sciences (GS): 6 credits
- Natural Sciences (GN): 9 credits

**Integrative Studies (may also complete a Knowledge Domain requirement)**
- Inter-Domain or Approved Linked Courses: 6 credits

**University Degree Requirements**

**First Year Engagement**
All students enrolled in a college or the Division of Undergraduate Studies at University Park, and the World Campus are required to take 1 to 3 credits of the First-Year Seminar, as specified by their college First-Year Engagement Plan.

Other Penn State colleges and campuses may require the First-Year Seminar; colleges and campuses that do not require a First-Year Seminar provide students with a first-year engagement experience.

First-year baccalaureate students entering Penn State should consult their academic adviser for these requirements.

**Cultures Requirement**
6 credits are required and may satisfy other requirements
- United States Cultures: 3 credits
- International Cultures: 3 credits

**Writing Across the Curriculum**
3 credits required from the college of graduation and likely prescribed as part of major requirements.

**Total Minimum Credits**
A minimum of 120 degree credits must be earned for a baccalaureate degree. The requirements for some programs may exceed 120 credits. Students should consult with their college or department adviser for information on specific credit requirements.

**Quality of Work**
Candidates must complete the degree requirements for their major and earn at least a 2.00 grade-point average for all courses completed within their degree program.

**Limitations on Source and Time for Credit Acquisition**
The college dean or campus chancellor and program faculty may require up to 24 credits of course work in the major to be taken at the location or in the college or program where the degree is earned. Credit used toward degree programs may need to be earned from a particular source or within time constraints (see Senate Policy 83-80 (http://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#83-80)). For more information, check the Suggested Academic Plan for your intended program.

**Program Learning Objectives**
- Builds foundation in living systems and human behavior; applies knowledge and skill related to molecular and macro systems including biological organisms, biochemical reactions, and physical foundations of biological systems; applies knowledge of the self, others, and social systems related to the psychological, sociocultural, and/or biological factors that influence health and well-being.
- Implement critical analysis and reasoning skills across academic disciplines; demonstrates critical and creative thinking and use the scientific approach to solve problems of biological, chemical, and physical nature; demonstrate critical thinking in the analysis, evaluation, and interpretation of information in the scientific literature; distinguish scientific and healthcare-related literature from other sources and discriminate among scientific claims presented in a variety of sources based on the strength of evidence; formulate and defend one's own scholarly opinion based on reading, interpreting, and synthesizing scientific literature; apply quantitative reasoning and appropriate mathematics to collect, organize, and/or explain scientific data.
- Develops facility in the language of science to participate in scientific discourse; listens effectively; adapts language and communication for lay and professional audiences in both written and oral formats; works collaboratively with others to solve biological, health, and interdisciplinary problems; shares information and knowledge with others and provides feedback; and/or participates in peer-review/revising processes; prioritizes team goals over individual goals.
- Demonstrates an awareness of others' needs, goals, feelings, and the ways that social and behavioral cues affect peoples' interactions and behaviors; adjusts behaviors and communication appropriately; develops and demonstrates ethical and moral reasoning; shows an appreciation and respect for multiple dimensions of diversity; recognizes and acts on the obligation to inform one's own judgment; and/or examines ethical, political, and social issues in the research, implementation, and practice of medicine, medical technologies, and healthcare.
- Consistently fulfills obligations in a timely and satisfactory manner; takes responsibility for personal actions and performance; sets goals for continuous improvement (growth mindset); engages in reflective practice; responds to and appropriately integrates feedback; and/or actively seeks opportunities for personal and professional development to reinforce cultural humility, diverse perspectives, ethical considerations, content integration, communication and interpersonal skills, and thinking and reasoning.

*Built to align with the AAMC Core Competencies for Entering Medical Students.

**Academic Advising**
The objectives of the university’s academic advising program are to help advisees identify and achieve their academic goals, to promote their intellectual discovery, and to encourage students to take advantage of both in-and out-of-class educational opportunities in order that they become self-directed learners and decision makers.

Both advisers and advisees share responsibility for making the advising relationship succeed. By encouraging their advisees to become engaged in their education, to meet their educational goals, and to develop the habit of learning, advisers assume a significant educational role. The advisee’s unit of enrollment will provide each advisee with a primary
academic adviser, the information needed to plan the chosen program of study, and referrals to other specialized resources.

