

Gould

**Catalog of Academic Offerings
2020-2021**

Table of Contents

Graduation Requirements

English

[World Literature](#)
[World Literature Embedded Honors](#)
[European Literature](#)
[European Literature Honors Designation](#)
[American Literature](#)
[American Literature Honors Designation](#)
[AP English Language and Composition](#)
[AP English Literature and Composition](#)
[English Elective Offerings](#)
[English Electives Honors Designation](#)
[Creative Writing](#)
[Gothic Literature](#)
[Literature of Ethnicity and Power](#)
[Culture and Identity: Crossing Borders](#)
[Imaginary Lands](#)
[Wilderness Writing and Philosophy](#)
[Journalism](#)
[Banned Books and Films](#)
[Literature of Adventure and Exploration](#)
[Literature as Social Commentary](#)

History

[Human Geography](#)
[Human Geography Honors Designation](#)
[The West and the World](#)
[The West and the World Honors Designation](#)
[United States History](#)
[AP United States History](#)
[AP Government and Politics: Comparative](#)
[History of Indigenous Peoples of America](#)
[Critical Readings on Genocide](#)
[Eastern Philosophy](#)
[Maine History](#)
[History of the Vietnam War](#)
[Research Methods: Global Migrations](#)
[Baseball and American Culture](#)

Mathematics

[Algebra 1](#)

[Geometry](#)

[Algebra 2](#)

[Honors Algebra 2](#)

[Precalculus](#)

[Honors Precalculus](#)

[Calculus](#)

[AP Calculus](#)

[AP Statistics](#)

[Advanced Topics in Mathematics: Linear Algebra \(fall\)](#)

[Advanced Topics in Mathematics: Abstract Algebra \(winter\)](#)

[Advanced Topics in Mathematics: Advanced Geometry \(spring\)](#)

[Advanced Topics in Mathematics: BC Calculus \(fall\)](#)

[Mathematics of Financial Matters \(Fall, Winter, and Spring\)](#)

Science

[Research Methods in Science](#)

[Conceptual Physics](#)

[Chemistry](#)

[Honors Chemistry](#)

[Biology](#)

[Physics](#)

[AP Physics: Electricity and Magnetism](#)

[AP Biology](#)

[AP Chemistry](#)

[Environmental Science \(Fall, Winter, and Spring\)](#)

[Marine Science – Explorations of the Gulf of Maine \(Fall\)](#)

[Astronomy \(Fall, Winter and Spring\)](#)

[Anatomy & Physiology \(Spring\)](#)

[Ecology of the Androscoggin River \(Fall\)](#)

World Language

[Mandarin 1](#)

[Mandarin 2](#)

[Mandarin 3](#)

[Mandarin 4](#)

[Mandarin 5](#)

[French 1](#)

[French 2](#)

[French 3](#)

[French 4](#)

[French 5](#)

[Spanish 1](#)

[Spanish 2](#)

[Spanish 3](#)

Gould

[Spanish 4](#)

[Honors Spanish 4: Literature of Spain](#)

[Spanish 5: Literature of Spain](#)

English Studies Program

[English Studies: Academic Reading and Writing 1](#)

[English Studies: Academic Reading and Writing 2](#)

[English Studies: Tutorial](#)

[TOEFL Preparation](#)

Computer Science

[Computer Science](#)

[Introduction to Computer Science \(Fall and Spring\)](#)

[Topics in Computer Science \(Winter\)](#)

IDEAS Center

[Foundations for Makers \(Fall, Winter, and Spring\)](#)

[Robotics and Engineering \(Fall\)](#)

[Robotics and Engineering 2 \(Winter\)](#)

[Underwater Robotics \(Fall and Spring\)](#)

[Custom Ski Building \(Fall\)](#)

[Arduinos and Electronics \(Spring\)](#)

[3D Design with CAD \(Fall and Spring\)](#)

Performing Arts

[Chorus](#)

[Band](#)

[Applied Music Study](#)

[Piano and Keyboard Studies \(Fall, Winter, and Spring\)](#)

[Introduction to Music \(Fall, Winter, and Spring\)](#)

[Music Technology \(Fall and Spring\)](#)

[History of Jazz: The Early Years \(Winter\)](#)

[Acting 1: Basics](#)

[Acting 2: Study](#)

[Acting 3: Craft](#)

Visual Arts

[Ceramics: Functional Form](#)

[Art Foundations \(Fall, Winter, and Spring\)](#)

[Black & White Film Photography \(Spring\)](#)

[Artist Blacksmithing: Functional Ironwork \(Fall, Winter, and Spring\)](#)

[Digital Photography 1 \(Fall and Spring\)](#)

[Digital Photography 2 \(Winter\)](#)

[Drawing 1 \(Fall, Winter, and Spring\)](#)

[Drawing 2 \(Fall, Winter, and Spring\)](#)

[Fashion Drawing \(Winter\)](#)

[Introduction to Graphic Design \(Spring\)](#)

Gould

[Metal Design 1 \(Fall and Winter\)](#)

[Metal Design 2 \(Spring\)](#)

[Painting \(Fall, Winter, and Spring\)](#)

[Painting 2 \(Fall, Winter, and Spring\)](#)

[Portfolio Development \(Fall\)](#)

[Printmaking \(Fall, Winter, and Spring\)](#)

[Academic Support](#)

[Gould Academic Skills Center](#)

[Independent Study](#)

Graduation Requirements

The Gould Academy diploma represents success in high school, in general, and in Gould Academy's program, specifically. Therefore, our academic graduation requirements include both total credits in each discipline and a minimum number of disciplinary credits, while enrolled as a student at Gould Academy, based upon the academic year of the student's enrollment.

GENERAL REQUIREMENTS

A minimum of 18 total credits at the high school level, to include the following:

English: Minimum of 4 credits of high school English.

History: Minimum of 3 credits of high school history, to include US History.

Math: Minimum of 3 credits of high school math, to include Algebra 1, Geometry, and Algebra 2, or equivalent courses.

Science: Minimum of 3 credits of high school science, to include at least 1 credit of physical science and 1 credit of life science.

World Language: Minimum of 2 credits of the same world language. Additionally, students must successfully complete level 3 (e.g. Spanish 3) of a language, if they enroll at Gould prior to 12th grade.

Arts: Minimum credits in the arts are dependent on the student's year of enrollment at Gould. Please see below for the arts graduation requirement.

MINIMUM CREDITS WHILE ENROLLED AT GOULD

Students are expected to complete the following minimum number of credits, while enrolled as a student at Gould Academy, based upon the academic year of their enrollment. Additionally, students must take at least five courses each trimester and must be continually enrolled in an English course, unless excused by the Assistant Head of School for Teaching and Learning to accommodate other pressing school commitments.

Year of Entry	English	History	Math	Science	World Language	Arts	Total
9th	4	3	3	3	2	1.33 ¹	18
10th	3	2	2	2	1	1 ¹	14
11th	2	2	2	1	1	.67	9
12th	1	1	1	1	0	.33	5

Notes:

1. **Arts:** To include a minimum of .33 credits in visual art and .33 credits in performing art. Certain IDEAS Center courses can be used to satisfy the Visual Arts requirement, as noted in their course descriptions.

English

Disciplinary Requirements: Four years of English, all students must be enrolled in an English course at all times.

YEARLONG COURSES

World Literature

9th grade requirement

Students in this course experience a shared curriculum with their Human Geography course from Gould's History department. They work to develop a geographic imagination, so the students can better understand their presence and role in the world. Students begin deliberate development of the skills they need for success in high school, and beyond: reading, listening, thinking, and then writing and speaking. Reading and annotating texts, the writing process, the Socratic discussion method, group work, project management, academic organization, and media presentation skills are built into the curriculum. The course reflects the regions studied in Human Geography and explores those regions through poetry, fiction, nonfiction, and graphic novels. Texts may include *The Translator*, *The Alchemist*, *The Boy Who Harnessed the Wind*, *The Good Braider*, *Dreaming in Chinese*, *Balzac and the Little Chinese Seamstress*, *Persepolis*, and *Real Time*.

World Literature Honors Designation

Students who are interested in further challenging themselves and earning honors credit can participate in the Honors program. Honors assignments demand a deeper academic understanding, while being a continuation of the regularly assigned work.

