Trimester 1: VISUAL AND PERFORMING ARTS

3D Art with Shauna Finn
The 3D art elective is an independent projects-driven course in which students develop three-dimensional artworks based on their own concepts or chosen technical processes. Drawing on historical and contemporary practices for reference and inspiration, students work closely with the teacher to determine the 3D approach best suited to execute a well thought-out idea, or to explore the possibilities of creative expression in a specific technical method of interest. Students are expected to document their processes and be prepared to discuss their work regularly. Materials are determined by the needs of the project; they may include but not be limited to: wire, cardboard, paper, Papier-mâché, clay, glazing, textiles, found objects and recycled materials.

Choreographers’ Workshop with Peggy Peloquin
This course is designed to foster creative and imaginative exploration in the realm of movement improvisation and choreography. Using the elements of time, space, energy, music, and text, students investigate the many possibilities of movement composition. The course consists of improvisational exercises, individual and group choreography projects, viewing of choreography by established dance artists, and personal reflection regarding the process of making art. The term culminates in a performance presentation.

Figurative Sculpture with Shauna Finn
This class is for students who are interested in dealing with the human figure as their subject while exploring various sculptural materials and techniques. The course includes lessons on anatomy and basic human proportion, and discussion of historical and contemporary figurative sculpture. Students have plenty of freedom for their own creative expression, development of ideas and personal style, while working within the loose framework of figurative art. Various materials and techniques are as they arise, and art principles to be discussed include gesture, volume, pose, composition, presentation, expression, modeling, texture, portraiture, etc. Materials include but are not limited to: wire, cardboard, paper, Papier-mâché, clay, glazing, textiles, found objects and recycled materials.

Instrumental Band Class: Rock Band with Vin Scialla
Rock Band is an offering that expands the performance concepts of Rock, Blues, & today's popular repertoire. This class covers music rehearsal and Rock performance techniques within a small ensemble, with a focus on Rock Music; mainly Rock from 1960s-present. The course is open to instrumentalists and vocalists, alike. Students are also encouraged to write, arrange and record their music, then present their work at a performance at the end of the trimester. The students learn how to form a Rock Band, bring in music to teach the class, and record the results in our school studio. There are frequent class trips to such local centers of music, past trips have visited the Rock n’ Roll Hall of Fame Annex, and LREI Rock Bands have performed at school coffeehouses and at the historical Bitter End club on Bleecker Street.
Musical Theatre with Susan Glass
This class explores and performs musical selections from a variety of Broadway shows. Students study music from several different periods in the history of musical theatre and they learn about the history of this uniquely American art. Students research and select songs to work on in large ensembles, small ensembles, and solos. Throughout the trimester, students work on singing technique and healthy vocal production. They look at how a song tells a story and creates a character. The class culminates with a musical revue as a final project. Solo singing is not required.

Non-Fiction Filmmaking with Stephen MacGillivray
In this class, students examine and produce short documentary films. Each student writes and prepares their own project that provides an opinion and a specific message. They also crew on their classmates' films as needed. Through exercises and class discussions students learn to create factual films that are dramatic. Beginners and more experienced filmmakers work together to learn the technical aspects of documentary filmmaking such as shooting interviews, collecting B-roll, and audio recording.

Photographic Narrative with Susan Now
In this class students explore different ways to make statements with their images through exploring storytelling. Students look at social documentary and fashion as well as “real” and fabricated stories. The class looks at both the single image and sequences of images. Students also consider different ways to combine images to tell a compelling story.

Studio Art with James French
The Studio Art elective is an independent project(s) driven course. Students are responsible for developing artworks that demonstrate well thought out and researched concepts that fit within a framework of requirements devised by both students and teacher. Students will be expected to document their processes, keep portfolios of their progress and be prepared to discuss their work regularly. As these projects take shape shorter “all class inclusive” lessons will spring out of fellow classmates' methods and materials explorations. Materials and techniques will be determined by the needs of the projects. Materials will include but not be limited to: graphite, colored pencil, charcoal, acrylic paint, watercolor, oil paint, pastel, recycled materials, printmaking, typography and digital design.

Trimester 1: ENGLISH

Literature Seminars
The Bible as Literature with Heather Brubaker
The Bible is the single most read book in the world and, in the West, the most influential. Wars have been fought to determine “the true message” of the Bible. The Bible has been used to support arguments for and against slavery, for and against violence, for and against sex. What do you think the Bible says? In this class, students read major episodes from both the Hebrew Bible and the New Testament, so they can decide for themselves. Though most of the class is focused on reading and discussing the actual text, students also study theories about how the Bible was written, learn about the historical context of the biblical age, discuss some modern adaptations of biblical episodes, and consider their own relationship to the Bible. This class does not examine the Bible through the lens of any particular religious tradition: believers and nonbelievers are all encouraged to join the rich tradition of debate.
Comic Books & Graphic Novels as Literature with Frank Portella and Jesse Karp

“With great power there must also come -- great responsibility!” Stan Lee, Amazing Fantasy 15

Though associated with pure spectacle, superheroes encompass resonant and compelling themes that speak to all of us, from the tragedy of Spider-Man to the dark moral psychology of Batman to the shifting symbolism of Captain America. Through the metaphors and archetypes leaping across the pages of comics, students examine such themes as trauma, vigilantism, patriotism, religion, race and morality, parsing psychological and social motifs that they can apply to the real world.

Exile and Immigration: Strangers in Strange Lands with Jane Belton

Have you ever felt out of place, like a stranger in a strange land? In this course, students examine the experiences of characters who leave or are displaced from their homes, homelands, cultures, ways of life, and identities -- some by force, some by choice. The class discusses multiple forms of exile, from immigrants seeking new opportunities to political refugees and victims of colonization to community members whose old neighborhoods are disappearing. As we read, we ask ourselves: What does it feel like to be physically, emotionally, or spiritually displaced? Can individuals find belonging and connection again? Authors may include: Julia Alvarez, Eva Hoffman, Edward P. Jones, Jamaica Kincaid, Jhumpa Lahiri, Salman Rushdie, Warsan Shire, and Shaun Tan.

Intersectional Feminism with Ileana Jiménez

LREI’s most famous feminist alum, Angela Davis, once said, “intersectionality is the most productive form of feminism.” She’s absolutely right. Intersectionality, or the theory that states that systems of oppression are interlocking, provides us with a critical foundation to do visionary feminist work that is liberating for all. Moving from theory to action, this course covers classic and contemporary texts in Black and Latina feminist thought by Gloria Anzaldúa, the Combahee River Collective, Brittany Cooper, Kimberlé Crenshaw, Angela Davis, Alexis Pauline Gumbs, Anita Hill, bell hooks, Audre Lorde, Cherríe Moraga, and many more. Students pair these readings alongside pieces of literature, history, art, film and media to examine a range of issues such as violence against women and girls, #BlackLivesMatter and #SayHerName, white privilege and supremacy, queer youth, toxic masculinity, sexualization in the media, sexual harassment in schools and in public spaces, global girls’ education, and boys and men in feminism. All students write for F to the Third Power (ftothethirdpower.com) and become part of the national and global #HSfeminism movement through social media, public speaking, and feminist activism.

