GRADUATION REQUIREMENTS
AND ACADEMIC POLICIES

GRADUATION REQUIREMENTS

In order to graduate from Sewickley Academy, a student must complete a minimum of 24 credits (for class of 2024), excluding Physical Education, in Grades 9 - 12. Students must take a minimum of six (6) courses per year. Five of these courses must come from an approved combination of English, World Languages, Mathematics, Science, History & Social Sciences. The class of 2023 must have completed a minimum of 22-2/3 credits.

Minimum graduation requirements are as follows:

ENGLISH (4 credits)
Students must be enrolled in Senior School English in all three trimesters of all four school years.

WORLD LANGUAGES (3 credits in the Senior School in the same world language)

MATHEMATICS (4 credits including Geometry and Algebra II)
Students must be enrolled in Senior School mathematics in all three trimesters of all four school years.

SCIENCE (3 credits including Biology and Chemistry)
Students must take Biology and Chemistry.

HISTORY & SOCIAL SCIENCES (3 credits)
Students must take World History, Modern World History (or AP Modern World History), and United States History (or AP U.S. History).

FINE ARTS (2 credits)
Fine Arts include courses in visual arts, theater, instrumental and vocal music, and other music courses. Some Computer Science courses are eligible for Art credit.

HEALTH (1 credit)
Students who enter the Senior School in Grade 9 and 10 are required to take three health elective courses. Students who enter in Grade 11 are required to take two health electives. Students who enter in Grade 12 will be required to take one health elective.

PHYSICAL EDUCATION (1 credit)
1/4 credit in physical education is earned each year. Students are enrolled in Physical Education, a sport, or dance in all three trimesters of all four school years.
ELECTIVES
A variety of electives is offered in the Computer Science, Global Studies, Science, History, English, Math and Art Departments for students to choose from in order to reach the minimum credits required for graduation.

SERVICE LEARNING*
Senior School students perform a total of at least 55 service hours as part of their graduation requirement.

*Due to the COVID-19 pandemic, the graduation requirement for Service Learning hours for the classes of 2023, 2024, and 2025 has been temporarily reduced to 25 hours.

SENIOR PROJECT
All seniors must complete a 50-hour senior project as part of their graduation requirement.

COLLEGE SEMINAR
Juniors and seniors are required to take the College Seminar. Transcripts of transferring students will be evaluated by the Registrar, who will determine graduation requirements.

Sewickley Academy has no procedure for early graduation or dual enrollment.

SENIOR PROJECTS
Senior Projects provide students with an opportunity to demonstrate their unique understanding of Sewickley Academy’s mission through substantial, meaningful engagement with interests broader than those students have encountered in the Academy’s pre-existing academic, athletic, or artistic programs. To that end, students must work with a mentor to plan and set goals for their project. The project requires at least 50 hours of work, and the majority of those hours must take place during the senior project window, which begins after AP exams are completed and ends shortly before graduation. In order to help maintain quality and ensure student safety, students must submit their senior project proposal in early March for review by the Senior Project Committee. During their project, students complete online journals which are read by their faculty advisor. The senior project culminates with each student presenting their project at the Senior Project Fair.

All seniors must complete all coursework and assignments prior to starting their senior projects.
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# ACADEMIC PROGRAM

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<tr>
<td><strong>Humanities: English</strong></td>
<td><strong>Humanities: History &amp; Social Sciences</strong></td>
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<td><strong>Senior Electives:</strong> American Gothic, Children and Their Parents, Creative Nonfiction/Fiction Writing, Magical Realism, Playwriting Workshop, Rhetoric &amp; Persuasion, The Story &amp; Its Teller, Writing From Exile, Yearbook Third Trimester: Senior Seminar</td>
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<tr>
<td>Algebra I, Geometry, Algebra II, Precalculus/Trigonometry, Calculus, Statistics are offered to students based on successful completion of prerequisites. <strong>Advanced Courses:</strong> AP Calculus AB, AP Calculus BC, Multivariable Calculus <strong>Juniors and Seniors Only:</strong> Algebra with Trigonometry <strong>Seniors Only:</strong> Finance with Advanced Algebra</td>
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<tr>
<td>World Languages</td>
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<td><strong>Full Year Electives:</strong> AP Biology, AP Chemistry, AP Environmental Sciences, AP Physics C-Mechanics, Geoscience, Ocean and Atmospheric Sciences <strong>Trimester Electives:</strong> Climate Change Mitigation (T2), Sustainability Science (T3)</td>
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<tr>
<td>Chinese, French, Italian, Spanish Courses from beginning levels through AP offered to students based on successful completion of prerequisites</td>
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<td><strong>Sciences</strong></td>
<td><strong>Computer Sciences</strong></td>
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<tr>
<td>Chemistry or Honors Chemistry <strong>Trimester Electives:</strong> Climate Change Mitigation (T2), Sustainability Science (T3) <strong>Full Year Electives:</strong> Ocean and Atmospheric Sciences</td>
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<tr>
<td><strong>Full Year Electives:</strong> Physics, Honors Physics, AP Sciences, Geoscience, Ocean and Atmospheric Sciences <strong>Trimester Electives:</strong> Climate Change Mitigation (T2), Sustainability Science (T3)</td>
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<td><strong>Global Studies</strong></td>
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<td><strong>Performing Arts</strong></td>
<td><strong>Other</strong></td>
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<tr>
<td>Senior School Theater, Directing &amp; Design, Intro to Tech Theater, Advanced Tech Theater, Musical Theater Repertoire, Musical Theater Workshop, Senior School Musical Lab, Stage Combat, Introduction to Dance, Dance I, II, III, IV</td>
<td>College Seminar (T2-T3)</td>
<td>College Seminar (T1)</td>
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<tr>
<td><strong>Physical Education &amp; Health</strong></td>
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<td>Physical Education, Sports or Dance</td>
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5 SENIOR SCHOOL COURSE CURRICULUM

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Students who enter the Senior School in Grade 9 and 10 are required to take three health elective courses to graduate. Students who enter in Grade 11 are required to take two health electives to graduate. Students who enter in Grade 12 will be required to take one health elective to graduate. Courses include Health 100, Health 200, CPR/First Aid, Personal Wellness, 21st Century Life Skills, Social Media & Health, Nutrition, and Health Leadership.
The Sewickley Academy English Department seeks to inspire critical thinking through reading and writing, and to cultivate the skills of effective communication in writing, listening, speaking, and multi-modal forms. Our aim is to foster substantive growth by giving each student opportunities to engage as contributing members of any community of which they are part, and to recognize the value of empathy and the need for social justice through the study of diverse perspectives.

**The Humanities - English Program**

Students who enter the Senior School in Grade 9 are required to take three fundamental and carefully designed English courses (English 9, 10, and 11) during their first three years. Students who enter the Senior School in Grades 10 or 11 will be enrolled in their respective grade-level course. Seniors may then select two electives for the first and second trimesters prior to enrolling in their final English course, Senior Seminar.

All students are required to take English in each trimester of their Senior School years, and all upper-level English courses are taught at the Advanced Placement level so that students can prepare to take the AP English Language and Composition and the AP Literature and Composition exams.

**English 9 (1 Credit)**

English 9 uses literary analysis, critical thinking, and multiple forms of written expression to explore how the identity of both the writer and the reader is shaped by experience, challenge, and period. Throughout the year, students will continue their progression of close reading skills and writing mechanics, while developing informational research and communication skills to reach a deeper understanding of texts. Students will read a variety of genres in the form of play, poetry, short story, novel, and novella. They will be guided to question, discuss, debate, and use evidence as they engage with material and with each other as academic peers. Assessments, designed to facilitate growth and independence, consist of essays, oral presentations, Socratic discussion and debate, and creative writing exercises.

In addition, written assignments begin to focus on argumentative modes of composition; students will craft analytical arguments, use outside sources for those arguments, and explore their own unique voices.

**English 10 (1 Credit)**

While English 9 explored factors contributing to individual identity, English 10 broadens this scope to discover what happens when identity and society interact. The texts students read give insight into how societal institutions construct, shape, limit, or erase identities. Grade 10 English builds upon the expressive and analytical skills introduced and developed in English 9, such as: reading closely and critically, composing organized essays, and giving persuasive oral presentations.

Grade 11 English understands reading and writing as fundamental to the practice of democracy. Its task is to help students become engaged citizens capable of both critique and empathy. The study of literature provides a way to cultivate those qualities while building and sustaining the habits that underlie them, including observation, analysis, and reflection. Students become better readers, learning to hear the rich complexity of tone and emotion of different texts. Students will also continue to consolidate the skills and habits of argumentation, both in discussion and in their writing, as well as developing their creative writing skills through poetry, short memoirs, and personal essays. Students are encouraged to “publish” their writing, and so see it at work in the world, by sharing it with their peers, friends, and families, as well as by submitting it to national contests. Students will finish Grade 11 English knowing what they think and having the courage to share their thinking with others.
Senior English Electives

Playwriting Workshop (.33 Credit) Trimester 1
Theater can be expressed as something that occurs whenever humans interact. In this course, students will be introduced to the myriad of ways theater as an art form exists and the reasons it evolves and changes. They will see tiny plays, 10 minute plays, physical theater, puppet theater, pantomime, one acts, documentary, Theater of the Oppressed, and more. They will consider how the style of theater impacts the message. They will be asked to consider the audience and their part as both a passive and an active participant. They will spend time in class writing to prompt and responding to the work they view with their own creative voice. They will be taught the rules of workshop, how to select a piece of their writing to bring to the workshop group, and then how to use the feedback to edit. Students will be asked to read celebrated scripts and analyze theme and technique. They will be asked to write a script in the format of a type of theater they feel most fits the purpose of their work.

The Story and Its Teller (.33 Credit) Trimester 1
How much of story is fact and how much is fiction? Does every fictional story contain truth? On the other hand, what is fictional in a “true” story? In this course we will explore not only the purpose, but the craft of storytelling. Starting with an overview of the history of the English language, we will move onto the Middle Ages with Geoffrey Chaucer’s The Canterbury Tales to discuss how storytelling can shape characters and provide historical context. Next, we’ll explore the fine line between fact and fiction in The Things They Carried by Tim O’Brien. We will end the trimester with Maxine Hong Kingston’s The Woman Warrior to see how stories can shape experience and identity.

Rhetoric and Persuasion (.33 Credit) Trimester 1
Rhetoric includes the skills of writing and speaking well, the power to persuade, and knowing how to write effectively and prepare compelling presentations. In Rhetoric and Persuasion, students will learn to think logically, identify inaccuracies and weaknesses in arguments, form opinions that can be supported with facts, data, and evidence, and techniques for delivering powerful presentations. Students will also read and analyze some of the greatest persuasive speeches of the 21st Century. Students enrolled in this course can choose to receive Global Studies credit. This course is open to 9-12th grade students.

Writing from Exile (.33 Credit) Trimester 1
Palestinian writer Edward Said once described exile as “strangely compelling to think about but terrible to experience.” Exile, wrote Said, “is the unhealable rift forced between...the self and its true home.” Yet exile, in its various forms, defines our historical moment, with refugees and other migrants leaving home in record numbers. This crisis of displacement has only been made worse by the pandemic. If we want to be true global citizens, then, it is essential that we understand the condition of exile. What better way to do that than through literature? Readings will include The Diary of a Young Girl (Anne Frank), No Friend but the Mountains (Behrouz Boochani), and essays from The Displaced (ed. Viet Thanh Nguyen). The course will also feature visits by exiled writers currently living in Pittsburgh. Students enrolled in this course will receive Global Studies credit.

American Gothic (.33 Credit) Trimester 2
This American literature course explores the way Gothic writers draw on American hopes, fears, and anxieties in crafting their supernatural tales while jarring readers with their disturbing depictions. In this course, we will be asking how these writers

Our three major assessments in the course will consist of narratives inspired by the texts.
use horror to tap into our collective psyche, and, importantly, why these stories resonate with so many readers. Beginning with a study of Gothic short stories from Edgar Allan Poe, Charlotte Perkins Gilman, Shirley Jackson, and Stephen King, we will analyze horror tropes focusing especially on the ways these authors create suspense and evoke fear. And we’ll study Southern Gothic short stories from writers such as Flannery O’Connor, William Faulkner, Richard Wright, and Alice Walker, noting the techniques these authors use to confront such contemporary topics as racism, poverty, and alienation through their inclusion of the grotesque and macabre. We will also read Cormac McCarthy’s *The Road* in order to explore dystopian horror. Finally, we will do a film study of Pittsburgh’s own George Romero and his creation of the zombie genre with his *Night of the Living Dead*. Assessments for this course will include a horror creative writing assignment, comparative analytical essay, and presentation.

**Children and Their Parents (.33 Credit) Trimester 2**

This course is a close study of two writers: Jane Austen and Toni Morrison. Both writers look at the ways society attempts to shape—and limit—identities, especially when those identities threaten existing power structures. It is also a course on the novel as a form: its history and conventions and the uses to which it can be put. By studying works by two of the greatest practitioners of the form, students will gain a more sophisticated understanding of it. They will also come to know themselves better as readers, writers, and thinkers.

**Creative Nonfiction/Fiction Workshop (.33 Credit) Trimester 2**

Creative Nonfiction/Fiction Writing Workshop centers on creativity and inquiry, as well as craft and composition. Based on a combination of Liz Lerman’s Critical Response Process and MFA-style writing workshop, this course invites students to do the difficult yet rewarding work of writing creatively in two of the most common creative writing subjects: creative nonfiction and fiction. Young writers in this class will focus on the skills of inventing, composing, world-building, crafting dialogue, creating unique narrators, revising, and dialoguing about their own writing. This course will primarily use the voices of the writers in the room as our “texts,” but we’ll examine a few model texts to help students with genre-specific expectations. Writing genre options for students may include memoir, literary analysis, op-ed, short stories, lyric essays, and flash.

**Magical Realism (.33 Credit) Trimester 2**

This elective explores the vibrant and complex world of magical realism, a genre described by Gabriel Garcia Marquez as being “grounded in reality but in which miraculous and magical things may happen at any moment.” Students will examine the origins of magical realism and the myriad of ways it has evolved over time, culture, and genre. Students will read literature and watch films that are considered hallmarks of the genre. They will consider the literary work of authors such as Marquez, Cisneros, and Esquivel. They will watch film by Guillermo del Toro and Studio Ghibli. By the end of the course, they will be asked to consider what the magical offers as we seek to understand what it is to be human.

