Catlin Gabel

Upper School Course Catalog

2015-16
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Students may take as few as four or as many as six academic courses at any one time. In unusual circumstances, a student may petition the faculty to take more than six. Academic courses include English, history, math, science, modern language, computer science, and the arts. Re-enrolling students register for courses early in the spring term. After conferring with the advisor regarding recommended courses and graduation requirements, students take a preliminary schedule home for discussion with parents. Course offerings are sometimes based upon student needs brought to light by the registration process. Adjustments in teaching assignments are sometimes necessary, and the resulting information is compiled for the academic schedule by the registrar.

During the admission process, prospective students indicate their choice of modern language, and computer and arts classes. Those choices, along with transcript information and placement testing, enable the departments and registrar to forecast an academic program for each newly enrolled student.

Conflicts between courses do sometimes arise, and students are encouraged to participate in resolving the problem.

All students must complete minimum core requirements. In addition, they may choose elective courses. Students and their advisors plan as broad a program as possible, taking possible college requirements into consideration.

A diploma from Catlin Gabel indicates successful completion of four years of high school experience or its equivalent. For most students this means completion of a minimum of 18 academic courses, including the departmental requirements outlined below and electives. Departmental requirements may be waived upon petition. In addition, departments reserve the right to grant credit for work outside normal departmental requirements. Students are expected to take a minimum of four academic courses at any time.

**Course Requirements**

**English:** Four years, including Freshman, Sophomore, and Junior English and a year of senior electives.

**Math:** Successful completion of our two-year integrated Algebra II/Geometry curriculum.

**History:** Three years, including Human Crossroads, The Modern World, and United States History.

**Science:** Three years, including Science I, Science II, and a year of electives. Up to one semester of a Global Online Academy science elective can count toward the requirement.

**Language:** Three years of the same language.

**Arts:** Two years of coursework in music, theater, and/or the visual arts.

**PE and Health:** Students are required to take nine trimesters of physical education and health courses over four years, including Health 9, Health 10 and Lifetime Fitness. PE classes are offered during and after school each trimester. Offerings include Outdoor Leadership and Adventure, Rock Climbing, Ultimate Frisbee, Design Fitness, and Beginning Tennis. Additionally, students may earn credit through participation on Catlin Gabel athletic teams, or they may apply for independent PE credit. For independent PE credit, students must complete 50 hours of an activity under the supervision of a coach or instructor over the course of a twelve-week trimester. To qualify, the activity cannot be part of our regular offerings during the trimester the student is applying to receive credit.

OSAA rules require students to be enrolled in and passing five academic courses to play interscholastic sports, both while they are participating and during the prior term.
2015-16 Offerings

English

Required:
- Freshman English (9; Year)
- Sophomore English (10; Year)
- Junior English (11; Year)
- Senior English (12; Fall, Spring; Honors)

Electives:
- Creative Writing (10, 11, 12; Year; 5 Credit; Pass/Fail)
- Crime and Punishment (Palma Seminar; 9, 10, 11, 12; Year; Honors)
- Middle School Teaching Assistant (11, 12; Consent of Department, Year or Semester)

History

Required:
- Human Crossroads: Confronting Global Challenges through Time, Identity, and Place (Year)
- The Modern World (PreReq Human Crossroads; Year)
- United States History (PreReq Modern World; Year)

Year Electives:
- Crime and Punishment (Palma Seminar; 9, 10, 11, 12; Year; Honors)
- New Media Studies I (10, 11, 12; Year)
- New Media Studies II (Consent of Instructor; Year; Honors)

Semester Electives:
- The Constitution in American Life (12; Spring; Honors)
- Economics (11, 12; Fall; Honors)
- Foresight Studies: Methods for Understanding 2050 and Beyond (10, 11, 12; Spring)
- Globalization: Debates & Controversies (12; Fall; Honors)
- Measuring Success—The Analytics Revolution (Palma Seminar; 9, 10, 11, 12; Fall; Honors)
- Modern Middle East (11, 12; Spring; Honors)
- Sports and Human Rights (Palma Seminar; 9, 10, 11, 12; Spring; Honors)
- Sustainable Cities (10, 11, 12; Spring)

Modern Languages

Required:
- Chinese I (Year)
- Chinese II (PreReq Chinese I; Year)
- Chinese III (PreReq Chinese II; Year)
- Chinese IV (PreReq Chinese III; Year)
- Chinese V (PreReq Chinese IV; Year; Honors)
- Chinese VI (PreReq Chinese V; Year; Honors)

Intermediate Electives:
- French I: Communication and Comprehension (Year)
- French II: Interpersonal Communication (PreReq French I; Year)
- French III: Interpretive Communication (PreReq French II; Year)
- French IV: Conversation & Composition (PreReq French III; Year)
- French V: Literature & Art (PreReq French IV; Year; Honors)
- Spanish I: Foundations (Year)
- Spanish II: Communication A (PreReq Spanish I; Year)
- Spanish III: Communication B (PreReq Spanish II; Year)
- Advanced Spanish III: Communication (Consent of Department; Year; Honors)
- Spanish IV: Composition & Conversation (PreReq Spanish III; Year)
- Advanced Spanish IV: Composition & Conversation (Consent of Department; Year; Honors)
- Spanish V: Communities & Service Learning (PreReq Spanish IV; Year)
- Honors Spanish: Seminar A (PreReq Spanish V; Year; Honors)

Mathematics

Required:
- Math 1 (Year)
- Math 1b (Year)
- Math 2 (PreReq Algebra I or IB; Year)
- Advanced Math 2 (Consent of Department; Year; Honors)
- Algebra I/Geometry, Year Two (PreReq Year 1 or Accel Year 1; Year)

Accelerated Algebra II/Geometry, Year Two (PreReq Accel Year 1; Year; Honors)

Intermediate Electives:
- Functions, Statistics, and Trigonometry (PreReq Year 2; Year)
- Math Teaching Assistants (Consent of Department, Year)
- Statistics 1 (PreReq Year 2; Fall)
- Statistics 2 (PreReq Year 2; Spring)

Advanced Electives:
- Precalculus (PreReq Year 2 or Accel Year 2; Year)
- Calculus (PreReq Precalculus; Year)
- Calculus I (PreReq Precalculus; Year; Honors)
- Calculus II (PreReq Honors Calculus I; Year; Honors)
- Honors Calculus II (PreReq Calculus I; Year; Honors)
- Honors Statistics (PreReq Precalculus or Accel Precalculus; Year; Honors)
- Math Scholars Seminar (PreReq Accel Precalculus; Year; Honors)

Science

Required:
- Science I (Year)
- Accelerated Science I (Consent of Department; Year; Honors)
- Science II (PreReq Science I; Year)
- Accelerated Science II (Consent of Department; Year; Honors)
- Spanish V: Communities & Service Learning (PreReq Spanish IV; Year)
- Honors Spanish: Seminar A (PreReq Spanish V; Year; Honors)

Intermediate Electives:
- Geology (PreReq Science II; Year)
- Psychology Seminar (12; Year; 5 Credit; Pass / Fail)
- Science Teaching Assistant (Consent of Department; Year or Semester)

Advanced Electives:
- Advanced Biology: Molecular, Cellular, and Biomedical Science (Consent of Instructor; Year; Honors)
- Advanced Chemistry (Consent of Instructor; Year; Honors)
- Advanced Physics (Consent of Instructor; Year; Honors)
- Science Research (Consent of Instructor; Year; Honors)

Arts

Performing:
- Advanced Instrument Study (Consent of Instructor; Year; Honors)
- AM Choir (9, 10, 11, 12; Year)
- CG Players Troupe (Audition; Fall, Winter or Spring Trimesters)
- Class Piano (9, 10, 11, 12; Fall)
- Improvisational Theater (Fall 2015; Spring)
- Jazz Band (Audition; Year)

Computing

Introduction to Computer Science (9, 10, 11, 12; Year)
- Advanced Computer Science (PreReq Intro to Comp Sci or Consent of Instructor; Honors; Year)
- Computer Science Research (Consent of Instructor; Honors; Year)

Sports

Musical Theater: Dance Intensive (9, 10, 11, 12; Fall)
- Musical Theater: Vocal Intensive (9, 10, 11, 12; Spring)
- Rock Band (9, 10, 11, 12; Fall)
- Scene Study (Consent of Instructor; Spring)
- Songwriting (9, 10, 11, 12; Spring)
- Theater Tech: Play Production (Consent of Instructor; Year)
- Theater Tech - Stagecraft (9, 10, 11, 12; Fall or Spring)