Journeying the African Diaspora: Literatures, Cultures, Politics with Calvin Walds
diaspora (noun): the scattering of any people from their original homeland

Countries across the globe, from Ghana, to Martinique, to France, to Brazil, to the United States and several others are connected not only through the legacies of the Atlantic slave trade, and of colonialism, but also a continuing legacy of art and culture, from music to literature, that has worked to resist and redefine the difficult experiences of dispersal. This class’s study of the African Diaspora considers literature and cultural artifacts from people of African descent living around the world. Students contextualize their analyses through an engagement with both the national and global context in which the work was formed. “The forces that unite us are intrinsic and greater than the superimposed influences that keep us apart.” Kwame Nkrumah, first president of independent Ghana The class reads, discusses, and writes about works of literature, including fiction, poetry, nonfiction, and drama. In this
global voyage, students work to arrive at a deeper understanding of questions such as: How does one return, reclaim, renew, and reimagine after experiences of loss? What is the role of literary arts in memory, resistance, and persistence during moments of intense change? How can literature help us trace commonalities and connections, while also recognizing and respecting differences in experience? Reading across country, across identity, and across time allows the class to go beyond the single story that Nigerian writer Chimamanda Ngozi Adichie critiques in reminding that: “Stories matter. Many stories matter. Stories have been used to dispossess and to malign, but stories can also be used to empower and to humanize.”

The Strangeness of Being: Existentialism in Literature with Frank Portella
“God is dead. God remains dead. And we have killed him. How shall we comfort ourselves, the murderers of all murderers? What was holiest and mightiest of all that the world has yet owned has bled to death under our knives: who will wipe this blood off us? What water is there for us to clean ourselves? What festivals of atonement, what sacred games shall we have to invent? Is not the greatness of this deed too great for us? Must we ourselves not become gods simply to appear worth of it?” – Nietzsche, The Gay Science, Section 125
Have you ever wondered: Does God exist? What is the meaning of life? What is it to be a human being? What if there is no meaning to it all? Does your existence matter? How can you be sure? These are all good questions! An important 20th century intellectual movement called Existentialism tried to answer these ontological issues in a new way. Students read writings from important thinkers in this field and look at characters in works of literature that exhibit existential tendencies. Throughout the course, students also explore the influence existential philosophy has on art, film, song and even a children’s book.

Writing Seminars

Writing Workshop: Creative Writing (With/As) Art with Calvin Walds
Creative writing inspires artists, from painters to filmmakers. Visual artists, in turn, have inspired creative writers. This workshop explores this relationship between visual art and creative writing. Prose: fiction and nonfiction, will be at the center of this workshop. The workshop considers: Can visual art be captured or conveyed through written language? How can creative writing expand or challenge a work of art? What makes writing a type of art? Does writing always need to express meaning, or can writing do something else? Students read prose, ranging from poetic essays, to very short short stories, to essays by artists about art. Students also write prose, and focus on the production, workshopping, and revising of new creative writing.

Writing Workshop: Poetry with Jane Belton
Poetry can be dangerous. It can be absurd, lyrical, bold, wild, subtle, musical, personal and political. It can play with language; it can take risks; it can move us to laughter or tears and everything in between. What are the limits of poetry? Where do our impulses to write poetry come from and how do we harness these impulses? In this writing workshop, students practice the craft of poetry through their own writing and through the reading of published works. The class is conducted workshop style: Students regularly share and respond to each other’s writing. Emphasis is placed on revision and the writing process, as well as experimentation and risk taking with language, form, voice and imagery.
Writing Workshop: Writing Memoir, Finding Voice with Ileana Jiménez
This course is designed for students who enjoy or want to discover the challenges and rewards of writing memoir and personal narrative. Memoir writing requires us to explore our memories and imagination while also taking risks with sharing our life stories for the purpose of creating honest, meaningful pieces. Texts and excerpts by professional writers serve as the springboard for exploring student lives and experiences. These authors include Staceyann Chin, Edwidge Danticat, Jamaica Kincaid, Nancy Mairs, Frank McCourt, Sandra Cisneros, Alice and Rebecca Walker, Colson Whitehead, and many more sources of inspiration for our own writing.

Trimester 1: History

American Politics and Elections: 2018 with Ann Carroll
The current President and the 2016 election fundamentally transformed the American political landscape. Currently, the Republican Party controls the White House, the House of Representatives, the U.S. Senate, 33 Governorships and BOTH chambers of 33 State Legislatures. These realities have led many people to ask questions about, and seek answers to, complex questions about the American political system. This course answers many of those questions - about how elections work, the new Republican “ideology”, the marginalization of voters and the role of money and interest groups in politics, as well as explores the issues that have become the flashpoints of current public debate.

Contemporary Middle East with Ann Carroll
The Middle East has been a center of cultural and political vitality for centuries. The wealth of culture on one hand, and the amount of conflict on the other, has placed the region at the center of the world stage. Understanding the narratives around the Middle East has become essential for understanding global interests in general. This course focuses on the study of the Middle East, in particular Iran, Syria, and Israel and Palestine, by exploring the social realities of the region, including religion, nationalism, economic concerns, colonialism, and ethnic identities. The course is designed for students seeking to gain greater understanding of the structures that have shaped the current reality. Students in this course are expected to engage deeply with historical precedent and current events through intensive, and extensive, reading and writing, as well as engage a comprehensive final exam and project. Students leave the course better equipped both to understand the news cycle, and to engage the difficult questions that emerge from this complex geo-political region.

Economics and Public Policy with Tom Murphy
Students develop an understanding of how economic principles and analysis can be used to study social issues. Choices and policies are examined in light of their costs and benefits to society. Central to the course is an exploration of the causes and the fallout from the Financial Crisis of 2008. The class also looks at the reasons for and the impact of rising inequality in America. Finally, the class discusses the impact of trade to determine who are the “winners and losers”. There are two projects. The first is a stock market simulation where students get to see if they can “beat” the market and their fellow investors. In the second project small groups of students work together to create a business plan for starting a small business. They are expected to pitch their plan to “investors” at the end of the term. To do well students have to keep up with current events, market trends, and be prepared to change the way they look at the world.
History of the Latin American Diaspora with Charlene Cruz-Cerdas
Descendants of Latin America now make up the nation’s largest group of color. Referred to as the “sleeping giant” in electoral politics, this group will have an increasingly significant impact on US society in the years and decades to come. This course explores the political, economic, and social conditions of the Latin American nations including Mexico, Cuba, Puerto Rico, the Dominican Republic, and others through the lens of US imperialism and colonialism. The course then transitions to understanding the current Latinx diaspora and some of the problematic social policies that impact them. Lastly, students engage with the events since the 2016 presidential election because it has encouraged such negative rhetoric centered around this relationship. The course enables students to possess a deeper understanding of Latin American – US history and to debate about which social policies would lead to a more equitable relationship for the Latinx diaspora.

Medieval Europe & the Black Death with Michel de Konkoly Thege
The outbreak of bubonic plague in 1347 in Italy was a momentous event in the history of the west. The mortality associated with what became known as the Black Death was staggering: estimates are that somewhere between one-third and 40% of the population of many countries in Europe died as a result of this outbreak of plague. This class examines the epidemiology of plague – the source of infection, how it spread, and why certain humans died and others resisted infection – as well as attempts by civic authorities to control or limit the effects of plague. It also explores the impact of the Black Death on religious practices, artistic expression, and politics of the time in both the nascent nation-states of Europe and the Islamic world of Spain and North Africa. This class addresses the big question: Was the Black Death a major factor in the transition from the Middle Ages into the humanism of Renaissance Europe?

