

# 2022-23

# Course Catalog



## Core

Core is a two-year program that seeks to introduce younger students to the culture of Waring School and to give a strong foundation in the skills which students need for continued success at Waring. For this reason, although the content of our curriculum varies from year to year, and over the two-year cycle, the skills we emphasize remain constant.

One of the primary overall objectives in Core is to strengthen organizational skills, which are key to success in Waring's program. We stress such skills as keeping an assignment book, keeping handouts and readings organized, turning in assigned work on time, bringing necessary equipment to class (pencils, pens, notebook, readings, etc.), taking notes, reading actively, undertaking research, writing neatly and legibly, typing and word processing, and, last but not least, budgeting time. Tech skills such as submitting assignments online, contributing to class comment blogs, and writing and responding to emails are also emphasized.

Core students have a team of teachers who are responsible for Humanities, French, Science, Math, Immersion Humanities, Writing, Music, Art, Athletics, and Theater classes.

As in the upper school program, Core Humanities classes integrate history and literature, along with elements of geography, art history, the study of religions, and music. We work on content skill areas such as interpretive reading, group discussion, listening, notecard and essay writing, "chronological literacy," note taking, and memorization. The Core Science cycle, which may include Introduction to Earth Systems, Life Science, Robotics, Introduction to Forces and Energy over the two-year program, stresses investigation, accurate observation, analysis of data, and communication. Core Math is an integrated program that emphasizes problem solving and number sense to offer a bridge from arithmetic to algebra for students so that they have a strong foundation for our upper school mathematics program. Students begin their study of French first through listening, imitating, and speaking, which lead to the addition of reading and writing from their second semester onward. For students who arrive at Waring with previous French study, continued study at an appropriate level is offered. In Core Writing, students begin the process of finding their written voice, which we consider so important for our students.

Other parts of the Core program introduce our students to a diverse set of skills and experiences. They begin to draw from observation, they learn Theater technique, and they study the basics of music theory. Many Core students will begin the study of a musical instrument. Others will continue to improve skills they already have. All students sing together in Core Chorus. In Core, students are introduced to participation in the Waring Athletics program which emphasizes the value of team sports and a healthy lifestyle.

## Humanities

*Know then thyself, presume not God to scan,  
The proper study of mankind is man.*  
—Alexander Pope

All students at Waring spend a substantial part of the week in Humanities class. What is considered "Humanities"? Anything which falls within the sphere of human activity. In practical terms we focus our studies on what humans of the past have written, how they have lived, and what they have done. In conventional terms, this means that we spend most of our time studying literature and history. However, our mission also includes philosophy, art and music history, comparative religions, anthropology, mythology, cultural history, the history of science, and current events.

In Core and Group 1, the overall department goal is for students to learn the skills needed to study Humanities in more depth as they grow older: how to critique literature, how to discuss history, and how to explore the myriad questions that human behavior can elicit.

Through these studies, we hope to gain a better understanding of who we are and where we come from: as 21st century humans, as members of the Waring School, and as individuals. Such an understanding seems the proper end to a course of study called Humanities.

### Humanities: Honors Level Guidelines

#### Preparation

An honors level student...

- thoroughly and consistently completes assignments on time, in the proper format, and without the assistance of others (including parents) unless collaborative work is made acceptable by the teacher; all work is original and unplagiarized
- produces thorough annotations that demonstrate thoughtful reading, note key developments, accentuate nuance, make connections between texts, include personal reactions, and ask questions
- looks closely at the text, subtext, and context of readings, and pursues supplemental research when necessary
- independently reviews current events and connects current events to classroom content
- takes useful notes during class

#### Engagement & Leadership

An honors level student...

- demonstrates knowledge of, growing mastery of, and genuine curiosity for course content

- works towards creating an inclusive, positive, and actively engaged learning environment
- demonstrates a thorough understanding of historical content, vocabulary, literary and philosophical ideas in written work, in class discussions, tests, and other course projects
- contributes regular, clear, relevant, fresh, and insightful commentary and questions that advance the conversation and enhance engagement
- listens actively and engages courteously with fellow learners; respectfully incorporates, builds on, and/or presents counterpoints to the ideas of others
- consistently finds textual support for concepts and claims; appropriately references course texts
- shows a willingness to volunteer and take risks
- completes assigned research or mini-projects that arise from discussions
- is punctual, present, and focused
- participates in all-school meetings and brings class topics to a wider audience
- completes honors level assignments

### **Skill & Responsibility**

An honors level student...