Visual:
- 2D Design and 3D Engineering (9, 10, 11, 12; Year)
- Advanced Film Production (PreReq Genres; Year, Honors)
- Applied Media Arts: Documentaries (Consent of Instructor; Spring)
- Applied Media Arts: Time-Based Arts (Consent of Instructor; Fall)
- Ceramics (11, 12, Year)
- Drawing & Printmaking (9, 10, 11, 12; Year)
- Fashion Design (9, 10, 11, 12; Year)
- Genres (Consent of Instructor; Honors; Year)
- Honors Portfolio (PreReq 2D or 3D arts courses; Seniors in Fall 2015, Juniors in Spring 2016; Honors)
- Media Arts (9, 10, 11, 12; Year)
- Photography (9, 10, 11, 12; Fall or Spring)
- Woodworking (9, 10, 11, 12; Year)

Computer Science

Introduction to Computer Science (9, 10, 11, 12; Year)
- Advanced Computer Science (PreReq Intro to Comp Sci or Consent of Instructor; Honors; Year)
- Computer Science Research (Consent of Instructor; Honors; Year)

Electives:
- Catlin Gabel Leadership Seminar (11, 12; Not for Credit; Year)
- Physical Education, Health, Outdoor Program, Athletics

Required:
- Health 9 (9; Year)
- Health 10 (10; Year)
- Lifetime Fitness (9; Year)

Electives:
- Beginning Tennis (After School; Fall)
- Co-Ed Volleyball / Badminton / Tennis (During School; Winter)
- Fitness by Design (After School; Winter)
- Nordic Walking (During School; Fall or Spring)
- Outdoor Leadership and Adventure (After School; Fall)
- Performance Fitness (During School; Fall or Spring)
- POM / Dance (After School; Fall or Winter)
- TRX Training (During School; Winter)
- Yoga (After School; Spring)
- Rock Climbing (After School; Winter)
- Independent PE (Fall, Winter or Spring)
- Interscholastic Sports (page 38)
English

Required

Freshman English

Freshman English focuses on writing as a process and on reading culturally diverse works that center on the journey as a defining experience in the creation of personal identity. Students concentrate on the process of developing their essays through such stages as pre-writing, outlining, first and second drafts, peer reviews, and metacritical essays. Students are introduced to elements of style while also learning how to structure arguable persuasive essays, compelling narratives, and imaginative poems. They acquire the fundamental patterns of critical thinking and the vocabulary necessary for written and spoken analysis of literary texts. Other skills important to a student’s Upper School career, such as class participation, note-taking, recitations, and presentations, reinforce the school values of collaboration and community. The literature of the course includes Homer’s The Odyssey, Shakespeare’s Romeo and Juliet, and Lan Samantha Chang’s Hunger, as well as selected poems and short stories reflecting diverse voices and points of view.

Sophomore English

Sophomore English is a genre survey course designed to examine questions of personal and cultural identity, to develop analytical and persuasive skills, and to impart the vocabulary necessary for literary analysis. The fall begins with a unit entitled “Postcolonial Literature: The Empire Writes Back,” a study of the work of writers from the former British Empire. Students examine poems by English Achebe, Walcott, Yeats, and Wright; Ngugi’s novel, A Grain of Wheat; and Fugard’s play, “Master Harold”… and the boys. In the winter, students continue their exploration of identity and culture—including issues of race and “othering”—with Shakespeare’s Othello. The second semester begins with a formal consideration of lyric poetry, with students focusing on “fixed forms” such as the villanelle and the sestina, as well as on “shaping forms” such as the ode and the elegy. Students also write a paper and teach a lesson on a Romantic or Victorian poem. “Whan that Aprill with his shoures soote” arrives, students examine The Canterbury Tales, and again return to the topics of identity and culture through a consideration of class, occupation, and religion. They end the semester with a study of the essay. Over the year, students write essays that include literary analyses and creative narratives, generated through a collaborative process that includes multiple drafting, peer editing, and metacritical reflection. Participants give two formal presentations based on their writing. Students memorize and recite the School Chapter, the opening lines of The Canterbury Tales, and two lyric poems. Class traditions include The Winter’s Tale, Chaucer Day, and the sophomore epistolary project.

Junior English

Junior English offers an opportunity to study some of the key texts of American literature from the colonial to the contemporary period, with a special focus on the periods of the American Renaissance, the late nineteenth century, and Modernism, and a consistent interrogation of the ways in which categories of gender, race, and social class have inflected the question of what it means to be an American. Readings include selections from Benjamin Franklin, Ralph Waldo Emerson, Henry David Thoreau, Walt Whitman, Emily Dickinson, Mark Twain, Charles Chesnutt, Charlotte Perkins Gilman, F. Scott Fitzgerald, Ernest Hemingway, William Faulkner, Allen Ginsberg, Toni Morrison, and Junot Diaz. The course continues development of students’ analytical abilities by drawing on and extending the interpretive skills developed in English 9 and 10, and also seeks to increase students’ reading speed in anticipation of the demands of college humanities courses. Writing assignments continue the development of narrative and analytical skills, and include a personal narrative designed to serve as a first draft for the college application essay. Over the course of the year, students continue to develop their presentational abilities; by the end of the year, they are responsible for planning and teaching the majority of class sessions.

Senior English

Seniors must successfully complete one English class during each semester. Students often lead the seminar-style senior electives. Fall courses include research papers; in the spring courses, public collaborative projects are required. Offerings in senior English are slightly different each year, with new course listings released each May.
Year Electives

Creative Writing

The creative-writing elective is open to students who want to develop their individual voices and hone their skills as writers of poetry and prose by participating as members of a writers’ workshop. We will craft a mix of genre explorations that will allow us to read and experiment in lyric poetry, short prose fiction, and the brief personal essay. Reading is light, and each student is responsible for submitting either one draft or one revision each week for collection in two term-long portfolios. During each convivial workshop, students discuss examples from the world’s great writers and study the work of members of the class. This class will meet twice per rotation for the entire year; upon completion, students will receive a half-credit graded Pass / No Pass. This course does not meet our English requirements.

Middle School Teaching Assistants

Assist our eighth grade English teacher Holly Walsh in the classroom. Build your communication, facilitation, presentation, and mentoring skills for your future career. Those interested in this exciting opportunity will set up an interview with Holly during which she will explain her expectations and the rubric for assessment. Decisions will be made before Memorial Day. This offering is open to Juniors and Seniors and may be requested for the Year or Semester. This course does not meet our English requirements.

Crime and Punishment (Palma Seminar; Honors)

Justice, we believe, resides at the intersection of law and order, and in the swift, even-handed, and transparent response to crime with punishment. Western society prides itself on the establishment and preeminence of the rule of law, celebrating the triumph of reason and civilization over the so-called rule of the jungle. And yet, the halls of justice bear their share of inconsistency and unfairness, and the constructed notions of innocence and guilt permeate our culture(s) in manifold complex ways. This interdisciplinary, full-year seminar will explore crime and punishment from a number of different angles, including the Judeo-Christian origins of our legal system, a review of the specific criminal and legal mechanisms in the USA, philosophical and critical responses to innocence and guilt, the psychology of violent crime, forensic science, literary perspectives (featuring Dostoevsky and Kafka), and contemporary cases, with special attention paid to Ferguson and the case against Adnan Syed (as featured in the Serial podcast). Experiential learning opportunities are a critical part of this course, so students should be prepared for occasional obligations outside of school hours. This course is open to all Upper School students. Students will receive a half-credit in History and a half-credit in English for the year. The English credit may count toward a spring-semester Senior English elective.
Human Crossroads: Confronting Global Challenges through Time, Identity, and Place

Human Crossroads asks students to respond to some of the world’s greatest challenges using an interdisciplinary approach that draws from the intersection of geography, history, anthropology, and sociology. The curriculum is composed of units dedicated to central thematic questions ranging from the meaning of human identity to the value of borders, the possibility of religious pluralism, and vexing problems of global inequities. Each unit starts by asking, “What is where, why there, why care?” using maps. Course material and projects include current events, academic texts, online resources, and data visualizations. Students learn to read actively, analyze maps, interpret data, write thesis-driven data visualizations. Students learn to read actively,

The Modern World
First, the good news: many people alive today are better off than all other humans who have preceded them. That may not surprise you. But, the bad news will: many others alive today are actually worse off than their predecessors. That includes medieval serfs, African tribesmen, and even prehistoric cavemen! How can this be? The modern world, loosely defined as the last two centuries of human life, has witnessed some of the most dramatic transformations in our history. Yet, those transformations have often functioned as a double-edged sword, bringing great reward to some and devastation to others. Why did these changes occur in the first place? Why did certain countries and people benefit while others suffered? And what does this say about the world we live in now, and where we’re headed in the future? This course endeavors to answer those questions through a wide-ranging study of the last 200+ years, from the Industrial Revolution through to the present.