Morality & Ideology in the 20th Century with Tom Murphy
This course confronts the brutal history of the 20th Century – WWI, the Holocaust, Hiroshima, Stalin, Rwanda and others – and asks “why?” The class begins by asking “What is morality?” Then it examines these atrocities to understand the psychological "traps" the killers find themselves in as their rationales for their actions. By exploring the extremes of the 20th century the class develops a new vision of morality that helps us avoid the horrors of the past. The project for the course is a research paper, on an aspect of the Holocaust, which is the event that most symbolizes the failure of morality in the 20th Century.

Sociology of Education with Charlene Cruz-Cerdas
Using a sociological lens, this course explores the various dimensions of inequality in education from preschool through higher education. Students investigate the historical purpose of education in the United States and understand the various ways in which race, gender, class, immigration status, families, and schools themselves impact educational outcomes. The course helps students engage in the debate about social reproduction as well as what ought to be done in order to remedy some of education’s most urgent problems. At the term’s end, students possess a clearer understanding of the various facets of inequality embedded within education and come away with some ideas about potential solutions.
Vietnam: 100 Years of Struggle for Independence with Michel de Konkoly Thege
Vietnam is a nation that has been at the center of conflict for generations, as it has resisted the attempts of imperial powers, such as France, China, the Soviet Union and the United States, to dominate it. This class surveys the experience of Vietnam under French colonial rule, the subsequent “American War” (as the conflict with the United States of the ‘60s and ‘70s is known in Vietnam), and the country’s recent efforts to establish its own path in foreign policy and in internal politics and economics. Vietnam has also left its mark on France and the United States: students examine the ongoing ways in which the experience of conflict in Vietnam and the Vietnamese diaspora have affected thinking in the west about foreign policy and cultural interchanges.

Trimesters 1 & 2: MATHEMATICS

11th Grade:
Calculus I with Sergei Mikhelson (*This class is Yearlong*)
Prerequisite: Integrated Mathematics 3 with a final grade of A-.
This course delves into the beauty and philosophical complexity that is calculus. The year begins with explorations of major calculus concepts through various media, inspiring the need for a deeper mathematics than the students have seen before. With such motivation, students in this course feel compelled to develop the subject matter and explore various problems that calculus aims to solve. Students intuit the limit, the derivative, the integral, various techniques of differentiation, and their applications through class discussions, mathematical modeling, Geogebra applets, TI graphing calculators, and a good old pencil and paper. Students investigate the Fundamental Theorem of Calculus, and use it to judge the accuracy of distances found in electronic mapping applications and find the volumes of various objects. Towards the end of the course, basic integration techniques may be introduced.

Discrete Math with Pat Higgiston
Prerequisite: Integrated Mathematics 3
How are decisions made in a democratic society? When should citizens cooperate, and when should they be selfish? These political and personal problems can be understood mathematically. This two-trimester course in math and social choice focuses on applications of discrete math with direct relevance to contemporary political, economic, and social issues. Topics discussed include voting theory; problems of apportionment, gerrymandering and fairness; game theory and the prisoner’s dilemma; and combinatorics and probability. Applications to diverse fields (politics, biology, government policy, conflict resolution) are considered according to student interest. The course relies on problem-based and discussion-based models of work, and requires some basic spreadsheet programming.

Integrated Mathematics 3 with Shafeiq Baksh or Manjula Nair
Prerequisite: Integrated Mathematics 2
This is the last course of the required core sequence. It develops and deepens the skills formed in Integrated Mathematics 1 & 2. Functions and modeling with them continues to be one of the fundamental ideas, now expanded into trigonometric, exponential and other types of functions. Geometric transformations, congruence and similarity, and right triangle trigonometry are among the geometric concepts blended into this integrated course.
Technology, such as graphing calculators, laptops, and various software continues to play an important role.

**Statistics with Jacqueline Baker**  
**Prerequisite:** Integrated Mathematics 3  
In this two-trimester course students explore the fundamental concepts of the science of collecting, organizing, and interpreting data. How do you know that the results of an opinion poll or medical study are true and accurate? How do you determine if the results are misleading? Students learn how to evaluate categorical and quantitative data, make inferences and justify conclusions about surveys and studies, and use probability to make decisions. Students develop the tools necessary to assess information with a critical eye and rely on their own judgment to draw conclusions about data.

**12th Grade:**  
**Calculus with Manjula Nair**  
**Prerequisite:** A grade of A- or higher in one of the following courses: Engineering Math for the Environment or Topics in Pre-Calculus  
This course delves into the beauty and philosophical complexity that is calculus. The year begins with explorations of major calculus concepts through various media, inspiring the need for a deeper mathematics than the students have seen before. With such motivation, students in this course feel compelled to develop the subject matter and explore various problems that calculus aims to solve. Students intuit the limit, the derivative, the integral, various techniques of differentiation, and their applications through class discussions, mathematical modeling, Geogebra applets, TI graphing calculators, and a good old pencil and paper. Students investigate the Fundamental Theorem of Calculus, and use it to judge the accuracy of distances found in electronic mapping applications and find the volumes of various objects. Towards the end of the course, basic integration techniques may be introduced.

**Calculus II with Sergei Mikhelson**  
**Prerequisite:** Calculus I with a grade of B+ or higher.  
Calculus II builds on the skills and concepts discussed in Calculus I. It explores more sophisticated integration techniques, like Integration by Parts, Trigonometric Substitution, etc. Applications of Taylor and Maclaurin series to approximation are explored, explaining how calculators find such values as sin, cos, log, etc. Various activities demonstrating the practical use of Calculus in the fields of music, finance, and even history are offered to students. The course is run as a kind of research lab, where students are presented with problems that they solve in groups.

**Finance with Shafeiq Baksh**  
**Prerequisite:** Integrated Mathematics 3  
The goal of Finance is to help students become financially responsible, conscientious members of society. In this course, students develop an understanding and skills in such areas as money management, budgeting, financial goal attainment, the wise use of credit, insurance, investments, and consumer rights and responsibilities. Finance students experience real world scenarios and use strategies covered in the course to help them make sound financial decisions. Students design personal and household budgets; simulate use of
Introduction to Statistics & Probability with Jacqueline Baker
Prerequisite: Integrated Mathematics 3
How do you know that the results of a survey or study are true and accurate? How do you determine if the results are misleading? This course introduces students to the fundamental concepts of the science of statistics and probability. Students learn how to collect and analyze data and interpret the results. Students learn how to evaluate categorical and quantitative data, make inferences and justify conclusions about surveys and studies, and use probability to make decisions. Students develop the tools necessary to assess information with a critical eye and to rely on their own judgment to draw conclusions about data.