- adeptly synthesizes Humanities disciplines (literature, history, philosophy, the arts, and culture) and makes cross-curricular connections
- views challenge as an opportunity to develop understanding
- demonstrates organization, sophistication, originality, and polish in essay writing
- independently seeks support in reading or writing where and when necessary
- demonstrates purposeful development in reading, writing, and speaking
- presents written work that is precise, grammatically sound, and properly cited according to MLA (English) or APA and Chicago (History) standards
- initiates at least 1 meeting with the teacher each quarter to check on honors status

### **Core Cultures of India & China**

We will begin our year by studying Indian culture and history. We will read Indian literature from several sources, including a modern prose version of the *Ramayana* and selected short stories by Indian writers such as Rabindranath Tagore, Jhumpa Lahiri, Salman Rushdie, and Chitra Banerjee Divakaruni. We will practice note-taking by listening to several Indian history lectures, and we will undertake a debate based around the negotiations that took place regarding India's partition into India and Pakistan at Independence in 1947. Over the course of this semester and next, we will also memorize several poems in order to deepen our understanding of poetry and poetic forms. During the second semester we will study Chinese history and culture. We will read *The Good Earth* by Pearl Buck and short stories by Ha Jin. We will study Chinese history, and we hope to visit the Yin Yu Tang House at the Peabody Essex Museum.

In the spring, students will complete a multi-step project on an immigrant family member or close friend. This project involves both primary and secondary research. Each week students write up their findings, and they conclude the project by collecting their research in booklet form. The unit will culminate with an immigrant celebration where the students present their projects.

In order to receive Credit, students must complete their daily homework and long-term projects satisfactorily, keep up with reading assignments, participate in class activities and show evidence of growth in the skills we have targeted.

The Core Humanities program is ambitious and demanding. We assign regular homework and give periodic tests and quizzes. We develop skills in reading, discussion, note taking and test taking. We assign several essays and work with students to help them organize their thoughts and write in a structured way. We develop projects in an effort to involve students personally in their study as much as possible. We rely upon the support and involvement of parents, and we value the trust that parents place in us to guide their children.

*Kristen Bock, Anita Richardson, Isabelle Skillen*

### **Core Topics in African Studies (Not offered in 2022-2023)**

We begin our year with the choice books that the students read over the summer, situating the different countries and regions of the African continent in which these take place, and using them to begin conversations about colonialism, culture, and race that will continue through the year. This is followed by a brief unit on Ancient Egypt, familiar ground to many students. We study topics in the history of West Africa, including the empires of Mali and Ghana, Islam, the slave trade, and European imperialism in Africa. We read, discuss, and write about *The Dark Child* by Camara Laye, and we also read a few short stories, some by well-known Western writers and others by African writers from a variety of countries. We do a simulation that discusses different forms of colonialism. After the winter break, we read *Cry the Beloved Country* by Alan Paton and do an overview of South African history, which we follow with Harper Lee's *To Kill a Mockingbird* and a look at parallel issues around race in the United States.

Core students also memorize poetry each week. The poems we choose often connect to the topics we are studying and are another way by which we hope to help students expand their vocabulary as well as increase their appreciation of poetic language.

Finally, in the spring, students also undertake a long-term project on the towns they live in, which allows them to begin learning how to conduct primary and secondary research and manage a multi-phase project.

In order to receive Credit, students must complete their daily homework and long-term projects satisfactorily, keep up with reading assignments, participate in class activities, and show evidence of growth in the skills we have targeted.

The Core Humanities program is ambitious and demanding. We assign regular homework and give periodic tests and quizzes. We develop skills in reading, discussion, note taking and test taking. We assign several essays and work with students to help them organize their thoughts and write in a structured way. We develop projects in an effort to involve students personally in their study as much as possible. We rely upon the support and involvement of parents, and we value the trust that parents place in us to guide their children.

### **Group 1: American History, Literature, and Civics**

Group 1 Humanities spends much of the year studying American history, literature, civics, and current events. Building on Henry David Thoreau's quote that "it is the province of the historian to find out, not what was, but what is," we study key events in American history in order to more fully understand America in 2022. Group 1 students use a civics lens to look at American history, developing an understanding of the rights and responsibilities of American citizenship. How and why has the notion of citizenship changed over time, and what Americans took which actions to bring about change?

The summer reading was *Fahrenheit 451* by Ray Bradbury. After finishing the novel we will begin a unit on the Declaration of Independence, the Constitution, the organization of the American government, and the upcoming elections in November. Then we will move on to consider different periods in history when groups of citizens used a variety of strategies to challenge power in order to secure the full rights of citizenship. Possible topics may include abolitionism and the civil war, the fight for women's suffrage, the civil rights and black power movements, and the fight for LGBTQ+ rights. Future works under consideration this year include: *The Narrative of the Life of Frederick Douglass*, *Incidents in the Life of a Slave Girl* by Harriet Jacobs, *The Awakening* by Kate Chopin, and *A Raisin in the Sun* by Lorraine Hansberry.