**The Senior Seminar (.33 Credit) Trimester 3**

This is the culminating course in the English program in which seniors engage in original thought and personal reflection. Students consider what texts have impacted or shaped them as well as look forward to their journeys as readers, writers and thinkers. This course consists of three major assessments: the “These Three Texts” multimodal project, “The Forward/Foreword” essay, and a reflective process looking back at their own body of work as writers.
English Electives

Students in grades 9-12 have the option of taking Yearbook as an English or an Arts Elective. When taken as an English elective, it does not replace the required English 9, English 10, English 11, and Senior English Electives curriculum.

**Yearbook I (1 Credit)**

Yearbook is a year-long course open to students in Grades 9-12. The yearbook class focuses on elements such as journalism, photojournalism, caption writing, and design. Students work in collaboration with one another to create individual yearbook pages; to write in a creative and journalistic style; to conduct faculty and student interviews for the purpose of writing articles for the yearbook; to take dynamic, eye-catching photographs and to choose and crop the appropriate photographs to tell a story; to write captions in a journalistic style; to design layouts for the entire book; and to work with a large group of people to achieve a common goal. The class will focus on the importance of clear writing, time management, collaboration, personal responsibility and initiative, and attention to detail throughout the creative process. Full year.

**Yearbook II (1 Credit)**

Prerequisite: Yearbook I. Yearbook II, a year-long course open to students in Grades 10-12, is a continuation of Yearbook I. It is a collaborative course focusing on elements such as journalism, photojournalism, caption writing, and design culminating in the creation of individual yearbook pages. The class will focus on the importance of clear writing, time management, collaboration, personal responsibility and initiative, and attention to detail throughout the creative process. Full year.

**Yearbook III (1 Credit)**

Prerequisite: Yearbook II. Yearbook III, a year-long course open to students in Grades 11-12, is a continuation of Yearbook II. It is a collaborative course focusing on elements such as journalism, photojournalism, caption writing, and design culminating in the creation of individual yearbook pages. The class will focus on the importance of clear writing, time management, collaboration, personal responsibility and initiative, and attention to detail throughout the creative process. Full year.

**Yearbook IV (1 Credit)**

Prerequisite: Yearbook III. Yearbook IV, a year-long course open to students in Grade 12, is a continuation of Yearbook III. It is a collaborative course focusing on elements such as journalism, photojournalism, caption writing, and design culminating in the creation of individual yearbook pages. The class will focus on the importance of clear writing, time management, collaboration, personal responsibility and initiative, and attention to detail throughout the creative process. Full year.
## The Senior School World Language Department

The Senior School World Language Department seeks to inspire and educate students to become linguistically and culturally-prepared global citizens. Through an interdisciplinary approach, educators aim to instill in students a variety of key qualities, including academic curiosity, open-mindedness, resiliency, and a desire to explore other cultures. Students gain language proficiency and explore literature and culture, enabling them to communicate effectively to make connections with new people and cultures.

Three years of the same language are required to graduate.

The World Languages department offers courses from beginning levels through Advanced Placement in Chinese, French, Italian, and Spanish.

Chinese, French, Italian, and Spanish may be started by students of any grade. Most students begin a language in Grade 9 and continue that language study throughout the four years in the Senior School. Students are encouraged to pursue a second world language.

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### World Languages

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<tr>
<th>Language</th>
<th>Chinese I</th>
<th>Chinese II</th>
<th>Chinese III</th>
<th>Chinese IV</th>
<th>Chinese V</th>
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<tbody>
<tr>
<td></td>
<td>AP Chinese (from IV seniors considered for AP)</td>
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<td></td>
<td>Advanced Topics through French Cinema</td>
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<tr>
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<th>Italian II</th>
<th>Italian III</th>
<th>AP Italian Language</th>
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<tbody>
<tr>
<td></td>
<td>Italian IV</td>
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<tr>
<th>Language</th>
<th>Latin IV</th>
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<td>Spanish V</td>
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<th>Language</th>
<th>Spanish I</th>
<th>Spanish II</th>
<th>Spanish III</th>
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<tr>
<td></td>
<td>AP Spanish Language (only for seniors)</td>
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<tr>
<td></td>
<td>Spanish and Latin American Cinema</td>
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Placedoof new students is based on the previous school record and a written placement assessment.

All courses are year long for 1 credit.

Please see Global Studies section of the Course Catalog for Language Study points for World Languages.

**Chinese**

**Chinese I (1 Credit)**

Chinese I has been designed to create a strong foundation in pronunciation, character recognition, character writing, and basic grammatical structures for students with no or minimal prior knowledge of Mandarin Chinese. Great emphasis will be put on standard pronunciation (Pinyin), Chinese character writing, and daily conversation through engaging class activities. Students will be able to conduct simple conversations related to everyday situations. Study of the culture and social customs of China is also incorporated into the instruction.

**Chinese II (1 Credit)**

**Prerequisite: Chinese I.** Students will continue to learn to read and write Chinese characters, practice listening and speaking in real-life situations. Emphasis is put on building up vocabulary and sentence patterns in communicative contexts through engaging activities such as daily conversations, short role-plays, and guided narratives. Chinese poems, songs, and other authentic audio material will be used in class to help students further understand the language and culture.

**Chinese III (1 Credit)**

**Prerequisite: Chinese II.** Students will continue learning more characters and vocabulary. The emphasis will be on building up vocabulary and sentence patterns in communicative contexts through interactive activities. Students are expected to master more complex grammatical structures and writing skills. Students will be able to conduct effective daily conversations, write short stories, and present topics related to their family and school life. Chinese poems, songs, and other authentic audio material will be used in class to help students further understand the language and culture.

**Chinese IV (1 Credit)**

**Prerequisite: Chinese III or equal level of proficiency of Chinese.** Chinese IV will further cultivate the student’s ability of listening, speaking, reading, and writing. Students will learn additional vocabulary and sentence structures for use in various daily-life situations. Students will increase their knowledge of the Chinese-speaking community and also are expected to write various pieces in Chinese. A variety of in-class activities are designed to engage students, to review and incorporate the learned vocabulary and grammar, and to write complete stories to express their opinions. At the end of this academic year, students will have learned about 1000 characters and all the basic grammatical structures. Students will be ready for the intermediate level Chinese study.

**Chinese V (1 Credit)**

**Prerequisite: Chinese IV or equal level of proficiency of Chinese.** Chinese V is designed to begin the preparation for AP Chinese Language and Culture. Students should have completed the elementary level study successfully and are now ready to complete intermediate level tasks. This includes the extensive practice of conversations and listening skills on various topics; students are expected to understand native Chinese through audio and visual forms of Chinese news and programs on related topics. Reading Chinese authentic material is emphasized in order to enhance the understanding of Chinese society and culture. Students are also expected to produce presentations on various cultural topics in Chinese. Throughout the year, essay writing and presentation will be important components of the course; students will also master complex writing structures and cohesive devices.
AP Chinese Language and Culture  
(1 Credit)

Prerequisite: Level V or with teacher recommendation. The AP Chinese Language and Culture course is designed to be comparable to second-year college courses in Chinese. This course will provide students with opportunities to perform intermediate to advance level tasks and to refine and further develop students’ abilities in Chinese oral and formal written communication. This course will also engage students in an exploration of both contemporary and historical Chinese culture. Throughout the year, students will read and write short stories and apply the learned writing and speaking skills to further improve their fluency.

French

French I (1 Credit)

French I introduces students to the French-speaking world and establishes a foundation for them to communicate with those that are part of it. In this task-centered course, students engage with a variety of authentic resources including menus, videos, children’s books, traditional games, current French music, and various online resources that bring the French-speaking world directly into the classroom. The use and study of these resources allows students to develop written and verbal proficiency as well as a deeper cultural understanding of the Francophone world.

French II (1 Credit)

Prerequisite: French I. French II strengthens the foundation that students have established in French I and allows them to discuss a variety of topics most relevant to their daily lives. At this level, the class is run in French. This allows students ample practice to develop the four key language skills of speaking, listening, reading, and writing. A variety of authentic resources, including videos, articles, music, cookbooks, children’s books, and online resources, brings Francophone culture directly into the classroom. These resources provide meaningful context for the many communicative activities that bring the language to life in this task-centered course. French II has been designed to allow students to have a simple but meaningful conversation in French with a native speaker.

French III (1 Credit)

Prerequisite: French II. French III serves as a transition from setting a firm foundation to studying more advanced grammar. Students at this level explore an ever-wider variety of authentic resources, including newspapers, short stories, movies, blog entries, comic books, and music. These resources allow students to access French and Francophone perspectives directly, and their increasing proficiency allows them to express more nuanced understanding in the language. With a continued focus on applying new learning meaningfully, students simulate more complex, culturally informed tasks, such as applying for an internship. By the end of French III, students are ready for the study of advanced grammar and literature in French IV.

French IV (1 Credit)

Prerequisite: French III. In French IV, students practice their language skills as they dive into varied authentic resources chosen for their historical, literary, or cultural importance. Students have the opportunity to view films in French, to study works of French literature, and to read and discuss current events from newspapers around the French-speaking world. The study of complex grammar accompanies cultural and literary study to further develop the ability to express nuanced views. Through class discussion, students will gain a deeper understanding of the Francophone world and of France today, a country with a long history and vibrant culture but one that also faces today’s many challenges.

French V (1 Credit)

(not offered in 2022-2023) Prerequisite: Successful completion of at least French IV. In this advanced class, students will extensively cover complex grammar, vocabulary, and cultural topics; they will study written and audio material from a variety of authentic media and will be expected
to discuss literary and non-literary topics both orally and in writing. The course is designed to rigorously challenge the student while continually developing the four key language skill areas of speaking, writing, listening, and reading, all necessary for the AP French Language course.

**Advanced Topics Through French Cinema (1 Credit)**

*Prerequisite: Juniors and seniors who have successfully completed a Level IV course.* This course is designed to help students further develop and refine language skills specifically through the study of French cinema. The readings, discussions, and writing in this course center on a series of French films chosen for their cultural, historical, and artistic value. Students explore a variety of authentic resources with the goal of developing a deeper understanding of topics that have a significant impact on life in France today. Grammar is reviewed as needed.

**AP French Language (1 Credit)**

*Prerequisite: A- in the previous level V or French Cinema class, or with teacher recommendation.* This course is an advanced study of French language in preparation for the AP Language examination in French. The focus of the course will be on communicative tasks framed within cultural content, with language structures reviewed in context. Complex structures are practiced to perfect self-expression orally and in writing. The reading of literature and cultural materials is intensified, expanding vocabulary. The students will hone their listening skills in order to understand French when spoken to at a normal speed by speakers from various Francophone countries.

**Italian**

**Italian I (1 Credit)**

First level Italian begins the development of oral proficiency, aural comprehension, basic written communication, and reading for students with no prior knowledge of Italian. Through interactive lessons using everyday vocabulary, students will begin to speak, read, write, and understand spoken Italian. Students will engage in a variety of activities to foster a better understanding of the language and culture.

**Italian II (1 Credit)**

*Prerequisite: Italian I.* This second-year Italian course continues the development of the four language skills. The goal of this course is to allow students to communicate meaningfully at an elementary level with native speakers. Students will continue to engage in a variety of activities to foster a better understanding of the language and culture. Vocabulary and grammar are presented with emphasis on oral and written communication.

**Italian III (1 Credit)**

*Prerequisite: Italian II.* This third level course further emphasizes the development of the four language skills with stress on oral proficiency and cultural awareness. Italian is the primary means of teaching and communicating. Grammar is refined and vocabulary is enriched through reading selections. Supplementary cultural materials and audiovisual materials are used.

**Italian IV (1 Credit)**

*Prerequisite: Italian III.* This course is based on developing students’ communicative skills within a cultural frame of reference reflective of the richness of Italian language and culture. The class will focus on communicative tasks framed within cultural content, with language structures reviewed in context. It will continue to offer students the opportunity to expand their vocabulary and to use the language in a vast variety of contexts.

**AP Italian Language and Culture (1 Credit)**

*Prerequisite: A- in the previous level III class or with teacher recommendation.* This course is an advanced study of Italian language and culture in preparation for the AP language examination in Italian. The focus of the course will be on communicative tasks framed within cultural content, with language...
structures reviewed in context. Complex structures are practiced to perfect self-expression orally and in writing. The reading of literature and cultural materials is intensified, therefore expanding vocabulary. The students will hone their listening skills in order to understand Italian when spoken to at a normal speed by native speakers.

Latin

Latin V (1 Credit)

Prerequisite: Latin IV or teacher recommendation. Latin V is a preparatory course for the Latin AP course and, as such, will approach the complexity and rigidity of the grammatical and historical/societal knowledge required. A specific focus on literal translation in context is needed. Building on the Latin IV course, the student will initially continue with the Cambridge Latin Series as an introduction to more and more unadulterated Latin. From there we will move on to some of the main authors in the Latin canon such as Horace, Ovid, and Catullus, but also Caesar and Vergil. Grammar will be reviewed as needed, and more nuanced uses and examples of, for instance, the subjunctive, will be expanded upon.

AP Latin (1 Credit)

Prerequisite: A- in Latin V, A- in Latin IV with teacher recommendation, or with teacher recommendation. The AP Latin course is entirely focused on the preparation for the AP test and will as such exclusively focus on the AP listed excerpts from Caesar’s De Bello Gallico and Vergil’s Aeneid. In addition to work on vocabulary and grammar, a specific focus will be on literal translation, as well as a more nuanced historical view and contextualization of the late Republic and the beginning of the Augustan Principate. A variety of assessments will test different aspects of the knowledge, and examples will include essays and short answer questions in which evidencing the response with specific references to the text will be needed. Also, knowledge about syntax and writing styles, as well as rhetorical devices and metrical terminology and usage will be studied and discussed in depth.

Spanish

Spanish I (1 Credit)

This is a first-year course designed to acquaint the student with the basics of Spanish language and culture. The textbook is supplemented by workbooks, magazines, computer software, and audio-visual materials. Students are expected to master grammatical and conversational structures that permit effective communication at an elementary level. In addition, students read level-appropriate short stories and other media.

Spanish II (1 Credit)

Prerequisite: Spanish I. This second-level class focuses on more complex grammatical structures and intensifies vocabulary acquisition. Students are required to perform role-plays and interviews, write medium-length narratives and dialogues, and effectively communicate on culturally relevant topics. Several full-length movies and other authentic audio-visual aids are also presented. Materials for this class include a textbook and workbooks, as well as computer software and audio-visual components. In addition, students read the short annotated novel, La chica de los zapatos verdes.

