PFP 2024
ACADEMIC PROGRAMS OPTIONS GUIDE

Welcome to the University of Pennsylvania 2024 Pre-First Year Program (PFP). Your course selections for PFP are determined by your primary school of enrollment. All the academic programs have been designed by the faculty of the undergraduate schools specifically for the Pre-First Year Program. They will be challenging, engaging, and stimulating. Perhaps more importantly, they will provide you with a chance to meet important faculty and get acquainted with their teaching styles and expectations. Some courses, such as Writing and Math, are common to more than one school. Others, such as Economics or Physics, are specific to individual schools. The various school curricula are described in the following pages -- a few notes will be helpful:

- **Writing:** Students enroll together in writing seminars regardless of their school enrollment, with the exception of Engineering students who do not have a writing seminar.
- **Math:** Incoming first-year students should take the Online Canvas Math Diagnostic Placement Exam during the advance registration period. The results of the Math Diagnostic will be discussed with your advisor and the exam score will be used, in conjunction with a student's math experience and standardized test scores, to determine the appropriate placement in a Math course, including your PFP math course. Although Nursing students do not take Math during the Pre-First Year Program, it is still advisable that they complete the Math Diagnostic to better prepare for academic-year planning. Instructions on taking the exam will be provided at a later date.
- **SEAS:** Students in Engineering automatically take Engineering Math, regardless of assessment results. Students will be tracked after week one or two of the program.
- **SAS:** Students in the College of Arts & Sciences may select a curriculum focused on Sciences or a curriculum focused on Humanities/Social Sciences, depending on interest and long-term goals. You will make your course selection on the PFP Questionnaire through CANVAS.

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ENGINEERING	WHARTON	NURSING	ARTS & SCIENCES Sciences/Pre-Health	ARTS & SCIENCES Humanities/Social Sciences
Engineering Math	Mathematics (level based upon assessment results)	Nursing Science	Mathematics (level based upon assessment results)	Mathematics (level based upon assessment results)
Engineering Programming	Writing	Writing	Writing	Writing
Engineering Lab	Economics	Nursing Lab	Biology	Political Science
Engineering Physics	Management Communication			

Please see course descriptions for detailed course content. PFP courses serve as a preview or introduction to the course material and do not replace courses that students might register for during the academic year. Courses may be subject to change.

You will be placed in the appropriate curriculum depending on your primary school of enrollment. Only in the College of Arts & Sciences do students have options. The following short descriptions are designed to help you get a feel for the courses you will be taking this summer. Descriptions are subject to change.

COURSES COMMON TO MORE THAN ONE SCHOOL

WRITING

English Writing: Place and Belonging

This writing-intensive course is designed to give students a clear sense of the demands and expectations of college-level writing. Although the class focuses on writing about literature, students will learn general principles and strategies for good writing across the disciplines. "Place and Belonging" will introduce students to a range of literature about the ways our social and geographical locations shape our sense of self and our personal feelings of connection or alienation.

Students will do some kind of written work, formal or informal, for every class meeting, and will have opportunities to read and comment on one another's writing in both large and small group sessions. They will also learn about research methods and the basics of bibliography and citation, using these skills to write a short (3-5 page) research paper. In order to receive academic credit for the class, students are required to attend all eight meetings and to complete all related exercises (or obtain advance permission to miss any meetings they cannot attend), to complete all reading assignments, and to submit all written work on time.

MATHEMATICS

There will be several math course options for College of Arts and Sciences and Wharton students. Your math course assignment will be made based upon the results of the Math Diagnostic Exam.

- **Math A**: An introduction to quantitative reasoning and mathematical modeling. Prepares students for MATH 1070 or MATH 1300.
- **Math B:** Covers Intense Algebra and Pre-Calc Review, Introduction to Limits for students who are may or may not be confident in their math preparation and could benefit from a review of Algebra and Pre-Calculus. Prepares students for Math 103.
- **Math C:** Covers a quick Pre-Calc review, Limits, Derivatives for students who have taken AB Calculus and are confident in their performance. Prepares students for Math 103.
- **Math D:** Covers Derivatives, Applications, Integrals for students who have taken BC Calculus and are confident in their performance. Prepares students for Math 104.

Please note that students will be placed in the course that aligns with the Math Diagnostic score.