European Literature

10th grade requirement

Students in this course experience a shared curriculum with World History and develop an understanding of the history of western culture through literary analysis. Developing the analytical vocabulary to reason, to write about, and to discuss competently the underpinnings of western culture and society, as it is reflected in literature, is the foundation of the curriculum. Students will journey through the history of western literature by reading drama and poems from Ancient Greece, the Medieval period, the Renaissance, and the 20th Century as well as more modern genres of literature such as the novel and graphic novel. A variety of creative, analytic, and reflective assignments will assist students' development of analytical thinking skills, the writing process, academic organization, and an understanding of themselves as learners. Texts may include, *Antigone*, *The Tragical History of Doctor Faustus*, *Everyman*, *The Tempest*, *Frankenstein*, *Maus*, *The Sunflower*, and *Snow in August*.

European Literature Honors Designation

Students who are interested in further challenging themselves and earning honors credit can participate in the Honors program. Honors assignments demand a deeper academic understanding, while being a continuation of the regularly assigned work.

American Literature

11th grade requirement unless enrolled in AP English Language and Composition

During Gould Academy's eleventh grade year of English, students are exposed to a variety of poems, essays, stories, plays, and novels that illuminate the central themes of the course: identity, voice, freedom, justice, transcendentalism, and decision-making. Students focus on the five realms of English (reading, writing, speaking, listening, and thinking) to understand literature and language through critical thinking and analytical skill development. Each textual analysis starts with essential questions based on each trimester's themes. Students will consider texts in relation to themselves, the world, and other texts. Students will use the essential questions from the course to construct their own essential questions for each assigned project. In addition to a teacher-edited anthology of poems, short stories, and essays, texts may include *The Great Gatsby* and *Their Eyes Were Watching God*.

American Literature Honors Designation

Students who are interested in further challenging themselves and earning honors credit can participate in the Honors program. Honors assignments demand a deeper academic understanding, while being a continuation of the regularly assigned work.

AP English Language and Composition

11th grade offering by departmental recommendation

In this introductory college-level course students read and analyze a broad range of challenging nonfiction prose selections, deepening their awareness of rhetoric and how language works. Through close reading and frequent writing, students develop their ability to read, write, speak, listen, and think while gaining an awareness of purpose, strategy, and style. Course readings feature expository, analytical, personal, and argumentative texts from a variety of authors and historical contexts. Students examine and work through essays, letters, speeches, and images. Students conference on their writing in class and in the Writing Center. **Students enrolled in this course will be expected to take the AP English Language and Composition exam.**

AP English Literature and Composition

12th grade offering by departmental recommendation

Advanced Placement Literature and Composition is a yearlong challenging course which approaches literature and its themes from a global perspective. We will delve into some of the universal themes of humanity through close readings of a variety of works within the evolving literary canon. The goal will be to read, discuss, and write about these works with precision, sensitivity, clarity, and imagination. The overarching questions will include: How does our past shape our vision of ourselves and our world, our hopes, or our future? What is the nature of evil and its punishment? What does love teach us about life and ourselves? What is literature, and why are we driven to create it? Possible reading selections may include *Oedipus*, *The Awakening*, *Othello*, *M. Butterfly*, *Pride and Prejudice*, and *Purple Hibiscus*. **Students enrolled in this course will be expected to take the AP English Literature and Composition exam.**

TRIMESTER COURSES

English Elective Offerings

Twelfth grade students have the opportunity to pursue individual literary interests while ensuring the continued development of reading, writing, speaking, listening, and thinking skills. Elective English courses demand mature scrutiny and focused independent work. English electives are open to all students going into the 12th grade, as well as some 11th graders, with permission.

When selecting English electives as a 12th (or 11th) grader, students must:

1. Consult their English teacher and advisor.
2. Register for a total of three electives, one per trimester, to fulfill graduation requirements, unless they are also enrolled in a full year English course.
3. Pay attention. Some courses may be offered more than once a year or in consecutive years and students may not take the same elective more than once.

English Electives Honors Designation

Students who are interested in further challenging themselves and earning honors credit can participate in the Honors program. Honors assignments demand a deeper academic understanding, while being a continuation of the regularly assigned work.

FALL TRIMESTER OFFERINGS

Creative Writing

Creative Writing will allow students to invent and analyze original forms of descriptive writing, including poetry, short stories with a focus in fiction, creative journalism, personal narrative, and quite possibly explore the nuances of the found document.

Gould

Students will encounter diverse authors and approaches to the writing process and will share insights and knowledge about their personal encounters with the world so as to provide a better understanding between themselves and the writing they embrace. Through our studies of varied writings, students will improve their application of various important techniques such as form, structure, persona, characterization, and voice. Students will present orally and in written form as well as share with a class workshop, and assemble a final portfolio of revised and polished work. Texts may include: *Let's Explore Diabetes with Owls*, David Sedaris, *The White Album*, Joan Didion, *Fragile Things: Short Fictions and Wonders*, Neil Gaiman, *Short Takes: Brief Encounters with Contemporary Nonfiction*, Judith Kitchen, *The Making of a Story: A Norton Guide to Creative Writing*, Alicia LaPlante, *Tiny Beautiful Things*, Cheryl Strayed, *Writing Down the Bones: Freeing the Writer Within*, Natalie Goldberg.

Gothic Literature

This course will explore the style of writing that is characterized by elements of fear and horror, as well as Romantic elements such as nature, individuality, and strong emotion of curiosity and suspense. Fiction, poetry, and creative non-fiction in this category employs dark and picturesque scenery, startling and melodramatic narrative devices, and an overall atmosphere of exoticism and mystery. Through reading, discussion, and both analytical and creative writing, students will reflect on themes and ideas found in classic and contemporary gothic literature and begin to discuss the question of the human appeal and curiosity to fear and the unexplained. What is it about fear that excites and intrigues us? Texts may include *The Haunting of Hill House*, *Dracula*, *Carmilla*, *The Castle of Otranto*, *The Yellow Wallpaper*, *Jane Eyre*, *The Picture of Dorian Gray*, fiction and non-fiction of Stephen King, and short stories and poetry of Edgar Allan Poe.

Literature of Ethnicity and Power

This course will examine three portraits of societies around the world, each engulfed in conflict. Through the exploration of war, genocide, cultural tensions, and postcolonial complexes, we will begin to understand and question the relationship between ethnicity and power. The realist novel, where imagination and reality are juxtaposed, will be our lens to consider what it means to be human in one of these broken societies. Students

will form their own essential questions around the ways that history, culture, and societal structures inform power and thus affect individual identities around the world.

Culture and Identity: Crossing Borders

In Western cultures, identity often tends to be defined in binary terms: an individual is either black or white, male or female, native or immigrant. This course seeks to explore the nature of identity by focusing on texts in which categories of identity — specifically those of race and nationality — are represented as fluid rather than concrete. Texts may include *The Kite Runner* and *The Prince of Los Cocuyos*, among others.

WINTER TRIMESTER OFFERINGS

Imaginary Lands

The imaginary realm of a fictional tale creates an unrealistic yet satisfying and alluring land which pushes the boundaries of human possibilities through fantasy and detachment from reality. The course “Imaginary Lands” is designed to help students appreciate the formal and historical features of different kinds of stories that take place in lands not of our world, and why we feel drawn to escape by taking a trip *down the rabbit hole*. We will use the lens of our imagination to discuss metaphor, imagery, nuance, and other literary devices that exist in the critical understanding of fiction. Students will analyze plots, characters, and settings as windows into the themes of the texts and also as a means to discuss how imaginary settings can help us to understand the reality of what it is to be human. Students will explore the cultural purpose of fiction and practice interpreting these texts as complex social mirrors which continue to impact humanity as well as influence the ongoing traditions of contemporary literature. Potential readings may include *The Chronicles of Narnia*; *The Hobbit*; *Through the Looking Glass*; *Alice in Wonderland*; *Peter Pan*, or *the Boy Who Wouldn't Grow up*; *The Golden Compass*; *Lost Horizon*; *The Wonderful Wizard of Oz*; *Wicked*.