Students work on developing the following skills: listening, discussing, developing vocabulary, note taking, analyzing text, expository writing, and researching.

*Jill Sullivan, Josh Webb*

### **Group 2/3: Monotheism: Ancient, Medieval, and Modern**

Over the course of the year, we will study three monotheistic faiths: Judaism, Christianity, and Islam. We will begin with a study of the origins, the sacred texts, the

rituals, and the mysteries of each of these religious traditions. We will then study the development of the three faiths during the Middle Ages by studying Sufi Islam, Scholastic theology, and the medieval Crusades from the perspective of Muslims, Jews, and Christians. At the end of the year, we will turn our attention to the 20th century with units on the Holocaust and the relationship between Israel and the Arab world.

At the beginning of the year, we discussed *The Chosen* by Chaim Potok. Our next text will be Robert Alter's translation of *Genesis* and excerpts from *The Woman Who Named God* by Charlotte Gordon. Additional texts may include poetry by Rumi, Dante's *Inferno*, excerpts from *The Canterbury Tales*, *Night* by Elie Wiesel, and 20th century literature by Israelis and Palestinians. Over the course of the year, we also hope to meet with and learn from people who practice each of the faiths we are studying in the classroom.

*Isabelle Skillen, Josh Webb, Tasha Frank*

### **Group 2-3 Modern Europe (Not offered in 2022-2023)**

This course focuses on the history, culture, arts, and literature of Modern Europe from the Renaissance to the present day. We look at the meaning of European identity over the centuries, paying particular attention to the theme of modernity. Using a mix of primary source texts, works of literature, essays, music, and paintings, we study such topics as the Reformation, Elizabethan England, the Scientific Revolution, the Enlightenment, the French Revolution, Romanticism, the Industrial Era, colonialism, World War I, Modernism, World War II, the Holocaust, the Cold War, and Europe today.

Over the summer, students read *1984* by George Orwell. Other works under consideration this year include: *Hamlet* by William Shakespeare, *Jane Eyre* by Charlotte Brontë, *All Quiet on the Western Front* by Erich Maria Remarque, and *Night* by Elie Wiesel. Each student will also conduct an independent research project on a topic related to European colonialism and Europe's impact on the non-Western world.

Students work on developing the following skills: close reading, analytical writing, researching, delivering oral presentations, and participating in discussions.

### **Group 4/5: The Ancient Worlds and Epics**

Ancient Worlds and Epics will explore mythology from an anthropological and historical perspective, surveying the origins of human storymaking, philosophical, and religious cultures. We will explore ethics, asking "What is friendship," and consider the answer across different cultures and through different epics. We will begin the year by reading Karen Armstrong's *A Short History of Myth*, to establish an understanding of the uses and origins of myths, rituals, and the division of the sacred and profane in ancient societies. We'll read epics from different cultures, including a new verse translation of

*Gilgamesh*, another of the Maya creation epic *Popul Vuh*, Ursula LeGuin's translation of the Tao, Robert Fagles' translation of *The Iliad*, and Seamus Heaney's translation of *Beowulf*. We will also read selections from *The Bhagavad Gita*, *The Odyssey*, and the Therigatha. We'll investigate philosophy, including the Ionian philosophers, Plato's *The Symposium*, *The Apology*, writings by Aristotle, and excerpts from Oludamine Ogunnaike's *Ways of Knowing*. We'll also read and stage scenes from Greek tragedies, including works by Aeschylus and Sophocles. Throughout the course, we will challenge ourselves to understand different ways of knowing, including vernacular philosophy and orature, and to find the resonance between ideas and cultures of the ancient world and our own.

Gallaudet Howard, Joshua Fishburn

### **Group 4-5 American Studies (Not offered 2022-2023)**

This year's Humanities class studies the histories of peoples inhabiting and colonizing North America. Through examining diverse histories, chronologies, literary works, and cultures, we ask students to explore the question: "Who are Americans and how did they get this way?" Among many other topics, we discuss the histories and stories of Native American nations in their own right, Black and African American histories and literary works in the United States, the stories of women in this country, Asian American and Latinx histories and literary works, and the movements of peoples across borders both now and in the past.