Spanish III (1 Credit)

Prerequisite: Spanish II. This class focuses on intensive grammar review and vocabulary acquisition. Students are expected to master complex grammatical structures and to perform developed oral tasks like reports and dialogues. Written work includes compositions, letters, and journals. The first term and part of the second term are devoted to completion of the regular text and several literary works by prominent Latin American and Spanish authors. During the second and third term, students refine their written and oral skills through analysis, discussion, and presentations related to the literary material they cover. In addition, students read two short annotated novels, La guerra sucia and Esperanza. Encompassing both novels are social justice themes.
Spanish IV (1 Credit)

Prerequisite: Spanish III. The first term and part of the second term of this advanced class are designed to develop oral and written skills. Students review all grammatical structures and work with complex grammatical themes. They study colloquial and idiomatic phrases, write advanced essays, read authentic works in Spanish as well as watch films dealing with current social, political, and social justice themes of the Spanish-speaking world. In addition, they read several short stories as well as other authentic media, including two short novels, Minerva and Casa Dividida. Students also begin some preliminary study for the AP examination in Spanish Language and Culture.

Spanish V (1 Credit)

Prerequisite: Successful completion of at least Spanish IV. This course is designed to begin the preparation for the Spanish Advanced Placement Language course that students will take the following year. Students will extensively cover advanced grammar, vocabulary and cultural topics including social justice themes; they will study written and audio material from a variety of authentic media and will be expected to discuss literary and non-literary topics both orally and in writing. The course is designed to rigorously challenge the student while continually developing the four key language skill areas of speaking, writing, listening, and reading, all necessary for the AP Spanish Language course.

Spanish and Latin American Cinema (1 Credit)

Prerequisite: Successful completion of at least Spanish IV. Spanish Cinema is a film studies course that is taught in Spanish. Each trimester students watch modern Hispanic films and use them as a tool to discuss topics such as fantasy and reality, the abuse of power, gender roles, and cultural identity. The movies are all from the last three decades and include those by Oscar-winning directors and producers like Pedro Almodóvar and Guillermo del Toro. There is no formal review of grammatical structure, and it is introduced only when needed in the context of improving discussions and assessments. Assessments are created by the students and are based on the essential questions that they generate in class. This course includes some college-level texts, including cinematic material, that will need parental permission for students under 17.

AP Spanish Language (1 Credit)

Prerequisite: Seniors who have completed Level V or higher class, and with teacher recommendation. This course is an advanced study of Spanish language in preparation for the AP language examination in Spanish. Students read a variety of materials: short stories, newspapers, poetry, and essays. Students develop mastery of advanced vocabulary as well as more extensive skills in listening, reading, oral comprehension, speaking, and writing.
The Senior School Mathematics Department seeks to engage students by fostering in them a self-reflective, collaborative, creative, and resilient spirit while inspiring students to make sense of the complex world around them by becoming critical thinkers, problem-solvers, and ethical mathematicians.

All students are required to take mathematics in each trimester of their Senior School years.

All mathematics courses require a TI-Nspire CAS graphing calculator. When purchasing your calculator, make sure it is a CAS calculator.

Admission to most math classes is dependent on a minimum grade in the previous course and/or recommendation of the department. Recommendations are based on several qualities including: ability to solve problems, independence as a learner, resiliency, engagement in class, conceptual understanding of the material, motivation, and responsibility.

**Meeting the Algebra I requirement:**
A student who has previously taken Algebra I satisfies the Algebra I requirement if the student: (1) is an Academy student and received a grade of C- or above* in either the Middle School or Senior School Algebra I course, or (2) is new to the Academy, had a full year of Algebra I at a previous school, and sufficiently masters the Academy’s Algebra I skills assessment.

A student who is entering the Senior School having had a full-year Algebra I course but not satisfying either of the above conditions may do summer work in Algebra I. Such a student must pass the Senior School Algebra I exams with a minimum grade of B-. If this student, after summer work, does not meet this minimum requirement, the student will be placed in the full-year Algebra I course.

A student who enters the Senior School without having had a full-year Algebra I course at another school will be required to take the Academy’s Algebra I course. This requirement may not be met through summer work.

*Students who have earned a C+ or below in Middle School Algebra I will be required to pass a placement exam in order to move on.

**Meeting the Geometry requirement:**
A student who has previously taken Geometry satisfies the Geometry requirement if the student (1) took a geometry course in middle school and sufficiently masters our Geometry skills assessment, or (2) is new to the Academy and had a full year of high school Geometry at a previous school.

A student who enters the Senior School without having had a full-year Geometry course at another school will be required to take the Academy’s Geometry course.

Students may fulfill the Geometry graduation requirement by attending the summer Geometry for-credit course offered through Sewickley Academy’s Summer Program (see website for registration information).

**Meeting the Algebra II requirement:**
A student who has previously taken Algebra II will be exempt from taking a Algebra II course if: (1) the student took a Algebra II course in middle school and sufficiently masters our Algebra II skills assessment (2) is new to the Academy, and had a full year of high school Algebra II at a previous school.
Algebra I (1 Credit)
This course provides the prerequisite background for Geometry and Algebra II. The course establishes the vocabulary and symbolisms of algebra and includes evaluating expressions, properties of real numbers, rational and irrational numbers, square roots, function theory, solving and graphing linear equations and systems, solving and graphing linear inequalities and systems, applying exponent properties, scientific notation, simplifying polynomial expressions, solving polynomial equations, basic factoring, solving and graphing quadratic functions, exponential growth and decay, and word problems. Students are introduced to probability, data analysis, and simplifying and solving rational expressions and equations. A “C-” in this course indicates a potential for difficulty in future courses. Students who receive a “C-” or below in Algebra I should consider summer work to deepen their foundational skills. Text: McDougal Littell Algebra I by Larson, Boswell, Kanold, and Stiff, Copyright 2007.
Geometry (1 Credit)

Prerequisite: Successful completion of Algebra I (minimum grade of “C”). This is a full-year course that employs a deductive approach to student learning and discovery in the development of logical reasoning. This geometry course requires mastery of the concepts of algebra including quadratics and radical expressions. Students explore both Euclidean and solid geometries with a particular emphasis on plane geometry. Topics of study include: introduction to logic and proofs, triangles, special quadrilaterals, polygons, perimeter and area of figures, surface area and volume of solids, similar shapes (ratio and proportion), circles, and trigonometry. Applications of these topics are incorporated into the lessons and assignments. (A minimum grade of “C” in Algebra I is required to move on to Algebra II. Otherwise, the student must do remedial work or the student will be enrolled in Algebra II.) Text: Geometry by Glencoe McGraw-Hill, Boyd, Cummins, Malloy, Carter, Flores, Copyright 2008.

Honors Geometry (1 Credit)

Prerequisite: Successful completion of Honors Algebra I with a minimum grade of “B-.” In addition to the content covered in Geometry, Honors Geometry studies additional topics which may include: coordinate proofs, arcs, chords, secants and tangents. However, important differences lie in the pacing and emphasis of the course. Additionally, an emphasis is placed on independent learning and higher-level thinking skills. Students are routinely expected to successfully tackle the more challenging problems in plane and solid geometry. Text: Geometry by Glencoe McGraw-Hill, Boyd, Cummins, Malloy, Carter, Flores, Copyright 2008.

Algebra II (1 Credit)

Prerequisite: Successful completion of Algebra I with a minimum grade of “C.” Algebra II serves as a natural extension of topics covered in Algebra I. The content and pace of the course are rigorous and require students to develop higher-order thinking skills in preparation for precalculus. Topics include polynomial and rational expressions and functions, systems of equations and inequalities, functions, radicals, irrational numbers, complex numbers, synthetic substitution, graphing polynomial functions, composition of functions, inverses, exponential and logarithmic functions, and curve fitting. (A minimum grade of “C” is required for students to advance to Precalculus and Trigonometry). Text: McDougal Littell Algebra 2 Larson, Boswell, Kanold, Stiff, Copyright 2007.

Honors Algebra II (1 Credit)

Prerequisite: Successful completion of Honors Geometry. Students can also be recommended for this honors course by their Algebra I and Geometry teacher or by the Senior School Mathematics Department. Honors Algebra II covers all topics included in Advanced Algebra II. However, more difficult problems are explored with the expectation that students are highly proficient with the Algebra I topics, can work at a very fast pace, will complete extensive assignments, and require minimal extra help from the instructor. Additional topics include advanced problem solving along with an in-depth examination of functions and matrices. (A minimum year-end grade of “B-” is required to move on to Honors Precalc/ Trig). Text: McDougal Littell Algebra 2 Larson, Boswell, Kanold, Stiff, Copyright 2007.

Precalculus & Trigonometry (1 Credit)

Prerequisites: Successful completion of Algebra II with a minimum grade of “C” and Geometry credit or demonstration of mastery of Geometry concepts. Students are expected to work at a rigorous pace and to spend a significant amount of time on homework assignments and related activities. Precalculus topics include binomial theorem, introductory probability concepts, compositions of functions, inverse functions, exponential and logarithmic functions. Trigonometry is explored with the emphasis on the circular functions. Students will work extensively on graphing, identities, solutions of right and oblique triangles, and inverse functions and their graphs. Students also study complex numbers. (A minimum grade of “A-” is required to qualify for enrollment in AP Calculus AB or by recommendation of the

Algebra with Trigonometry (1 Credit)

Juniors and Seniors only. Prerequisite: Successful completion of Algebra II. This course is designed for students who have previously completed Algebra II. A thorough review of Algebra II with emphasis on graphical analysis and applications is integral to this course. The pace is adapted to the level of the students which may result in reduced coverage of content than in a typical algebra course. Topics include polynomial and rational expressions and functions, systems of equations and inequalities, complex numbers, exponential and logarithmic functions, conic sections, probability, sequences and series, statistics, and basic trigonometry. Considerable time will be spent using technologies such as the TI-Nspire CAS in problem solving.

Statistics (1 Credit)

(not offered in 2022-2023)

Juniors and Seniors only. Prerequisite: Successful completion of Algebra II or Honors Algebra II. Designed for seniors or juniors, this course provides an introduction to college-level probability and statistics. Students learn mathematical skepticism and rigorously controlled experimental design and analysis. Topics include counting principles, probability, sampling techniques, exploratory data analysis, probability, probability distributions, normal distributions, and hypothesis testing. Students will become familiar with the statistical capabilities of the TI graphing calculators and will enhance their data analysis with the use of statistical software. Calculator: Students need the TI-Nspire CAS. This is a standalone course and not a prerequisite for AP Statistics. Text: Elementary Statistics, 11th edition by Triola.
Calculus (1 Credit)

Prerequisite: Successful completion of Precalculus and Trigonometry with a minimum grade of “C.” Calculus is a full-year course for the non-advanced placement student. Students explore and master topics in differential calculus as they simultaneously strengthen skills involving algebraic, precalculus, and trigonometric concepts. While the majority of the topics from the Calculus AB syllabus are covered in this course, the focus is on method, process, and application rather than on theory. Topics include limits, continuity, velocity and other rates of change, differentiation of polynomial, rational, radical and transcendental functions, implicit differentiation, linear approximations, chain rule, logarithmic differentiation, Newton’s Method, related rates, problems of optimization, Mean Value Theorem, curve sketching, applications of derivatives, Reimann sums, and the Fundamental Theorem of Calculus. Text: Calculus, Early Transcendental Functions, 4th edition by Larson, Hostetler, and Edwards.

AP Calculus AB (1 Credit)

Prerequisite: Successful completion of Precalculus and Trigonometry with a minimum grade of “A-” in addition to a teacher recommendation. This is a full-year course equivalent to the first semester of a rigorous college-level calculus course. The syllabus includes all of the topics and techniques specified by The College Board including the use of the graphing calculator TI-Nspire CAS to explore and reinforce the analytical methods of solution for these topics. The theory of calculus, understanding why and how techniques work and when to use them, is a central focus each time a new topic is presented. The differential calculus topics include limits, continuity, curve sketching, derivatives of polynomial functions, exponential/logarithmic functions, trigonometric and inverse trigonometric functions, and optimization and related rates applications. The integral calculus topics include Riemann sums, the Fundamental Theorem of Calculus, methods of integration, area under a curve, volumes of revolution, differential equations, slope fields, and applications (such as exponential growth and decay). In lieu of a final exam, students are required to take the AP Calculus AB exam offered in May. Text: Calculus, Early Transcendental Functions 4th edition by Larson, Hostetler, and Edwards.

AP Calculus BC (1 Credit)

Prerequisite: Successful completion of AP Calculus AB. This is a challenging course that continues from where Calculus left off. Students need to have already mastered differentiation and basic integration. The course will review some of the concepts covered in AP Calculus AB but at a higher level. The course follows closely but is not limited to the topics and techniques specified by The College Board. Topics include L’Hopital’s Rule, advanced methods of integration, improper integrals, the calculus of polar functions, infinite sequences and series, Taylor and power series, vector functions, polar calculus, and first order differential equations and slope fields. Applications will focus on area accumulation, volume, surface area, applied differential equations, growth models, approximation techniques, work, fluid
force, center of mass and business applications. In lieu of a final exam, students are required to take the AP Calculus BC exam offered in May. Text: Calculus, Early Transcendental Functions 4th edition by Larson, Hostetler, and Edwards.

**Multivariable Calculus (1 Credit)**

*Prerequisite: Successful completion of AP Calculus BC.* This course is considered to be an honors-level course. Multivariable Calculus picks up where AP Calculus BC ended. Specific topics include: Three-dimensional analytic geometry: three-dimensional coordinate systems, lines, planes, and quadric surfaces; Vector-valued functions, parametric equations, and curves in two- and three-dimensional space; Arc length and curvature; Differential calculus of functions of more than one variable: limits, continuity, partial derivatives differentials, tangent planes, the chain rule, directional derivatives and gradients; Maximizing and Lagrange multipliers; Integral change of variables; Multiple integration in various coordinate systems; line integrals and surface integrals; Curl and divergence; The Fundamental Theorem of Line Integrals, Green’s Theorem, Stokes’ Theorem and the Divergence Theorem. Text: Calculus, Early Transcendental Functions 4th edition by Larson, Hostetler, and Edwards.
The science department seeks to develop well-informed, scientifically literate citizens of the local and global community who apply scientific knowledge and evidence-based reasoning to investigate and explain natural phenomena and solve challenging problems.

The Senior School science program introduces students to the skills and knowledge necessary to make sense of the natural world.

The program has three year-long Foundational Courses: Biology, Chemistry, and Physics, which introduce students to three major disciplines of science. Foundational Courses are presented in a sequence that provides for the steady development of scientific practices. Completion of this sequence of courses gives students a scientific education commensurate with our increasingly technical world. Biology, Chemistry, and a third year of science are graduation requirements. A fourth year is strongly recommended to all students, but is not required for graduation. It should also be noted that a Foundational physics course is not required to graduate, but it is an important part of the science course offerings. Honors courses, which cover similar material at a greater depth and speed, are offered in each Foundational discipline, and are very demanding.