Pre-Calculus with Pat Higgiston
Prerequisite: A grade of B+ or higher in one of the following courses: Topics in Pre-Calculus, Linear Algebra, or Engineering Math for the Environment OR Problem Solving with a final grade of A- or higher and additional summer work
Pre-Calculus builds on the foundations of algebra and geometry, extending the analytical practices and mathematical topics of those fields to more complex expressions, and real-world situations. It is also a transitional course, preparing students for the methods of calculus and calculus-based fields. Topics include trigonometric identities, polar coordinates, the complex plane, polynomials, secant and tangent lines, and rational functions. Matrices and vectors are explored as time allows. This course emphasizes student problem solving and discussion-based classes. Students may use this course to help them prepare for the SAT Mathematics Level 2 Subject test.

Trimesters 1 & 2: SCIENCE

Anatomy & Physiology with Daniel Li
In this class students study about body parts and function. Sports medicine and case studies of common illnesses are studied throughout the year. In the first trimester, the focus is on learning the details of four organ systems. Then in the second trimester, the focus is more heavily on case studies, medical procedures, and of course, dissections. By the end of course, students have had a glimpse into a career in medicine, and basic knowledge about common illnesses and how doctors might go about treating them.

Astronomy: Night Sky & Solar Systems with Preethi Thomas-McKnight
Astronomy introduces students to theory and practice of technical amateur astronomy – where are we in the universe? This class presents the historical development of astronomy as well as a study into the past, current, and future of humans in space. Students are exposed to the phenomena that can be seen in the urban night sky. This course covers fundamental astronomical concepts and observations related to study of the Solar System as well as selected mathematical and logical techniques for developing an understanding of celestial motions and measurements, and the significance of astronomy to humanity. Topics include investigations into the night sky, the structure and evolution of stars and planets. This course includes night sky observations, research projects, discussion, tests, experiments and simulations.
Biomechanics with Kelly O’Shea
What happens when you get a concussion? What happens when you break a bone? How do you walk? How did the ability to walk evolve? How do muscles work? How does a gymnast do a handstand? How does a figure skater control their spin? Does your DNA affect how you move? And is the ability to become a great runner something that can be found in your genes? What is the musculoskeletal system and why does it matter to you? Biomechanics is both an advanced-level physics class AND a class that fulfills the biology requirement. (Wow! Cool!) Students investigate human and animal motion from both a physical and biological perspective. Students also investigate how studying these topics allows engineers to design medical products that help people move. The class builds physical models, makes real measurements, and explores topics of interest to the students in the class relating to the body and motion. Along the way, both evolution and DNA will be studied in the context of our investigations. TL; DR: Combine Biology with Physics to learn about your body and how it moves, breaks, and heals. This class fulfills the Biology requirement for rising 11th graders. Note: Rising 12th graders should check in with Kelly if they are considering taking this class.

Chemistry II: Inorganic Chemistry with Sarvjit Moonga
The emphasis in Chemistry II is on the nature of bonding, acids and bases, nuclear chemistry and radioactivity, chemical kinetics, thermodynamics and stoichiometry. Students are encouraged to think independently and to respond to questions that require original reasoning.

Chemistry II: Materials Science with Kara Luce
This course builds on skills learned in 9th grade Chemistry and 10th grade Physics. Students study the composition, structure, and properties of various materials. Topics include crystal structure, metals, ceramics, polymers, and composites. The principle means of learning is laboratory investigations. There are also opportunities for creative/artistic hands-on activities. Guest speakers and field trips are also included as time and resources permit.

Computer Science with Jacob Farkas
In this class, students learn to build a working website/web application utilizing many custom components. They collaborate in its design, hosting, programming, and many other tasks commonly performed by webmasters. The coursework supports a wide range of tech skills, with something suitable for any level of tech skill and expertise.

Forensics with Sarvjit Moonga
Students learn modern forensic methodologies & invoke the application of scientific methods to solve legal problems. This course focuses on collection & analysis of crime scene evidence (such as serology, toxicology, and trace evidence), and explores lab analysis techniques, (such as chromatography, DNA analysis, fingerprinting, and hair and footprint analysis). Forensic scientists are also required to testify in court about their methodologies & analysis of evidence. As such, students are required to clearly and concisely explain the results of labs and techniques they use, and explain the significance of their results in lab. Finally, mock crime scenes are investigated and real case studies analyzed.
Microbiology with Daniel Li & Kara Luce
In this course students focus on two big ideas that align with the AP Biology curriculum. The first big idea is cellular processes: energy and communication. The second big idea is genetics and information transfer. Throughout the course, students build skills and knowledge in synthetic biology and learn how to apply the concepts learned in the two big ideas.

Physics II: Modern Physics with Kelly O’Shea
Many people know that atoms are made up of protons, neutrons, and electrons. But what are protons and neutrons made of? We talk about mass and energy, but what are they, really? Is time travel possible? When they are very small or very fast (or both!), objects don’t behave the way our everyday observations and common sense lead us to expect. The universe is much stranger, indeed. In Modern Physics, students use diagrams and simulations to help them understand spacetime, analyze paradoxes, and expand their brains to think like Einstein. Students explore topics in special relativity, particle physics, and quantum mechanics—including investigating current areas of study in physics and talking to physicists about their work. The class also does real physics research using its very own cosmic ray muon detector and contributes their data to a community of students and scientists through the QuarkNet program run by Fermilab (the national accelerator laboratory). What are cosmic rays? They are going through you right now—take this class to learn more! The only prerequisite is a willingness and commitment to think… really hard. TL; DR: Learn about how space and time are related, paradoxes of special relativity, detect cosmic rays, and amaze your friends and enemies with your knowledge of modern physics.

Physics II: Waves with Preethi Thomas-McKnight
This course investigates waves in all forms, focusing on the interactions between humans and waves (our senses). Students study particle movement while exploring thermal waves, mechanical waves, sound waves and light waves (heat, sound and light) as well as any biology behind them. Lab work is an integral part of the program, designed to give students an insight into the working relationship between experiment and theory. Students learn the essential role that mathematics plays in physics, through advanced problem solving. Students conduct experiments, focusing on theories investigated in the course, to explain what is happening to them every day.

Trimester 1: WORLD LANGUAGE

12th Grade:
Spanish Language & Culture with Arturo Acevedo (This class will run for both Trimesters 1 & 2)
This course continues to strengthen oral communication and reading comprehension skills while reinforcing grammatical knowledge. Emphasis is placed on the use of idiomatic expressions from around the Spanish-speaking world. Writing and research skills are also developed through looking at a selection of Spanish and Latin American artists and poets, including Dalí, Picasso, Velázquez, Rivera, Kahlo, Lam, Botero, Machado, Paz, and Neruda. The class also focuses intensively on cultural studies of Latin America and Spain, with particular emphasis on society, economy, and art of the Spanish-speaking world.
Spanish Literature with Antonio Valle (This class will run for both Trimesters 1 & 2)
This course is intended for students who have a strong background in vocabulary and grammar, and emphasizes increasing command of grammatical usage, idiomatic expressions, conversational fluency and the use of verb tenses and moods, including the conditional and all forms of the subjunctive. Designed for students who want to achieve and demonstrate fluency in the language, major emphasis will be placed on the magic realism in Latin American literature through a variety of short stories and novels written by Gabriel García Márquez.