Wilderness Writing and Philosophy

“I want to tell you what the forests were like
I will have to speak in a forgotten language” – W.S. Merwin

Forgotten Language centers around the poetics of the natural world. How do we read, write, discuss, imagine, teach, and walk our way into the “wild”? Students grapple with their own interests and opinions about the environment through a variety of poetry and prose readings, fiction and nonfiction, from Sierra Club founder John Muir to Annie Dillard and Terry Tempest Williams.

Journalism

“Were it left to me to decide,” Thomas Jefferson wrote, “whether we should have a government without newspapers, or newspapers without a government, I should not hesitate a moment to prefer the latter.”

Narrative journalism, or literary journalism, is creative nonfiction that contains accurate, well-researched information. Through weekly writing assignments, students will learn how to use elements of fiction — character development, scene setting, sensory detail, dramatic tension — to engage readers in nonfiction stories. They will read works by Pulitzer Prize winners to study the techniques of narrative journalists and master editing techniques to make their writing clear, concise and compelling in ways that apply beyond the realm of journalism. One of the most effective tools a writer has is not only to inform, but also to engender empathy in the reader. As students hone that skill, they learn to engage meaningfully in the critical discussions of the day, a skill that helps make them thoughtful, global citizens.

SPRING TRIMESTER OFFERINGS

Banned Books and Films

This course explores the First Amendment and its importance to our country and culture. We will consider why books and films are challenged, who does the challenging,

Gould

and why some books and films are ultimately banned. Through reading, discussion and writing, students will reflect on themes and ideas found in the text and on the screen and then delve into what makes them so “dangerous” or “inappropriate” to deserve harsh criticism and objections. Texts may include *The Chocolate War*, *The Handmaid’s Tale*, and *One Flew Over the Cuckoo’s Nest*. Films may include “The Life of Brian,” “A Clockwork Orange,” and “One Flew Over the Cuckoo’s Nest.”

Literature of Adventure and Exploration

Some people are captivated by confrontation or communion with unknown geography and topography and by challenges of unknown proportion. Facing that challenge uncovers dual secrets of the land and one's soul. Students search for insight into this world of thinking and dreaming, triumph and tragedy. Readings may include Shelley, Blake, Byron, Shackleton, Amundsen, and Scott, along with 8,000-meter climbers and ocean voyagers.

Literature as Social Commentary

Literature as Social Commentary will introduce students to a diverse range of literature that forwards a dialogue based on the notions of individual and societal identities. Students will develop a lens of critical analysis with a focus on understanding societal issues and social justice. A dialogue centered curriculum that focuses on constructing personal narratives will prepare students to be well-informed global citizens. Students will be supported by the course texts as well as additional materials. Texts may include: *Notes of A Native Son*, James Baldwin, *Educated*, Tara Westover, *Eating Animals*, Jonathan Safran-Foer, *Americanah*, Chimamanda Ngozi Adichie, *The Sun and Her Flowers*, Rupi Kaur, *The Girl Who Smiled Beads: A Story of War and What Comes After*, Clemantine Wamariya and Elizabeth Weil.

History

Disciplinary Requirements: Three years, to include U.S. History (generally taken during the junior year).

YEARLONG COURSES

Human Geography

(9th grade requirement)

This course explores how a geographical perspective connects the past to the present and considers the future. The analysis of the relationship between society, place and space is explored through political, cultural and human-environment processes and patterns.

Human Geography Honors Designation

Students who are interested in further challenging themselves within the course and earning honors credit can participate in the Honors program. The assignments in the Honors program are designed to demand deeper academic work related to the material being studied that term within the history curriculum.

The West and the World

(10th grade requirement)

This course will study the major civilizations which have developed around the world over the last several thousand years, with a focus on the way in which Western Civilization has emerged and developed in the context of cultures and civilizations around the globe.

The West and the World Honors Designation

Students who are interested in further challenging themselves within the course and earning honors credit can participate in the Honors program. The assignments in the Honors program are designed to demand deeper academic work related to the material being studied that term within the history curriculum.

United States History

United States History offers an opportunity to study the life of the Republic, from its colonial beginnings to the present. During this exploration, we will not only focus on the who, what and wheres of United States History, but most importantly, the whys, looking at factors that contributed to the outcomes of pivotal events in the country's history. We will also work at improving and mastering the skill of writing research papers. Students will complete three research papers over the course of the year, with the last culminating in a 15-minute presentation over the topic selected. This course is required of all 11th grade (and older) students who have yet to satisfy departmental credit requirements. It is also a prerequisite for department electives.

AP United States History

Students may enroll in this course only with departmental approval.

This year-long course will introduce students to college-level study of American history as well as prepare them for the AP United States history exam in May. Primary source readings, individual research, group discussion, and debate are combined in each unit to develop the ability to think, speak, and write critically about United States history.

Major course themes include the development of American identities, American exceptionalism, law and social change, war and diplomacy, the evolving meaning of the Constitution, environmental change, art and literature as expressive of the American experience, and the rise of the United States as a global power. Course themes act as touchstones for discussion, writing, and analysis in each unit of study. Students will be expected to take the United States History AP exam in May. **Students will be expected to take the AP U.S. History exam in May.**

AP Government and Politics: Comparative

Students may enroll in this course only with departmental approval.

This course is designed to introduce students to comparative politics through studying the diversity of governments in a global context. The comparative method is used to analyze the governments of the UK, Mexico, Russia, China, Nigeria, Iran and the United States, among others. Current global political events are utilized to keep the course relevant to world affairs. As our world grows smaller with technological advances and increased economic ties between nations, it becomes increasingly important that we understand politics in such a comparative and global context. Students enrolled in this course will be expected to take the AP Comparative Government and Politics exam.

Students will be expected to take the AP United States Government and Politics exam.

TRIMESTER COURSES

History Elective Offerings

Twelfth grade students have the opportunity to pursue individual historical and social science interests, while ensuring the continued development of sound critical reading, research, writing, and presentation skills. Elective history courses emphasize increased independence and greater sophistication in critical analysis, further development of research methods and historical writing, and advanced skills in discussion and presentations. History electives are open to all 12th grade students.

Note: The normal prerequisite for trimester electives is completion of U.S. History. Students may, however, take electives before completing U.S. History with approval of the Department Chairperson.

FALL TRIMESTER OFFERINGS

Critical Readings on Genocide

This course will cover some of the theoretical explanations for the causes of genocide, discuss the philosophical implications of genocide in relation to human nature and world politics, and review historical events. The course will conclude with students creating case studies on other instances of genocide in the 20th century.

Eastern Philosophy

This course will explore Eastern thought and philosophy through the study of two of the world's largest religions: Buddhism and Hinduism. Our study of Buddhism will focus on the life of the Buddha, Siddhārtha Gautama. We will spend quite a bit of time studying the doctrines he left behind and how Buddhists continue to find ways to “meet” the Buddha in his absence. As we follow the spread of Buddhism, we will begin to see how the path to reaching enlightenment varies between different traditions. As we transition to study Hinduism, we will continue to look to Buddhism to understand the similarities and differences between the two religions. We will consider the various gods of Hinduism and the often polarizing path to enlightenment. Throughout our studies, we will explore the rituals, practices, and beliefs that make these “lived” religions. We will read mantras, consider yoga and meditation, and the beautiful and sometimes troubling practices of both beliefs. Our essential question for the course will be: What does it mean to be enlightened? The course will culminate in a final research project where students will dive deeper into a topic that has sparked their interest.

History of Indigenous Peoples of America

History of Indigenous Peoples of America traces the changes and influences of Native American peoples beginning with the Columbian exchange through the formation of the United States, and contemporary sociology. Students will examine political and legal policies, rights, demography, boundaries and land, identity, and environmental concerns throughout US history with secondary, primary, and personal resources.

WINTER TRIMESTER OFFERINGS

Maine History

Maine is a place of beauty, rich in history and has a culture all its own. In this class, we will examine the history and development of this state, looking at the days of the early native inhabitants to the modern day issues facing the state. When studying the larger issues, we will often look at Northern Oxford County and the Bethel area as case studies of how the state was affected by the many issues that were playing out at the state and national levels. We will also examine the lore and tradition of the local history of Bethel and Gould Academy, using the resources housed at the Bethel Historical Society and the school.