The Senior School Science program also offers a sequence of Advanced Placement courses. These provide interested and prepared students with an opportunity to pursue a key aspect of science in a rigorous, fast-paced, and sophisticated manner. Sewickley Academy encourages any student with a desire to explore his or her world in depth to strongly consider taking one or more of these courses. Although a Foundational physics course is not required for graduation, it is required to be eligible for Advanced Placement courses. All students who elect to take AP courses must take the associated exam in May.

Juniors interested in taking an AP science course concurrent with Physics or Honors Physics may do so if the following criteria are met:

- AP Biology with Physics or Honors Physics – student must have earned an A in Biology or B+ in Honors Biology along with an A in Chemistry or B+ in Honors Chemistry
- AP Chemistry with Physics or Honors Physics – student must have earned an A in Chemistry or B+ in Honors Chemistry
- AP Environmental Science with Physics or Honors Physics – student must have earned an A in Biology or B+ in Honors Biology along with an A in Chemistry or B+ in Honors Chemistry

Students must have the approval of their academic advisor, parents, AND approval of the Science Department Chair.

The science department does not accept summer coursework, camps, or workshops in science or mathematics for Sewickley Academy science credit or acceleration through the Senior School science program. However, we strongly encourage students to engage in summer science programs that enrich their understanding of, and interest in, science.
Senior School Science Course Offerings Summary

Classes required for graduation: Biology (or Honors Biology), Chemistry (or Honors Chemistry), and a third credit of science.

Approval from the department chair is required for any student taking more than one science course at the same time.

The prerequisites listed below are simplified for easy reading. Refer to the course description for complete prerequisites. All Advanced Placement courses require the concurrent enrollment or successful completion of Physics (or Honors Physics).

- Biology – no prerequisites
- Honors Biology – Prerequisite: teacher recommendation or approval of department chair
- Chemistry – Prerequisites: C or better in Algebra 1, Biology
- Honors Chemistry – Prerequisites: teacher recommendation or approval of department chair
- Geoscience – Prerequisites: Biology
- Ocean and Atmospheric Sciences – Prerequisites: Biology
- Physics – Prerequisites: C or better in Algebra 2, C or better in Chemistry
- Honors Physics – Prerequisites: teacher recommendation or approval of department chair
- Climate Change Mitigation – Prerequisites: Biology
- Sustainability Science – Prerequisites: Biology
- AP Biology – Prerequisites: teacher recommendation and approval of department chair
- AP Chemistry – Prerequisites: teacher recommendation and approval of department chair
- AP Environmental Science – Prerequisites: teacher recommendation and approval of department chair
- AP Physics C: Mechanics – Prerequisites: AP Calculus, teacher recommendation or approval of department chair

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<th>Freshman</th>
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| Biology or Honors Biology | Chemistry or Honors Chemistry  
**Trimester Electives:** Climate Change Mitigation (T2), Sustainability Science (T3)  
**Full Year Electives:** Ocean and Atmospheric Sciences | **Full Year Electives:** Physics, Honors Physics, AP Sciences, Geoscience, Ocean and Atmospheric Sciences  
**Trimester Electives:** Climate Change Mitigation (T2), Sustainability Science (T3) | **Full Year Electives:** AP Biology, AP Chemistry, AP Environmental Sciences, AP Physics  
C-Mechanics Geoscience, Ocean and Atmospheric Sciences  
**Trimester Electives:** Climate Change Mitigation (T2), Sustainability Science (T3) |
**Foundational Courses**

**Biology (1 Credit)**
*(Required for Graduation)*
The Senior School program begins with the study of life on the biochemical and molecular levels. Students explore topics such as membrane dynamics, metabolism (including cellular respiration and photosynthesis), cell division (mitosis and meiosis), gene expression, biotechnology and evolution. Laboratory work covers a wide range of biological topics. Students further develop data collection and hypothesis-building skills learned in the Middle School to explain the wide range of observations made in the laboratory. By the end of the year, students have an understanding of the key biological principles governing life.

**Honors Biology (1 Credit)**
*(Can fulfill Graduation Requirement)*
Prerequisite: Minimum grade of A- in Grade 8 Science and/or written recommendation of the Middle School Science Department. Students new to Sewickley Academy will be placed based on materials provided through the admission process. All placements must subsequently be approved by the Science Department Chair. Students study foundational disciplines in life science including biochemistry, cellular and molecular biology, genetics, and evolution. Some of the major concepts explored include cell transport, energy transformation, cell division, gene expression, and natural selection. An emphasis is placed on developing analytical reasoning skills in a laboratory setting. The relationship between structure and function in biological systems is a focal point of class discussions and labs.

**Chemistry (1 Credit)**
*(Required for Graduation)*
Prerequisites: Biology or Honors Biology and successful completion of Algebra I. This survey course introduces the student to the structure and composition of matter and the processes by which matter undergoes changes. Using a combination of laboratory work, class discussion, and problem solving, students learn chemical concepts and how they apply to our world. In addition to chemical concepts, students also learn chemical and laboratory techniques for investigating properties and chemical behavior for various kinds of substances. Topics covered include atomic and electronic structure, chemical bonding, intermolecular forces, gases and gas properties, chemical reactions and solutions, thermochemistry, and if time permits, kinetics and/or equilibrium. The concepts and skills reinforced in this course help students to understand fundamental chemistry principles in everyday real-world contexts.

**Honors Chemistry (1 Credit)**
*(Can fulfill Graduation Requirement)*
Prerequisite: “A-” or better in Honors Biology or an “A” in general Biology and teacher recommendation. Consultation with the Math Department is part of the recommendation process. This course is designed to offer an accelerated and comprehensive first-year chemistry course to independent students with a strong interest in science. Content in this class includes some topics usually reserved for college chemistry. Because of this, students entering this course must have demonstrated that they have already developed well-organized studying strategies and time-management skills. Students will participate in argument-driven laboratory investigations, class discussions, and problem-solving as they learn fundamental chemistry principles. Topics covered include atomic and electronic structure, chemical bonding and intermolecular forces, properties of gasses, chemical reactions, thermochemistry, and kinetics.

**Physics (1 Credit)**
Prerequisite: A “C” in Honors Chemistry or regular Chemistry and teacher recommendation. Co-requisite: Prior or current enrollment in Algebra II. This full-year course will introduce students to classical physics. Topics in Newtonian mechanics will include kinematics, dynamics, energy and momentum. Major topics in electricity may also be studied including electrostatics, electric forces and fields, direct current electricity, and basic circuits.
The course format includes interactive lecture, discussions, group problem solving, and laboratory activities. Laboratory work is an integral part of the course and students are expected throughout to refine their problem-solving skills acquired in previous science courses.

Honors Physics (1 Credit)

Science prerequisites: A “B” in Honors Chemistry or an “A” in regular Chemistry, and teacher recommendation. Mathematics prerequisites: Prior or concurrent enrollment in a Precalculus and Trigonometry course. It is strongly recommended that students have current or prior enrollment in Honors Precalculus with Trigonometry. This is an accelerated and enriched first-year physics course for curious students motivated by challenging problems. Topics studied are similar to those taught in the regular Physics course, but they are taught in a more mathematical manner with greater depth and more emphasis on multi-concept problem solving requiring non-algorithmic approaches. The course begins with classical mechanics including kinematics, dynamics, energy, momentum, and simple harmonic motion. It continues with electricity and magnetism followed by geometric and wave optics. If time permits, extra material from thermodynamics, relativity, and nuclear physics may be covered. The course format includes lecture, discussion, group problem solving, and laboratory activities. Students will also do projects relating to the course material.

Advanced Placement Courses

Prerequisites: Completion of the three Foundational science courses (biology, chemistry, and physics) is required for enrollment in any Advanced Placement science course. Students must have a grade of B or better in all three of these courses in order to qualify for enrollment in any AP science. Should a student who has not achieved a minimum grade of B in one or more of the core science courses wish to enroll in an AP science course, that student must have the permission of the Science Department Chair. AP science course prerequisites may not be waived.

Check specific course descriptions for these requirements. Juniors interested in taking an AP science course should see the previous page for specific course criteria.

AP Biology (1 Credit)

This course expands basic biological concepts presented in the first year life science courses. AP Biology uses the process of evolution by natural selection as the unifying theme. Topics include biochemistry, cellular and molecular biology, energy transformation, biotechnology, and genetics. Laboratory experiences are designed to support the theoretical material, develop problem-solving and reasoning skills, in addition to lab technique and design. Most topics included in the AP curriculum are covered and students are required to sit for the AP exam in May. Text: OpenStax Biology for AP courses (online).

AP Chemistry (1 Credit)

It is strongly recommended that students have completed (or are enrolled in) Precalculus. This course is designed to provide students the opportunity to develop a thorough understanding of general chemistry and a high degree of proficiency in chemical laboratory techniques. Topics covered include thermodynamics, properties of solutions, equilibrium, gas properties, acids and bases, kinetics and electrochemistry. Class activities include lecture, discussion, lab work, and problem solving. This course is designed to be equivalent to a freshman college chemistry course and requires a significant amount of independence from students, including a summer assignment. Students are required to sit for the AP exam in May.

AP Environmental Science (1 Credit)

Juniors and Seniors only. This is a college-level course designed to “provide students with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for
resolving or preventing them.” (College Board). Topics studied will include Earth systems and cycles, natural resources and their use, ecosystems and populations, pollution and environmental problems, and global change. The course format will include lecture, discussion, student research and presentations, laboratory activities, and field investigations. This course will prepare students for the associated AP exam in May.

**AP Physics (C): Mechanics (1 Credit)**

*Mathematics prerequisite: Prior or concurrent enrollment in AP Calculus, preferably AP Calculus BC.* This is a calculus-based, college-level course in Newtonian Mechanics designed to prepare students for the AP Physics C Mechanics exam. The content is equivalent to the first semester physics course taken by college science and engineering majors. Topics studied include: kinematics, statics, dynamics, energy, momentum, gravitation, simple harmonic motion, and rotation. All material receives a rigorous mathematical treatment with select topics in calculus taught and/or reinforced as they apply to the physics topics throughout the year. A variety of research-validated teaching and learning techniques will be used throughout the course in order to help each student gain a deep understanding of the material. Students are required to sit for the AP exam in May.

**Other Non-AP Courses**

**Geoscience (1 Credit)**

*Requirements: Prior successful completion of Biology and Algebra I.* How and when did Earth form? What is Earth made of? How and why is Earth constantly changing? How do human activities affect Earth’s systems? How can we develop models and make predictions about earthquakes and volcanoes? This year-long elective examines the fundamental principles of Earth’s interacting systems at or beneath the surface. Students will approach science as a reliable way of knowing and explaining the natural world. Students will weigh scientific evidence to ask questions and develop investigations related to topics such as plate tectonics, rock cycles, mineralogy, radioactivity, energy resources, erosion, hydrology, glaciers and ice sheets, earthquakes, volcanoes, and mountain building. Students will make and use observations to analyze patterns and relationships in order to explain phenomena, develop models, and make predictions. Students do not need an advanced understanding of mathematics to take this course. Individual and group activities will be used to assess learning outcomes. *Full year. Runs on alternating years with Ocean and Atmospheric Sciences.*

**Ocean and Atmospheric Sciences (1 Credit)**

*Requirements: Prior successful completion of Biology and Algebra I.* How does our Sun influence Earth systems? How and when did Earth’s atmosphere form? How and why is weather constantly changing? How do human activities affect Earth’s climates? How do the oceans affect weather patterns? How can we develop models to make weather forecasts and climate projections? This year-long elective examines the fundamental principles of Earth’s interacting systems at and above the surface. Students will approach science as a reliable way of knowing and explaining the natural world. Students will weigh scientific evidence to ask questions and develop investigations related to topics such as weather, storms, climate, ocean currents, ocean salinity, and solar activity. Students will make and use observations to analyze relationships and patterns in order to explain phenomena, develop models, and make predictions. Students do not need an advanced understanding of mathematics to take this course. Individual and group activities will be used to assess learning outcomes. *Full year. Runs on alternating years with Geoscience.*

**Climate Change Mitigation (.33 Credit) Trimester 2**

*Requirements: Prior successful completion of Biology, and a willingness to explore a selected topic independently and to work cooperatively with others.* Climate change is well underway and is changing the global environment. What does science say about the extent and magnitude of changes
likely across the world? What is the potential for addressing and adapting to these changes with applied science and engineering? In this course, students will approach these questions by developing a basic understanding of the changes underway and their likely impacts. They will then explore science and engineering-based approaches to addressing these changes in various countries and regions depending on their individual interests. Students will work independently and in groups to explore these topics, develop case studies, and share what they find. They will then examine their collective results to consider which approaches seem to have the best overall potential and consider regional versus global approaches to mitigation. One Trimester.

**Sustainability Science (.33 Credit) Trimester 3**

*Requirements: Prior successful completion of Biology, and willingness to explore a selected topic independently and to work cooperatively with others.* Students can choose science or Global Studies credit for this course. This course examines the relationship between humans and the environment. Students will explore the Earth’s natural systems and how they are changing in response to human activity. Students will discuss a variety of current events and concepts to help develop scientific skills including critical thinking, reasoning, and problem solving surrounding sustainability. Furthermore, students will be encouraged to personalize their academic experience by exploring other domains of sustainability including economic and societal sustainability addressing questions such as the following: What changes can an individual make to increase sustainability at a global and local level? How can we meet the needs of the current population without compromising the well-being of future generations? These questions will help students build an academic foundation in sustainability science, while also encouraging personal reflection and goal-directed action. One Trimester.
World History (1 Credit)

All students in Grade 9 will take World History to fulfill their history requirement. The Grade 9 history course will take a thematic approach to world history from the pre-agricultural era through 1200 CE. World History will be framed by questions around global topics such as: migration, environment, development, worldviews, culture, security, and justice. These questions will apply to the study of historical events and artifacts, as well as current events throughout the year that support unit topics. Through these questions, students will have the opportunity to examine the historical patterns of continuity and change over time. Specifically, students will analyze historic moments such as the Neolithic era, settlement of river valleys, development of major world religions, and the democratic foundation of Ancient Athens and the Roman Republic. This course relies upon the reading of primary and secondary sources in order to understand and interpret ancient history as it unfolded. Writing and research will also be emphasized, in addition to performance-based tasks that incorporate reading, writing, speaking, and multimedia. All Grade 9 students will complete a research project for World History in collaboration with the library.