Trimester 2: VISUAL AND PERFORMING ARTS

3D Art with Shauna Finn
The 3D art elective is an independent projects-driven course in which students develop three-dimensional artworks based their own concepts or chosen technical processes. Drawing on historical and contemporary practices for reference and inspiration, students work closely with the teacher to determine the 3D approach best suited to execute a well thought-out idea, or to explore the possibilities of creative expression in a specific technical method of interest. Students are expected to document their processes and be prepared to discuss their work regularly. Materials are determined by the needs of the project; they may include but not be limited to: wire, cardboard, paper, Papier-mâché, clay, glazing, textiles, found objects and recycled materials.

Advanced Acting with Joan Jubett
This course is for students who want to develop and/or deepen their study of acting. The class explores the art of play, deeply dives into voice and movement, reads and analyzes existing texts from various plays/genres and works on partnering and collaborative ensemble work. Final project includes an invited performance.

Choreographers’ Workshop with Peggy Peloquin
This course is designed to foster creative and imaginative exploration in the realm of movement improvisation and choreography. Using the elements of time, space, energy, music, and text, students investigate the many possibilities of movement composition. The course consists of improvisational exercises, individual and group choreography projects, viewing of choreography by established dance artists, and personal reflection regarding the process of making art. The term culminates in a performance presentation.

Jazz and Blues with Vin Scialla
Jazz Class is an offering that expands the performance concepts of Swing, Blues, Be Bop, and today's popular jazz repertoire. This class covers music rehearsal and Jazz performance techniques within a small ensemble, with a focus on Jazz Music mainly from 1950s-present. The course is open to instrumentalists and vocalists, alike. Students are also encouraged to write, arrange and record their music, then present their work at a performance at the end of the trimester. The students learn how to form a Jazz combo, bring in music to teach the class, and record the results in our school studio. Students also understand the history of New York jazz and are able to associate specific musicians to distinct types of jazz. There are frequent class trips to such local centers of music, past trips have visited Jazz at Lincoln Center, Jazz Clubs, and The New School. LREI bands have performed at exhibitions, school coffeehouses, and at the historical Bitter End club on Bleecker Street.
The Power of Photography with Susan Now
In this class students explore how photography and politics are directly interconnected. Students explore how photography has been used as a way to question social and political realities. Through studying various forms and genres of historical and contemporary image making, students explore how to use photography to influence the viewer. The class looks at how historical and contemporary images shape our ideas and effect our sensibilities.

Short Film Production with Stephen MacGillivray
Filmmaking involves a number of discrete stages including an initial story or idea, through screenwriting, shooting, sound recording editing and screening the finished product before an audience. In this class, beginners and more experienced filmmakers work in groups to create short narrative films based on original ideas and screenplays. The emphasis is on telling compelling stories.

Studio Art with James French
The Studio Art elective is an independent project(s) driven course. Students are responsible for developing artworks that demonstrate well thought out and researched concepts that fit within a framework of requirements devised by both students and teacher. Students will be expected to document their processes, keep portfolios of their progress and be prepared to discuss their work regularly. As these projects take shape shorter “all class inclusive” lessons will spring out of fellow classmates’ methods and materials explorations. Materials and techniques will be determined by the needs of the projects. Materials will include but not be limited to: graphite, colored pencil, charcoal, acrylic paint, watercolor, oil paint, pastel, recycled materials, printmaking, typography and digital design.

Trimester 2: ENGLISH

Literature Seminars
Detective Literature with Frank Portella
“And we ain’t gonna get ’em all—that ain’t what kind of world it is. But we got ours.” Detective Marty Hart, True Detective, Season 1 episode 8, “Form and Void”
Curiosity and the desire to know are basic human motivations. The modern invention of the detective is a key part of the search for answers. Detective fiction involves a professional or amateur investigator who tries to solve a crime. In this class students read a number of detective narratives and various other sources related to this form of storytelling, such as essays and the “rules of the game.” Like all good detectives, students use their critical thinking as they examine the clues and motives. Students make their own predictions by remembering small details, investigating circumstances that surround the crime, and recognizing literary and stylistic breadcrumbs left by different authors. Criminal motive can span a great range of things like: racial injustice, revenge, greed, class, a personal vendetta, or even the urgent need to keep a secret. This class considers how they depict the detective, the criminal, the victim, the crime, and the society; and what may these stories reveal about us and our fascination with them.

Latinx at LREI with Ileana Jiménez and Arturo Acevedo
This course explores Latinidad in three contexts: Latinx at LREI; in literature and history; and in art, music, and film. The class starts first with exploring various theoretical frameworks for understanding Latinidad, such as borderlands theory, bicultural theory, and Latina feminist
theory. Then it applies these theories to a range of texts such as novels, poetry, films, art and music, while also learning about how Latino and Latin American history, culture, and politics inform these texts on racial, ethnic, sexual, and political terms. The class is especially attentive to the multiple Latinx groups that are a part of LREI’s student community, and the reading selections reflect this range of voices and experiences, especially in relation to immigration, family, relationships, language, assimilation, and identity. As students learn about these various histories and literatures of both Latinx in the U.S. and across Latin America, they see how these histories and literatures are both connected to each other as well as separate. The class also invites a range of writers, artists, and activists to visit as well as take trips to museums, films, and other cultural events.

Mass Incarceration, Resistance, and Literature: 19th and 20th Centuries with Calvin Walds

Filmmaker Ava Duvernay, who directed 13th, a documentary on the prison industrial complex and its relationship to the 13th amendment clause, writes that “most of us think prison is a place bad people go … until you really start to look inside the system and you see, this is not right.” Through the engagement with prison narratives, songs, and testimonies, students acquire a deeper understanding of a system that now incarcerates well over 2.3 million people both domestically and globally. Readings and discussions of prison narratives are supplemented by analysis of alternative cultural forms—e.g. prison blues, hip-hop—that have been used by the incarcerated to give expression to, and resistance against, their experiences. Students acquire an understanding of the historical foundation of mass incarceration with the legacies of enslavement and the failures of Reconstruction, before exploring more recent writings from incarcerated individuals from across the spectrum of American identity, from Native American political prisoner Leonard Peltier, to activist Assata, to Latinx poet Raul Salinas, as well as some contextual readings from activist-scholars such as Angela Davis and Ruth Wilson Gilmore.

Monsters and Misfits in Literature with Jane Belton

“Whoever fights monsters should see to it that in the process he does not become a monster. And when you look into an abyss, the abyss looks back into you.” - Friederich Nietzsche, Beyond Good and Evil

Monsters and misfits have been widely depicted in literature and art throughout the ages. In this course, students read stories about characters who live outside the “norm,” who deviate from the expectations of society and have been shaped and misshaped by the forces of conformity and exclusion. Students explore the depiction of these “monstrous” characters as outcasts, heroes, and representations of their own (in)humanity, and uncover the cultural and personal fears, anxieties, and fascinations from which they emerge. As the class does so, they have the opportunity to construct their own monsters, through writing and art. Course readings include Mary Shelley’s Frankenstein, Franz Kafka’s The Metamorphosis, as well as selections from children’s literature, folktales, and fairy tales from around the world.