Over the summer, students read Joy Harjo's anthology *Living Nations, Living Words* as well as the introduction to Jill Lepore's *These Truths*. Authors typically included throughout the year are James Welch, Ernestine Hayes, Robyn Kimmerer, N. Scott Momaday, Toni Morrison, James Baldwin, Henry Louis Gates, Jr., Anne Bradstreet, Wendell Berry, Thomas Jefferson, Harriet Jacobs, Henry Thoreau, Frederick Douglass, Ralph Emerson, Walt Whitman, Emily Dickinson, Louise Erdrich, Charlotte Perkins Gilman, Ta Nehisi Coates, Zora Neale Hurston, William Carlos Williams, Tony Kushner, Maxine Hong Kingston, and Sandra Cisneros. We include visual art, film and music in addition to literature, and use primary source collections from the Library of Congress, among others.



## Science, Engineering, and Technology (SET)

The course offerings of the SET department are designed to offer students a compelling introduction to fundamental natural sciences as well computer science and engineering. In addition to the classroom learning experience, the SET program strives to both inform and challenge students through conducting scientific experiments, field research and hands-on challenges.

The SET department seeks to equip students with scientific knowledge, important methodological skills, creative problem solving skills, and intellectual tools, such as programming, that have become central to scientific work and vital to society.

Our SET program encourages students to develop a personal relationship with nature and lays the foundation to understand sustainability and the importance of environmental stewardship. This connection to nature supports the student's natural enthusiasm, wonder and pursuit of knowledge, and sets the stage for them to continue this pursuit beyond Waring. Our program also seeks to give students the tools needed to enter the further study of science by teaching natural science adjacent content, such as computer science. Waring SET teachers model open mindedness and fact based reasoning by presenting scientific discoveries in context, and encouraging students to draw conclusions based on rigorous study, observation, experimentation, and experience. We blend academic study with experience in an effort to help students understand the fundamental concepts and related technologies in the natural sciences and related fields.

All Core SET classes meet four periods a week and are trimester-long classes. Group 1 SET courses meet five periods a week and are semester-long classes. Groups 2-5 take SET courses that meet five periods a week all of which are year long classes. The high school SET curriculum offers the following course progression: Grade 9 - Biology; Grade 10 - Chemistry; Grade 11 - Physics; Grade 12 - Oceans and Climate or Physics 2 & Data Science.

### Robotics and Computer Science at Waring

As part of the roll out of the SET department, Waring moved its robotics and programming offerings into the SET department. As part of the integration of technology related fields into the SET department, the SET department is pleased to offer three courses related to computer science and five co-curricular robotics teams. At the CORE level, each student will take *Introduction to Robotics* for one-third of the year. At the Group 1 level, each student will take *Introduction to Computer Science* for half a year. At the Group 5 level one of the two courses offered is *Physics 2 & Data Science*.

We are also pleased to be able to offer co-curricular programs in robotics. Students in Core and Group 1 may participate in FIRST LEGO League (FLL). Waring will field three FLL teams this year. Sarah Carlson-Lier is heading up the program, with three FTC

students serving as assistant coaches. This year Waring will once again field two FIRST Tech Challenge (FTC) teams for students in Groups 2-5.

In order to support its robotics teams, and expand access to our teams, the SET department also offered seven weeks of robotics camps this past summer. These camps were taught by members of the robotics teams and were designed to give campers the skills needed to succeed on our robotics teams, or any other robotics team they want to join. Attending the FTC camps is strongly recommended for any student wishing to join an FTC team.

The Waring SET department is very fortunate to have resources in terms of computers, faculty hours, dedicated workspaces, and equipment, that allow us to run specialized computer science courses, robotics courses, FLL teams, FTC teams, and robotics camps.

The roll out of the SET department is now largely complete in terms of new programs; it is likely that with the course offerings in Core, Group 1 and Group 5, as well as the middle and high school robotics teams, we have achieved the balance we were hoping for between the natural sciences and science adjacent disciplines. Future change is always possible, but for the moment we are likely to pause and let the new programs take root.

### **CORE Science, Engineering and Technology: One trimester each of the following classes.**

#### **Core: Introduction to Earth System**

Introduction to Earth Systems is a trimester-long course that will focus on weather and climate. Students will work on developing their observational skills through the use of a Weather Journal. They will make observations about weather patterns in our area and make predictions about future weather. Each week, they will learn and develop more background knowledge to make their observations and predictions more robust. Students will learn about gases, pressure, and energy transfer. This will culminate in students learning to read weather maps. Students will practice communicating scientific information in the delivery of a weather forecast. Towards the end of class, we will shift our focus to climate. We will discuss the difference between weather and climate, learn about how and why the climate is changing, look at tools that scientists use to understand what the climate was like in the past.