AP Modern World History (1 Credit)/XL optional (1 Credit)

All students in Grade 10 will take Modern World History to fulfill their history requirement. In Modern World History, students will investigate significant events, individuals, developments, and processes from 1200 to the present. Specifically, students will investigate historical moments such as 13th and 14th century Global Empires, the Columbian Exchange, colonialism, the African Diaspora, the Industrial Revolution, WWI and WWII, environmental changes, and globalization. Students develop and use the same skills, practices, and methods employed by historians: analyzing primary and secondary sources; developing historical arguments; making historical connections; and utilizing reasoning about comparison, causation, and continuity and change over time. The course provides six themes that students explore throughout the course in order to make connections among historical developments in different times and places: humans and the environment, cultural developments and interactions, governance, economic systems, social interactions and organization, and technology and innovation. Students will demonstrate learning through project-based learning, reading, writing, and research, as well as selected historical literature, which will supplement the textbook.
**United States History (1 Credit)**

All students in Grade 11 will take either United States History or AP United States History to fulfill their history requirement. This course takes a thematic approach to the history of the United States while also evaluating major turning points in their chronological context. Specifically, US history will examine cultural attitudes and historical patterns of continuity and change over time in American history. In this course, students will move beyond simply identifying “what happened” throughout American history, and instead delve into the how, why, and ramifications of events. Accordingly, this course relies heavily upon the reading of primary and secondary sources in order to understand and interpret American history as it unfolded; several pieces of literature will be read as part of the course requirements. Writing and research will also be emphasized, in addition to performance-based tasks that incorporate reading, writing, speaking, and multimedia.

**AP United States History (1 Credit)**

Prerequisite: Self-assessment and teacher recommendation based on analysis of skills for success in Advanced Placement history. All students in Grade 11 will either take United States History or AP United States History to fulfill their history requirement. Covering American history from 1491 to the present, the AP US History course is designed to help students continue to develop historical thinking, interpretation, and analysis skills, as well as gain an understanding of key concepts consistent with the curriculum of the College Board. The AP course is a survey course in which a textbook and supplemental resources in the form of documents, essays, podcasts, videos, and books on special themes provide substantive and thematic coverage. Students learn to assess these historical materials, cultivate skills necessary to arrive at conclusions on the basis of informed judgment, and present reasons and evidence clearly and persuasively in essay format. The course makes demands on students equivalent to those expected in a university-level introductory survey of American history. Full Year.

**Global Studies:** The history elective Comparative Government, qualifies for 60 points in the Global Studies Certificate program. However, students may select either the points or credit in the history department, not both. These respective options are outlined in the Course Request Form.

**AP Comparative Government and Politics (1 Credit)/XL Optional (1 Credit)**

Juniors and seniors only. Comparative Government and Politics is an advanced-level survey that gives students an understanding of the political institutions and processes of six different countries—China, Iran, Mexico, Nigeria, Russia, and the United Kingdom—and evaluates the ways they address problems. Throughout the year, students will compare international political structures, citizen engagement, party systems, and global impact by analyzing data and readings to draw conclusions about political systems. Students will be expected to stay current on international affairs and demonstrate learning through a variety of written, oral, and project-based learning. Full Year.

**AP Psychology (1 Credit)/XL Optional (1 Credit)**

Juniors and seniors only. This Psychology course encourages students to explore human thinking and behavior through the study of science and theory. Students will examine the major thinkers and concepts that have shaped the field of psychology, while exploring the application of specific research methods to the study of psychological phenomena. Among other topics, students in AP Psychology will look in-depth at nature vs. nurture, the role of neurology in senses and perception, developmental milestones throughout the lifespan, clinical diagnosis, and normal and abnormal behavioral psychology, as well as...
social psychology. Most importantly, students will consider the ethical implications of the field of psychology, while applying the scientific method and effective communication of ideas. Full Year.

AP U.S. Government and Politics (1 Credit)/XL Optional (1 Credit)

Juniors and seniors only. U.S. Government and Politics is an advanced-level survey that gives students an understanding of the structure, function, and policies of the United States government. This course is an intensive study of the formal and informal structures of government and the processes of the American political system, with emphasis on policy-making and implementation. This course includes both the study of the general concepts used to interpret U.S. government and politics and the analysis of specific examples. It also requires familiarity with the various institutions, groups, beliefs, and ideas that constitute U.S. government and politics. Students will become acquainted with a variety of theoretical perspectives and explanations for various behaviors and outcomes in government and politics. Students will also be required to conduct original political science research or a civic engagement project. Full Year.

African-American History (.33 Credit) Trimester 1

Sophomores, juniors, and seniors only. The African-American History course will examine the African-American experience from the beginning of the European Slave Trade through the Contemporary Era. This course will be framed by essential questions around topics such as enslavement and resistance, Civil War and Reconstruction, Jim Crow to the Great Depression, the New Deal and World War II, Civil Rights and the Black Power Movements, and African-Americans in the contemporary era. This course will provide a foundational historical study and analysis that accounts for the ways that African-Americans have influenced American culture and society. This course will utilize both primary and secondary sources to examine the essential questions for each topic, and emphasize critical thinking, writing, and research. One Trimester.

History of Pittsburgh (.33 Credit) Trimester 2

Prerequisite: Completed or concurrently enrolled in US or AP US History. This course centers the city of Pittsburgh as its primary text. Through geologic time and Native American settlements, French and British empires, the rise and fall of industrialization, and as a destination for the Great Migration and immigrants, Pittsburgh’s history reflects the most dynamic changes of the past several centuries. By examining the city in which they live, students will ask fresh questions in familiar settings, developing a critical framework for understanding how the place they inhabit reflects the accumulated history of the past (while also embodying hopes for the future). Students will consult primary and secondary sources, art, architecture, music, and other media, as well as a series of field trips, in order to unpack the stories Pittsburgh has to tell. One Trimester.

Women, Gender, & Feminisms (.33 Credit) Trimester 3

This trimester course focuses on the political and social history of women’s liberation movements, feminist thought, issues of gender identity, and intersectionality. Topics include the development of feminist theories, the role of culture and media on gender norms and stereotypes, and the intersection of gender with other social constructs. During the first part of the course students will analyze primary sources, critique theories, and develop an integrated understanding of feminist thought. Students will then examine female gender identity through various cultural lenses and popular media. Finally, students will choose an intersection to explore in depth and merge this with their understanding of feminism and gender identity. Students of all gender identities are welcomed to register for this trimester elective. One Trimester.

***A Note on AP European History:
AP European History is expected to be offered again during the 2023-2024 school year as an elective, open to Grade 11 and Grade 12 students.
Global Issues: A Call to Action (.67 Credit) Trimesters 1 and 2
In this Global Studies Elective, students will explore the barriers to education including poverty, religion, gender, and modern day slavery. After reading the book, *Half the Sky* (Nicholas Kristoff and Sheryl WuDunn), the class will explore a variety of related books, based on interest, that deal with all regions of the world and a wide variety of topics including access to health care, poverty, gender, and human trafficking. The class will also read *Mountains Beyond Mountains* (Tracy Kidder) and *It Happened on the Way to War* (Rye Barcott). In the second trimester, students will read *The Blue Sweater* (Jacqueline Novogratz), which will teach them about the elements of social entrepreneurship including how to identify and solve community problems. Using these case studies, students will evaluate examples of successful social entrepreneurship as well as learn of the risks. Finally, as a class, students will identify either a local or global problem and tackle it with a project solution. *Trimesters 1 and 2* (120 Global Issues Study points).

Global Issues: World Health (.33 Credit) Trimester 1
*Prerequisite: Prior successful completion of Biology.* What are the current issues surrounding global health? How can medicine, biology, and engineering be used to address these challenges? This one-trimester course will look at the causes and effects (T2) of global health problems, and then provide a travel component where students will be able to put their learning into action. Students will have a unique opportunity to be part of a collaboration with GPSA for Health (www.gpsa.org) and pre-med/graduate students and faculty from outstanding universities such as Duke and Harvard. The class will include lessons in hands-on medical interventions, basic pre-trip preparation sessions and post-trip reflection sessions. In addition, students will be trained in community and social issues in Belize as well as cross-cultural understanding. *Over spring break, the students from this class will travel to Belize with Dr. Ron Kinser where they will live in homestay groups and work in underserved Mayan communities which have only limited access to health care. For their clinical service, students are divided into teams supervised by trained college students (pre-meds from Duke, Harvard or similar universities) or faculty. Students will learn to facilitate several medical interventions and screenings (blood pressure, blood sugar, height and weight, heart rate, etc.) and complete an important introductory cultural training, including basic medical Spanish. Students who travel and successfully complete the program will earn a certificate of recognition from GPSA. This is an opportunity for students to try out a medical career firsthand while learning about a different culture. The cost of the trip will be approximately $4,500. Students may enroll in the course even if they do not intend to participate in the trip, however, priority for enrollment will be given to those students who indicate that they will travel to Belize. *One trimester.* (60 Global Issues Study points for coursework; up to 300 Global Studies points for travel to Belize).*

Global Issues: World Hunger (.33 Credit) Trimester 2
*Prerequisite: Prior successful completion of Biology.* World Hunger is a laboratory-based, Global Studies course that examines hunger as a global issue. Hunger is examined from the local to the international level with an emphasis on the technology and techniques being utilized by scientists worldwide. Students will perform modern molecular biology techniques including polymerase chain reaction, gel electrophoresis, and Bradford assays, in addition to analyzing primary research articles and essays surrounding agriculture, nutrition, biochemistry and bioethics. Along the way students will interact with scientists, students, and community members currently engaged in battling hunger in our neighborhood and around the world. *One Trimester* (60 Global Issues Study points).
Global Issues: Global Game (.33 Credit) Trimester 2

This interdisciplinary course will challenge students to evaluate how multiple global systems interact, through the use of game-based learning and gamification. Commodity chains, migration, the environment, and global health are four such systems we will study in this course. The course will emphasize how these global systems intersect to create connection and division among people and regions. Students enrolled in this course will read current literature to gain background and understanding about topics of study, while application of concepts will take place through role play, simulations, board games, breakout boxes and game creation. One trimester. (60 Global Issues Study points).

Global Issues: LatinX Experience in the U.S. (.33 Credit) Trimester 3

This trimester long class offers an overview of Latinx in the United States by covering racial and ethnic identity, immigration, labor, gender, language, and civil rights. These themes will form this course in order for students to begin understanding the Latinx experience in the United States. Discerning Latinx’s heterogeneity will let students see how and why Puerto Rican, Mexican, Cuban, Caribbean, Central American, and other Latin American communities in the U.S have had different and similar challenges with which to contend and surpass. By including the changing nature of these communities, students will grasp the needs each group has to become successful members in the U.S. The readings will serve as the basis for student discussion and reflection. One trimester. (60 Global Issues Study points).

The following courses are offered by other SA departments and will count for EITHER credit in that department OR 60 Global Studies points. Students make that selection on the Course Request forms.

History Department:
Comparative Government (including AP option) - year-long course will receive 140 GS points

Science Department:
Climate Change Mitigation
Sustainability Science

English Department:
Writing from Exile

Comparative Government and Politics (1 Credit)/AP Optional (1 Credit)

Juniors and seniors only. Comparative Government and Politics is an advanced-level survey that gives students an understanding of the political institutions and processes of six different countries—China, Iran, Mexico, Nigeria, Russia, and the United Kingdom—and evaluates the ways they address problems. Throughout the year, students will compare international political structures, citizen engagement, party systems, and global impact by analyzing data and readings to draw conclusions about political systems. Students will be expected to stay current on international affairs and demonstrate learning through a variety of written, oral, and project-based learning. Full Year.

Climate Change Mitigation (.33 Credit) Trimester 2

Requirements: Prior successful completion of Biology, and a willingness to explore a selected topic independently and to work cooperatively with others. Climate change is well underway and is changing the global environment. What does science say about the extent and magnitude of changes likely across the world? What is the potential for addressing and adapting to these changes with applied science and engineering? In this
course, students will approach these questions by developing a basic understanding of the changes underway and their likely impacts. They will then explore science and engineering-based approaches to addressing these changes in various countries and regions depending on their individual interests. Students will work independently and in groups to explore these topics, develop case studies, and share what they find. They will then examine their collective results to consider which approaches seem to have the best overall potential and consider regional versus global approaches to mitigation. One trimester.

**Sustainability Science** (.33 Credit) Trimester 3

Requirements: Prior successful completion of Biology, and a willingness to explore a selected topic independently and to work cooperatively with others. This course examines the relationship between humans and the environment. Students will explore the Earth’s natural systems and how they are changing in response to human activity. Students will discuss a variety of current events and concepts to help develop scientific skills including critical thinking, reasoning, and problem solving surrounding sustainability. Furthermore, students will be encouraged to personalize their academic experience by exploring other domains of sustainability including economic and societal sustainability addressing questions such as the following: What changes can an individual make to increase sustainability at a global and local level? How can we meet the needs of the current population without compromising the well-being of future generations? These questions will help students build an academic foundation in sustainability science, while also encouraging personal reflection and goal-directed action. One Trimester.

Courses taken through Global Online Academy will qualify for 60 GS points upon approval of the GS office.

**World Language**

All courses offered by the World Language department qualify for Global Studies Certificate Language Study domain and can be found in the World Language section of the catalog.

Students will receive 60 Language Study points for each of their first three years of any World Language and 90 points for the second World Language chosen additionally or the fourth year of the same language. Students who plan on taking Latin will be required to take at least one year of a modern language before graduation.
**Introduction to Programming**  (.33 Credit) 1st Trimester

This course is designed for students who have had little or no past programming experience but may have an interest in Computer Science. Students will begin the process of describing, analyzing, and solving programming problems. Students will then explore a variety of Computer Science topics. Fundamental programming concepts such as Graphical User Interfaces (GUIs), variables and constants, decision structures, looping structures, methods, mathematical and business functions, debugging, and basic graphics will be explored. The emphasis for this course will be the syntax and concepts of the Java programming language. One trimester. *Intro to Programming counts as a Fine Arts elective.

**Programming II**  (.33 Credit) Trimester 2

Prerequisite: Introduction to Programming or permission of department chair. This course builds upon the foundation of structured programming learned by the student in Introduction to Programming. It will serve to reinforce and increase the depth of understanding of the basic concepts of the Java programming language. This class is designed for those students not wishing to enroll in the AP Computer Science curriculum; however, this class will also present additional and more advanced material to help better prepare those students wishing to enroll in AP Computer Science A next year. One trimester. *Programming II counts as a Fine Arts elective.

