

# 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

Requirement	Credits
General Education	45
Electives	0-1
Requirements for the Major	64-66

**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 (<https://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#82-44>).

Code	Title	Credits
<b>Prescribed Courses</b>		
CHEM 210	Organic Chemistry I	3
CHEM 212	Organic Chemistry II	3
CHEM 213	Laboratory in Organic Chemistry	2
PHYS 211	General Physics: Mechanics	4
PHYS 212	General Physics: Electricity and Magnetism	4
PHYS 213	General Physics: Fluids and Thermal Physics	2
PHYS 214	General Physics: Wave Motion and Quantum Physics	2

*Prescribed Courses: Require a grade of C or better*

BIOL 110	Biology: Basic Concepts and Biodiversity	4
BMB 401	General Biochemistry	3
BMB 402	General Biochemistry	3
CHEM 110	Chemical Principles I	3
CHEM 111	Experimental Chemistry I	1
CHEM 112	Chemical Principles II	3
CHEM 113	Experimental Chemistry II	1
MATH 140	Calculus With Analytic Geometry I	4
MATH 141	Calculus with Analytic Geometry II	4

### Supporting Courses and Related Areas

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

<sup>1</sup> 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 and Inter-Domain courses do not meet this requirement.)**

- **Quantification (GQ):** 6 credits
- **Writing and Speaking (GWS):** 9 credits

### **Breadth in the Knowledge Domains (Inter-Domain courses do not meet this requirement.)**

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

### **Integrative Studies**

- **Inter-Domain Courses (Inter-Domain):** 6 credits

### **Exploration**

- **GN**, may be completed with Inter-Domain courses: 3 credits
- **GA, GH, GN, GS, Inter-Domain courses.** This may include 3 credits of World Language course work beyond the 12th credit level or the requirements for the student's degree program, whichever is higher: 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 (<https://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**

- **Science Competency:** Graduates will be able to apply scientific concepts from the natural and social sciences most relevant to medicine: biology, chemistry, physics, biochemistry, psychology, and sociology.
- **Scientific Inquiry:** Graduates will be able to perform the process of science.
- **Critical Thinking & Quantitative Reasoning:** Graduates will be able to use quantitative reasoning skills to analyze and interpret scientific data.
- **Communication:** Graduates will be able to effectively convey information through oral and written communication.
- **Ethical Responsibility:** Graduates will be able to apply ethical reasoning to problems that present within medical and bio technological scenarios and have facility with key ethical frameworks utilized in healthcare and public health.

## **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**

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## **Suggested Academic Plan**

The suggested academic plan(s) listed on this page are the plan(s) that are in effect during the 2023-24 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** or **What If** 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.

### First Year

Fall	Credits Spring	Credits
BIOL 110 <sup>**†</sup>	4 BIOL 230W (consult with adviser for alternative options)	4
CHEM 110 <sup>**†</sup>	3 CHEM 112 <sup>**†</sup>	3
CHEM 111 <sup>**†</sup>	1 CHEM 113 <sup>**†</sup>	1
MATH 140B or 140 <sup>**††</sup>	4 MATH 141B or 141 <sup>**††</sup>	4
PSU 16	1 ENGL 15, 30H, or ESL 15 <sup>‡</sup>	3
General Education Course	3 General Education Course (GHW)	1.5
	<b>16</b>	<b>16.5</b>

### Second Year

Fall	Credits Spring	Credits
CAS 100, CAS 100A, CAS 100B, or CAS 100C <sup>‡</sup>	3 CHEM 212	3
CHEM 210	3 CHEM 213W	2
MICRB 201 (consult with adviser for alternative options)	3 PHYS 212	4
PHYS 211	4 General Education Course	3
General Education Course	3 Supporting Course	3
	<b>16</b>	<b>15</b>

### Third Year

Fall	Credits Spring	Credits
BMB 401 <sup>*</sup>	3 BMB 402 <sup>*</sup>	3
ENGL 202A <sup>‡</sup>	3 World Language Level 2 <sup>^</sup>	4
PHYS 213	2 General Education Course	3
PHYS 214	2 General Education Course	3
World Language Level 1 <sup>^</sup>	4 General Education Course (GHW)	1.5
General Education Course	3 Supporting Course	1
	<b>17</b>	<b>15.5</b>

### 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

<sup>1</sup> 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.

<sup>2</sup> Semester 7 and 8 are completed at Sidney Kimmel Medical College at Thomas Jefferson University.

<sup>3</sup> 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 Cultural Diversity 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.

General Education includes Foundations (GWS and GQ), Knowledge Domains (GHW, GN, GA, GH, GS) and Integrative Studies (Inter-domain) requirements. N or Q (Honors) is the suffix at the end of a course number used to help identify an Inter-domain course, but the inter-domain attribute is used to fill audit requirements. Foundations courses (GWS and GQ) require a grade of 'C' or better.

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 satisfy a portion of that General Education requirement. If the student's program prescribes GWS these courses will replace both ENGL 15/ENGL 30H and CAS 100A/CAS 100B/CAS 100C. 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 (<https://www.jefferson.edu/academics/colleges-schools-institutes/skmc.html>)
- Association of American Medical Colleges (<https://www.aamc.org/>)

## Contact

### University Park

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