

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).

Retention Requirements

PMM students must enroll in and complete least 15 credits in the Fall and Spring semesters. At least 6 credits/semester in science and/or math must be completed each semester until the program's science/math requirements are met. For this program, science courses are defined as ECOS resident instruction* (non-web) courses intended for students in the major degree programs of ECOS.

Students in this program must earn a science/math GPA of at least 3.5 each and every semester. For GPA calculation purposes within our program office, Summer credits will be combined with the Fall semester credits. By the end of the 3rd year, non-science GPA must also be at least

3.5. "D" grades or lower are simply unacceptable in the PMM program and will usually result in dismissal from the program.

PMM students represent a program with rich history at Penn State and Sidney Kimmel Medical College at Thomas Jefferson University with numerous program alumni in prominent positions around the USA. At University Park, PMM students are in a high-profile position within the Penn State community both on- and off-campus. As such, they are expected to demonstrate only the highest levels of academic integrity, professionalism, and civility – to be exemplary citizens of this academic community. Should a PMM student fall short in this regard she/he may be dismissed from the program and not matriculate to SKMC Jefferson by way of the PMM program.

Degree Requirements

Requirement	Credits
General Education	45
Requirements for the Major	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

A grade of C or better is required for all courses in the major. To graduate, a student enrolled in the major must earn at least a C grade in each course designated by the major as a C-required course, as specified by Senate Policy 82-44 (<https://senate.psu.edu/students/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/>).

Code	Title	Credits
Prescribed Courses		
<i>Prescribed Courses: Require a grade of C or better</i>		
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
CHEM 210	Organic Chemistry I	3
CHEM 212	Organic Chemistry II	3
CHEM 213	Laboratory in Organic Chemistry	2
MATH 140	Calculus With Analytic Geometry I	4
MATH 141	Calculus with Analytic Geometry II	4
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
Additional Courses		
<i>Additional Courses: Require a grade of C or better</i>		
SC 294	Research Project Courses	1
or SC 494	Research Project Courses	
STAT 200	Elementary Statistics	3-4
or STAT 250	Introduction to Biostatistics	
Select 4-5 credits of life science with lab:		4-5

BIOL 230W	Biology: Molecules and Cells	
BIOL/ VBSCREQUIREMENTS FOR THE MAJOR421	Comparative Anatomy of Vertebrates	
	or BIOL 437 Histology	
	or BIOL 440 Evolution of Infectious Diseases	
BIOL 472 & BIOL 473	Human Physiology and Laboratory in Mammalian Physiology	
MICRB 201 & MICRB 202	Introductory Microbiology and Introductory Microbiology Laboratory	
Select one of the following:		3
PHIL/ BIOETREQUIREMENTS FOR THE MAJOR432	Medical and Health Care Ethics	
	or CAS 453 Health Communication Theory and Research	
	or NURS 464 Dying and Death	
Supporting Courses and Related Areas		
<i>Supporting Courses and Related Areas: Require a grade of C or better</i>		
Select 3-4 credits of life science ¹		3-4
Select 3-6 credits from program list ¹		3-6

¹ Coursework must be approved by Director of Premedical-Medical (PMM) Program.

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/students/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 2024-25 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.

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 (GN) ^{††}	4 BIOL 230W (Consult with adviser for alternative options) [*]	4

CHEM 110 (GN) ^{††}	3 CHEM 112 (GN) ^{††}	3
CHEM 111 (GN) ^{††}	1 CHEM 113 (GN) ^{††}	1
ENGL 15, 30H, or ESL 15 (GWS) ^{*†}	3 MATH 141B or 141 (GQ) ^{††}	4
MATH 140B or 140 (GQ) ^{††}	4 General Education Course ^{*†}	3
PSU 16 [*]	1 General Education Course (GHW) [*]	1.5
	16	16.5

Second Year

Fall	Credits Spring	Credits
CHEM 210 [*]	3 CAS 100A, 100B, or 100C (GWS) ^{*†}	3
BIOL 472 (Consult with an adviser for alternative options) [*]	3 CHEM 212 [*]	3
PHYS 211 [*]	4 PHYS 212 [*]	4
STAT 250 (Consult with an adviser for alternative options) [*]	3 Supporting Course	3
General Education Course ^{*†}	3 General Education Course [*]	3
	Healthcare Internship [*]	1
	16	17

Third Year

Fall	Credits Spring	Credits
BMB 401 [*]	3 BMB 402 [*]	3
CHEM 213W [*]	2 ENGL 202C, 202A, 202B, or 202D (GWS) ^{*†}	3
PHIL/BIOET 432 (Consult with an adviser for alternative options) [*]	3 Supporting Course	2
PHYS 213 [*]	2 General Education Course [*]	3
PHYS 214 [*]	2 General Education Course [*]	3
General Education Course [*]	3 General Education Course (GHW) [*]	1.5
	15	15.5

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

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.

Program Notes:

- This is a direct-entry major. There are no entrance to major requirements.
- Semester 7 and 8 are completed at Sidney Kimmel Medical College at Thomas Jefferson University.

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

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/>)