**Programming III**  (.34 Credit) Trimester 3

Prerequisite: Programming II or permission of department chair. This course continues to build on the foundation of structured programming learned by the student in both Introduction to Programming and Programming II. Students will explore additional advanced Java concepts such as creating and using user-defined methods, Graphical User Interfaces (GUIs), Java applet components, and keyboard and mouse events. One trimester. *Programming III counts as a Fine Arts elective.

**Robotics I**  (.33 Credit) Trimester 1

This class applies a variety of skills in math, science, and technology. Students will implement principles of design to build and program a First Tech Challenge (FTC) robot. Students will learn valuable engineering skills of problem solving through troubleshooting and iterative testing. Students will engage in robotics through various modes of inquiry, primarily centered on cooperative teamwork. Assessment of achievement will be documented using an engineering notebook. This course is for self-disciplined independent learners who are passionate about engineering. Successful students in Robotics are risk-takers who are not afraid to fail and learn from mistakes. One trimester. *Robotics I counts as a Fine Arts Elective.

**Robotics II**  (.33 Credit) Trimester 2

Prerequisite: Robotics I. This class builds on the knowledge obtained in Robotics I. It will serve to reinforce and increase depth of understanding of the basic concepts of robotics, problem solving, and programming. Students will compete against other students/schools in the First Tech Challenge...
(FTC) as well as learn about the ways robots are used in science and industry today. One trimester. *Robotics II counts as a Fine Arts Elective.

Robotics III (.34 Credit) Trimester 3
Prerequisite: Robotics II. This class builds on the knowledge obtained in Robotics II. It will serve to reinforce and increase depth of understanding of the basic concepts of robotics, problem solving, and programming. Some time will also be spent exploring the history of robots and their impact on global culture and society. One trimester. *Robotics III counts as a Fine Arts Elective.

Advanced Robotics (1 Credit)
Prerequisite: Robotics III. This class will build on the student’s knowledge obtained in Robotics I, II, and III. It will serve to reinforce and increase depth of understanding of the basic concepts of robotics, problem solving, and programming. Robot safety procedures and standards will be emphasized throughout the course. Full year. *Advanced Robotics counts as a Fine Arts Elective.

Advanced Robotics II (1 Credit)
Prerequisite: Advanced Robotics. This class will build on the student’s knowledge obtained in Advanced Robotics. It will serve to reinforce and increase depth of understanding of the basic concepts of robotics, problem solving, and programming. Robot safety procedures and standards will be emphasized throughout the course. A strong leadership/ mentor role with new robotics students will also be encouraged. Full year. *Advanced Robotics II counts as a Fine Arts Elective.

Advanced Robotics III (1 Credit)
Prerequisite: Advanced Robotics II. This class will build on the student’s knowledge obtained in Advanced Robotics II. It will serve to reinforce and increase depth of understanding of the basic concepts of robotics, problem solving, and programming. Robot safety procedures and standards will be emphasized throughout the course. A strong leadership/ mentor role with new robotics students will also be encouraged.

AP Computer Science A (1 Credit)
Prerequisite: B- or better in Programming III and/or permission of department chair. AP Computer Science A is an advanced course in computer programming and problem solving. Students will study computer systems, data types, computer algorithms, data structures, and other programming concepts in an object-oriented environment using the Java programming language. This course follows the curriculum set up by the College Board for the AP Computer Science A course. Evaluation is based on test grades and demonstration of a mastery of material through assignments and projects. All students enrolled in this course are required to take the AP Computer Science A test in the spring. Full year.

Computer Science: Interactive Design & Development (1 Credit)
Prerequisite: AP Computer Science A or permission of department chair. In this course, students will use and strengthen their skills in programming and logic, math, communication, critical and creative thinking, and problem solving. Students will learn to design and program human-computer interactive devices. This course offers students an exciting introduction to the technical and artistic concepts and techniques of designing and programming software applications and video games. They will also be introduced to the fundamentals of animation and program design. Full year. *CS: Interactive Design & Development counts as a Fine Arts Elective.

Fundamentals of Cybersecurity (1 Credit)
Prerequisite: AP Computer Science A or permission of department chair. Students will learn about cybersecurity topics such as software security, networking, system administration, and the basics of cryptography. Full year.
I. Visual Arts

Students who want to take art all year should be sure to indicate their top three choices for all three trimesters in the Senior School. Students are encouraged to enroll in Art during their Grade 9 year.

Students who have completed Art I and Art II could take Drawing and Painting II, 2D Design I, or 3D and Sculpture I as their next course.

**Drawing and Painting Foundations (.33 Credit) Trimester 1**

This course is an introduction to drawing and painting materials, such as charcoal, pastel, watercolor paint, and acrylic paint. Emphasis will be placed on the process of creating work, making mistakes, and learning from those mistakes, as well as developing observational skills. Students will be asked to reflect on their process through writing and discussion, as well as engage in peer-reviews and critiques. In addition, at least one artwork from each student will be included in an end of the year school-wide exhibition. *One trimester.*

**2D Design I (.33 Credit) Trimester 1**

Students will learn how to communicate and solve problems through their artwork, including poster and advertisement design. Emphasis will be on using the elements and principles of art to create compositions that engage and inform the viewer. Collaboration with others will be a focus of this course as well. Printmaking and digital imaging will be the primary materials and techniques used in this class. At least one piece from each student will be included in an end of year school-wide exhibition. *One trimester.*

**Drawing and Painting II (.67 Credit) Trimesters 2 and 3**

*Prerequisite: Drawing and Painting Foundations, comparable experience, or permission of instructor with portfolio review.* This course is a continuation of 2D Design I, taking the skills learned and applying them to more advanced projects. Students will be encouraged to direct the scope of their projects, as well as engage in peer-reviews and critiques. Emphasis is placed on using visual elements to communicate with and engage the viewer. Printmaking and digital imaging are the primary materials used in this class. At least one piece from each student will be included in a culminating exhibition at the end of the school year. *Two trimesters.*

**3D and Sculpture I (.33 Credit) Trimester 1**

This course introduces students to working in three dimensions. Students will become acquainted with a variety of tools and techniques, such as stone and wood carving, metals and glass, or found objects. Emphasis will be placed on the process of creating work, making mistakes, and learning from those mistakes. Students will be asked to reflect on their process through writing and discussion, as well as engage in peer-reviews and critiques. In addition, at least one artwork from each student will be included in an end of the year school-wide exhibition. *One trimester.*
3D and Sculpture II (.67 Credit) Trimesters 2 and 3

Prerequisite: 3D and Sculpture I, comparable experience, or permission of instructor with portfolio review. This course is a continuation of 3D and Sculpture I. Students will focus on improving their technical skills with sculptural materials, and will have more freedom in developing their own ideas for projects. Emphasis will continue to be placed on learning from the process of creating, as well as talking and writing about their own artwork and the work of others. At least one piece from each student will be included in a culminating school-wide exhibition at the end of the year. Two trimesters.

Advanced Art (1 Credit)

Prerequisite: Two (2) Visual Arts credits, comparable experience, or instructor approval with portfolio review. Advanced Studio Art offers an alternative to the AP program and allows students to continue their study without submitting a portfolio to the College Board. Students will design their own projects based on a cohesive theme of their choice, with a focus on skills they would like to learn or further develop. Juniors may also choose to take this course on their way to AP if they are seeking an additional year of advanced study before submitting an AP portfolio. All students will curate their work for inclusion in a culminating school-wide exhibition in the Spring. Full year.

AP Art and Design (1 Credit)

Prerequisite: Three (3) Visual Arts credits, comparable experience, or instructor approval with portfolio review. Advanced Placement Art and Design is available for juniors and seniors with a serious interest in Drawing, 2D Art and Design, or 3D Art. This is a college level course for which students can gain college credit. Students in this course must be self-motivated, commit significant time outside of class to complete projects, and have advanced skills in the medium of their choice to work independently. Students will create a portfolio of work to demonstrate inquiry through development of materials, processes, and ideas over the course of the year. Portfolios include works of art, process documentation, and written information about the work presented. In May, students submit portfolios to the College Board for evaluation based on specific criteria, which include skillful synthesis of materials, process, and ideas and sustained investigation through practice, experimentation, and revision, guided by questions. Student work will be displayed as part of a culminating school-wide exhibition as well. (Exam course). Full year.

Studio Art (.33 Credit) Trimester 1, 2, or 3

This studio art course will introduce students to the processes, materials, and experience of drawing and painting. Students will learn principles of observational life drawing, perspective, composition, form, and color and will explore mark-making and pictorial techniques using a range of materials - pencils, ink, charcoal, pastel, collage, and acrylic paint. In class, students will work from life and observation in a number of formats - interiors and still life, portraiture, figure drawing, landscape - as well as create more open ended color studies, free studies, and abstractions. For their final project, students will create their own independent body of artwork. One trimester.

Ceramics I (.33 Credit)

Students will explore the many uses of clay, from simple handmade forms of early cultures to the extremely varied application of clay in today’s modern society. Teacher demonstrations will be provided showing a variety of ceramic hand building techniques. Focus will be on the hand building techniques: pinch, coil, and slabs. Throwing on the wheel will be introduced on a limited basis. A variety of glazing techniques will be shown. Students will be asked to keep a sketchbook/notebook/log in order to record: ideas, techniques, glaze combinations, etc. Students will be responsible for completing various studio management chores. One trimester.

Ceramics II (.67 Credit)

Prerequisite: Ceramics I or instructor’s permission. This class is designed for students to expand
their basic knowledge and skills in hand building and wheel thrown ceramics. More emphasis will be placed on the craftsmanship and quality of the finished product. Students will learn how a kiln is stacked and fired. This course will offer students further development in the elements and principles of design, knowledge of artists, and art heritage. Emphasis will be placed on the design elements; line, shape, texture, and color. Students will be asked to keep a sketchbook /notebook/log in order to record: ideas, techniques, glaze combinations, etc. Slip/glaze applications include dip, pour, trail, and spray. Glaze firing will include high-fire gas reduction, low-fire electric oxidation, and Raku. Students will be asked to keep a sketchbook/notebook/log in order to record: ideas, techniques, glaze combinations, etc. Students will be responsible for completing various studio management chores. 

Two trimesters.

Ceramics III (Pottery Wheel) (1 Credit)

Prerequisite: Ceramics II (Fundamentals) or instructor’s permission. Students will develop the needed skills to experiment with functional and nonfunctional formats on the potter’s wheel. More emphasis will be placed on the form and function of the finished work. Students will create composite pieces such as tea pots. They will also be asked to throw vessels on the wheel and then alter them off the wheel. Slip/glaze applications include dip, pour, trail, and spray. Glaze firing will include high-fire gas reduction, low-fire electric oxidation, and Raku. Students will be asked to keep a sketchbook/notebook/log in order to record ideas: techniques, glaze combinations, etc. Students will be responsible for completing various studio management chores. Full year.

Ceramics III (Hand Building) (1 Credit)

Prerequisite: Ceramics II (Fundamentals) or instructor’s permission. The exploration and instruction to develop technical, aesthetic, and necessary skills in the ceramic hand building processes will be taught. Projects are geared toward using clay as a versatile material for all types of object making. Students investigate historical and contemporary artists and techniques. Various tools include the clay extruder, plaster molds, heat guns, and sand blaster. Slip/glaze applications include dip, pour, trail, and spray. Glaze firing will include high-fire gas reduction, low-fire electric oxidation, and Raku. Students will be asked to keep a sketchbook/notebook/log in order to record: ideas, techniques, glaze combinations, etc. Students will be responsible for completing various studio management chores. Full year.

Raku (1 Credit)

Prerequisite: Ceramics IV (Advanced) or instructor’s permission. Students will create wheel thrown and hand-built ceramic forms through their learned ceramic techniques. This course encourages the discovery and development of personal art
pieces utilizing the Raku process. Raku usually involves removing pottery from the kiln while at bright red heat and placing it into containers with combustible materials. Once the materials ignite, the containers are closed. This produces an intense reduction atmosphere which influences the colors in glazes and clay bodies. The drastic thermal shock also produces cracking (known as crackling since it is deliberate). The original Japanese style of raku is an outgrowth from Buddhist influences in life and especially in the tea ceremony. Our firings will take place in the secret garden during the fall and spring. This course will nurture the development of a coherent body of work based on sophisticated techniques and a maturing sense of aesthetic direction. Students will be encouraged to explore glazing and decoration techniques in depth. Students will be responsible for completing various studio management chores. Raku ceramic students must be self-motivated and quality conscious individuals. It is also designed for those accomplished students who plan to build an art portfolio for college/university submission, and will conclude with a formal exhibition of student work hosted by a professional art gallery. Full year.

Yearbook I (1 Credit)
Students in grades 9-12 have the option of taking Yearbook as an English or an Arts Elective. Yearbook is a year-long course open to students in Grades 9-12. The yearbook class focuses on elements such as journalism, photojournalism, caption writing, and design. Students work in collaboration with one another to create individual yearbook pages; to write in a creative and journalistic style; to conduct faculty and student interviews for the purpose of writing articles for the yearbook; to take dynamic, eye-catching photographs and to choose and crop the appropriate photographs to tell a story; to write captions in a journalistic style; to design layouts for the entire book; and to work with a large group of people to achieve a common goal. The class will focus on the importance of clear writing, time management, collaboration, personal responsibility and initiative, and attention to detail throughout the creative process. Full year.

Yearbook II (1 Credit)
Prerequisite: Yearbook I. Students in grades 9-12 have the option of taking Yearbook as an English or an Arts Elective. Yearbook II, a year-long course open to students in Grades 10-12, is a continuation of Yearbook I. It is a collaborative course focusing on elements such as journalism, photojournalism, caption writing, and design culminating in the creation of individual yearbook pages. The class will focus on the importance of clear writing, time management, collaboration, personal responsibility and initiative, and attention to detail throughout the creative process. Full year.

Yearbook III (1 Credit)
Prerequisite: Yearbook II. Students in grades 9-12 have the option of taking Yearbook as an English or an Arts Elective. Yearbook III, a year-long course open to students in Grades 11-12, is a continuation of Yearbook II. It is a collaborative course focusing on elements such as journalism, photojournalism, caption writing, and design culminating in the creation of individual yearbook pages. The class will focus on the importance of clear writing, time management, collaboration, personal responsibility and initiative, and attention to detail throughout the creative process. Full year.