History of the Vietnam War

The Vietnam War was the longest war in American history, and likely the least understood. This course will introduce students to the causes of the war, perspectives on the war itself, and the legacy of the war for Americans today.

History of Indigenous Peoples of America

History of Indigenous Peoples of America traces the changes and influences of Native American peoples beginning with the Columbian exchange through the formation of the United States, and contemporary sociology. Students will examine political and legal policies, rights, demography, boundaries and land, identity, and environmental concerns throughout US history with secondary, primary, and personal resources.

SPRING TRIMESTER OFFERINGS

Baseball and American Culture

This course will cover the history of baseball and how it can be connected to other major themes in United States History. The course will cover roughly the last 100 years of the game and making connections with topics such as the origins of the game, how the

corruption of the early 20th century affected the game, baseball in the 20's and 30's, baseball and World Wars, racism in baseball, and other selected topics.

History of Indigenous Peoples of America

History of Indigenous Peoples of America traces the changes and influences of Native American peoples beginning with the Columbian exchange through the formation of the United States, and contemporary sociology. Students will examine political and legal policies, rights, demography, boundaries and land, identity, and environmental concerns throughout US history with secondary, primary, and personal resources.

Global Migrations

The movement of people across borders is a central political issue throughout the world. In North and South, East and West, the issue of migration is a controversial one that has at times even become the focus of violence. The movement of people from their homelands into other parts of the world changes the migrants themselves as well as the receiving communities. We will examine diverse cases of migration from around the globe as well as make connections to immigrant communities close by here in Maine with the goal of creating oral histories recounting the migration to and settlement in our region. We will use a range of texts, including journalistic accounts, academic writings, fiction, films, and lastly, the words of migrants themselves in order to study migration from both a structural and a local perspective.

Mathematics

Disciplinary Requirements: Three years to include completion of courses equivalent to Algebra 1, Geometry, and Algebra 2.

The TI-84 Plus calculator is required for all math students at Gould Academy.

YEARLONG COURSES

Algebra 1

This first-year course covers such topics as algebraic expressions, linear equations, systems of equations, quadratics, and the introduction of functions. Emphasis is placed on learning algebraic skills and developing a deeper conceptual understanding of the material through problem solving and applications. Use of the TI-84 graphing calculator is introduced.

Geometry

Prerequisite: Algebra 1

This course is an exploration of geometric concepts covering parallel theory, similarity, congruence, and properties and attributes of angles, triangles, polygons, and circles. Proof writing and algebraic skills are learned and practiced throughout the year. Real world applications and online manipulatives help students to explore and gain a deeper understanding of the geometric world.

Algebra 2

Prerequisite: Geometry

Functions are explored and serve as a common domain throughout this course. Working with linear, quadratic, polynomial, exponential, and logarithmic functions, new skills

are learned and applied to a variety of real-world situations. TI-84 calculators are used extensively to illustrate the functions graphically and to provide a visual representation for problem solving. Students are challenged to apply their skills and demonstrate their understanding both orally and in writing.

Honors Algebra 2

Prerequisite: Geometry (and a strong Algebra I background)

This is a rigorous Algebra II course designed for students who have strong algebraic skills, the capacity to work both independently and collaboratively, and the ability and desire to work towards Honors Precalculus and AP calculus. New algebraic skills are attained through the exploration of functions including, linear, quadratic, polynomial, exponential, logarithmic, and trigonometric. Students enrolled in this course are required to maintain at least a B average.

Precalculus

Prerequisite: Algebra 2

This course will extend the study of functions from Algebra II for those students preparing for a regular calculus course. Exponential, logarithmic, rational, and trigonometric functions will be explored. Also included with the trigonometry will be the unit circle and laws applied to triangle measurement. Applications and modeling are integrated into this skills-based course and there is extensive use of the TI-84 graphing calculator.

Honors Precalculus

Prerequisite: Honors Algebra 2/Departmental Approval

This rigorous course is designed for students who are planning to take a college-level Calculus course. Strong computational skills are required, as well as an ability to think and work abstractly to solve problems. A variety of concepts and tools from both this and previous courses will be used to solve multi-step problems. Inverse, trigonometric and rational functions are some of the topics that will be explored.

Calculus

Prerequisite: Precalculus

This course extends the concepts of precalculus and introduces the techniques of calculus, including limits, continuity, differentiation, and integration. Students use geometric, algebraic and trigonometric concepts to investigate real world applications. The course prepares students for a rigorous college calculus course and course content is reflected in topics studied in AP Physics.

AP Calculus

Prerequisite: Honors Precalculus (with an 85 or better average)

This is a college-level, high intensity class that serves a twofold purpose: to prepare the students to take the Calculus AB Advanced Placement Exam in the Spring and to provide the calculus tools to students concurrently registered in AP Physics. The class will be taught at a relatively quick pace and the material will be covered in depth. Proofs of basic results from Calculus will be covered throughout the year. A graphing calculator will be used in the class to help students visualize and better understand the functions commonly used in Calculus. **Students are expected to take the AP exam.**

AP Statistics

Prerequisite: Algebra 2 or above and departmental approval

This is a college-level course that covers the four major areas typically included in a statistics course. Students will be introduced to the four broad conceptual themes: exploring data, sampling and experimentation, anticipating patterns, and statistical inference. Students are expected to take the AP exam. **Students are expected to take the AP exam.**

TRIMESTER COURSES

Advanced Topics in Mathematics: Linear Algebra (Fall)

Prerequisites: Honors Precalculus and Instructor Approval

Linear Algebra is the study of multi-dimensional vector spaces using matrices. Emphasis is put on solving large systems of linear equations, and the theoretical implications of such. The course studies spaces closed under the operations of addition, and scalar multiplication, and begins the process of abstracting mathematical operations in order to extend simple mathematical concepts beyond the scope of the numerical systems most high school students are used to.

Advanced Topics in Mathematics: BC Calculus (Fall)

Prerequisites: AB Calculus

This course serves as final trimester of AP Calculus, covering the topics on the AP BC exam that were not covered in AP Calculus AB

Advanced Topics in Mathematics: Abstract Algebra (Winter)

Prerequisites: Honors Precalculus and Instructor Approval

Abstract Algebra is the study of abstract mathematical structures which behave similarly to the number system students are typically used to, while also having novel characteristics. While many of the concepts in Abstract Algebra are relatively “simple,” because they often don’t have an obvious analog in day-to-day life they are theoretically rich and push students to think about the mathematics they are used to in different ways.

Advanced Topics in Mathematics: Advanced Geometry (Spring)

Prerequisites: Honors Precalculus and Instructor Approval

While most high school students study Euclidean Geometry, few have the chance to study it in the way the Greeks did, building logical structures with nothing but a compass and straightedge. In this course, students will work through Euclid’s *Elements*, and see geometry as the incredible mental leap that it was in its original formulation.

Mathematics of Financial Matters (Fall, Winter, and Spring)

Prerequisite: Algebra 2

Students will explore practical mathematical concepts relating to financial planning, money management, growing and protecting personal wealth, and will evaluate the risks and benefits associated with loans and investment instruments. The fundamental mathematical concepts students will apply include quantitative analysis, problem solving and linear algebra. Students will use spreadsheets to solve real-world problems involving the analysis and synthesis of data and formulas related to compound interest, cash-flow statements, budgets, credit cards and loans, financial aid, and will participate in a stock market game. The fall trimester will focus on financial planning and money management. The winter trimester will focus on income and asset protection. The spring trimester will focus on investing and personal wealth. This course is designed as a three-trimester sequence that can be taken for one, two, or all three terms.

Science

Disciplinary Requirements: Three years of science, to include one year of a biological laboratory science and one year of a physical laboratory science.