NURSING

NURSING SCIENCE

This course uses an interdisciplinary approach to study diabetes mellitus. The basics of general, biological and nutritional chemistry as well as the physiology necessary for an understanding of the metabolic basis of diabetes mellitus will be covered. The course includes lectures, anatomy and nursing physical assessment laboratory activities, and application of knowledge via case study discussion. The course is designed to provide an introduction to the Nursing curriculum and related skills using the disease diabetes mellitus as its framework. In addition to classroom lectures, an introduction to physical assessment and nursing interventions for patients with diabetes, anatomy laboratory activities, and exposure to nursing research are provided. The course will stress active student learning.

WHARTON

ECONOMICS

This course will be an introduction to the semester-long integrated economics course consisting of two parts—microeconomics and macroeconomics—that Wharton students will take during the Fall semester of their Freshman year. The PFP course, which will consist of lectures, assignments and two exams, will focus on selective topics from microeconomics as well as macroeconomics. In the microeconomics part, the PFP course will focus on an analysis of consumer behavior (specifically, utility analysis, indifference curves framework, demand elasticity), cost structure of firms and their pricing, and output behavior under perfect competition. In the macroeconomics part, students will study measurement of national output, nature of full employment, inflation rate, determinants of long-run economic growth and introduction to the Aggregate Demand-Aggregate Supply (AD-AS) modelused to analyze business cycles.

MANAGEMENT COMMUNICATION

Management Communication introduces students to strategies for developing leadership skills that are essential for successful matriculation through Wharton and laying the foundation for a professional career. The course places emphasis on self-reflective writing, oral presentations and teamwork while exploring topics such as emotional intelligence, conflict resolution, goal setting, time management, business etiquette and personal branding. In addition, the students work in teams to conduct a market analysis for a start-up company.

ENGINEERING

ENGINEERING MATH

This course will provide a preview of Engineering Mathematics at Penn. It is customized to interface with Penn's Engineering Calculus sequence. The course begins with an overview of what Mathematics is and is good for, and then will split into single-variable and multi-variable tracks depending on student backgrounds. Everything is designed to show how the Mathematics will be relevant to the many types of Engineering majors available atPenn. Students will come out of the course ready for any mathematical challenges and better-informed about what Engineering at Penn means.

ENGINEERING PROGRAMMING

The course will give students experience in designing, writing, and debugging basic programs in Java. Students will be introduced to the fundamentals of programming with variables, data types, control flow, and functions. The assignments will allow students the opportunity to solve real problems using their new skills in programming.

ENGINEERING LAB

This course is a four-week multi-disciplinary orientation in the School of Engineering and Applied Science. Each academic department will present an overview of the course requirements, along with careers and research opportunities. Each overview will be followed by a lab to reflect the academic experience of that discipline. The class will culminate in a final project, integrating mechanical and electrical engineering, as well as computer science.

ENGINEERING PHYSICS

This course covers classical physics as applied to the kinematics and dynamics of static and of moving bodies. It begins with a description of position, velocity and acceleration (kinematics), and explores how these concepts can be used to describe and understand the motion of a particle through space. The course then addresses the question of what causes motion (dynamics), and this leads to the concept of force. The connection between kinematics and dynamics is then made through Newton's three laws of motion and, specifically, through the vector equation, $F = ma$. The remainder of the course discusses various applications of these ideas.

ARTS & SCIENCES

BIOLOGY

The transformation of energy from one form to another, the passing on of genetic information from parents to offspring and the adaptation of organisms to their environments are foundational concepts in biology. By the end of this course, you will be able to use these concepts to explain why a disruption in cellular respiration helps infants to keep warm, why parents and offspring sometimes look alike and sometimes don't, and why skin color varies so widely throughout the world. Another focus of this course is to engage you in learning strategies that will help you succeed in college-level biology.

POLITICAL SCIENCE

Making Sense of the 2024 Election

The upcoming general elections this November may prove to be some of the most consequential in the history of the United States. In this course, we are going to learn how to use political science to understand what sort of outcomes we should expect in these elections and the consequences of these outcomes for American Politics. Some of the topics that we will explore include voter behavior, political polling, voter disenfranchisement and electoral integrity, and federalism. Skills that we will work on developing include differentiating between positive and normative theories of political science, how to read and take notes about scholarly work, how to apply critical thinking and analysis skills to polling data, and writing and presentational skills.