United States History
While chronological, this course focuses on several themes that have reverberated throughout the American experience. The central theme is the epochal tug-of-war between Jefferson’s credo of equality and its paradoxical partners: conquest, slavery, and racism amidst a diversity of historic proportions; gender discrimination; and the class inequalities generated within a dynamic economy. Accordingly, we will pay significant attention to the history of movements that challenge the dominant meaning of equality, such as labor unions, suffragists, and the multitude of civil rights movements across time. The nation’s history is also traced through the tensions between a deep-rooted fear of centralized power and the drive for an efficient and powerful federal government. Lastly, significant time is given to U.S. involvement in global affairs, with a particular stress on presidential decision-making, and its impact both abroad and at home. While classic political issues are at the core of the course, there are times—such as the era between Reconstruction and World War I—when the magnitude of cultural and economic changes are at the heart of an era. We will use a very wide range of primary and college-level secondary sources.

Year Electives
Crime and Punishment (Palma Seminar; Honors)
Justice, we believe, resides at the intersection of law and order, and in the swift, even-handed, and transparent response to crime with punishment. Western society prides itself on the establishment and preeminence of the rule of law, celebrating the triumph of reason and civilization over the so-called rule of the jungle. And yet, the halls of justice bear their share of inconsistency and unfairness, and the constructed notions of innocence and guilt permeate our culture(s) in manifold complex ways. This interdisciplinary, full-year seminar will explore crime and punishment from a number of different angles, including the Judeo-Christian origins of our legal system, a review of the specific criminal and legal mechanisms in the USA, philosophical and critical responses to innocence and guilt, the psychology of violent crime, forensic science, literary perspectives (featuring Dostoevsky and Kafka), and contemporary cases, with special attention paid to Ferguson and the case against Adnan Syed (as featured in the Serial podcast). Experiential learning opportunities are a critical part of this course, so students should be prepared for occasional obligations outside of school hours.

This course is open to all Upper School students, and it will count for a half-credit in History and a half-credit in English for the year.

New Media Studies
This collaborative yearlong course combines study of print media history, news in the digital age, and core journalistic skills while allowing students to practice writing for an audience as the CatlinSpeak staff. CatlinSpeak is an award-winning online news magazine and print newspaper that is designed, written, and published by 10th to 12th grade students. The first six weeks focus on learning the fundamentals of journalistic writing, understanding the historical arc of journalism, and becoming comfortable with online tools such as Twitter and Wordpress, which are used by news sites around the world. Students gain applied skills such as layout, blogging, vlogging, and news tweeting as well as the crafting of story budget lines, leads, op-eds, blurbs, features, photo essays, and graphics. The staff members work as a team to produce daily written and video content for the website and quarterly print editions. In addition, students research, discuss, and write about current events from around school to around the world. This course is open to Sophomores, Juniors, and Seniors.
New Media Studies II (Honors)

This course runs simultaneously with New Media Studies, but requires more responsibility, vision, and leadership. Two or three students are chosen every year to participate at the honors level and manage the CatlinSpeak staff as editors. Duties include running meetings, tracking deadlines for multiple staff members, working with staff to grow ideas into publishable material, having an extra weekly meeting with course advisors, advertising to the school and larger community, assisting in creating course content, and staying apprised of the latest trends in digital and print media. On occasions, honors students are required to organize public events such as the two mayoral debates hosted by CatlinSpeak in 2012. Enrollment is by Consent of Instructors.

Semester Electives

The Constitution in American Life and Society (Spring 2016; Honors)

This course is an investigation of the US Constitution as a document active in American lives past and present. By examining constitutional debates, judicial decisions, and through a close reading of the Constitution itself, students will consider issues from the balance of power between the branches of government, the right to declare wars, and civil rights. We will study historical issues in depth, such as the background to and creation of the Constitution and key cases, including Brown v. Board of Education and Roe v. Wade. Students will also research, debate, and write essays on a number of current constitutional debates—including cases now and soon to be before the Supreme Court, including campaign finance, same-sex marriage, and government surveillance programs. The semester is capped with a creative assignment in which students will use video, audio, a graphic novel, or some other medium to share their research on a contemporary constitutional issue. This course is open to Seniors.

Economics (Fall 2015; Honors)

What are the smartest economic choices to make for your financial future? How can we create and measure economic growth? What is the value of a dollar? What is the value of an ocean? What does economic justice look like? Why did the housing market collapse in 2007, and what is the best way to respond to this problem? To what extent can economic models help us predict the future? This course introduces students to the economic tools and reasoning required to address these—and many other—sophisticated questions, and to help inform student choices as consumers, workers, and citizens. In addition, this course is focused on redefining and framing economic ideas, issues and models for a new generation – Generation Z – a generation that will inherit and create a new economic world. Both national and international contexts will be engaged through economic models, books and journalism to examine economic issues now and in the future. This course is open to Juniors and Seniors.

Foresight Studies: Methods for Understanding 2050 and Beyond (Spring 2016)

This class introduces students to the field of foresight studies and the tools used by futurists. This course is one of the first formal foresight studies courses in the nation and will be supported by the “Teach the Future” non-profit initiative. Students will engage in horizon scanning and trend analysis, scenario thinking, use futures wheels, analyze the attributes of social change, and consider preferred and alternative futures. Foresight professionals from the business world and academia will talk with students about the increasing value of their work for private companies and public institutions alike. Throughout the course, students will develop their creative and critical thinking skills, research skills and communication skills in their exploration of futurist methodologies. Students and teacher will organize the first 2050 Futures Conference in Portland and will prepare and deliver a 10-minute presentation on a topic of their choice at this conference. This course is open to Sophomores, Juniors and Seniors.

Globalization: Debates & Controversies (Fall 2015; Honors)

Globalization is both a process and a state of being. We can see that the world is swiftly becoming ever more interconnected: blueberries from Chile, iPhones from China. It is also a way of thinking: we know we are connected to people in Korea, India, and elsewhere in new ways and we therefore think about our role in the world differently. Globalization occurs at the level of economics, politics, culture, and the physical environment; it can be resisted but undeniable it shapes our lives. In this semester-long course, we will examine the ways in which globalization is taking place and consider our role in these quickly changing systems. First, we will look at the way the global economy works by learning about the World Trade Organization and other such global bodies as well as free-trade agreements, including the controversial Trans-Pacific Partnership. We will examine the processes of outsourcing and offshoring, thinking about how they affect lives everywhere. Is the new global economy fair? Is globalization ultimately a good thing for people in developing nations because of rising standards of living, or is it destroying vital and irreplaceable local cultures? Students will consider the debate between seeing these and other changes as “globalization” or “Americanization.” Then we will turn to the issue of climate change policy, a vexing global issue that demonstrates the intimate interplay between nations, peoples, institutions, and cultures. Can globalization help us solve this increasingly urgent problem? This course is open to Seniors.

Measuring Success—The Analytics Revolution (Fall 2015; Palma Seminar; Honors)

What does it mean to be successful? How can we measure that success and track improvement over time within a specific field? What are the keys to taking a good product and making it great? And how can a team function most cohesively, ensuring that, through effective collaboration, the whole is greater than the sum of its parts? This course will develop tools for defining and measuring success through the fields of sports analytics, educational theory, business, and psychology before ultimately formulating strategies by which people and organizations can elevate themselves from good to great. This course is open to all Upper School Students.

Modern Middle East (Spring 2016; Honors)

Where did ISIS come from? What tools do experts use to predict the fate of Syria? What hopes are there for improving Palestinian-Israeli relations? How is the world’s greatest refugee crisis (from Syria) transforming neighboring states? What the heck is going on with the price of gasoline? What happened to the bright lights of the Arab Spring, and how will the struggle for supremacy between Saudi Arabia and
Iran play out, particularly in the shadow of U.S. efforts to challenge Iran’s nuclear policy? These and other questions will be engaged in this course, which starts in the late 19th century, with the spread of Western imperialism in the region, examines the rise of secular nationalism in the age of decolonization, and lands squarely in today’s cauldron of religious ferment, ethnic conflict, and revolutionary hopes for a better tomorrow. Student research and oral presentations will be the major form of assessment in the class, which will adapt to the events as they are unfolding.

