

eSUMMER

at PHILLIPS ACADEMY

ONLINE COURSE CATALOG

Summer 2020

Grades 9–12



Phillips Academy
ANDOVER

CREATIVE ARTS

Digital Photography

Grades 9–12

Start seeing the world around you in new ways, and explore the ways in which you can use your own device to document the art that surrounds you. In this course students will learn the basics of photography and how to use the cameras on their own devices, then transfer their images into Adobe Photoshop, where they can transform them by adding color and using the program's many altering techniques. Through this class, students will gain an understanding of photography and how technology can improve their images. The ultimate challenge is for students to push their creative limits.

Intensive Film Workshop

Grades 9–12

This course is designed for students interested in making a serious commitment to expressing themselves through the motion picture. This intensive program leads students through an exploration of each aspect of filmmaking, from the conception of an idea to the final steps in editing. The course is segmented to

include film development, pre-production scheduling, production, and editing. Students will explore the genre of the fiction film, studying the styles and techniques of various filmmakers. Students gain a greater film/video vocabulary as well as a technical background allowing them to continue with filmmaking.

Web Design and Advanced Computer Graphics

Grades 9–12

After being stuck inside on the computer for months, it's about time you learned how to really use it! This course introduces students to the fundamentals of design on the computer and concentrates on using commonly-available software programs to enhance their skills. Using the computer as a creative tool, students in this course will blend photography, type, sound, video, animation, and interactivity. While studying artists who utilize different media to understand the elements of design, students will develop computer skills to express themselves visually. Students will work on various projects, creating digital collages, a short movie, and a website that incorporates animation and sound.

COMPUTER SCIENCE

Programming in Java

Grades 9–12

Intended as an introduction to computer programming using traditional coding methods, this course emphasizes methodology, algorithms, data structures, code style, and the Java programming language, as suggested by the College Board for the Advanced Placement (AP) Computer Science exam. Students learn to design and implement computer-based solutions to a variety of problems. In addition, students design programs that are expandable and understandable, and they learn how and when to write code that is reusable. Although this is not an official AP course, students are exposed to most of the topics covered on the AP Computer Science exam and will learn how to create small, structured programs using the Java language.

Prerequisite: completion of Algebra II

Web Development

Making modern content for the web can be a rewarding challenge, whether you are designing a personal portfolio site, a web-based game, or an advanced web-app experience. In this course, you'll start from whatever knowledge you currently have about web development and grow from there: maybe you've never written a line of code and you would like to start from scratch, or perhaps you're looking to make the next best app complete with servers and databases. We'll learn how to build sites with HTML, CSS, and JavaScript, and then you'll each dive into projects that take you wherever your creativity goes.

ENGLISH

Digital Journalism

Grades 9-12

This course is for students who want to explore the intersection between storytelling, technology, and traditional reporting – something that has become all the more important in recent months. Students will engage a variety of digital platforms—from social media to podcasts to online magazine articles—to develop stories that engage both reason and emotion. Daily reading and writing exercises will help students expand their repertoire of rhetorical strategies, learn to analyze audiences, and determine which digital platforms are most appropriate for various situations. Students will gain experience in field reporting and conducting research, and they will build a digital portfolio of work over the course of the program.

Writing for Success: Creative Writing

Grades 9–12

This course is for students who think of writing as an art, not just a useful skill. Students read and write in several genres—short story, poetry, and nonfiction memoir—using the readings as models for their own work. In their writing, students are expected to develop mastery of fundamental techniques of good writing, from basic grammar and usage to metaphorical language and plot structure. Required to write daily, revise, and produce polished final drafts as well as share in class, students begin to transform raw talent into true skill.

Writing for Success: Expository Writing

Grades 9–12

The most important writing course students will ever take and the most sought-after writing course at Andover, Writing for Success emphasizes essay composition as a craft and exposes students to different uses and combinations of rhetorical modes, including definition, description, narration, process, comparison, and analysis. Over the course of the program, students practice constructing effective sentences and paragraphs to suit a variety of topics, audiences, and aims. By writing every day as well as reading and discussing the style and mechanics of published essays, students experience writing as a rewardingly rigorous, recursive, and creative process that involves brainstorming, planning, composing, editing, reverse outlining, and constructive peer review.

Writing the College Essay

Grades 10–12

This course will move students through the brainstorming, drafting, and revision process to create a set of polished essays that can be used during the college application process. Focusing on the prompts released by the Common Application as well as addressing common short-answer questions, this course will support students in creating essays that represent their individual personalities and ambitions. Students will be required to write daily, participate in workshop activities and critiques, and reflect on their own life experiences.

ENGLISH LANGUAGE LEARNING INSTITUTE

ELL Core Course

Grades 9–12

Students in the ELL core course are divided into levels according to the results of an online placement process. Classes are offered to meet the needs of students who are highly proficient in English as well as those who need more practice and support. (A beginner-level course is not offered; students should have scored above 450 on the paper-based TOEFL, above 133 on the TOEFL CBT, or above 45 on the TOEFL iBT.) While all classes stress the development of competencies in the skills of reading, writing, listening, and speaking, close attention is paid to individual needs. Students are exposed to a wide variety of English materials and are expected to understand and respond to course materials that include, but are not limited to, American literature-based texts across a broad range of genres, films, articles, and nonfiction. Classes are small and highly individualized, with substantial interaction scheduled over the summer with teachers and peers.