Yearbook IV (1 Credit)
Prerequisite: Yearbook III. Students in grades 9-12 have the option of taking Yearbook as an English or an Arts Elective. Yearbook IV, a year-long course open to students in Grade 12, is a continuation of Yearbook III. It is a collaborative course focusing on elements such as journalism, photojournalism, caption writing, and design culminating in the creation of individual yearbook pages. The class will focus on the importance of clear writing, time management, collaboration, personal responsibility and initiative, and attention to detail throughout the creative process. Full year.
Art History I: The Ancient World (.33 Credit) Trimester 1

Spanning roughly 5,000 years, art has an almost singular capacity to inspire, uplift, and bring to life the story of civilization. This introductory survey course will cover the first roughly 3,500 years of art history from prehistory to the fall of Rome. Students will develop a sense of art’s origins and historical timeline and begin to learn how to identify, understand, and determine the significance of artworks throughout history. Students will learn about key figures, concepts, and techniques so that they can experience the joy of studying art and better understand history, the humanities and the world around them. The class will be a vehicle for students’ intellectual curiosity, critical thinking, and interdisciplinary skills. In addition to group discussions of reading assignments and artworks, coursework will incorporate creative writing and artmaking projects related to the course content and museum trips to the Carnegie Museum of Art. One trimester.

Art History II: Medieval Art and Architecture (.33 Credit) Trimester 2

This course will cover the art and architecture of the Middle Ages. The story of the Middle Ages is fascinating in no small part because of the fact that it is actually two stories - one that takes place in the eastern Byzantine empire and one that takes place in the western Roman empire. In the east, the story of the Byzantine empire, from its inception to the fall of Constantinople, is contained almost entirely within the timeline of the Middle Ages. In the west, the Middle Ages witnessed the birth of modern Europe after the fall of Rome. The rich traditions of icon painting, illuminated manuscripts, and Romanesque and Gothic cathedral architecture are all legacies of the medieval era. Students will develop a sense of modern art’s historical timeline and will learn about key figures, concepts, and techniques. The class will introduce students to the joy of studying art and will be a vehicle for students’ intellectual curiosity, critical thinking, and interdisciplinary skills. In addition to group discussions of reading assignments and artworks, coursework will incorporate creative writing and artmaking projects related to the course content, conversations with professional artists and curators (virtual and in-person), and museum trips to the Carnegie Museum of Art and the Warhol Museum. One trimester.

Art History III: The Modern Era (.33 Credit) Trimester 3

While sculpture and architecture were the predominant art forms of the ancient and medieval worlds, painting has flourished in the modern era. A brief experiment: think of the name of an artist, any artist. Do you have a name in mind? I bet the artist you are thinking of was a painter. I also bet that the painter was born during or after the 16th century. The past 500 years have witnessed as much, if not more, artistic production than the first roughly 4,500 years of recorded human history combined. This course charts the rise of the modern era in art, with a specific, though not exclusive, focus on the primacy of painting and the pictorial arts, from their earliest glimmers during the early Renaissance to the present. Students will develop a sense of modern art’s historical timeline and will learn about key figures, concepts, and techniques. The class will introduce students to the joy of studying art and will be a vehicle for students’ intellectual curiosity, critical thinking, and interdisciplinary skills. In addition to group discussions of reading assignments and artworks, coursework will incorporate creative writing and artmaking projects related to the course content, and museum trips to the Carnegie Museum of Art. One trimester.

20th Century Art History (1 Credit)

So often modern art confounds our assumptions and expectations. How are we to make sense of Picasso’s cubist experiments, Duchamp’s readymades, Pollock’s drip paintings, or Warhol’s Campbell’s soup cans to name a few of the 20th century’s more famous examples? This course will examine how established notions of art, which had remained more or less stable for many millennia, fractured into many different directions, styles,
functions, mediums, and viewpoints during the 20th century. This course will draw from a range of modern literary, philosophical and art historical sources to contextualize the richly varied landscape of 20th century art. Students will be introduced to conflicting viewpoints and will develop critical thinking and interdisciplinary skills. In addition to group discussions of reading assignments and artworks. Coursework will incorporate conversations with professional artists and curators (virtual and in-person), museum trips to the Carnegie Museum of Art and the Warhol Museum, and, if possible, a weekend trip to New York City to visit museums and galleries. Full year.

II. Performing Arts

Theater and Dance Courses

Introduction to Acting (.33 Credit) Trimester 1
This is an introduction to stage acting. This course is designed to free the beginning actor from tension and self-consciousness by becoming involved in exercises designed to develop concentration and imagination as well as interpersonal communication skills appropriate for stage performance. Course provides a basic orientation to the dynamics of acting within a supportive studio environment. One trimester.

Advanced Acting (.33 Credit) Trimester 2
This course is designed for the advanced actor, and presents an opportunity for students with an interest in theater to further develop fundamental skills and techniques. The course will cover various warm-ups and improvisational exercises, as well as monologues and scene work. Each student will establish their individual course objective at the beginning of the trimester and will work with the instructor throughout the course to achieve it. One trimester.

Directing and Design (.33 Credit) Trimester 2
This course will introduce students to the process of theatrical directing and design. Students will learn how to prepare for directing a theatrical production by studying dramaturgy and various directing techniques. Additionally, they will work collaboratively to create scenic, costume, lighting, and audio designs to support a play, musical or other theatrical production. Students are encouraged to direct a spring one-act play to demonstrate the knowledge acquired throughout the course. One trimester.

Introduction to Technical Theater (.33 Credit) Trimester 1 or 3
Introduces students to the fundamental skills of working behind the scenes in live theater. Students will learn basics in technical fields such as lighting, rigging, carpentry, props, and stage management. With a focus toward hands-on projects, classes will gain experience with real tools and technology, and learn the skills necessary to serve as essential members for the backstage crew. Class culminates in students’ participation as stage crew for a school production for their final project. One trimester.

Advanced Technical Theater I (.33 Credit) Trimester 2
Prerequisite: Introduction to Technical Theater. Building from fundamental skills learned in Intro Tech, students will delve more deeply into the design, creation, and implementation of technical elements of performance. A focus on design, fabrication, or stage management is possible, and each student’s coursework will be tailored to meet their specific interests, while still rounding out their knowledge in other aspects of Technical Theater. Classes will work collaboratively and individually toward a final project that will utilize all of their skills, either serving as a key member of the design/production team for a school show, or producing an individual final project. One trimester.
Advanced Technical Theater II
(.33 Credit) Trimester 2

Prerequisite: Advanced Tech Theater I. Building on previous skills, students will delve more deeply into the design, creation, and implementation of technical elements of performance. A focus on design, fabrication, or stage management is possible, and each student’s coursework will be tailored to meet their specific interests, while still rounding out their knowledge in other aspects of Technical Theater. Classes will work collaboratively and individually toward a final project that will utilize all of their skills, either serving as a key member of the design/production team for a school show, or producing an individual final project. One trimester.

Introduction to Dance
(.33 Credit) Trimester 1 or 3

Introduction to Dance is open to experienced dancers, as well as curious beginners, and introduces students to fundamental movement skills and techniques. Students will learn how to properly warm up the body for movement and develop the skills and confidence necessary for future classes in dance and theatre arts. With a focus on developing body and spatial awareness, the course will cover various genres of dance to meet the needs of the students enrolled in the course. Each student will establish their individual course objective at the beginning of the trimester and will work with the instructor throughout the course to achieve it. One trimester. Can fulfill an Art OR PE requirement.

Advanced Technical Theater III
(.33 Credit) Trimester 2

Prerequisite: Advanced Tech Theater II. Building on previous skills, students will delve more deeply into the design, creation, and implementation of technical elements of performance. A focus on design, fabrication, or stage management is possible, and each student’s coursework will be tailored to meet their specific interests, while still rounding out their knowledge in other aspects of Technical Theater. Classes will work collaboratively and individually toward a final project that will utilize all of their skills, either serving as a key member of the design/production team for a school show, or producing an individual final project. One trimester.

Dance I (.33 Credit) Trimester 1 or 3

Prerequisite: Introduction to Dance. Building on fundamental skills learned in Intro to Dance, students will delve more deeply into their individualized dance practice. With continued focus on body and spatial awareness, students will explore new ways to move through various dance genres and choreography. Students will continue to grow their movement technique, as well as build their strength, stamina, and flexibility. One trimester. Can fulfill an Art OR PE requirement.

Advanced Technical Theater IV
(.33 Credit) Trimester 3

Prerequisite: Advanced Tech Theater III. Building on previous skills, students will delve more deeply into the design, creation, and implementation of technical elements of performance. A focus on design, fabrication, or stage management is possible, and each student’s coursework will be tailored to meet their specific interests, while still rounding out their knowledge in other aspects of Technical Theater. Classes will work collaboratively and individually toward a final project that will utilize all of their skills, either serving as a key member of the design/production team for a school show, or producing an individual final project. One trimester.

Dance II (.33 Credit) Trimester 1 or 3

Prerequisite: Dance I. Building on previous skills, students will continue working towards their individualized movement goals through a focused warm up, technical combinations, and choreographic exploration. Students will gain a strong knowledge of how to properly prepare the body for movement and will begin to develop a deeper awareness of body connectivity. Students will continue to grow their movement technique, as well as build their strength, stamina, and flexibility. One trimester. Can fulfill an Art OR PE requirement.
**Dance III (.33 Credit) Trimester 1 or 3**

*Prerequisite: Dance II.* Building on previous skills, students will continue working towards their individualized movement goals through a focused warm up, technical combinations, and choreographic exploration. Students will have a strong knowledge of how to properly prepare the body for movement and will begin to develop an understanding of movement quality and artistry. Students will continue to grow their movement technique, strength, stamina, and flexibility. *One trimester. Can fulfill an Art OR PE requirement.*

**Dance IV (.33 Credit) Trimester 1 or 3**

*Prerequisite: Dance III.* Building on previous skills, students will continue working towards their individualized movement goals through a focused warm up, technical combinations, and choreographic exploration. With a focus on developing movement artistry, students at this level will grow their understanding of musicality and develop the skills and confidence to make their own artistic movement choices. *One trimester. Can fulfill an Art OR PE requirement.*

**Musical Theater Repertoire (.33 Credit) Trimester 1**

This course focuses on the research and creation of a musical theater repertoire collection for students to access for auditions or other performance opportunities. Students will build their audition book throughout the trimester with appropriate songs in their vocal range from various musical theater genres. Instructors will then guide the students through the learning process of how to prepare for an audition. The course will conclude with a “mock” audition to assess the student’s overall knowledge and preparedness. There is no outside performance associated with this course. *One trimester.*

**Senior School Musical Lab (.33 Credit) Trimester 2**

*No prerequisite, although student is encouraged to begin with Intro to Dance, as well as participate in the Senior School Musical.* This is an introductory dance and movement course suitable for ambitious students who have minimal prior dance training, but who would like to learn the fundamentals of dancing and movement. The course will serve as a lab for experimenting and devising choreography for the SS Musical. Aided by the instructor, students will work collaboratively to create various dance and movement elements for the production, and opportunities for both dance captains and assistant choreographers are available. *One trimester. Can fulfill an Art OR PE requirement.*

**Musical Theater Workshop (.33 Credit) Trimester 3**

*Prerequisite: Introduction to Dance or other SS level dance or theater course.* Students will hone their musical theater knowledge and skills through extensive vocal and physical work. They will research and rehearse routines from classic and contemporary musical theater as well as create their own unique pieces. There will be an optional opportunity for students to showcase their trimester-long studies in the Senior School Spring Performance. *One trimester. Can fulfill an Art OR PE requirement.*

**Stage Combat (.33 Credit) Trimester 3**

This course will introduce students to the basics of safety and partnering techniques in unarmed, knife, broadsword, quarterstaff, and single sword combat for the stage. Students must work diligently to create a safe environment while portraying a character in a fight performance. Students will demonstrate these partnering skills in a final class performance. *One trimester. Can fulfill an Art OR PE requirement.*

**Music Ensembles and Courses**

**Concert Band (1 Credit)**

*Prerequisite: Three to four years playing experience.* This ensemble is designed for those students who have acquired a comfortable proficiency on their instruments and wish to continue performing with a large group. A variety of repertoire is explored, including classical, modern, pop,
jazz, and traditional marches. Students will also develop musicianship techniques. Serious students are encouraged to audition for PMEA District I Honors Band, Regional, and State Band. The Concert Band performs winter and spring concerts, school functions, area band festivals, and may occasionally combine with the Orchestra or Chorus for joint performances. Full year.

**Jazz Ensemble (.25 Credit)**

**Prerequisite:** Audition and current membership in the Concert Band, with the exception of guitars and piano. Instrumentation will be determined by the instructor; acceptance is not guaranteed. This ensemble will meet once per week to pursue the study and performance of Twentieth Century repertoire, including jazz standards, swing, big band, blues, Latin, popular, and rock music styles. Students will also develop improvisational skills. The Jazz Ensemble will perform at the winter and spring concerts, and other school functions as needed. Full year.

**Orchestra (1 Credit)**

**Prerequisite:** Three to four years playing experience. This ensemble is a performing group that explores the major works of the classical, baroque, romantic, and contemporary periods in music. Students will also develop musicianship techniques. Serious students are encouraged to audition for PMEA District I Honors Orchestra, Regional, and State Orchestra. The Orchestra performs winter and spring concerts, at school functions, area orchestra festivals, and may occasionally combine with the Concert Band or Chorus for joint performances. Full year.

**Chorus/Bell Choir (1 Credit, .67 Credit or .33 Credit)**

Chorus/Bell Choir is open to any Senior School student who enjoys making communal music. Students will expand musicianship skills, develop their vocal technique, and explore a broad spectrum of choral literature and musical styles. This ensemble will participate in various performances throughout the academic year including, but not necessarily limited to, the winter and spring concerts, school functions, and area festivals. The Chorus/Bell Choir may occasionally join with the Senior School Band and/or Orchestra as well as choral ensembles from both the Middle and Lower Schools. Full year (Students with specific academic conflicts may join this class in later trimesters, for partial credit, provided that they remain in this class until the end of the academic year.) Full year, one or two trimesters.

**Chamber Singers (.25 Credit)**

**Prerequisite:** Audition and prior choral experience; concurrent enrollment in the Senior School Chorus. Chamber Singers is an auditioned ensemble of Senior School Chorus students. Repertoire includes advanced choral literature including music in various languages. Advanced choral ensemble skills are developed and honed, and a high degree of responsibility is expected in terms of learning and memorizing repertoire, commitment to the success of the ensemble, and availability for a rigorous rehearsal and performance schedule in the ensemble’s role as musical ambassadors of Sewickley Academy. This ensemble will participate in various performances throughout the academic year including, but not necessarily limited to the winter and spring concerts, school functions, and other local venues. The Chamber Singers may occasionally join with the Senior School Band and/or Orchestra as well as choral ensembles from both the Middle and Lower Schools, and they are expected to learn all Senior School Chorus repertoire in addition to selections exclusive to the Chamber Singers. Full year.