This course is open to Juniors and Seniors.

Sports and Human Rights (Spring 2016; Palma Seminar; Honors)

We are living through a stretch in which a number of dubious regimes host major international athletics competitions—the Beijing Summer Olympics, the Sochi Winter Olympics, and Qatar’s World Cup, among others. Of course, this isn’t new; Nazi Germany famously hosted the 1936 Olympics while Argentina’s military dictatorship celebrated that country’s home-field championship in the World Cup. To what extent does bringing international competitions to problematic states promote the cause of human rights and political freedom? Do these events spur economic development that is beneficial to all? Those competitions serve as a jumping-off point for a broader examination of the intersection of sport and human rights throughout the world in the 20th and 21st centuries. How can sport serve as a vehicle for social change and justice, and under what circumstances does it reinforce elite interests? This course is open to all Upper School Students.

Sustainable Cities (Spring 2016)

Sustainable Cities is a new course, taught in part at Catlin Gabel’s new PLACE Center in North Portland. The course will employ a project-based, youth-led approach to seek answers to many important questions:

• What will a sustainable city look like in the future? How do physical environments both reflect and perpetuate inequality?
• How can students work alongside a diversity of groups to make positive change?
• How is the issue of climate change related to economics and equity?

Course work will center on theories of social change and social justice as well as the interrelated racial and environmental histories of Portland. Sustainable Cities seeks to help students become informed, active citizens in their local communities and form habits of coalition building. Therefore, project work will involve co-learning with students from other schools; late in the semester, students will turn back to the Catlin campus and pursue an issue related to environmental and social justice close at hand.

Please note: Students will be required to spend time off-campus and participate in the Sustainable Cities Winterim, which will be held at the PLACE Center. However, this offering will not take more time than any other semester-long elective. The course will end the first week of May instead of June. All Sophomores, Juniors, and Seniors are eligible to take this offering.

Transitional Justice (Fall 2015; Honors)

How can a country, scarred by genocide, ever recover and regain a sense of normalcy? How can two rival factions, each guilty of committing horrible atrocities against the other, ever learn to live together in peace again? How can victims of torture rebuild their internal worlds while their external circumstances remain equally fractured? This course studies the field of transitional justice, through which countries and the international community endeavor to move from chaos to stability, to punish the guilty, to document the historical truth, and to help the victims heal. Subjects include the Holocaust and the experience of surviving German Jews after the war, apartheid-era South Africa and the Truth and Reconciliation Commission, and the Argentine military dictatorship and the struggle to find children kidnapped from the government’s victims. People interested in law, history, international relations, human rights, and current events will be interested in this class. This course is open to Seniors.
Modern Languages

Chinese

Chinese I

Chinese I is designed to introduce Mandarin Chinese to students who have no or very little background in the language. It is a basic introduction to Chinese language and culture. Students start to learn Chinese phonetic system (pin yin) and Chinese characters. It introduces basic vocabulary and basic linguistic skills including introductions, greetings, directions, who and how questions, time, locations, dates and numbers, what questions, and expressions.

Chinese II

Chinese II continues to develop the language skills learned in Chinese I. Students should be able to explain cause and effect, compare and contrast ideas and objects, and participate in simple discussions on a wide variety of topics including personal care, entertainment, shopping, sports, recreation, and telephone queries.

Chinese III

Chinese III begins with a review of grammatical concepts and usage learned in Chinese II. The class will continue to learn grammar that will enable them to express their opinions, intentions, desires, and personal interests, gifts and holidays, weather, travel, dining and meals. Chinese will be the official language of the classroom.

Chinese IV

Chinese IV reviews the grammatical concepts and structures learned in Chinese III and uses those concepts as the building blocks for new and more complex constructions. Students continue to study characters and to develop more sophisticated reading and writing skills. Students read short stories and articles in Chinese adapted from authentic materials. Students practice conversational skills in a broad range of topics.

Chinese V / VI (Honors)

In this honors-level course, students learn more grammar and concepts that enable them to communicate accurately in various social and cultural contexts. Video or culturally authentic materials and literature will be employed as they tie in with the theme of each chapter. Students who complete Level V and would like to continue their study in Chinese have an option to take the course at Level VI the following year.

French

French I: Communication and Comprehension

This course is designed for new students of French and for those with previous experience who are not sufficiently prepared for the Upper School second-level course. It gives students the ability to function adequately in French as they use oral and written expression, listening, reading, and interactive speaking skills. Students acquire essential vocabulary and grammatical structures, including present, past, and future tenses. The course is conducted in French, with English explanations if necessary, particularly in grammar. Cultural knowledge is an integral part of both language learning and successful communication.

French II: Interpersonal Communication

This course involves continued work on acquiring grammatical structures and vocabulary, as well as developing greater competence in speaking, listening, reading, and writing. The course promotes a massive review of vocabulary, grammar, and structures while introducing students to the richness and diversity of the Francophone world. Students understand and interpret written and spoken language on a variety of topics—oral, written, recorded, and videotaped. They engage in conversations and communicative exchanges. Role playing is a key part of the course. Cultural knowledge is an integral part of both language learning and successful communication.

French III: Interpretive Communication

This course is designed to increase students' overall language proficiency—their ability to hear, speak, read, and write French with ease and confidence, while simultaneously expanding their cultural knowledge and broadening their worldview. The course is conducted in French. Course materials include the Latitudes 3 books, Grammaire en Dialogue, news articles and podcasts, French websites, songs and films, plays, fables, and poetry, including works by Molière and Jean de la Fontaine. Through exposure to these materials and a focus on new grammatical concepts, students learn to use more sophisticated vocabulary, complex grammatical structures, and all of the major verb tenses and moods, including the conditional and the subjunctive. In addition to exploring current topics in the media, students in French III are exposed to 17th-century French literature. French III concludes with a survey of the many Francophone countries of the world, enabling students to expand their worldview.

French IV: Conversation & Composition

Students are expected to have mastered the fundamentals of written and oral expression in view of the more complex and linguistically sophisticated material under study. Students learn major grammatical structures, read extensively, and develop increasing accuracy in written and oral expression through discussion of literary texts and essay writing. The course is a unique approach to literature, encouraging students to read and create with the language as they explore both classical and non-traditional French and Francophone literature. Excerpts are selected to facilitate reading activities and to break down the fear and mistrust that many students have of authors and their works. Designed to build the comprehension and verbal expression of the students while developing critical thinking skills, this informative course develops elements of the present French civilization.
Spanish

Spanish I: Foundations

In level one the oral, writing, reading, and cultural aspects of beginning Spanish are fundamental. Students are encouraged to engage in spontaneous and practical conversation using the present and near future tenses. At the same time, they learn to write simple, grammatically accurate phrases in an environment stressing cooperation, creativity, and familiarity with the culture. Students hear and employ a gradually increasing amount of Spanish in class. We incorporate the textbook Vistas I, as well as tapes, videos, games, and slides, and guest speakers are incorporated into the main curriculum.

Spanish II: Communication A

This course is designed to refine further students’ listening, speaking, writing, and study skills in a communicative classroom. Students will master and expand upon foundational skills by focusing on more detailed accuracy in their language acquisition, as well as decreasing their dependence on English thought and speech patterns. Increased emphasis will be placed on oral production and the ability to communicate in real-world situations on a vast range of topics. Class will be held almost entirely in Spanish.

Spanish III: Communication B

Level three involves study of grammatical structures and verb tenses, the acquisition of additional vocabulary and idiomatic expressions, and the development of a solid oral proficiency at the intermediate-high level. Students focus on mastering the skill of narrating past, present, and future events with a particular emphasis on the ability to manipulate the various past tenses, plus the conditional and the subjunctive. Classes are conducted entirely in Spanish, and students participate verbally every day. A variety of methodologies will be used to study the language, including the use of technology and multimedia, as well as incorporating authentic materials.

Advanced Spanish III: Communication B (Honors)

Students will be presented with more challenging material, asked to take their learning even deeper, and held to higher proficiency standards and expectations.

Spanish IV: Composition & Conversation

This course reviews complex grammatical structures and verb tenses, the acquisition of specialized vocabulary and idiomatic expressions, and the development of a sound oral and written proficiency at the upper-intermediate / advanced level. Many kinds of texts will be studied and analyzed from newspaper articles to commercials, literature, and film. Students will engage in class discussions and debates—always in the target language—and will frequently write analytical responses and research papers about the topics and texts presented in class. Descriptive, persuasive, expository, and narrative text will frequently be part of homework, and a peer review system will be in place to ensure a high quality production of texts in the target language. Classes are held fully in Spanish.