READ SENATE POLICY 32-00: ADVISING POLICY (https://senate.psu.edu/policies-and-rules-for-undergraduate-students/32-00-advising-policy/)

University Park
Melissa Krajcovic
Director, Science Premedicine Majors
225B Ritenour Building
University Park, PA 16802
814-865-7620
muk519@psu.edu

Suggested Academic Plan

The suggested academic plan(s) listed on this page are the plan(s) that are in effect during the 2022-23 academic year. To access previous years' suggested academic plans, please visit the archive (https://bulletins.psu.edu/undergraduate/archive/) to view the appropriate Undergraduate Bulletin edition (Note: the archive only contains suggested academic plans beginning with the 2018-19 edition of the Undergraduate Bulletin).

Premedical-Medical, B.S. at University Park Campus

The course series listed below provides only one of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit accessible in LionPATH as either an Academic Requirements report. Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credits</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>4</td>
<td>BIOL 230W (consult with adviser for alternative options)</td>
</tr>
<tr>
<td>Fall</td>
<td>3</td>
<td>CHEM 112*</td>
</tr>
<tr>
<td>Fall</td>
<td>1</td>
<td>CHEM 113*</td>
</tr>
<tr>
<td>Fall</td>
<td>4</td>
<td>MATH 141B or 141††</td>
</tr>
<tr>
<td>Fall</td>
<td>3</td>
<td>General Education Course</td>
</tr>
<tr>
<td></td>
<td>16</td>
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<tr>
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<td>16.5</td>
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<td>16</td>
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<tr>
<td></td>
<td>3</td>
<td>CHEM 212</td>
</tr>
<tr>
<td>Fall</td>
<td>3</td>
<td>CHEM 213W</td>
</tr>
<tr>
<td>Fall</td>
<td>3</td>
<td>PHYS 212</td>
</tr>
<tr>
<td>Fall</td>
<td>3</td>
<td>General Education Course</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td></td>
</tr>
<tr>
<td></td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td>3</td>
<td>BMB 402‡</td>
</tr>
</tbody>
</table>

Total Credits 96

* Course requires a grade of C or better for the major
† Course requires a grade of C or better for General Education
# Course is an Entrance to Major requirement
†† Course satisfies General Education and degree requirement
‡ Foreign language proficiency must be demonstrated to the level of the second semester; if fewer than 8 credits are needed to reach the required proficiency, students choose Supporting Course to total 8 credits.
‡‡ Semester 7 and 8 are completed at Sidney Kimmel Medical College at Thomas Jefferson University.
‡‡‡ There are no Entrance-to-Major required courses, because the Premedical-Medical major is a Direct-Admission only.

University Requirements and General Education Notes:

US and IL are abbreviations used to designate courses that satisfy University Requirements (United States and International Cultures).

W, M, X, and Y are the suffixes at the end of a course number used to designate courses that satisfy University Writing Across the Curriculum requirement.

GWS, GQ, GHW, GN, GA, GH, and GS are abbreviations used to identify General Education program courses. General Education includes Foundations (GWS and GQ) and Knowledge Domains (GHW, GN, GA, GH, GS, and Integrative Studies). Foundations courses (GWS and GQ) require a grade of ‘C’ or better.

Integrative Studies courses are required for the General Education program. N is the suffix at the end of a course number used to designate an Inter-Domain course and Z is the suffix at the end of a course number used to designate a Linked course.

All incoming Schreyer Honors College first-year students at University Park will take ENGL 137H/CAS 137H in the fall semester and ENGL 138T/CAS 138T in the spring semester. These courses carry the GWS designation and replace both ENGL 30H and CAS 100. Each course is 3 credits.

Career Paths

This accelerated program integrates undergraduate and medical school studies; students completing the program earn both a BS and an M.D., leading to professional careers as physicians.

Professional Resources

• Sidney Kimmel Medical College at Thomas Jefferson University (http://www.jefferson.edu/university/skmc.html)
• Association of American Medical Colleges (https://www.aamc.org/)
Contact
University Park
PREMEDICAL-MEDICAL PROGRAM
230 Ritenour Building
University Park, PA 16802
814-865-7620
muk519@psu.edu

https://science.psu.edu/interdisciplinary-programs/premed-med-bsmd
(https://science.psu.edu/interdisciplinary-programs/premed-med-bsmd/)