Introduction to Earth Science is a class that will meet for 1 trimester. Students will use Pearson's *Science Explorer: Earth Science* as their primary textbook. Credit is based on class participation, citizenship, timeliness and quality of homework, quiz and test scores, as well as neatness and completeness of a student's notebook.

*Molly Cyr-Redcross*

## **Core: Introduction to Forces and Energy**

The goal of this class is to introduce students to fundamental concepts in physics in an age appropriate, hands on, manner, while also teaching science skills, such as graphing, data analysis, analytical writing, and notetaking.

The trimester-long class will begin with a project designed to teach the signed nature of velocity. After studying the idea of velocity, the students will run another hands-on lab designed to teach them the idea of acceleration and the differences between acceleration and velocity. We will then move on to study the idea of forces and their connection with the idea of acceleration. We will do a unit on simple machines, mechanical advantage, and the idea of work using household objects, such as garlic presses and salad tongs. If there is time, the students will work on a mousetrap car in order to further explore the idea of work, energy and force. After this we will study static forces, specifically static forces in buildings and bridges. Finally, the students will work on building a popsicle stick bridge using the ideas of static forces that we have studied.

To support this course we will use two texts, Pearson's *Science Explorer: Motion, Forces and Energy* and *The Art of Construction*, both of which students will borrow from the school.

Introduction to Forces and Energy is a class that will meet for 1 trimester. Credit in this class is based on successfully completing homework, projects and quizzes as well as constructive in-class participation. Students are expected to have their notebooks and a pencil ready for each class.

*Francis Schaeffer*

## **Core: Introduction to Robotics**

In the Core Introduction to Robotics trimester, students will develop computational thinking and problem solving skills as they build and program LEGO Spike Prime robots to complete challenges. Students will learn to program their robots using the Spike Prime software, which is based on Scratch, the block-based visual language developed by MIT to teach coding to young people. Students who are new to robotics will begin with blind driving and move toward sensor controlled response over the course of the trimester. Students will practice using "wait" blocks, loops, and switches to program their robots to perform increasingly complex tasks. Students who took the course last year or have previous robotics experience will explore advanced topics such as robot and attachment design, proportional control, and coding in Python. Students will use what they have learned to develop a high scoring run on this year's FLL Robot Game "Superpowered."

By including Intro to Robotics in the Core SET curriculum, we introduce all Core students to programming and robotics engineering. We hope the experience and the confidence gained will help students overcome gender, racial or other cultural barriers

that might otherwise push them away from future work in robotics or coding and inspire an enduring interest in computer science.

Introduction to Robotics is a class that will meet for 1 trimester.

*Sarah Carlson-Lier*

### Core SET: Skill Development

In addition to subject content, a major goal of Core SET is to help students develop the basic skills necessary to participate in scientific study. These skills include how to observe and ask questions, how to measure and analyze data, and how to use basic laboratory equipment. Mathematics and technology are regularly integrated into classwork and homework assignments. Students learn to keep good notes in an organized scientific notebook and have ample opportunity and support to improve test-taking skills, prepare presentations, summarize and communicate conceptual understanding in writing, and analyze data collected from long-term projects.

Credit is based on class participation, citizenship, timeliness and quality of homework, quiz and test scores, as well as neatness and completeness of a student's notebook. Required materials: bound notebook devoted exclusively to science class, accordion folder to organize hand-outs and returned quizzes/tests, metric ruler, graph paper, calculator, pen/pencil, and eraser.

### Group 1: Topics in Physical Science

In Topics in Physical Science, students will be introduced to concepts that will serve as a foundation for high school science classes, especially biology and chemistry. The year will begin with students learning how to classify and measure matter. In this unit, students will learn about lab safety, get acquainted with the various tools and glassware in the lab, and be exposed to different lab techniques. Students will practice their skills by separating different components of a mixture. Next, we will shift our focus more toward “pure substances,” starting with elements and the periodic table. Students will learn about atomic models and we will discuss the benefits and drawbacks of scientific models. Then, students will learn about how the periodic table is organized and explore the trends within the periodic table. Students will be assigned a “periodic family” to research and present to the class. Once students have a strong understanding of the periodic table, we will move into chemical bonds. We will explore the difference between ionic and covalent bonds and students will practice predicting the resulting compounds from various reactions. With any remaining time, we will talk about polarity, solubility, and practice graphing.