The Weight of History with Heather Brubaker

“The past is never dead. It’s not even past.” - William Faulkner

What happens when an individual life intersects with the full force of history? This course takes you deep inside moments one studies in history class or hears about in documentaries: the bombing of Nagasaki and Hiroshima, the Holocaust, Argentina’s Dirty War, the Rwandan genocide. Students examine how survivors understand their experiences, and how their
families - their children and children's children - reckon with the history they've inherited. What happens when history becomes story? How does that story change from generation to generation? How do families reshape or reclaim their histories? As the class studies the narratives of others, they also investigate their own family histories. Students conduct an oral history of a family member, and try to make sense of the ways in which their own family's histories inform how they move through the world.

**Weird Literature: Horror & Mortal Terror with Frank Portella**

“*The true weird tale has something more than secret murder, bloody bones, or a sheeted form clanking chains according to rule. A certain atmosphere of breathless and unexplainable dread of outer, unknown forces must be present; and there must be a hint, expressed with a seriousness and portentousness becoming its subject, of that most terrible conception of the human brain—a malign and particular suspension or defeat of those fixed laws of Nature which are our only safeguard against the assaults of chaos and the daemons of unplumbed space.***”  
H. P. Lovecraft, “Supernatural Horror in Literature”

The category of weird fiction is meant to terrify the reader—and at minimum to disturb us from what we think we know is our common, everyday reality. The borders of the safe and the familiar are rarely as certain as we want, and perhaps need, to believe. These tales describe how we operate in ignorance of ancient, malevolent galactic forces. Every so often, there is a glimpse of these larger horrors in action. The results vary with each encounter and include physical harm, insanity, death, or some other grim fate. These stories provide a unique vantage point from which to examine the unfamiliar and twisted places of dread. They depict contact with beings of indescribable power, which is often described as cosmic horror. In this class, we examine our fascination with the supernatural and the attraction to scare ourselves. Many of these works take the protagonist, often a good-natured person, and set loose something so terrifying they cannot comprehend its scale. This protagonist, in strange territory and up against often impossible odds, takes on a problem and almost always fails.

**Writing Seminars**

**Writing Workshop: Creative Writing (With/As) Art with Calvin Walds**

Creative writing inspires artists, from painters to filmmakers. Visual artists, in turn, have inspired creative writers. This workshop explores this relationship between visual art and creative writing. Prose: fiction and nonfiction, will be at the center of this workshop. The workshop considers: Can visual art be captured or conveyed through written language? How can creative writing expand or challenge a work of art? What makes writing a type of art? Does writing always need to express meaning, or can writing do something else? Students read prose, ranging from poetic essays, to very short short stories, to essays by artists about art. Students also write prose, and focus on the production, workshopping, and revising of new creative writing.

**Writing Workshop: Short Stories and Narratives with Jane Belton**

What does a Hemingway short story have in common with a novel written exclusively in tweets? What does a six-word memoir share with a masterful tale of suspense? These storytelling forms require concision, precision, and the art of omission. Often, the best storytelling hinges on what is not said, what lies just off the page. In this writing workshop,
students compose short stories and narratives that play with the art of omission, as they look
to say a lot without saying all that much. While the stories we write may be very (very) short
(less than 750 words!), they should pack a powerful punch. Doing this is easier said than
done. The class is conducted workshop style. Emphasis is placed on revision and the writing
process, as well as experimentation and risk taking.

Writing Workshop: Writing Memoir, Finding Voice with Ileana Jiménez
This course is designed for students who enjoy or want to discover the challenges and
rewards of writing memoir and personal narrative. Memoir writing requires us to explore our
memories and imagination while also taking risks with sharing our life stories for the purpose
of creating honest, meaningful pieces. Texts and excerpts by professional writers serve as
the springboard for exploring student lives and experiences. These authors include
Staceyann Chin, Edwidge Danticat, Jamaica Kincaid, Nancy Mairs, Frank McCourt, Sandra
Cisneros, Alice and Rebecca Walker, Colson Whitehead, and many more sources of
inspiration for our own writing.

Trimester 2: HISTORY

American Art History with Michel de Konkoly Thege
Visual artists see the world in unexpected ways and therefore can offer innovative insights
into the life of society. American artists exemplify this interest in the quirky, the hidden
corners, and the oblique aspects of both great historical events and everyday existence. In
this class, students examine the development of American visual arts as expressed in
paintings, photographs, prints and other visual media that concern the political and social life
of the America from the 16th century through contemporary times. The class takes a diverse
view of sources and perspectives, including all dimensions of American society and the ways
in which the full range of American artists – from Gilbert Stuart to Mary Cassatt to Kara
Walker – both criticize and idealize our history.

China in the World with Tom Murphy
The modern society and state that is emerging in China bears the imprint of China's historical
experience, of its patterns of philosophy and religion, and of its social and political thought.
These themes are discussed in order to understand China’s growing role in the twenty-first
century. The first weeks of the course are dedicated to providing a long historical perspective.
The class uses a number of lenses to explore how economic factors, the role of perception,
geopolitical influences, nationalism, and the international system shaped China and its
relations with the world. The remainder of the course involves analyzing case studies on
China's foreign policy today. The central project is a research paper and presentation on
“China 2050”, a look into the future of China, and its place in the world.

Constitutional Law with Ann Carroll
It has been more than two hundred years since the ratification of the Constitution-and yet we
continue to revere, reference and attempt to remain faithful to this document as we grapple
with some of the most pressing and controversial issues in our culture - from gay marriage, to
abortion rights, affirmative action, voting rights, and gun control legislation. Our study is
rooted in an understanding of the Founding Documents, including the Federalist Papers and
subsequent Court decisions. Students explore how a case makes it through the Federal
system, the criteria used for judicial decision-making and the impact of Court decisions on our
daily lives. Students sharpen both their critical thinking and critical writing skills in this course. Lively discussion and debate is encouraged and students have an opportunity to practice and develop verbal and rhetorical skills. In an age where the Supreme Court seems to be as divided as the rest of America—this course allows students to explore the judicial system in all its complexity.

**The European Union: Idealism & Reality with Michel de Konkoly Thege**

As Europe emerged from the destruction of World War II, it was confronted with several critical questions: how was Europe to be reconstructed and what role were institutions that crossed national borders to play in the process of reformulating a European political, economic and social identity? This course examines the development of the European Union from its early stages as primarily an economic union to its status today as a political union, but one that is struggling with enormous difficulties. Among the current issues addressed are immigration and the backlash to migratory influxes, the financial crisis that has affected “peripheral” nations like Greece, Portugal and Ireland, and conflicts in values between individual nation-states and the European Union as exemplified by “Brexit” and the growth of illiberal regimes in countries like Hungary and Slovakia. The class works up to this concluding question: what is the future of the European Union?

**History of US Immigration with Charlene Cruz-Cerdas**

Since the 2016 presidential election, there has been a significant increase in the vilification of immigrants, whether they come from Latin America or Muslim-predominant nations. This course engages this rhetoric and the long debates that have long existed in the United States since today’s wave of xenophobia is not new. Students investigate the historical context behind recent immigration policies by breaking with inaccurate and often romanticized notions of America as a friendly and inevitable melting pot. The course uses the context of New York City as the site for this investigation since it is one of the United States most well-known and popular immigrant ports of entry. Through the centuries, large groups of Irish, Italians, Puerto Ricans, Chinese, Mexicans, and so many others have entered the US through this important city. By the end of the term, students are able to grasp the overarching debates surrounding immigration, their origins, as well as policy ideas that would better ensure more just treatment of today’s migrants.