Advanced Spanish IV: Composition & Conversation (Honors)

Students will be presented with more challenging material, asked to take learning even deeper, and held to higher proficiency standards and expectations.

Spanish V: Communities & Service Learning

This course focuses on three main themes—immigration, social justice, and identity. Over the course of the year, our studies and exploration of these topics will take us from Oregon and the United States, to Cuba, Central and South America, Africa and Europe. We will read, and thoroughly analyze, 4 major works: Nos quitan nuestros trabajos! y 20 mitos más sobre la inmigración by Aviva Chomsky (United States), Cajas de cartón by Francisco Jiménez (United States), Réquiem por un campesino español by Ramón J. Sender (Spain), and Como agua para chocolate by Laura Esquivel (Mexico). In addition to these novels, we will read short stories, poems, academic articles and news pieces related to the course themes. Students will engage in literary discussion, debate, critical thinking, and use their Spanish outside the classroom in the form of service and experiential education projects. While this is not a grammar intensive course, we will review grammar topics as needed to improve and strengthen our overall knowledge and use of Spanish.

Honors Spanish: Seminar A (Honors)

In the first semester, students will apply Spanish language skills to the study of people, cultures, and communities in 22 Spanish-speaking countries, including the United States. The course will focus on key issues that have affected and/or are affecting the development of these communities. Students will gain the historical perspective needed to better understand Portland’s thriving and steadily growing Hispanic/Latino population. Project-based learning, and service and experiential learning will be integral components of the curriculum to make our work engaging and relevant. In the second semester, students will apply their Spanish language skills to the study of the written work of contemporary women writers from the Hispanic world. We will explore a variety of genres and topics over the course of the semester. We will discuss the works of writers including Esmeralda Santiago, Julia Álvarez, Laura Esquivel, Josefina Aidecoa, Wendy Guerra, Rigoberta Menchú, Isabel Allende, Cristina Garcia, Gloria L. Velásquez, Bessy Reyna, and Pam Muñoz Ryan. Along with our analysis we will also contextualize the work of these authors within a cultural framework. This will be a reading intensive class.

French V: Literature & Art (Honors)

This course provides an in-depth, intensive study of the language. Through a large number and variety of excerpts, novels, poetry, and articles from the current press, students explore topics of historical and cultural interest. These present challenges from both the vocabulary and the text itself. Students engage in literary discussion, debate, and critical analysis of French art, and write in the methodology of expository papers in French. Students are encouraged to put aside their own cultural vision in order to learn from the values of other cultures. Plays and films complete the course to develop deeper critical thinking skills and to understand the cultural and social contexts of the French-speaking world. Student interests guide the selection of films and topics. Cultural knowledge is an integral part of both language learning and successful communication.

Spanish II: Communication B

This course is designed to refine further students’ oral production and the ability to communicate in real-world situations on a vast range of topics. Students are engaged in literature discussion, debate, and critical analysis of French art, and write in the methodology of expository papers in French. Students are encouraged to put aside their own cultural vision in order to learn from the values of other cultures. Plays and films complete the course to develop deeper critical thinking skills and to understand the cultural and social contexts of the French-speaking world. Student interests guide the selection of films and topics. Cultural knowledge is an integral part of both language learning and successful communication.

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Advanced Spanish IV: Composition & Conversation (Honors)

Students will be presented with more challenging material, asked to take their learning even deeper, and held to higher proficiency standards and expectations.
Mathematics

Required

Math 1 (Year)
This is a comprehensive course in which students master fundamental algebraic topics and techniques. These include evaluation and simplification of algebraic expressions, solving and graphing linear equations, linear systems, operations with polynomials, radical and rational expressions, elementary statistics, and factoring. Throughout the course students encounter many opportunities to gain problem-solving skills and number sense. Students use manipulatives to gain an understanding of abstract concepts. Those who successfully complete this course enroll in Math 2 the following year.

Math 1b (Year)
Students finish mastering fundamental algebraic topics and techniques. These include evaluation and simplification of algebraic expressions, solving and graphing linear equations, linear systems, operations with polynomials, radical and rational expressions, elementary statistics, and factoring. Throughout the course students encounter many opportunities to gain problem-solving skills and number sense. Students use multiple methods to gain an understanding of abstract concepts. Those who successfully complete this course enroll in Math 2 the following year.

Math 2 (Year)
This course focuses on concepts of geometry through most of the year, such as parallel lines, triangles, quadrilaterals, circles, and area and volume. Software programs, a graphing calculator, and manipulative tools such as patty paper, compass, and straightedge are used to help students discover fundamental geometrical and algebraic relationships. In the spring the class will begin an introduction to advanced algebra topics.

Advanced Math 2 (Year; Honors)
This course will cover all of the topics of Math 2, at a greater level of depth. We will place extra emphasis on integration of multiple topics and concepts. Additional topics may be included.

Algebra II/Geometry, Year Two (Year)
This course is the second in a two-year sequence and continues to integrate geometry and intermediate algebra concepts, but now emphasizing deductive reasoning. Students write various forms of formal proofs in order to establish many of the geometrical and algebraic conjectures they formed in the previous course, as well as additional principles. New topics include congruent triangles, inequalities in triangles, solid geometry, real number exponents, inverse functions, higher degree polynomial functions, exponential and logarithmic functions, complex numbers, Pythagorean proofs, rational functions, and coordinate geometry proofs. Prerequisite: Algebra II/Geometry, Year One, or the equivalent.

Accelerated Algebra II/Geometry, Year Two (Year; Honors)
This course will cover all of the topics of Algebra II/Geometry, Year Two, at an accelerated pace and a greater level of depth. Additional topics may be included. Prerequisite: Algebra II/Geometry, Year One, or the equivalent; Consent of the Instructor and the Department Chair.

Intermediate Electives

Functions, Statistics, and Trigonometry (Year)
This course provides instruction on functions, statistics, probability, and trigonometry for the general college preparatory student. Emphasis is placed on polynomial, exponential, logarithmic, and rational functions, and the development and use of the trigonometric functions on the unit circle (including the study of right and oblique triangle applications). It also includes a component on the gathering and use of data to address real-world issues, statistical influence, and probability.

Math Teaching Assistants (Year)
Teaching assistants are vital contributors to our classes. TAs attend class each day, help students with practice problems and resolve homework difficulties, answer questions, and grade homework. In addition, they run review and extra-help sessions. As the year progresses, TAs plan and teach full lessons. Prerequisite: Consent of Department.

Statistics 1 (Fall 2015)
This course will cover gathering, describing, and displaying data, and topics in probability. Students will learn how to gather data by conducting censuses, surveys, and experiments around their school. We will also cover topics including, but not limited to, boxplots, the Normal model, and linear regression.

Statistics 2 (Spring 2016)
This course will cover how to analyze data using statistical methods. Students will study confidence intervals and tests of inference including, but not limited to, hypothesis tests for proportions and means and the Chi-squared test. With the tools from this course, students will be able to form educated opinions from data on questions ranging from, “Is global temperature increasing?” to “Do SAT scores predict success later in life?” We will always strive to connect the statistical material learned in class with real-world applications to economics, elections, weather, and other themes. The two major goals of this course are for students to see the connection between mathematics and the real world, and for them to gain the tools to discern between reliable and questionable data that they are confronted with in everyday life. Statistics 1 is a useful, but not mandatory, prerequisite.
Advanced Electives

Precalculus (Year)
A short review of the concepts of functions and their properties is followed by a thorough study of circular and triangular trigonometry. Students study conic sections, logarithmic and exponential functions, the graphs of rational functions, Binomial Theorem, arithmetic and geometric series and sequences, polar coordinates, 2-D vectors, polynomial graphs and functions, and parametric equations. Students use paper, pencil, and graphing calculators. Completion of this course prepares students to take Honors Statistics and/or Honors Calculus I.

Prerequisite:
Algebra II/Geometry, Year 2, or the equivalent.

Accelerated Precalculus (Year; Honors)
Topics covered include all of those listed for Precalculus. In addition, Accelerated Precalculus includes three-dimensional vectors, DeMoivre’s Theorem, and mathematical induction. This course is for students who have a strong interest in mathematics and want to pursue advanced topics in great depth. Students are prepared to take Statistics and/or Calculus I upon successful completion of this course. Prerequisite: Algebra II/Geometry, Year 2, or the equivalent.