YEARLONG COURSES

Research Methods in Science

This course is available to students in any grade with an interest in pursuing independent laboratory research at Gould Academy. The course will follow a blended curriculum with students spending the majority of their class time in the laboratory, Laboratory spaces will also be available to students during evenings, weekends and potentially some afternoon activity time. Full class meetings will usually focus on individual research reports to the class, and a reporting out of findings from the science literature. Lab safety and protocol seminars will be scheduled multiple times throughout the year so that students can work through and “check off” these requirements as they progress through the course and before they undertake lab assignments that require these skills. Students may take Research Methods for more than one year with the expectation that more experienced students will take more responsibility for developing an environment of collegiality and mentorship for newer students and will build on past experience to develop more sophisticated projects. **Students will be expected to enter a project at the Maine State science fair in March and to meet all of the safety and paperwork requirements of an ISEF (International Science and Engineering Fair) affiliated event.**

Conceptual Physics

This year-long class is designed to prepare students for more advanced studies of science at Gould and beyond. This is achieved by developing important scientific skills such as measurement, metric system, experiment design, and scientific writing, as well

Gould

as an understanding of the physical principles that form the foundation of chemistry, biology, and modern physics.

Chemistry

This class is designed as an introduction to the principles of Chemistry. It is aimed towards developing an ability to interpret the world on an atomic and molecular level. Significant time will be spent completing laboratory experiments and interpreting the results. While basic algebra skills are necessary, the class will be primarily conceptual in nature.

Honors Chemistry

Prerequisite: By departmental recommendation. Alg. 2 concurrently

Honors Chemistry is designed for the math/science oriented student with honors grades in previous math and science courses. There is heavy emphasis on the mathematics of chemistry with considerable independent effort required.

Biology

Prerequisite: Chemistry

This class is designed for those with a solid understanding of the fundamentals of chemistry and is designed to develop an understanding of the biological system focusing at the molecular level. The class will include significant laboratory projects and will progress from the cellular level through animal physiology.

Physics

Prerequisite: Algebra 2 with an average grade of 85 or above or departmental approval

Students in physics will engage in a brief survey of Newtonian mechanics before moving on to a variety of topics in classical and modern physics including waves and optics, relativity, electrostatics, and other topics as time permits. Because many of the topics will involve quantitative (mathematical) analysis, students should be comfortable solving problems using Algebra II.

AP Physics: Electricity and Magnetism

Prerequisite: Calculus concurrently, Departmental approval required.

A year-long study of electrostatics and electrodynamics including charge, electric and magnetic fields, Maxwell's laws and other topics as time permits. Significant effort outside of class time is expected, particularly for laboratory work. A spring independent research project is required. This calculus-based course is designed for the student who desires a more rigorous mathematical treatment of physics. **Students are expected to take the AP Physics: Electricity and Magnetism exam at the end of the year.**

AP Biology

Students may enroll in this course only with departmental approval

This is a class designed to be the equivalent of a college introductory biology course usually taken by college biology majors during their first year. A curriculum designed to prepare students for success on the advanced placement exam in biology will be followed closely and will entail significant background reading, active participation in class discussions and demonstrations, and a sincere commitment on the part of the student. **Students are expected to take the AP Biology exam.**

AP Chemistry

Students may enroll in this course only with departmental approval

This is a class designed to be the equivalent of a college introductory Chemistry course. A curriculum designed to prepare students for success on the advanced placement exam in chemistry will be followed closely. The students need to be highly motivated and be willing to complete extra laboratory work outside of class in order to succeed in this class. Students are expected to take the AP exam. **Students are expected to take the AP Chemistry exam.**

TRIMESTER COURSES

Astronomy (Fall, Winter, and Spring)

Prerequisite: Algebra 2 concurrent, Chemistry (75 average or better)

Astronomy is a physical science elective, less mathematically intensive than physics, intended for interested seniors and juniors. There will be considerable out-of-class commitment in the form of readings, research, and naked eye, binocular, and telescopic observations. The year long course will be divided into three major topics. Each trimester will be independent of the others and students may choose to take any one, two, or all three.

Fall Trimester: The Changing Sky and Solar System

Winter Trimester: The Dynamic Lives of Stars

Spring Trimester: The Evolving Universe

Environmental Science (Fall, Winter, and Spring)

Prerequisite: Biology or permission of teacher

Environmental science is the study of how humans interact with their environment. The focus of this senior/junior science elective lies in learning the basic ecological concepts that function in the natural world, understanding environmental problems created by human interactions with the natural world, and identifying means of mitigating or solving these problems. Laboratory and fieldwork are an integral part of the curriculum. This class is designed as a three-trimester sequence that can be taken for one, two, or all three terms.

Marine Science – Explorations of the Gulf of Maine (Fall)

Prerequisite: Biology or permission of teacher

Marine Science is a fall trimester elective for eleventh and twelfth grade students that studies major topics in Marine Science through looking at the Gulf of Maine ecosystem. The Gulf of Maine extends from Cape Cod in the South to Bay of Fundy and Nova Scotia in the north. It is bordered on the southeast and east by large underwater banks which create a partially enclosed body of water, which is one of the most biologically productive ecosystems in the world.

Anatomy & Physiology (Spring)

Anatomy & Physiology is a trimester course that can be taken for one term or two in either order. During the winter term this course will cover topics relating to the science of nutrition and metabolism, while expanding upon the digestive, endocrine, and reproductive systems learned in biology. The spring term will focus on the musculoskeletal system, nervous system, and cardiovascular system, with a focus on exercise physiology, injuries to or breakdown of major body systems, and responses to training. This course is designed for students who are especially interested in human biology and health and/or for students wishing to go to college for a health science, such as nutrition, pre-med, pre-dental, and the exercise sciences. This course will include practical and laboratory-based experiments that will allow students to generate and analyze data, as well as design their own research topics for the end of term evaluations.

Ecology of the Androscoggin River (Fall)

This course is a field study and will meet during the afternoon sports and co-curricular activity times. Students will participate in an extensive water monitoring study of the Androscoggin River and its free-flowing tributaries. Students will be building an understanding of the needs of different fish within their freshwater ecosystems. This course will also present a scientific approach to the sport of fly fishing. We will explore basic principles of hydrodynamics and the physics involved in presenting artificial lures within or upon the water column. Each student will be required to submit a final independent project based on the data collected throughout the trimester.

World Languages

Departmental Requirements: Two years of one language in secondary school to include the third year of that language.

YEARLONG COURSES

Mandarin 1

Mandarin is the most spoken language in the world. In this introductory course, the focus will be on the five aspects of language learning: reading, writing, speaking, listening, and cultural context. Students will study Chinese pronunciation (pinyin), simplified Chinese characters, and simple sentence structures. Topics covered will include talking about oneself, family, and daily obligations. This class is not open to native speakers of Chinese.

Mandarin 2

Prerequisite: Mandarin 1

A continuation of Mandarin 1, this course will continue to expand on language skills gained in the first level of Mandarin. Topics covered will include school life, schedules and calendars, and hobbies. There will be further emphasis on communicative skills and pronunciation through presentation and discussion. Topics about China and Chinese culture and history will also be covered.

Mandarin 3

Prerequisite: Mandarin 2

A continuation of Mandarin 2, this course will continue to expand on language skills gained in the earlier levels of Mandarin. Topics covered will include transportation, travel, and daily life. There will be further emphasis on productive presentational and interpersonal skills. Topics about China and Chinese culture and history will also be covered.

Mandarin 4

Prerequisite: Mandarin 3

This course will focus on reviewing material from Mandarin 3 and then completing the Huanying textbook. If time permits, there will be a short unit on Classical Chinese. In the winter, we will study modernist Chinese poetry and read several short stories, comparing them to movie versions of the story. In the spring, we will read a play, work on a translation of part or all of the play and perform a staged reading of the play.

Mandarin 5

Prerequisite: Mandarin 4

Mandarin 5 continues the study of Chinese literature, including modernist Chinese poetry and short stories. The fall will be an introduction to Classical Chinese. The winter will focus on modern literature and literary analysis. In the spring, we will read a play, work on a translation of part or all of the play, and perform in Chinese using the translation as subtitles.

French 1

We hope to foster intrinsic motivation and student ownership of their language in this introductory course which focuses on developing communication skills. Through the use of language circles and a questioning and scaffolding technique, our classrooms are dynamic places where we focus on core competencies related to listening, speaking, reading and writing about everyday topics of importance to our students. This student centered technique allows for the study of different subjects of interest including greetings, the French school system, hobbies, and family life, ordering meals and shopping for food. We use the open source textbook *Français Interactif* as a reference along with its authentic and up-to-date videos and interviews with native speakers.