Topics in Physical Science is a class that will meet for 1 semester. Students will use Pearson’s *Science Explorer: Chemical Building Blocks* as their primary textbook. Credit is based on class participation, citizenship, timeliness and quality of homework and lab

work, quiz and test scores, as well as neatness and completeness of a student's notebook.

*Molly Cyr-Redcross*

## **Group 1: Computer Science**

This course is designed to introduce students to the broad field of Computer Science. We will begin by exploring what exactly makes a computer a computer and the history of these thinking machines. We'll look at how the field can consist of both hardware and software, programming and algorithmic thinking, as well as data and design. Students will focus their attention on a diverse set of individuals who have worked in Computer Science. They will learn to think like a computer in binary and investigate the scale of the world of modern components. Next we'll introduce algorithmic thinking using Scratch, a block based programming language before segueing into programming in Python. Through Scratch and Python, we'll focus on the core components to any language of variables, conditional statements, lists, and loops. The course will wrap with a unit on data by utilizing a friendly relational database tool called Airtable to build the foundation for a business of their choice. Students will also work on their typing speed work as a supportive skill.

Computer Science is a class that will meet for 1 semester. Student will have access to the text *Everything You Need to Ace Computer Science and Coding in One Big Fat Notebook: The Complete Middle School Study Guide* and utilize digital accounts in Typing.com (for typing practice), Code.org (for exploration of computing basics), Scratch.mit.edu (for block based coding), Replit.com (for python development), and Airtable.com (for database building).

*Rebecca Reed*

## **Group 2: Biology**

Biology is not only all around us, it *is* us. We'll use ourselves as perhaps the most relevant starting point for biology, diving into applied anatomy and physiology. Using a problem-based approach, we will come to understand how the body operates by learning about many of the things that can and do go wrong. We will learn to assess problems, narrow diagnoses, support basic functions, and stabilize patients until advanced life support arrives. We will have a thorough understanding of the body, and fairly advanced first aid skills to boot. We will conclude human anatomy with a look at reproduction, the throughline of all life; only by understanding genetics does the tapestry of diverse life begin to make coherent sense. The unit that follows delves into the complexities of cell division, genetics, inheritance, and DNA. From there we study the theory of evolution by natural selection. We will once again start with ourselves, and then look back in time to the rest of the vertebrate family and far beyond to the origins of life. We'll explore some taxonomy, and see how modern genetics is rewriting our understanding of the family tree. And within the vertebrate subphylum, we will do

some comparative anatomy by collectively dissecting an array of vertebrates - reptiles, amphibians, birds, and mammals - in order to examine the differences and similarities of our anatomy, and how they reflect evolutionary history. For the final unit in biology, we will look at how the diversity of life interacts through the study of ecology.

Among other sources, students will use the textbook, *Biology: The Core, 3rd ed.*, by Simon (2020). Credit is based on satisfactory completion of the course and requires completion of labs and homework assignments; satisfactory results on quizzes and tests; and active participation in all classroom activities and discussions.

*Dan Wellehan*

### **Group 3: Chemistry**

Group 3 Science will study basic principles of chemistry. Chemistry is the study of the behavior of matter and there will be a strong emphasis on how chemistry is relevant to students' lives outside the classroom. We will begin the year discussing significant figures and unit conversions. After reviewing the basic math required in chemistry, we will proceed to classifying and quantifying matter. Students will learn about the atom and study the patterns in the periodic table. We will then delve into ionic and covalent bonding, intermolecular forces, chemical reactions, and stoichiometry. At this point in the year, students will learn about and practice "green chemistry." We will also spend some time exploring ingredients in personal care products. As the year comes to a close, we will explore the ideas of solutions, colligative properties, acids and bases, and gases. Students will be exposed to different data collection methods through laboratory experiments and live demonstrations. Our primary textbooks for this class will be Pearson's *Chemistry* by Wilbraham, Staley, Matta and Waterman. Students will also read sections of *Napoleon's Buttons* by Jay Burreson and Penny Le Couteur. This book will draw connections between the chemistry content and humanities.

To receive Credit in this course, students must consistently participate in class and must maintain at least a 70% average on homework, labs, projects, and tests. Students who are working at the Honors level must demonstrate a strong command of the material by earning at least 85% in the aforementioned categories. They should also be actively engaged in class by asking thoughtful questions, taking good notes, and being generally helpful in class, especially during labs.