Calculus (Year)
This course will introduce students to the basics of differential and integral calculus. Concepts of the derivative as a slope and the integral as area will be explored using real-world examples as well as from a numerical, algebraic, visual, and verbal perspective. Activities using technology (Geometer’s Sketchpad, Mathematica, Desmos, etc.) will be utilized to help students understand concepts. Introductory rules for finding derivatives and integrals will be mastered and applied. This course is for students who want an introduction to calculus, but without the rigor required of preparing for an AP level exam.

Honors Calculus I (Year; Honors)
Students enrolling in this course are assumed to have strong fundamental algebra and precalculus skills. Topics include limits, continuity; derivatives, integrals and their applications, slope fields, and separable differential equations. Concepts are approached through a three-step process: graphically, numerically, and analytically. Graphical analysis plays a major part in the development of many concepts. Students are prepared to take the Advanced Placement Calculus AB exam in May. Prerequisite: Precalculus or Accelerated Precalculus.

Honors Calculus II (Year; Honors)
This course is a continuation of Calculus I and includes infinite sequences and series; parametric, polar, and vector function calculus; slope fields; Euler’s method; L’Hôpital’s rule; improper integrals; integration techniques; and an introduction to differential equations. If time permits, multivariable calculus is introduced. Students are prepared to take the Advanced Placement Calculus BC exam in May. Prerequisite: Calculus I or the equivalent.

Honors Statistics (Year; Honors)
This course begins with an in-depth study of descriptive statistics, variation, and probability, which leads into the study of inferential statistics. Topics include the concepts of statistical models and use of samples, variation, statistical measures, sampling distributions, probability theory, tests of significance, one-way and factorial analysis of variance and covariance and elementary experimental design, multiple linear regression and correlational design, and chi-square. If time permits, a few of the following topics will be presented based on student interests: continuous random variables, Monte Carlo Methods, nonparametric statistical methods, multivariate analysis of variance and covariance, hierarchical linear modeling, and exploratory factor analysis. In addition, students will learn how to critically analyze quantitative research, evaluate the evidence on which generalizations are made, and write a quantitative methods paper.

Math Scholars Seminar (Year; Honors)
This course will look at previously learned topics ranging from algebra to calculus and statistics from a completely different perspective. The perspectives are modeling, applications and proof. Though the mathematics will be related to previously learned topics, the objective of this course will look and feel completely different. We will use problem solving skills to solve problems. We will design elevator speeds, optimize materials for bug nets in developing countries, hack into iPhones as well as investigate patterns and prove conjectures. Students will work in collaborative groups and present their solutions or write findings in an essay. Prerequisite: Accelerated Precalculus.
Required

Science I & Science II
These courses are a two-year integrated sequence of biology, chemistry, and physics. We will explore the fundamental concepts of energy, chemical and physical properties of matter, electricity, chemical reactions, biochemistry, cell biology, physiology, evolution, and ecology. Current issues in science will be used to establish a sound foundation in science while highlighting the links between disciplines. In doing so, students will acquire skills in laboratory techniques, critical thinking, the scientific process, and the philosophy and theory of science. Students will learn to write lab reports, translate scientific inquiry into experimental design, and apply mathematical problem-solving to scientific analysis. In the process, students will become informed about current developments in science.

Accelerated Science I & Science II (Honors Level)
These courses cover all of the topics of Science I and II at an accelerated pace and a greater level of depth. Additional topics may be included. Prerequisite: Consent of the Instructor and the Department Chair.

General Electives, Year

Geology
This year-long course focuses on physical geology. Students will study the earth and its many landforms, how they have come to be the way they are now, and how geologic processes affect the ways that they continue to change. The theory of plate tectonics provides a useful framework through which to understand many of these processes. An appreciation of the expense of geologic time is formed as we consider the extensive changes wrought by extremely slow processes. The understanding of the variety of landforms and processes is enhanced and extended through lab activities and extensive use of audiovisual material. The interesting and well-exposed geology of the Northwest provides excellent opportunities for field trips. Prerequisite: Science II

Psychology Seminar
In this introductory course, students will research concepts related to brains, behavior, cognition, learning, and memory. Topics will include brain plasticity, psychodynamic theory, evolutionary psychology, and neuropsychology. Students meet regularly to discuss topics and present research. This Pass/Fail course meets once per cycle. It is open to seniors and is worth one-half credit in science. This course is open to Seniors. (Note: Students receive science credit, but this course does not count towards a student's three-year science requirement.)

Science Teaching Assistant (Year or Semester)
Teaching assistants are vital contributors to our Science I and Science II classes. TA’s attend class each day and work directly with students. TA’s help check daily homework, help students having difficulty with the material, set-up and take-down labs, and assist in the lab. As the year progress TA’s may be involved in planning and teaching the class. Prerequisite: Approval of Department. (Note: Students receive science credit, but this course does not count towards the three-year science requirement.)

General Electives, Semester

Anatomy and Physiology (Spring 2016)
In this course, students will study form and function across a wide range of plants and animals to understand how organisms maintain homeostasis. The class uses a comparative approach to investigate how organism structure relates to function, including highlights of specialized features in organisms adapted to unique conditions. Laboratory activities will include experimentation, dissection, and microscopy work.

Chemistry and Microbiology of Food (Fall 2015)
This semester-long course examines the biology and chemistry of food. We will look at foods and food systems in scientific terms and investigate how basic scientific principles explain the processing, preparing, and storage of foods for human consumption. Included will be the production of fermented foods, the chemistry of baking reactions and the properties of proteins that are important for food function. The course will also examine food safety and the risks posed by toxins to our food supply. Practical exercises will include bread-making and fermented food production.

Ecology (Fall 2015)
In this course, we will delve more deeply into topics that were introduced in Science I and Science II to learn about the relationship between organisms and the environment in which they live. Why do some plants and animals exist in one place but not another? By the end of the semester, students should understand how individual organisms are specialized to inhabit specific niches in the limited number of places they are found on Earth.

Environmental Science (Spring 2016)
This course will focus on educating students to become discerning and actively engaged citizens regarding a range of environmental dilemmas. Topics covered will include Environmental Justice, an in-depth comparison of renewable and non-renewable energy sources and the future of energy, the chemistry of air and water pollution, and the conservation/preservation of selected natural ecosystems. Recommended (but not required) prerequisite: Ecology.

Evolutionary Biology (Spring 2016)
This course focuses on the processes of evolution and the patterns generated by these processes. The aim is to develop a scientific way of thinking about biological diversity. How can we account for the extinction of (non-avian) dinosaurs and the existence of milts that crawl around our eyelashes? How did some insects come to look so much like sticks? We will seek explanations for such patterns of diversity and for the apparent “good fit” of organisms to their environment. Topics covered include the theory of evolution by natural selection (review of Science II), concepts of fitness and adaptation, the genetic basis of evolutionary change, modes of speciation, molecular evolution, principles of systematic biology, extinction, paleontology and macroevolutionary trends in evolution, and human evolution.
Experimental Chemistry (Fall 2015 or Spring 2016)
This semester-long course investigates fundamental chemistry concepts through frequent experimentation. Topics covered include chemical bonding, reaction stoichiometry, solution chemistry and colligative properties, chemical equilibrium, acid-base chemistry, and oxidation and reduction. This course is a prerequisite for Advanced Chemistry. Experimental and/or Organic Chemistry are recommended prior to enrollment in Advanced Biology.

Neurobiology (Spring 2016)
How does a single neuron work? How do collections of neurons cooperate with each other? How does an entire nervous system function to sense and interact within an environment? In this class, we will study the molecular and cellular processes that underlie sensation and perception. Then, by exploring the basic structure and function of nervous systems across a wide range of organisms, we will find patterns in how an organism’s sensory and perception abilities are determined by specific features of its nervous system. Finally, we will examine complex behaviors as emergent properties of these neurobiological systems.

Organic Chemistry (Spring 2016)
This course will delve into the world of carbon-based chemistry. Students will discover the large variety of compounds that can be produced with only a few simple elements. This laboratory-based course will look at many different classes of organic compounds, including alcohols, ketones, and esters. The course will also explore applications of organic chemistry to biology and to industry; students will learn to make aspirin, oil of wintergreen, and nylon! Experimental Chemistry is helpful, but not required, prior to enrollment in this course. Experimental and/or Organic Chemistry are recommended prior to enrollment in Advanced Biology.