French 2

Prerequisite: French 1

In French 2 we continue an exploration of topics of importance to our students such as shopping for clothing, fashion, transportation, sports, weather and French family life. Through the use of language circles and a questioning and scaffolding technique, our classrooms are dynamic places where we focus on core competencies related to

listening, speaking, reading and writing. We use the open source textbook *Français Interactif* as a reference along with its authentic and up-to-date videos and interviews with native speakers. Students complete their study of French 2 by writing a novel entirely in French!

French 3

Prerequisite: French 2

Students continue their study of French language and francophone cultures and develop their communicative abilities by practicing the four basic skills of speaking, listening, writing and reading. Our use of language circles with a unique questioning and scaffolding technique is employed even as this course makes use of the open source online text *Enhancing French Skills* with authentic videos and interviews with native speakers. In addition, we reference selected chapters in the cultural reader *La France au Quotidien* and are in weekly communication with correspondents from the Lycée Marguerite de Valois in Angoulême, France. Students are also introduced to French cinema and will watch several full length feature films in class; all accompanied by a variety of video and internet activities.

French 4

Prerequisite: French 3

This course which includes an intensive grammar review is designed to enable students to achieve a high level of proficiency in the language and to give solid preparation for the SAT II French examination as well as preparing students for upper level French courses in a university setting. Our class maintains a close working relationship with students at the Lycée Marguerite de Valois in Angoulême, France. Our curricula are entwined, our students communicate weekly with their overseas partners and we come together once per unit via videoconferencing. Topics of study may include colonial history and modern day concerns that link francophone peoples throughout the world, a survey of French/Francophone cinema, or even a review of AP exam topics using readings in history, culture, and literature as well as videos, internet resources, and periodicals.

French 5

Prerequisite: French 4

In conjunction with the French 4 class, includes an intensive grammar review is designed to enable students to achieve a high level of proficiency in the language and to give solid preparation for the SAT II French examination as well as preparing students for upper level French courses in a university setting. Our class maintains a close working relationship with students at the Lycée Marguerite de Valois in Angoulême, France. Our curricula are entwined, our students communicate weekly with their overseas partners and we come together once per unit via videoconferencing. Topics of study may include colonial history and modern day concerns that link francophone peoples throughout the world, a survey of French/Francophone cinema, or even a review of AP exam topics using readings in history, culture, and literature as well as videos, internet resources, and periodicals.

Spanish 1

This course builds a solid foundation of the language. Listening, writing, reading, and speaking drills are introduced to facilitate the understanding of the Spanish language and culture. There will be an emphasis on the building of the speaking skill working towards self-expression. Breaking the Spanish Barrier Level 1, a vocabulary notebook, and weekly journals (starting second trimester) will be required.

Spanish 2

Prerequisite: Spanish 1

A continuation of Spanish 1, further advancing oral and written communication. Selections of short stories and poems by Hispanic and Spanish novelists are incorporated in the class to aid the student in reading comprehension skills. Other requirements include weekly journals, vocabulary lists, and oral presentations over a wide range of cultural topics. Breaking the Spanish Barrier Level 2 is used in addition to a variety of video and internet exercises.

Spanish 3

Prerequisite: Spanish 2

The goal of Spanish 3 is to refine basic grammar and gain confidence in oral expression. Reading comprehension is emphasized through use of short stories. Weekly journal entries and vocabulary building are stressed, as well as oral presentations. Breaking the Spanish Barrier Advanced text is used in addition to a variety of video and internet exercises.

Spanish 4

Prerequisite: Spanish 3

Spanish 4 surveys a range of topics relevant to Spanish and Hispanic life and culture, allowing members of the class to focus on honing their written and spoken Spanish through discussion and composition. Students will complete a thorough grammatical review of material covered in previous courses. Topics covered in this course include, but are not limited to, Spanish and Latin American Art, History, and Geography.

Honors Spanish 4: Literature of Spain

Prerequisite: Spanish 3 and departmental approval

Students in Honors Spanish 4 engage in a study of Spanish narrative, essay, poetry, and drama, in conjunction with the Spanish 5 class. Readings are studied chronologically and held up against a historical background beginning in the twelfth century and continuing through the early twentieth century. In addition, students focus on speaking and writing skills through class discussion, presentation, and written exposition.

Spanish 5: Literature of Spain

Prerequisite: Honors Spanish 4 and departmental approval

Students in Spanish 5 engage in a study of Spanish narrative, essay, poetry, and drama, in conjunction with the Honors Spanish 4 class. Readings are studied chronologically, and held up against a historical background beginning in the twelfth century and continuing through the early twentieth century. In addition, students focus on speaking and writing skills through class discussion, presentation, and written exposition.

English Studies Program

Overview

The English Studies Program (ESP) is designed to support English Learners as they experience academic immersion in English. New arrivals are assessed to determine appropriate placement in mainstream humanities and corresponding ESP offerings. Small class sizes allow for individual attention to student needs. Additional support is available during evening study hall hours via the ESP Study Hall and the Writing Center. ESP students are encouraged to speak English whenever possible to maintain and improve English proficiency.

English Studies: Academic Reading and Writing 1

Students in this year-long course are generally, but not always, enrolled in a mainstream English course. Lessons and activities often complement the mainstream humanities curricula. Students will practice active reading strategies as they explore texts such as current news publications and short works of fiction. Grammar and vocabulary will be taught in the context of class readings and in response to student work in both the ESP and content area courses. Ample feedback and coaching will be provided to guide students toward improvement of individual challenge areas. While the emphasis is on reading and writing, speaking and listening experiences, such as reading aloud or discussing a text, are integrated. Whole group lessons and activities are balanced with individual student-teacher conferencing. Many students will continue on to ESP-2 after completing ESP-1.

English Studies: Academic Reading and Writing 2

Students in this year-long course are also enrolled in a mainstream English course. As in ESP-1, grammar and vocabulary are taught in the context of classroom readings and in response to student work in ESP and content area courses. Lessons and activities often complement the mainstream humanities curricula. Active reading strategies are practiced as students explore texts such as current news publications and short works of fiction. Students will have many opportunities to practice writing skills and will be

provided with individualized feedback and coaching for improvement. While the emphasis is on reading and writing, speaking and listening experiences, such as reading aloud or discussing a text, are integrated. Whole group lessons and activities are balanced with individual student-teacher conferencing. Many students will enroll in ESP-Tutorial after completing ESP-2.

English Studies: Tutorial

ESP-Tutorial is a regularly scheduled time in the academic schedule to support English learners across the curriculum. While additional work will sometimes be assigned in ESP-Tutorial, the time will be mostly spent with the teacher assisting the student in understanding all school assignments and ensuring students are correctly completing those assignments to the best of their abilities.

TOEFL Preparation

While there is no formal Test of English as a Foreign Language (TOEFL) preparation course, students enrolled in the program are continually practicing academic English skills which are applicable to the TOEFL. ESP students are able to practice their skills in the official TOEFL lab located on campus. This is a great advantage to students as they can take this important test in a familiar environment without the worry of traveling to another location. ESP faculty members are available to assist students with specific preparation for the TOEFL, and this can be arranged on an individual or small group basis according to the needs and interest of the students.

Computer Science

YEARLONG COURSES

Computer Science

Prerequisite: Introduction to Computer Science, Robotics and Programming or departmental approval

This course introduces object-oriented software programming and algorithm development. Topics include control structures, objects, classes, inheritance, simple data structures, and basic concepts of software development. Students should be comfortable solving problems using Algebra. The class will use the Java programming language.

TRIMESTER COURSES

Introduction to Computer Science (Fall and Spring)

This introductory course in computer programming focuses on the fundamentals of software development using the programming environment called Processing. Processing is a flexible software sketchbook and a language for learning how to code through the creation of digital virtual arts. Students will create pictures, animations and interactive games while learning software development concepts.

Topics in Computer Science (Winter)

Prerequisite: Computer Science or departmental approval

This course will focus on the development of applications for current day gadgets including Apple IOS and Google Android. Object oriented programming language will be used (Java / Objective C). As trends change the class will change its focus. Students will complete the term with a final project to be deployed on the target platform.