*Molly Cyr-Redcross*

### **Group 4: Physics**

In Physics we study the most fundamental concepts in our understanding of nature—motion, forces, energy, and matter. *The physics course is offered in two sections which take different approaches to the same material. One course is more mathematically demanding than the other.*

Physics (mathematical approach) has a particular focus on the mathematical relationships between concepts. We work to develop a conceptual understanding of physical phenomena and describe these in the language of mathematics. As part of this effort we learn to apply mathematical models to solve quantitative problems. Our class involves formal lab experiments, informal activities and demonstrations, lectures and discussions, and steady practice with problem solving. Over the course of the year we study the mechanics of linear and rotating systems, sound and other wave phenomena, electricity and magnetism, and optics. Our primary textbook for this class is *Physics: Principles with Applications* by Douglas Giancoli.

To receive Credit in this course, students must maintain at least a 70% average on the credit-level scored problem sets, pass the credit-level tests, perform well on labs, and consistently participate in class. Students who are working at the Honors level must demonstrate a strong command of the material as well as engagement with the class. An example of a way to demonstrate serious engagement in class is showing up on time to class and attending all course meetings. Students working at the Honors level will be given different, more challenging problems on their scored problem sets and tests. In the past students have needed to achieve an 85% average on the problem sets to pass the honors offering of the course, however, sometimes this is lowered depending on how the whole class is doing. Besides performing well on the more difficult homework and tests, they must show diligence, thoroughness, and excellence in all their written work, and they must be strong and active participants in class.

Physics (conceptual approach) – the same fundamental physics concepts are studied in this class. Students will see that simple principles lie behind a wide range of phenomena that they can explore. Students will have the opportunity to develop a conceptual understanding of these principles by working with concrete, hands-on activities paired with classroom discussions, demonstrations, and on-line simulations. Students will develop intuitions about the way the world works and correct their mis-intuitions or misconceptions as they attempt to explain and understand what they see. Students will explore and identify the fundamental principles acting in our physical world and learn to model them mathematically. Students will then learn to explain other phenomena in terms of the fundamental physics principles and to test their ideas. Comprehension will be assessed with homework sets, laboratory and project reports, and regular concept tests. Our primary textbook for this class is *Physics: Principles with Applications* by Douglas Giancoli.

To receive Credit: satisfactory performance on classroom activities, labs, quizzes and tests; interest and involvement in classroom activities, discussions, labs, and projects are essential to this class. To receive Credit with Honors: Students must demonstrate a strong command of the material as well as a deep and serious engagement with the class. Credit requirements plus consistently above-average homework, test scores, and lab project summaries with an 85% average are necessary. Students taking the course at the Honors level will generally be asked to take Honors level tests and problem sets.

Physics is essentially concerned with developing testable and predictive statements about physical reality. As such, it is not concerned with who makes contributions but rather the ideas themselves. This course will focus almost entirely on ideas and not on people. However, I think that it is vitally important that all students see themselves as potentially part of making contributions to physics if they choose to do so later in their lives. Toward that end, I will highlight the contributions of historically underrepresented, or deliberately marginalized, populations to this science, as we touch on key discoveries.

*Francis Schaeffer*

### **Group 5: Oceans & Climate**

Oceans & Climate is one of this year's capstone courses in the science program that gives students the opportunity to develop a deeper understanding of how oceanic and atmospheric systems interact. We investigate topics in climate science, oceanography, and marine biology through weekly field work in marine habitats, hands-on laboratory activities, discussions of current events and scientific journal articles, and in-class lessons. We partner with local organizations, such as Mass Audubon, Maritime Gloucester, Salem Sound Coastwatch, and Endicott College to collect real data that contributes to long-term studies on how the Great Marsh and other coastal systems respond to climate change. With a strong emphasis on scientific exploration, students gain mastery in research techniques and experimental design to conduct their own research projects throughout the year.

The year begins with an exploration of climate science, with topics including the global carbon cycle, the greenhouse effect, and impacts of climate change. We'll study environmental justice and how marginalized communities often experience greater effects of global warming. Next we'll delve into global air and water circulation, seawater chemistry, tides, and coastal resilience in our study of oceanography. We'll conclude our studies with topics in marine biology, including phycology, zoology, and ecological interactions.

Performance in the class will be evaluated, in part, on the satisfactory completion of assessments, lab reports, homework, classwork, and research projects. Credit in the class requires that students demonstrate proficiency on all assessments, and that they participate actively in class discussions and lab work. Credit at the honors level requires excellence on all assessments, active participation in class, and leadership in the learning that we are doing together.