Ornithology (Spring 2016)
This will be a field-oriented class, requiring several field trips throughout the semester. The final trip to Malheur National Wildlife Refuge in the month of May will be required for credit. In class, we will study the different families of birds found in Oregon. We will also note which species are found in which biomes and what habitats they prefer. We will study the special adaptations of avian anatomy and physiology that make it possible for birds to function as they do. Much time will be spent learning how to identify, by sight and sound, the different species of birds found in Oregon, thus beginning what we believe will be a lifelong hobby.
Performing Arts

Advanced Instrument Study (Year; Honors)
For the serious instrumental music student, you may apply to receive .5 arts credit for your hours of practice and preparation as a musician. Students pursuing this credit will be guided by on-campus faculty to refine pieces for public recital in the community. Scheduling is completed in August. Please note: This course does not count toward the 2-year arts requirement.

Class Piano (Fall 2015)
Always wanted to learn how to play piano but never learned how? Students will learn the fundamentals of piano and sight-reading music, and will prepare a piece to present in a public recital.

Improvisational Theater (Fall 2015)
Students have the opportunity to explore the world of improvisational and non-traditional theater through ensemble-based work, theater games and improvisation, devising, and student-created work. Open to both beginners and experienced performers.

Jazz Band (Year)
Intermediate and advanced instrumental students have the opportunity to study and perform jazz. Typical instrumentation includes trumpet, trombone, clarinet, saxophone, electric or string bass, guitar, piano, and drums. Auditions take place in June.

Musical Theater: Dance Intensive (Fall 2015)
This semester will focus on dance for musical theater and developing material with a heavy dance focus. We will have a strong tap focus, in addition to jazz and other styles for musical theater. Dance skill development will take priority, along with exploring dance history in musical theater and choreography for musical theater.

Musical Theater: Vocal Intensive (Spring 2016)
Musical Theater performance and history class, focusing primarily on developing vocal skills and performance. Song selections will include solos, small group numbers and full ensemble pieces and will include work on harmony, vocal production, interpretation and acting choices along with staging and some dancing.

Scene Study (Spring 2016)
Students will build on their theatrical foundations by delving into scene study and text analysis. This course will combine in-depth play analysis with practical application of acting theories and techniques ranging from Stanislavski to Meisner. Texts will draw from across the theatrical canon. Prerequisite: Intro to Acting or consent of instructor.

Scene Study (Spring 2016)
Students will be given tools to create music ranging from electronic computer programs, learning the basics of guitar and piano, basic music theory, song writing and poetry structure, and utilization of other musicians or producing. The course will be project based, designed around creation of compositions.

Theater Tech: Play Production (Year)
This course will provide students with an opportunity to participate in the areas of lighting, sound, scenic design and construction, costume design and implementation, and props. These five basic design areas of theater will allow students to develop their skills in planning, communication, technical execution and problem solving as well as making use of their talents in the fine arts, music, visual perception, sewing and craft work. Students will have an opportunity to learn and develop these skills on a measured and evenly progressed basis throughout the semester so that they can participate in the drama performances with a solid foundation in all areas of design. They will be given exposure to all five areas, but will have an opportunity to pick one area of main interest for further study. Prerequisite: Consent of Instructor.

Visual Arts

2D Design and 3D Engineering (Year)
This course will introduce the practices and processes of 2-D Design and 3-D Design within the Engineering, Architecture, and Industrial & Product Design fields. The 2-D component will include drafting, observational drawing, blueprint layout, and composing schematics. The 3-D Design component will be centered on conceptualizing and building physical objects, structures, sculptures, and installations. This course will cover much of last year’s Structural Engineering and Design class that Chris team-taught with Science teacher Becky Wynne, but this time...
around, the curriculum will favor an in-depth focus on developing drawing/drafting skills balanced with processes of building physical objects with a wide variety of materials. Building upon their collaborative relationship from SDE last year, Chris & Becky will be working together, but Chris will lead while Becky guest stars throughout the course to offer her insights and experiences in architectural and structural engineering.

**Advanced Film Production (Year; Honors)**

In this self-managed program, the most advanced film students will sequence and edit a feature-length film to submit to outside film festivals as well as preparing a reel of their previous work. Students will study advanced topics in cinematography, editing, and directing and apply theory to their own work. These students will be responsible for organizing and adjudicating the Catlin Gabel Student Film Festival in late April 2016. **Prerequisite:** Genres or Consent of Instructor.

**Applied Media Arts: Documentaries (Spring 2016)**

In this follow-up to Media Arts, students will learn to specialize in the art of documentary. Students will learn techniques and workflow for creating works in audio and video as well as exploring a variety of documentary genres from RadioLab to Reality TV.

**Applied Media Arts: Time-Based Arts (Fall 2015)**

Attention: Filmmakers, artists, performers and coders: interactivity is the name of the game with this new state-of-the-art arts course. We’ll learn how to create interactive arts experiences that incorporate performance, video, sculpture, and more. Projection mapping, arduino boards, hacking devices such as the Kinect or Wii to capture motion, and artist-friendly computer programming will all be explored. Students should have some background in ONE of these areas: theater, dance, filmmaking, or programming. We’ll share our skills to make really cool, contemporary art.

**Ceramics (Year)**

Students work with clay and glazes in both functional and sculptural projects. They acquire the basic skills required to throw simple forms on the potter’s wheel and work with slabs and coils to construct hand-built forms. Many specific projects are assigned, but time will always be available for students to work on projects of their own design. **This course is open to juniors and seniors.**

**Drawing & Printmaking (Year)**

Students will explore a wide variety of drawing and image-making in this year-long course. We will challenge a number of preconceptions and expectations including what a “drawing” and “print” can possibly be. Artists will explore creating unique pieces via 2-D, 3-D, mixed media, and printmaking techniques. “Drawings” and “Prints” will be made using graphite, ink, wood burning, mixed media, charcoal, wire, block printing (woodcuts, linocuts), collographs, monoprints, stencils, and screen printing. Some pieces will be works on paper, while others will be produced on wood, t-shirts, and other surfaces. We will edit a series of multiples, exchange prints with each other, screen print on t-shirts, and make unique artist books. Whether you are new to visual art-making or very experienced, this hands-on and process-driven course is sure to add valuable technical and conceptual experience.

**Fashion Design (Year)**

Chris Mateer and visiting artist Bobby Bonaparte (CGS alum, Lift Label, Olderbrother) will lead this year-long studio focusing on the design and creation of unique pieces of clothing, accessories, sculptural objects, and/or wearable art. Processes to explore will include pattern and template design, sewing, and/or other alternative fabrication methods, utilizing non-traditional materials, various methods of dyeing, photography, screen printing & block printing, and drawing. In addition to making things, students will study the fundamental elements of graphic design and three-dimensional design, as well as learn about historical and contemporary fashion designers, artists, and how to identify and spark their own trending ideas and concepts. Throughout the course, Bobby Bonaparte will introduce the class to his professional networks, artists community, as well as share his personal experiences and insights into the fashion field. The course will culminate with a group fashion show and/or installation. **Genres (Year; Honors)**

This honors art course is designed for juniors and seniors who are advanced media production students. Participants will learn about various documentary and narrative film genres and will produce short, scripted films based on content developed in their English classes. This class will meet two times per week for the entire year; upon completion, students will receive one full credit. **Prerequisite:** Media Arts, Creative Writing, Directing, Advanced Play Production, Acting, or Consent of Instructor.

**Honors Portfolio (Seniors: Fall 2015, Juniors: Spring 2016; Honors)**

Honors Portfolio is a studio-intensive course where advanced students in fine arts (drawing, painting, sculpture), design (fashion, industrial, and product design) and digital arts (photography, graphic arts, and multimedia/video art) can develop portfolios for college admission. Student artists are given creative prompts to work through based on trends in contemporary and historical artistic practice. Students develop a “Concentration” consisting of a series of pieces linked by materials, process, and/or thematic concept. In addition, artists collaborate and critique one another’s work and meet one on one with teachers for instruction in technique. This is a demanding course requiring a dedication to individual studio practice, in-depth inquiry, and a commitment to outside of assigned class meeting times. **Prerequisite:** 2D or 3D arts class.

**Media Arts (Year)**

Students will learn the fundamentals of video production including lighting, cinematography, sound recording, and editing. Although intended for the novice filmmaker, experienced students are welcome, and projects will be adapted to challenge their individual skill levels. Class time will be primarily devoted to projects that may include video poetry, music videos, public service announcements, short features, and documentary projects. Our emphasis will be on developing projects from concept (preproduction) through construction (production and postproduction) to culmination (screening).