IDEAS Center

Overview: The IDEAS Center supports four studio spaces for fabrication and design. The design thinking process is the mindset anchor for project development as students gain creative confidence and problem-solving skills.

TRIMESTER COURSES

Foundations for Makers - (Fall, Winter, and Spring)

Foundations for Makers empowers students to develop the mindset and skills of a maker. Students receive entry-level training in the physical and digital studios and basic electronics. Projects allow for tool certification with hand and power tools; experience with design construction for laser fabrication; practice with fasteners and fastening techniques for assembling 3D objects from 2D parts; and incorporating soldering techniques and basic Arduino programming into woodcraft projects. **This course can be used to satisfy the Visual Arts departmental graduation requirement.**

Robotics and Engineering - (Fall)

Cross listed with the Computer Science Department. Earns Computer Science departmental credit.

Learn how to design and build remote control and autonomous robots using the VEX EDR robotics system. Both planned and custom designs will be tested and improved on the new official VEX 12-foot x 12-foot competition field. The possibility of hosting or attending a local or regional competition will be considered. Students will learn CAD design and robotics coding for a comprehensive and fun robotics experience.

Underwater Robotics - (Fall and Spring)

Cross listed with the Science Department. Earns Science departmental credit.

In this class students will study and operate ROVs (Remote Operated Vehicles) and AUVs (Autonomous Underwater Vehicles) including the state of the art autonomous underwater vehicle **Remus 100**. Students will learn the systems and capabilities of the units as well as programming and operation. This will be an in-depth hands-on, and highly technical class providing a comprehensive understanding of ROVs and AUVs. Students will build their own ROVs, using repurposed bilge pump motors, PVC tubing, and a custom made controller. Outdoor opportunities include local ponds, lakes, and rivers. Field trip opportunities may include Woods Hole Oceanographic Institute and ocean locations.

Custom Ski Building - (Fall)

Prerequisite: Foundations for Makers, or Departmental Approval based on prior experience. Cross listed with the Visual Arts Department.

Students will learn the basics of ski/snowboard design, composite construction, and shop safety. Each student will build a set of skis or a snowboard and learn how they are assembled and why certain materials are included. If you've ever wondered why carbon fiber makes a ski stiff and light this is the class for you. We utilize the same materials as commercial skis and your skis/snowboard can be just as functional.

(Course material fee required.) This course can be used to satisfy the Visual Arts departmental graduation requirement.

Robotics and Engineering 2 - (Winter)

Cross listed with the Computer Science Department. Earns Computer Science departmental credit.

In this class students will build on their experience and skills from the Robotics and Engineering prerequisite course. Students will focus on building unique and original designs with advanced functional capabilities. Emphasis will be on robot dynamics, control, and mechatronics. Students will learn the math and mechanical skills required to build robotic solutions to real-world problems.

Arduinos and Electronics - (Spring)

Cross listed with the Science Department. Earns Science departmental credit.

This class introduces students into the world of electronics. They learn AC and DC theory as well as how discrete components like capacitors, resistors, and transistors work and why we use them. These components are used in conjunction with Arduino based microcontrollers to complete projects that open up students to the world of modern electronics. Through the use of prototype techniques and with equipment like oscilloscopes, multimeters, and logic probes students take their first steps into the world of electronics design and the internet of things.

3D Design with CAD - (Fall and Spring)

Cross listed with the Visual Arts Department.

3D design and modeling allows engineers and artists alike to quickly create complex models that can be turned into physical models or used as digital assets. This class teaches the fundamental skills to work in a 3D environment and create models. Students learn about the core concepts of both solid and polygon modeling and how they differ. There are opportunities to hold physical creations as students learn the process of preparing designs for digital fabrication and deploying the jobs. This is the perfect class for anyone looking to make their first steps as a 3D artist, engineer, architect, designer, and innovator. **This course can be used to satisfy the Visual Arts departmental graduation requirement.**

Performing Arts

Departmental requirement: Graduation requirements in the arts depend on the year that you enter Gould. For students entering as 9th graders, 4 terms of art taken at Gould, to include at least one term of performing and one term of visual art; for those entering as 10th graders, 3 terms of art taken at Gould, to include at least one term of performing and one term of visual art, taken at Gould; for those entering as 11th graders, 2 terms of visual and/or performing art taken at Gould; for those entering as 12th graders, 1 term of visual or performing art taken at Gould.

YEARLONG COURSES

Chorus

This is a vocal performance ensemble for credit. You do not need prior musical experience to sing in the chorus. We will learn and perform various musical arrangements in many different styles. Also incorporated will be methods in sight singing, breathing techniques, and basic music theory. Students will be assessed on participation in rehearsals and concerts. Oral performance tests will be given to measure each student's practice habits outside of the classroom.

Band

This is an instrumental performance ensemble for credit. You need to have some prior musical experience on an instrument to play in this ensemble. We will learn and perform various musical arrangements in many different styles. Also incorporated will be methods in sight reading, tone production, breathing techniques and basic music theory. Students will be assessed on participation in rehearsals and concerts. Aural playing tests will be given to measure each student's practice habits outside of the classroom.

Applied Music Study

Prerequisite: Departmental approval

Students may receive credit, on a pass/fail basis, for completion of a program of music lessons. Granting of credit is dependent on receiving lessons from a qualified teacher, including but not limited to the **Manhattan School of Music** instructors, completion of practice hours, and assessment by the Gould Academy music faculty. Public performance may also be a condition for receiving credit, at the discretion of the department chair.

TRIMESTER COURSES

Introduction to Music (Fall, Winter, and Spring)

Introduction to Music is designed for younger students. It is intended to expose students to the many facets of musical study including reading music, music history, music technology, contemporary musical culture, and attending performances. There is no prior musical experience needed. This class is a prerequisite for Music Theory and Music Technology.

Piano and Keyboard Studies (Fall, Winter, and Spring)

Course will earn .33 credits for each trimester completed.

This class is designed to teach piano/keyboard skills for all skill levels including students who are beginners, intermediate, or advanced. Each student, or group of students, will have one lesson each week in class, with practice time built into the rest of the week's class periods. Students will have the opportunity to learn piano skills in many different styles, from classical to rock, pop, and jazz. Techniques in reading music and ear training will be covered. Keyboards and pianos will be made available to the students. Beginning and intermediate level players will use a text as part of their study. Advance players will work on repertoires, as agreed in collaboration with their teacher.

Music Technology (Fall and Spring)

Prerequisite: Intro to Music or departmental approval

Music Technology explores the fundamentals of music composition. Student's work in the Musical Instrument Digital Interface (MIDI) lab using software for audio editing, multi-track recording, MIDI sequencing, and loop based composition. Students publish their compositions on the internet and have the option of recording CD's or performing their work. Previous musical experience is not required.

History of Jazz: The Early Years (Winter)

Jazz is "America's classical music." This class begins by tracing the prehistory of Jazz from the "Ring Shouts" performed by slaves at Congo Square to the brass bands of the late 1800's. The class then moves on to follow the development of jazz music from Louis Armstrong to the big band era and onto the stride pianists of the Harlem Renaissance and Duke Ellington. Students gain an understanding of the art of improvisation through the lives and works of the great jazz players and composers as well as a sense of the relationship between jazz music and certain events in U.S. History.

Acting 1: Basics (Fall)

This introductory class familiarizes students with basic acting techniques and aspects of theater. Applying the widely practiced Meisner Approach and improvisational methods, students learn basic skills of acting. Students develop skills that help them not only in theatrical work, but also in public speaking and presentation.

Acting 2: Study (Winter)

Prerequisite: Acting 1 Basics

This class continues to explore the stage techniques introduced in Acting 1: Basics. Students learn more involved improvisational exercises and continue to apply the Meisner Approach to scene work and scripted material. Again, students build further confidence not only in their stage performance, but also in their communication skills in general.

Acting 3: Craft (Spring)

Prerequisite: Acting 2 Study

This class expands on the work of Acting 2: Study. Students learn more advanced acting tools using the Meisner Approach and improvisation. Using scripted work, students develop rehearsal and performance skills as well as blocking and scene analysis.