**Poverty & Inequality in the 21st Century with Tom Murphy**

This class examines the nature and extent of poverty, globally, in the United States, and in NYC. Students gain familiarity with poverty issues as they review topics such as people’s views of poverty, poverty measurement, the characteristics of the poverty population, both internationally and domestically, underlying causes of poverty, and government programs, policies, and organizations that target poverty. Questions to be addressed: How have views of poverty evolved? What are the different methods people use to measure and understand poverty? Who are the poor? Why does poverty remain so pervasive? What are the goals and purposes of antipoverty programs? What are the limits of these policies? Students write a paper on a “solution” to a poverty-related issue. They also are expected to come to class prepared to discuss the readings and participate in classroom discussion.

**Renaissance with Ann Carroll**

Do you ever assert your “right” to do something? Have you ever questioned authority or, conducted a scientific experiment? Do you have urges to create artwork that is unique and
innovative? Have you ever told someone to “listen to reason”? If the answer to the above questions is “yes”, you have been profoundly influenced by the ideas of European artists and thinkers of the 14th-18th centuries. In this course, students ask the question, “How did the modern world of ideas come to its present condition”? This interdisciplinary humanities course focuses not only on history, but art, architecture, philosophy, religion, and science. By exploring the ideas that emerged during the European Renaissance, Reformation, Scientific Revolution and Enlightenment, students explore some of the key questions that address human nature, and man and woman’s place in the universe. This course is designed similarly to the Ancient Greece course.

**Social Movements: From the 1960s to Today’s Resistance with Charlene Cruz-Cerdas**

Resistance and protest have become terms of particular importance and urgency in recent years. Students learn about some other major events propelling the political resistance of the 1960s (i.e. feminism, civil rights, Chicano movement, LGBTQ, etc.) and then engage with some of the most pressing current events. These include climate change, the gender pay gap, #MeToo, police brutality, anti-immigrant and Islamophobic rhetoric, the wealth gap, among other topics. This course results in students deciding on an issue of special importance to them and then creating specific and actionable plans of resistance, thus enabling them to bring about some change to their slice of the world.

**Trimester 3: VISUAL AND PERFORMING ARTS**

**3D Art with Shauna Finn**

The 3D art elective is an independent projects-driven course in which students develop three-dimensional artworks based on their own concepts or chosen technical processes. Drawing on historical and contemporary practices for reference and inspiration, students work closely with the teacher to determine the 3D approach best suited to execute a well thought-out idea, or to explore the possibilities of creative expression in a specific technical method of interest. Students are expected to document their processes and be prepared to discuss their work regularly. Materials are determined by the needs of the project; they may include but not be limited to: wire, cardboard, paper, *Papier-mâché*, clay, glazing, textiles, found objects and recycled materials.

**Acting & Directing with Joan Jubett**

This course is designed for students who are interested in an intensive study of acting and directing. Experience necessary. As an ensemble of actors and directors, the class reads plays, explores dynamic interpretations of theatrical text and plays with character development, staging, production elements, and the director’s vision, all while learning the art of collaboration. Final project includes an invited performance.

**Choreographers’ Workshop with Peggy Peloquin**

This course is designed to foster creative and imaginative exploration in the realm of movement improvisation and choreography. Using the elements of time, space, energy, music, and text, students investigate the many possibilities of movement composition. The course consists of improvisational exercises, individual and group choreography projects, viewing of choreography by established dance artists, and personal reflection regarding the process of making art. The term culminates in a performance presentation.
Color Photography & the Portrait with Susan Now
In this class students explore the portrait in several forms. Through the process of making extended portraits, environmental portraits, portraits of place and self-portraits, students learn to alter their perceptions of what constitutes a portrait. The class works in color and explore how color temperature and film choice effects how the final image looks and is interpreted.

Instrumental Band Class: Rock Band with Vin Scialla
Rock Band is an offering that expands the performance concepts of Rock, Blues, & today's popular repertoire. This class covers music rehearsal and Rock performance techniques within a small ensemble, with a focus on Rock Music; mainly Rock from 1960s-present. The course is open to instrumentalists and vocalists, alike. Students are also encouraged to write, arrange and record their music, then present their work at a performance at the end of the trimester. The students learn how to form a Rock Band, bring in music to teach the class, and record the results in our school studio. There are frequent class trips to such local centers of music, past trips have visited the Rock n' Roll Hall of Fame Annex, and LREI Rock Bands have performed at school coffeehouses and at the historical Bitter End club on Bleecker Street.

Motion Graphics with Stephen MacGillivray
In this class students learn how to use motion graphics and visual effects in their video projects. The best effects are ones that augment the story without distracting from it. Students look at motion graphics as a tool used by filmmakers and animators keying, tracking, compositing, and animating. Beginners and more experienced graphic designers learn animation skills using Adobe After Effects through in-class exercises and homework tutorial viewing.

Vocal Music with Susan Glass
The Vocal Music elective allows students to work on a wide variety of repertoire. This includes, but is not limited to Musical Theatre. While the curriculum is similar to the 10th Grade class, where students worked on healthy vocal production and explored a variety of styles and genres of music, in this class there is more room to work on individual material, as well as duets and trios. A showcase serves as the final project. Individual singing is not required.

Studio Art with James French
The Studio Art elective is an independent project(s) driven course. Students are responsible for developing artworks that demonstrate well thought out and researched concepts that fit within a framework of requirements devised by both students and teacher. Students will be expected to document their processes, keep portfolios of their progress and be prepared to discuss their work regularly. As these projects take shape shorter "all class inclusive" lessons will spring out of fellow classmates’ methods and materials explorations. Materials and techniques will be determined by the needs of the projects. Materials will include but not be limited to: graphite, colored pencil, charcoal, acrylic paint, watercolor, oil paint, pastel, recycled materials, printmaking, typography and digital design.
Trimester 3: ENGLISH

**Literature Seminars**

**Author Study: James Baldwin with Calvin Walds**
Inscribed in stone on a wall of the National Museum of African-American History and Culture is a quote from James Baldwin: “The great force of history is that we carry it within us, are unconsciously controlled by it...History is literally present in all that we do.” Through his essays, fiction, and public speeches, Baldwin tried furiously during his lifetime to force white America to confront the violent history that informs and shapes its present. In a 1963 cover story, *Time* magazine said, “There is not another writer who expresses with such poignancy and abrasiveness the dark realities of racial ferment in North and South.” This class explores Baldwin’s writing in the context of its historical moment, including the Civil Rights movement and the role he occupied in it as a queer writer of color (a leader in the movement, he was nevertheless disinvited from speaking at the March on Washington because of discomfort with his sexuality). Students read a wide array of his essays and fiction, watch interviews, debates, and speeches, the 2016 documentary on Baldwin’s life and work, *I Am Not Your Negro*, and also trace his influence on contemporary writers, activists, and social movements, including Black Lives Matter.