**Photography: People (Fall 2015)**

This semester-long option may be taken in sequence with the follow up course Photo: Places in the spring or independently. Students in this class will learn foundational skills in photography including how to operate a DSLR, supplemental lighting tools, and editing software to produce amazing images every time. Projects will range from portraiture to fashion to photojournalism. We’ll work in the studio and on the streets of Portland to build a portfolio of our best work.

**Photography: Places (Spring 2016)**

This semester offering may be taken on its own or in sequence with the fall course Photo: Places. Students will learn foundational skills in photography including how to operate a DSLR, supplemental lighting tools, and editing software to produce amazing images every time. Projects will have students shooting still life, architecture, street art, landscape and action. We’ll work in the studio and on the streets of Portland to build a portfolio of our best work.

**Woodworking (Year)**

Students will work on a variety of assigned and independent projects, using both hand and power tools. Examples of projects include bowls, plates, lamps (lative work), tables and chairs, jewelry, mask, tools, and sculpture. Some of the techniques we explore include lamination, steam bending, jig design and construction, and mechanical drawing. Interest, imagination, and perseverance are the essential ingredients needed for this course.

**Genres or Consent of Instructor.**
Computer Science

Introduction to Computer Science (Year)

This class focuses on designing and writing computer programs. No prior experience with computer programming is assumed. Students are taught to analyze a problem, describe a solution, and implement their solution in a computer-programming language. Currently, the class uses the Python programming language. Students use functions and classes to organize their programs. Programming projects include graphics (2D and 3D) in addition to data processing. Throughout the course, the emphasis is on the careful, elegant design of a computer program. Before taking the course, students are expected to be comfortable using a computer and to be familiar with variables from algebra. 

This course is open to all Upper School Students.

Advanced Computer Science (Year; Honors)

The advanced course is similar in content to a first-year college-level computer science course. The focus is on data structures and algorithms: how to organize and manipulate information using a computer. Students implement and analyze alternative methods for structuring data, including arrays, linked lists, and binary trees. A variety of alternative algorithms for searching and sorting data are covered, including binary search, hash tables, mergesort, and quicksort. Students are taught standard notation for categorizing the expected efficiency of an algorithm. Object-oriented programming is stressed, and students are responsible for writing programs with multiple well-designed classes. The programming language Java is taught and used for all assignments. Students have the option of taking the Advanced Placement Computer Science Exam in May. 

Prerequisite: Introduction to Computer Science or Consent of Instructor.

Advanced Topics in Computer Science (Year; Honors)

The Advanced Topics course exposes students to several of the subfields of computer science that a student would encounter as a college major in the field. Assignments are more open-ended and require a greater degree of initiative from the students. The topics covered vary somewhat from year to year, in response to student and teacher interest. Examples of typical topics include digital-logic circuits (including basic logic gates, designing combinatorial and sequential circuits, and basic computer architecture), three-dimensional computer graphics (including mathematical fundamentals, transformations, perspective, and rendering techniques), networking (TCP/IP concepts and socket programming), and artificial intelligence (philosophy, logic, search, heuristics, and neural networks). Student projects include designing and building a simple programmable computer on breadboards and implementing a 3D renderer without using a 3D library. 

Prerequisite: Advanced Computer Science or Consent of Instructor.

Computer Science Research (Year; Honors)

In this independent study, students develop year-long projects focusing on topics of interest. 

Prerequisite: Consent of Instructor.

General Elective

Catlin Gabel Leadership Seminar (Year)

The Leadership Seminar provides students with an opportunity to develop their individual leadership qualities through a yearlong experience, meeting twice per cycle. The seminar moves through a progression from understanding one's own leadership style, to studying theories of leadership, to studying and observing other leaders in practice, and finally to refining and practicing real leadership among peers at Catlin Gabel or in the community. Students undertake an intense and highly rewarding adventure that is designed to help them prepare for leadership roles in their future lives, college, or what challenges they choose. This offering is open to Juniors and Seniors. (Please note: This offering is not for credit. A notation showing participation will appear on the back of the student’s transcript.)
Physical Education, Health, Outdoor Program and Athletics

Health

Health 9 (Year)
Health 9 is required for all freshmen and meets through the year on alternating days with Foundations, Study Group, and Lifetime Fitness. The major topics of Health 9 focus on two parts.

Human Sexuality: Students learn about human anatomy and physiology, as well as the psychological and social aspects of sexuality. Students study behaviors that maintain and improve relationships. Course content includes accurate information about and discussion of healthy sexual behavior and choices, STDs, conception and contraception, rape and sexual harassment, sexual orientation, homophobia, and HIV/AIDS.

Nutrition and Healthy Lifestyles: Students examine answers to current questions about healthy living. Students learn how a well-balanced diet is important for maintaining good health and disease prevention. There is a particular focus on adolescent eating habits, especially junk foods and snacking. At the end of the unit, students use a computer program to analyze their eating habits over a three-day period. Results are compared to the Recommended Daily Allowance for their individual profiles.

Health 10: Social Influences of Behavior (Year)
Health 10 is required for all sophomores. This course meets during the short class meetings of the Sophomore Health / PE block for the year. Students learn that mental and physical health are essential to their future happiness, are not automatic, and must be actively maintained. Information about substance abuse issues, dealing with emotions, stress management skills, and communication with family and friends is introduced.

Physical Education

Lifetime Fitness (Year)
All freshmen take Lifetime Fitness. This course provides an introduction to the components of physical fitness, including cardio-respiratory fitness, muscular strength, endurance, flexibility, balance, and agility. Each student maintains a personal exercise workout journal, tracks progress, assesses level of physical fitness, and sets personal goals.

Co-Ed Volleyball / Badminton / Tennis (Winter)
This class includes instruction in basic and advanced volleyball, badminton, and tennis skills and scrimmage games.

Fitness by Design (Winter)
Workout in the weight room with a personalized workout regime or join a group instructor-led workout.

Nordic Walking (Fall or Spring)
Nordic Walking is fitness walking with specially designed Nordic Walking poles and offers a very efficient aerobic workout and easy way to improve your physical fitness. Nordic walking is one of the most effective cardiovascular workouts because it works all major muscle groups in the body. Nordic walking fully engages both large upper and lower body muscles, similar to cross-country skiing, and can achieve similar benefits.

Performance Fitness (Fall or Spring)
Performance fitness is a core-strength, functional-training fitness class. The goal of this class is to gain physical competence in key areas of physical fitness including endurance, strength, flexibility, coordination, agility, and balance. Students train using a variety of equipment including kettle bells, medicine balls, dumbbells, physioballs, spin bikes, tread mills, TRX, and rowing machines. Functional training emphasizes exercises that use many muscle groups and movement patterns that simulate the demands of our bodies in daily life and sports.

Co-ed Yoga is an after-school elective for students wishing to learn the practice of yoga. No previous knowledge required. A fee will be charged to student accounts.

Outdoor Program

Outdoor Leadership and Adventure (Fall)
The program is a group-oriented effort to expose students to new skills and experiences associated with outdoor education. It is progressive and is designed so that individual sessions build on previous ones. Attendance at all events is important for success, for both the individual and the group. Activities include a ropes and challenge course, orienteering, GPS work, canoeing, rock climbing, Ultimate Frisbee, rappelling, ecology, hiking, route finding, and mountain biking.

To meet a one-term PE requirement, a student must participate in 36 hours of OLA activities. There is one required weekend trip over the course of the term.

Rock Climbing (Winter)
Students learn the basics of climbing and belay techniques, equipment maintenance, climbing safety, and risk assessment. A fee will be charged to student accounts.

Independent PE
Independent PE credit is an option for students engaged in regular, coached athletics outside of school. Examples include club soccer, gymnastics, and dance. Students must apply to the PE department using the application found at www.catlin.edu. Students may apply for credit in the fall, winter, and/or spring trimesters, as well as over the summer. The activity must last 12 weeks for an average of at least four hours each week, totalling at least 50 hours. A coach or supervisor other than a parent or friend will be asked to confirm that requirements have been met. A student may only receive credit if the activity is not offered at Catlin Gabel during the term requested.
Seasonal Offerings

Physical Education elective offerings, the outdoor program, and our athletic program operate on a trimester schedule: The fall trimester starts the first day of school and goes through Thanksgiving break; winter trimester begins after Thanksgiving break and goes through spring break; finally, the spring trimester begins after spring break and ends on the last day of school. (Please note: Spring sports often begin practice before spring break.)

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