**Music Theory I (.33 Credit) Trimester 2**

This course is appropriate for experienced musicians as well as curious beginners. This course will teach students the basic skills of music notation, theory, and rhythm for the purpose of preparing the student for creative music composition, specifically the subsequently available course: Artistic and Popular Songwriting. One trimester.

**Artistic and Popular Songwriting (.33 Credit) Trimester 3**

**Prerequisites:** Music Theory with a “C” grade or higher. This class is intended to further the student’s critical
observation of essential elements in songwriting as well as to comprehend these principles as to apply them creatively. Students will study and create simple songs with melody and harmony, develop more advanced songs utilizing an array of musical forms, and create original lyrics appropriate to various styles and genres of songwriting. One trimester.

Music History, Part I
(.33 Credit) Trimester 1
This course is appropriate for experienced musicians as well as curious beginners. This course will investigate the role of music in Western culture, particularly in the eras of Antiquity, Medieval, Renaissance, and Early Baroque. Emphasis will primarily be the impact of historical events and cultural developments on music’s evolution and vice versa as opposed to mere memorization of names, dates, biographical information, etc. One trimester.

Music History, Part II
(.33 Credit) Trimester 2
This course is appropriate for experienced musicians as well as curious beginners. This course will investigate the role of music in Western culture, particularly in the eras of Baroque, Classical, Romantic, and Early Modern. Emphasis will primarily be the impact of historical events and cultural developments on music’s evolution and vice versa as opposed to mere memorization of names, dates, biographical information, etc. One trimester.

Music History, Part III
(.33 Credit) Trimester 3
This course is appropriate for experienced musicians as well as curious beginners. This course will investigate the role of music in Western culture, particularly in the Modern Era and 20th and 21st Century popular music. Emphasis will primarily be the impact of historical events and cultural developments on music’s evolution and vice versa as opposed to mere memorization of names, dates, biographical information, etc. One trimester.

Music History, Part IV
(.33 Credit) Trimester 1
Prerequisites: Music History, Part I. This course is intended for students who have already participated in Music History, Part I and wish to further their knowledge and experience with more personal and in-depth study and analysis of the course content. This course will investigate the role of music in Western culture, particularly in the eras of Antiquity, Medieval, Renaissance, and Early Baroque. Emphasis will primarily be the impact of historical events and cultural developments on music’s evolution and vice versa as opposed to mere memorization of names, dates, biographical information, etc. One trimester.

Music History, Part V
(.33 Credit) Trimester 2
Prerequisites: Music History, Part II. This course is intended for students who have already participated in Music History, Part II and wish to further their knowledge and experience with more personal and in-depth study and analysis of the course content. This course will investigate the role of music in Western culture, particularly in the eras of Baroque, Classical, Romantic, and Early Modern. Emphasis will primarily be the impact of historical events and cultural developments on music’s evolution and vice versa as opposed to mere memorization of names, dates, biographical information, etc. One trimester.

Music History, Part VI
(.33 Credit) 3rd Trimester
Prerequisites: Music History, Part III. This course is intended for students who have already participated in Music History, Part III and wish to further their knowledge and experience with more personal and in-depth study and analysis of the course content. This course will investigate the role of music in Western culture, particularly in the Modern Era and 20th and 21st Century popular music. Emphasis will primarily be the impact of historical events and cultural developments on music’s evolution and vice versa as opposed to mere memorization of names, dates, biographical information, etc. One trimester.
HEALTH

The Sewickley Academy health program is designed to build a foundation for students to embody a healthy physical, mental, social, and emotional lifestyle.

Students who enter the Senior School in Grade 9 and 10 are required to take three health elective courses to graduate. Students who enter in Grade 11 are required to take two health electives to graduate. Students who enter in Grade 12 will be required to take one health elective to graduate. Health electives have been split into two categories: Health Literacy and Physical Literacy. Students will be expected to select, at minimum, one elective per category. Classes will be offered in a two year rotation, outlined in the course sequence provided. One full credit will be required for graduation.

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### Year 1: 2022-2023

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### Year 2: 2023-2024

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### Health Literacy Courses

#### Health 100: Foundations of a Healthy Lifestyle (.33 Credit) Trimester 1 or 2

What exactly does a healthy lifestyle entail? We tend to have a preconceived notion regarding what is healthy and what is unhealthy. The choices we make, the habits we choose to develop or not develop, will all play a role in how our bodies operate and what quality of life we have. Foundations of a healthy lifestyle is a course that looks to answer these fundamental questions. Awareness and understanding drives change in ourselves and our communities. Foundations of a healthy lifestyle will focus on the major topics surrounding physical health, sleep hygiene, fueling and hydrating our bodies, along with how to leverage stress.

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#### Personal Wellness (.33 Credit) Trimester 2

This is a comprehensive course that provides students with essential knowledge and decision-making skills. Students will be introduced to aspects of physical health, mental health, and social/emotional health. They will then use these principles to apply to their own life and help develop health and wellness practices.

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#### 21st Century Life Skills (.33 Credit) Trimester 3

When you think about life skills it is typically suggested that these are the skills necessary to make the most out of life. Throughout this course you will discuss skills for staying healthy, cooking, home repairs, money management, basic technical skills, and self-awareness skills.
Health Leadership (.33 Credit)
_Not offered in 2022-2023._ Have you ever thought about having a career in the health field? If so, this course might be for you. During this course students will spend half the trimester creating a health curriculum for a specific lower school grade. Students will be creating curriculum that is important to them while still keeping in mind the National Health Standards. The second half of the trimester will be used to apply and teach their curriculum to a Lower School classroom. Students should possess a willingness to learn and lead a variety of activities.

Social Media and Health (.33 Credit)
_Not offered in 2022-2023._ How are social media, body image, self-esteem and mental health connected? This Health class will take a closer look at the impact of social media on our body image, self-esteem and overall mental health. Through discussion and research, we will seek to make connections between what we see on the screen, how we process it, and in turn how we feel about ourselves. Our end of trimester project will focus on the creation of a campaign for healthy body image and positive self-esteem for our school community. All are welcome to join this class.

Physical Literacy Courses

First Aid and CPR (.33 Credit) Trimester 1
Everyone should feel comfortable and prepared when an emergency situation occurs whether you are hanging out with friends, attending an event, or driving to a movie. When you take this course, you will learn the techniques and strategies to handle all types of situations you come across, such as, but not limited to, car accidents, broken bones, choking, bleeding, seizures, and CPR. By the end of this course, you will be certified in both First Aid and CPR plus feel like you have the necessary tools to become a first aider.

Health 200 - Exercise Science Lab (.33 Credit) Trimester 3
Prerequisite: Health 100. Exercise science lab is an applied knowledge and understanding course. Students will learn the mechanisms behind our physiology and how we move. More importantly, students will have a hands-on approach to applying what they learn in class to the real world. Students can expect to learn about a wide range of topics that include: the brain-body connection, applied physiology and biomechanics, foundational movement patterns, training methodology, and incorporating technology into fitness.

Nutrition (.33 Credit)
_Not offered in 2022-2023._ This course develops a comprehensive study of nutritional principles and guidelines. Students will learn about worldwide views of nutrition, nutrient requirements, physiological processes, food labeling, healthy management, dietary diseases, nutrition for different populations, and more. Students will gain important knowledge and skills to aid them in attaining and maintaining a healthy and nutritious lifestyle.

Focus on Fitness (.33 Credit)
_Not offered in 2022-2023._ This course is designed for the student who not only wants to engage in fitness classes but also learn about why fitness is important in overall health and wellness. During this course, students can expect to be challenged on varying aspects of fitness using the specific activities of each unit to enrich the targeted fitness areas. Students will be exposed to a plethora of methods to advance their personal fitness, developing flexibility, muscular fitness, and cardio-respiratory endurance using advanced training methods.
The Sewickley Academy Physical Education Department promotes healthy lifestyles in young people, taking into account the physical, social, emotional, and mental development of students. Physical Education at Sewickley Academy strives to instill a foundation of skills, experiences and knowledge that will lead students to value lifetime fitness. The Physical Education program at Sewickley Academy is a developmentally appropriate, comprehensive, and sequential program, Grades PreK through 12.

Required for Graduation
Please note that seniors must participate in one of the courses listed below for at least two of the three trimesters. All other students must participate in all three trimesters each year to meet the Sewickley Academy graduation requirement for Physical Education.

Course Options:

1. After-School Physical Education: Students may sign up for one of the three after-school Physical Education courses: Strength Training, Advanced Strength Training, or Body Pump. Each course meets 2 days per week from 3:30-4:15 PM in the Fitness Center or Core Room. Students participating in the after-school program must attend both sessions every week in order to meet the physical education graduation requirement.

2. Fitness Fundamentals/Fitness Fundamentals for the Performing Arts: These two courses shift from the standard teacher-driven physical education course to a student-driven course. It takes a more in-depth look at the five components of physical fitness: muscular strength, endurance, cardiovascular health, flexibility, and body composition. This course allows students to discover new interests as they experiment with a variety of exercises in a non-competitive atmosphere. By targeting different areas of fitness, students increase their understanding of health habits and practices and improve their overall fitness level.

Fitness Fundamentals for the Performing Arts will allow students to participate in the winter musical, while collectively meeting the requirement for a physical education credit. The course develops healthy habits for members of the performance while managing a rigorous schedule of classes and rehearsals.

Students will not have a specific block in their schedule. The instructor will identify fitness goals, discuss the unit’s focus, evaluate their progress, and modify the fitness program when appropriate. In order to move from one level of Fitness Fundamentals to the next trimester level of the course, instructor approval is needed.

3. Athletic Teams: Students who are participating in a Sewickley Academy athletic team meet their Physical Education requirement during that season/trimester. Sewickley Academy offers the following sports:

   Fall – soccer, cross country, golf, girls’ tennis, field hockey, ice hockey
   Winter – basketball, ice hockey, squash, swimming/diving, cheerleading
   Spring – softball, baseball, lacrosse, track & field, boys’ tennis

4. Dance/Stage Classes:
   First & Third Trimesters:
   • Introduction to Dance (PE0904)
   • Dance I (PE0917)
   • Dance II (PE0918)
   • Dance III (PE0919)
   • Dance IV (PE0920)

   Only 2nd Trimester:
   • Senior School Musical Lab
   • Fitness Fundamentals for the Performing Arts

   Only 3rd Trimester:
   • Musical Theater Workshop

Students that take any of these dance/stage classes will receive Physical Education credit for the trimester.
College Seminar for Juniors -
Trimesters 2 and 3

This is a required seminar which meets during the second and third trimesters of Grade 11. The course is designed to introduce juniors to the college search and selection process and will address topics such as: how to research colleges, standardized testing, admission interviews, creating a résumé, writing the college essay, the college application process, and financing a college education. Students will complete the Common Application and will also complete the YouScience program in Scoir to clarify their learning style, academic, and career interests. Two trimesters.

College Seminar for Seniors -
Trimester 1

This is a required seminar which meets during the first trimester of Grade 12. The course is designed to expand upon some of the topics covered in the Grade 11 College Seminar. The application process will be the focus of the class, with time dedicated to working on essays and other applications. One trimester.

Independent Study Option

Independent Study is open to students who have exhausted the sequence of a particular curriculum. A student who wishes to be considered for independent study must submit a description in writing of his or her area of interest, list the objectives of the project, and present a broad outline and syllabus demonstrating how these objectives might be met to the department chair. If the project is approved, a faculty mentor is assigned who will help the student formulate a project of satisfactory academic quality. Supervision by the faculty mentor continues throughout the duration of the project. A final evaluation is made by the faculty mentor and appears on the student’s transcript. Application for an Independent Study must be presented to the Registrar.

Sewickley Academy is a proud member of the Global Online Academy (GOA) consortium of schools.

The mission of Global Online Academy is to reimagine learning to enable students to thrive in a globally networked society. GOA provides a positive, interactive, and academically rigorous environment for students to learn. In alignment with Sewickley Academy’s own mission, GOA offers courses that connect students to topics they care about and offers a network that connects students to peers as passionate as they are.

As GOA learners, students develop six core competencies in practical, hands-on ways, no matter which GOA course they take:

- Collaborate with people who don’t share their location.
- Communicate and empathize with people who have perspectives different from their own.
- Curate and create content relevant to real-world issues.
- Reflect on and take responsibility for their learning and that of others.
- Organize their time and tasks to learn independently.
- Leverage digital tools to support and show their learning.

To build these skills, GOA courses are:

Globally connected: Even though GOA courses are online, students get to know their teachers and classmates by learning how to use technology to build relationships. These small classes have students from many different schools led by expert
teachers. Students log in multiple times a week to engage in discussions, collaborate on projects, and share ideas.

**Challenging:** GOA courses are designed to be as rigorous as any course at schools such as Sewickley Academy. During the academic year, students spend 5-7 hours a week on their courses. GOA courses are mostly asynchronous: students do not show up on certain days at certain times. Instead, teachers publish a calendar of activities, and within that framework, students work on their own schedules, gaining critical independent learning skills along the way.

**Relevant:** GOA encourages students to pursue their passions. Its courses offer practical, hands-on experience in how these ideas can be applied to the world outside of school. Students have a voice and choice in the work they do and the ideas they explore.

***** Students interested in adding a Global Online Academy course to their schedule should explore the GOA offerings and make an appointment to meet with our GOA Site Director, Mrs. Paula Plaza-Ponte (pplazaponte@sewickley.org).*****

During the 2022-2023 school year, Sewickley Academy will be able to provide access to GOA courses to twenty students (up to 10 students per semester). Priority will be given to students who have declared their intention to pursue a Global Studies Certificate. Our goal is to provide all Global Studies students with at least one opportunity to take a GOA course before graduation and may need to prioritize students based on their grade level to achieve that objective.

GOA courses taken during the school year will appear on student transcripts and earn grades that are factored into the students GPA. More specifically:

- GOA courses may be completed for elective credits only.
- Global Studies Certificate students may earn 60 points for courses that are approved for Global Issues Study.
- GOA courses fulfill course load requirements for two trimesters.
- GOA courses earn .5 credit on the transcript.
- GOA courses may not take the place of any course offered at SA or fulfill departmental graduation requirements.

Please note: GOA offers seven-week summer courses that are available to SA students. These courses may be taken for enrichment purposes. They will not be included on transcripts and tuition is the responsibility of the enrolled student’s family. Like other summer enrichment opportunities, students should consider the opportunity based on authentic interest and consider the ways the summer work will enhance their personal resume that may or may not be reflected in their college applications.