Visual Arts

Departmental requirement: Graduation requirements in the arts depend on the year that you enter Gould. For students entering as 9th graders, 4 terms of art taken at Gould, to include at least one term of visual and one term of performing art; for those entering as 10th graders, 3 terms of art taken at Gould, to include at least one term of visual and one term of performing art, taken at Gould; for those entering as 11th graders, 2 terms of visual and/or performing art taken at Gould; for those entering as 12th graders, 1 term of visual or performing art taken at Gould.

YEARLONG COURSES

Ceramics: Functional Form

Basic throwing and handbuilding with glaze techniques and kiln firing.

TRIMESTER COURSES

Art Foundations (Fall, Winter, and Spring)

This course is designed to expose students to a wide variety of art and design experiences during the freshman and sophomore years. Students will gain a broader understanding of the fundamentals of art and design, as well as gain more experience with a wider variety of faculty, materials and processes. The course will cover both 2- and 3-dimensional art, allowing students to develop an understanding of each, and allow them to make better informed decisions about future courses in the arts. This course is required before ninth and tenth grade students can take other trimester-long visual art electives.

Black & White Film Photography (Spring)

Prerequisite: Digital Photo 1

This course is an introduction to the world of black and white film photography. Students will learn to operate and use traditional black and white film cameras. In the darkroom they will process the negatives, develop contacts sheet, and make enlargements.

Artist Blacksmithing: Functional Ironwork (Fall, Winter, and Spring)

Prerequisite for 9th and 10th Graders: Art Foundations

Artist Blacksmithing focuses on the production of forged ironwork. Emphasis will be placed on the design and function of tools, hardware, and utensils. **(Maximum 4 students)**

Digital Photography 1 (Fall and Spring)

Prerequisite for 9th and 10th Graders: Art Foundations

This course is an introduction to the world of digital photography, including basic photographic skills, features of a digital camera, and use of computer software for enhancement and color correction of images. This course focuses on intensive hands-on practice with digital cameras and computer software. Students will learn to optimize images for print and electronic distribution.

Digital Photography 2 (Winter)

Prerequisite: Digital Photography 1

This course is designed for students who are either committed to photography as a subject of study or motivated to explore advanced options in photography. This class will stress greater latitude in materials used, greater mastery of techniques, and most importantly a higher level of intellectual involvement in planning, designing and evaluating of the artworks created. Areas covered will be artificial lighting techniques, HDR imaging, RAW images and advanced editing techniques using Adobe Photoshop Elements. This will be a hands-on class and because of individualized portfolio feedback much of what is covered will require classroom attendance.

Drawing 1 (Fall, Winter, and Spring)

Prerequisite for 9th and 10th Graders: Art Foundations

The recording of an attitude or idea on paper. Emphasis will be on the use of mediums: pencil, charcoal, and brush (washes) with concern for the basic principles of design.

Drawing 2 (Fall, Winter, and Spring)

Prerequisite: Drawing 1

An advanced course in drawing, further exploration in tools, techniques, and subject matter.

Fashion Drawing (Winter)

Prerequisite for 9th and 10th Graders: Art Foundations

This course will begin with understanding the human figure through both the “9 Heads” method and basic human anatomy. Students will sketch the human figure for the first few weeks, and then move on to adding fabric and clothing. Students will discover various techniques for illustrating different types, and weights of fabrics. Students will explore various types of fashion throughout history in their research and sketchbook. As students develop their ideas we will then begin to render them in the Adobe Illustrator program, creating a portfolio.

Introduction to Graphic Design (Spring)

Prerequisite for 9th and 10th Graders: Art Foundations

Students will begin by doing research and discussing forms of advertising and signage. They will discuss pieces that they feel are successful and pieces that are not successful, they will then begin correcting the “unsuccessful” pieces. How would they make them better? They will be able to ideate quickly in sketchbooks. The process of discussing the successful and unsuccessful pieces will serve as research for their corrections. Students will then survey the public as to which design they feel is more effective, the old or new version. They will learn that what you think as a designer, may not matter as much as what everyone else, or your client, thinks. They will also develop their own personal logo and visual identity in the class. This is an extremely valuable process to begin to understand as a designer. The course will move quickly and have many deadlines that students must meet. It should be a fun and exciting experience for all.

Metal Design 1 (Fall and Winter)

Prerequisite for 9th and 10th Graders: Art Foundations

Design and fabrication of metal jewelry. Basic techniques such as soldering, sawing, piercing, stone setting, cold connections and finishing work will be covered.

Metal Design 2 (Spring)

Prerequisite: Metal Design 1

Advanced technique, including further exploration in tools, techniques, and subject matter. Enameling, hollow forms, precious metal clay, etching and casting are some of the processes that may be explored.

Painting 1 (Fall, Winter, and Spring)

Prerequisite for 9th and 10th Graders: Art Foundations

Exploration of various styles of painting following the historical evolution of attitudes toward the painted image (classicism, impressionism, romanticism, and expressionism). Emphasis on acrylic medium and color properties.

Painting 2 (Fall, Winter, and Spring)

Prerequisite: Painting 1

An advanced course in painting, further exploration in tools, techniques, and subject matter.

Portfolio Development (Fall)

Prerequisite for 9th and 10th Graders: Art Foundations

This course is designed for students who are considering applying to art or design schools and feel they need work to help round out their admissions portfolios. This course will be an opportunity for these students to increase the scale and scope of their work, giving their portfolio pieces more impact and resonance. The work will be multi-media and exploratory; developing themes and ideas as though a student were organizing and executing a body of work. The assignments will develop an understanding of the modern and contemporary issues in art and design through the exposure to a great deal of art history, design history, and practice.

Printmaking (Fall, Winter, and Spring)

Prerequisite for 9th and 10th Graders: Art Foundations

Making multiple images through the use of various printmaking techniques. Monotypes, linoleum printing, etching and lithography are some of the techniques that may be explored.

Academic Support

Gould Academic Skills Center

The Academic Skills Program supports students with various learning styles. Specific routines are taught to promote executive skills development and self-advocacy to become independent learners. Students enrolled in the Academic Skills Program are assigned to the Academic Skills Center and paired with a learning professional. Together they will set goals and establish a set of steps to reach each goal. This may include reviewing assignments, preparing for tests/quizzes, writing/editing papers, self-advocacy skills and teaching executive functioning skills. In addition to regularly scheduled classes during the academic day, the Academic Skills Center is open 5 nights a week, with most students attending at least 2 nights per week for additional support.

Skills Development in the following areas are emphasized:

- Organizing for the day
- Developing homework plans
- Writing a paper
- Planning for long-term projects
- Studying for tests
- Organizing notebooks/homework
- Taking notes
- Developing active reading strategies
- Sustaining attention
- Managing anxiety
- Advocating appropriately

Enrollment in the Academic Skills Program is based on, but not limited to, academic performance, advisor input, advisory council recommendation, educational consultants,

and educational testing. In certain circumstances, participation in the Academic Skills Program may be a condition of acceptance or continued enrollment at Gould. Upon enrollment, a student learning plan is written for each student. This plan outlines the student's learning style and accommodations and/or modifications that will be executed in the classroom setting. These plans are shared with advisors and classroom teachers of the student.

Independent Study

Independent study is available for credit toward graduation under strict guidelines. If a student qualifies for independent study, the study will normally replace a standard academic course in the student's schedule.

Requirements: Independent studies are available only to enrolled seniors and other students who have exceeded departmental offerings in a particular discipline. To apply for an independent study a senior must submit an application on which is listed at least the following:

- Title of project
- Detailed description of the project
- Timeline for the project
- Descriptions of the products/mileposts of the project
- Detailed description of the final exam/product of the project
- An extensive bibliography of primary and secondary sources to be used
- Description of the means of evaluation to be used by the project sponsor
- Signature of a supporting teaching faculty member with relevant expertise

An independent study is just that, an opportunity for a single student with a passionate interest to study with minimal guidance in an area of study in which there are no formal course offerings in the school. Independent studies are not group projects, and they are not teacher-directed tutorials. Students must do sufficient research prior to making application to be able to put forward credible applications.

Applications will be evaluated and independent study decisions made by the Assistant Head of School for Teaching and Learning and the Teaching and Learning Team.

In order to be considered, applications must be received by the following deadlines:

Fall Trimester: first day of class

Winter Trimester: first day of class

Spring Trimester: first day of class