ELL: Preparing for the TOEFL

Grades 9–12

The purpose of this class is to help students improve their performance on the Test of English as a Foreign Language (TOEFL). Four different means of language skill acquisition and improvement are utilized: reading, writing, listening, and speaking. After a general introduction to the test format, each section of the TOEFL (Listening Comprehension; Written Expression and Speaking Ability; and Reading Comprehension) is

considered in detail. Students will read selections from various newspaper and magazine sources and practice extensively in a test preparation text. This course is designed for high-intermediate-level students whose goals include studying at a U.S. college or university.

ELL: Speak Up!

Grades 9–12

In this ELL course, students engage in a variety of exercises to improve their proficiency in conversational English, requiring the development of their own and viewing of peers' videos on a regular basis. Recitation of poetry, argumentative debates, and extemporaneous and prepared speeches place students at the center of the learning process and expand both the breadth and depth of their spoken English. In order to increase students' comfort in a broad range of situations, topics for the various activities range from the mundane to the profound. Some exercises revolve around practical everyday situations, while others involve discussing topics on a deeper intellectual level. Students are challenged to employ new vocabulary, converse using complex sentence structures, and express difficult ideas. They work on pronunciation skills. Recognizing the key role of listening in any meaningful conversation, the course also focuses extensively on listening skills. This course is designed for students who are not comfortable speaking with native speakers of English and/or those who have not had many opportunities to speak English.

MATHEMATICS

Advanced Placement Calculus BC*

Grades 10–12

This course is designed for students who have successfully completed two years of algebra and a yearlong precalculus course that includes trigonometry. It is an accelerated mathematics course for strong math students and covers many of the topics in the Advanced Placement curriculum, including limits and continuity, derivatives and their applications, indefinite and definite integrals, techniques and applications of integration, and the Fundamental Theorem of Calculus. This course will lay the foundation for future study of mathematics, physics, engineering and other STEM fields. Taught by Dr. Christopher Odden, a member of the Phillips Academy math department (and previously an instructor at Amherst College), whose YouTube channel has over 1,000 subscribers and his mathematical videos receive high praise:

"There are tons of Calculus Videos on YouTube but you my good sir stand out. Professional presentations, flowing commentary and great visualization of each concept. I am speechless. Thanks a million."

The course is organized with an eye toward providing support for students to work at their own pace. After completing a set of 7 modules, each of which is assessed through an online quiz designed to provide immediate feedback to both students and the instructor, students will take a culminating exam consisting of multiple-choice and free-response questions designed to prepare them for the level of rigor of the Advanced Placement exam. Successful students will be well-prepared to complete the study of Calculus BC during the 2020-21 school year.

Prerequisite: two years of algebra and one year of trigonometry

Topics in Algebra*

Grades 9-10

A perfect choice for students in the first two years of their high school careers, this course will provide a deep introduction to the necessary algebraic concepts that will support future mathematical success. Topics will include fundamental concepts of Algebra, graphing and solving linear and quadratic functions, solving systems of linear equations and properties of exponents. Utilizing an individualized approach based on student performance on an initial baseline assessment and subsequent gateway assessments, instruction and practice will lead students through the content at their own pace.

Topics in Intermediate Algebra and Precalculus*

Grades 10-12

This course reviews and reinforces math skills found in the Algebra II curriculum, providing an appropriate selection for students seeking both to supplement their Algebra II instruction or prepare for their upcoming Pre-Calculus or Calculus courses. Individualized instruction based on performance on an online placement test will address topics including linear systems of equations, linear functions, quadratic functions, polynomial functions, logarithmic functions, and radical functions. Additional topics may include sequences and series, counting and probability, matrices, and partial fractions, based on students' progress over the course of the summer.

Prerequisite: successful completion of one year of algebra

**Students requesting a math course will be required to take an online placement exam to assess math level & ability, and to ensure appropriate placement*

SCIENCE

Applied Physics: Astronomy

Grades 9–12

Modern astronomy is a quest for a greater understanding of the evolution and diversity of the universe, as well as an application of critical thinking skills to broader questions in physics, chemistry, biology, and environmental science. This class examines the current state of the science as well as future avenues of research and discovery. Topics include traditional areas of emphasis, such as the electromagnetic spectrum, light, telescopes, navigating the night sky, solar system formation, the planets, global climate change, comets and asteroids, the sun, and the lifecycle of stars. We also apply a critical analysis to the broader questions that include the search for life in the universe and connections to life on this planet. We keep a close eye on current research and examine the history of science through the eyes of non-conventional thinkers, including Einstein and Galileo. Lastly, we examine some of the more exotic subjects that are stretching the limits of modern science, such as black holes, ion propulsion, dark energy, and life in extreme environments. Throughout the session, students engage the science critically and capture a snapshot of this emerging field of science.

The Art of Biological Form & Function

Grades 9–12

A remote learning course that merges the formal study of biology with artistic expression. Students will be introduced to major biological themes and develop an understanding of cell structure and function, cellular energetics, cell communication and cell cycle, and gene expression and regulation. Following a general introduction of concepts, creative teams will be assembled and content of specific interest will be selected and explored more comprehensively. Ultimately, using various techniques and mediums, a mastery of biological interconnectedness will be communicated through the creation of polished artistic works and written perspectives.