**Author Study: Jhumpa Lahiri with Jane Belton**

“For surely it is a magical thing for a handful of words, artfully arranged, to stop time...to affect us and alter us, as profoundly as real people and things do” - Jhumpa Lahiri

If storytelling is magic, Jhumpa Lahiri is a master magician. One of the most internationally acclaimed writers of our time, Jhumpa Lahiri won the Pulitzer Prize and was even named by *The New Yorker* as one of the “20 Writers for the 21st Century.” In her essays, short stories, and novels, Lahiri has written powerfully about family, identity, immigration, alienation, and the pursuit of dreams, often through the lens of complex Indian and Indian-American characters. In this class, students examine the many dimensions of her characters and their stories, explore her place in the larger context of American literature, and consider the ways in which her work is essential for us, as 21st Century readers and writers.

**Author Study: Toni Morrison’s Beloved: Memory, Imagination, & the Narratives of Slavery with Ileana Jiménez**
Toni Morrison is one of the most celebrated and honored American novelists of this as well as the last century. Winner of the 1993 Nobel Prize in Literature, Morrison’s artistic and political project is to give voice to the silence of the African-American experience. The focus of this course is Morrison’s major novel *Beloved*. This text challenges readers to examine Morrison’s complex use of language, memory, and imagination as she explores the black female experience. At the same time, Morrison also asks us to consider the implications of black masculinity. As part of our study of *Beloved*, students review a constellation of texts that inform this novel such as slave narratives, spirituals, modernist writing, and some of her essays on writing and memory. Modern artistic and cultural explorations of slavery are also included, such as the Alvin Ailey dance troupe’s piece “Revelations” as well as Kara Walker’s silhouettes and her 2014 public art installation, “Subtlety,” at the Domino sugar factory in Brooklyn. At the end of the course, the class reads Morrison’s Nobel Prize lecture alongside her other essays such as “Unspeakable Thoughts Unspoken: The Afro-American Presence in American Literature,” and more contemporary pieces focusing on race and society.
Writing Seminar
Writing Workshop: Personal Essay with Heather Brubaker
In 1586, Michel de Montaigne, the godfather of the essay wrote: “I cannot keep my subject still...it is always in apprenticeship and on trial.” This course is rooted in Montaigne’s understanding of the essay as a place to chew on and savor those very subjects our minds cannot quite digest. Reading a wide variety of essays, students explore this often misunderstood genre, while gathering ideas, information, and inspiration for their own essays. By studying the writing of others, as well as their own, they hone the skills necessary for composing strong essays: juicy topics, organic structure, attention to language, and to audience. Most importantly, students cultivate the research and critical thinking skills needed to go beyond their first impulses and dig deeply into their topics. By the end of this course, students have a clearer understanding of what they have to (es)say and how to go about (es)saying it.

Trimester 3: HISTORY—Democracy in Action
Understanding the American political process and the ways in which individuals and groups can initiate systemic change as citizens of our democratic society is the core purpose of this course, required for Juniors in Trimester 3. Students consider the constitutional system, roles of the individual and civic engagement, responsibilities of citizenship, local government structures, state and federal power, interaction between the three branches of the federal government, and the role of the media. Students engage with pressing issues in American society, and in each area explore examples of ways in which individuals and groups work within established political structures to take an active role in advocating for social justice, initiate positive change, and make their voices heard in a democratic system.

Trimester 3: MATHEMATICS
Mathematical Modeling for the Environment with Pat Higgiston
Prerequisite: Discrete Math or Statistics
This course investigates our most pressing environmental challenges through the lens of mathematical modeling and function analysis. Students develop mathematical models to problems in population growth, atmospheric carbon accumulation, climate change, resource management, risk assessment, and other concerns, and explore interrelated phenomena and contextual constraints through function analysis. The class considers how mathematical models can be used to represent problems accurately and be tools for meaningful, sustainable change? The course is inquiry-based and student driven, and requires some research and basic spreadsheet programming.

Geometric Problem Solving with Manjula Nair
Prerequisite: Integrated Mathematics 3
This course uses visual representations to solve algebraic, graphical, and geometric problems. Topics include polar coordinates and 2D, 3D, and coordinate (analytic) geometry. Vectors and constructions are explored if there is time. This course uses and expands the students' ability to approach mathematics using spatial and abstract reasoning.
**Topics in Linear Algebra with Shafeiq Baksh**

**Prerequisite:** Integrated Mathematics 3

This course introduces students to matrices, vectors, and n-dimensional vector space, with an emphasis on applications useful in other disciplines. Linear algebra is a branch of mathematics that examines systems of linear equations and the different properties of matrices. The ideas in linear algebra are used in physics, economics, social sciences, natural sciences, and engineering. Due to its vast amount of applications, linear algebra is a widely taught course in college-level mathematics.

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**Topics in Pre-Calculus with Jacqueline Baker**

**Prerequisite:** 11th grade Integrated Mathematics 3

Topics in Pre-Calculus builds on the foundations of algebra and geometry, extending the analytical practices and mathematical topics of those fields to more complex applications, expressions, and physical-world situations. It is also a transitional course, preparing students for the methods of calculus and calculus-based fields. Topics include, but are not limited to, trigonometry, exponential and logarithmic functions, sequences and series, conic sections, and limits. Skills include solving equations, graphing functions, understanding and solving application problems, and communicating thinking clearly.

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**Trimester 3: SCIENCE**

**Climate Change with Preethi Thomas-McKnight**

Climate Change is the main concern for the current and future generations. In this class about climate change, students investigate the science behind the cause and result of human impact on Earth's environment.

**Conservation Biology with Daniel Li**

We live in the middle of one of the greatest extinction events of known history, witnessing devastating impacts on biodiversity within a short time frame. Scientists estimate a current extinction rate of 100 to 1000 times the normal background level. In this course, students are introduced to conservation biology, an interdisciplinary science focusing on the conservation of biological diversity on multiple levels. Students learn the causes of biodiversity loss with a focus on the impacts of human activity, conservation approaches and strategies, and the biological, social, and economic consequences of biodiversity loss.

**Sustainability: Food with Kara Luce**

Environmental health impacts our ability to produce food and in turn, our food production affects our environment. As the earth's population continues to grow, how will we successfully feed the planet without devastating the environment? In this course, students learn about interactions between environmental changes, food production, and food security. Students engage in laboratory investigations and hands-on activities. Guest speakers and field trips are also included as time and resources permit.

**Sustainable Energy Use with Kelly O'Shea**

What is electricity? How is it produced? How is it used? What is “the grid”... and can it be hacked? In Sustainable Energy Use, students build from the ideas in 9th grade Chemistry and 10th grade Physics to develop an even more sophisticated understanding of energy and power so that they see how it is used on a city-, country-, and world-wide level. How do
buildings, including our buildings here at LREI, use energy? How can we make that energy use more efficient and sustainable? What is renewable energy? Does NYC have a plan for the city’s future energy use? How are we working toward that plan? This class is interdisciplinary. In addition to the science involved, students also investigate the policy and economics, engineering applications, and activism related to sustainability and energy use. TL; DR: Use multiple lenses to understand how we can work toward sustainability when it comes to the energy we use.

**Sustainable Water Use with Sarvjit Moonga**
This course introduces students to the science affecting water resources management. The class focuses on how the intersection of people, climate, technology, and geography affects the quality, availability, and demand for freshwater resources. Laboratory work is included in this class.