*Alison Frye*

### **Group 5: Physics 2 & Data Science**



Semester 1: Physics 2 offers students a third semester of topics in Physics for their senior year. We will continue with the foundation laid in their first year of Physics with problem set based assignments challenging students to integrate concepts, principles, and derived equations to work towards real world applicable solutions. This 3rd semester will focus in the areas of Fluids, Thermodynamics, Geometric Optics, and Modern Physics. Our primary text will again be *Physics: Principles with Applications* by Douglas Giancoli. In addition to the problem sets, students will be asked to successfully demonstrate mastery on a midterm and final exam. Finally, we will highlight scientific inquiry through labs, kicking off with a group engineered lab around Hydraulic Lifts, then formalizing reports on labs in Fluid Dynamics, Thermo, and Optics. Students should be averaging scores at 70% or above for credit and at 85% and above for honors. Honors students will also be asked to complete additional items on problem sets.

Semester 2: Data Science is a broad field that incorporates programmatic approaches for handling data sets including; cleaning and organizing, visualizing, and analyzing using approaches from traditional Statistics and Machine Learning. This field gains in popularity as the world gains access to more and more large sets of information through computing systems. Skills can be applied towards trajectories in the sciences, engineering and development, or as wide as business and political science. Since we anticipate students to be entering this space with a wide range of backgrounds, we'll support this course with a tool that will allow for asynchronous learning paths. Students will each have access to an account with DataQuest.io through which they can start their journey developing foundation skills in Python, learning about Jupyter notebooks for development, or diving ahead to Statistics. We will not have traditional lectures or assignments because of the asynchronous nature and students will be assessed by setting tailored goals and tracking progress through projects against those. Class periods will offer focus time with support from peers and their teacher.

*Rebecca Reed*

## French

Students at Waring spend up to seven years studying French. There are some goals which we hold for all students: we want them to feel comfortable using French both orally and in writing; we want them to become curious about French and Francophone cultures. During their time at Waring, each student moves at his or her own pace in progressing toward our overall goals. One of the strengths of Waring's program is how we evaluate our students based on their progress, competence, and fluency. At the end of each year, a student may advance to the next level or repeat the current level in order to build upon the linguistic foundation needed to succeed. This evaluation continues early in the school year when teachers might determine that a student will best be served by changing their placement. French classes are grouped into two large groups: Core and Groups 1-5. Within these, we subdivide classes into smaller groups of students according to skill and ability. French classes meet four times per week.

Gradually students learn to speak and write about their lives and the topics and literature they study. We teach them to read with the goal of being able to read in French on their own for pleasure. We discourage translation but rather encourage building the vocabulary needed to understand simple texts from which they learn to handle more and more challenging works. In school, we try to surround students with French both in and outside of the classroom. Students and teachers speak to each other in French as often as possible. We regularly conduct all-school meetings in French, have French announcements, publish French writing in Le Temps Retrouvé, and present French skits or plays. Students will also participate in the annual Concours de Poésie for which they memorize and recite a French poem and compete with other students.

We encourage students to travel and do exchanges with French students in the summer or during the school year, as well as to watch French films, listen to French music, and read online French magazines and newspapers. Travel programs take place subject to international and domestic health and safety exigencies. The group 2 students typically travel to France for a linguistic and cultural exchange in the spring and the group 4 students typically travel as a grade to France during Endterm.

When students leave Waring School, we hope that the French language and many francophone cultures will have become an important part of their lives which they will never lose.

### **Honors Levels (Groups 3-5):**

Students taking French courses at the Honors level are asked to consistently perform tasks at a higher level of proficiency and sophistication, typically at the levels Intermediate II and above.

To challenge students taking a course at the Honors level, the teacher will provide alternative expectations, individualized assignments, and / or evaluations. In all cases,

students will be expected to contribute to the class fully and positively and act as a role model striving to excel.

A student wishing to take a course at the Honors level must be invited to request such special status by the teacher by mid to late October.

After the student and teacher have discussed the Honors course parameters and agreed upon them, the candidate for Honors will sign a contract / calendar written by the teacher. By the end of October at the latest, the student's status must be confirmed by the teacher's assessment of the student's performance and attitude. At this time, a student not meeting the Honors expectations may only be eligible for Credit at the end of the semester. A similar calendar and set of rules will apply for the second semester.

### **Core Débutants I**

Students in these classes have very little or no previous knowledge of French. Until January, their classes do not use written language. Classes are conducted entirely in French and students are given useful, everyday language contexts in which to understand and use the language. Students learn to talk about the weather, their likes and dislikes, their families, and their homes. Nightly homework assignments require students to record sentences and conversations which they have practiced in class. They should record for a minimum of 2 minutes each evening following their French class. After the transition to written French, students receive regular written assignments.

The topics covered in classroom conversation parallel the progress of the textbook, *Tricolore 1*, which is used starting in January. At that time students review the same topics and structures covered in the fall, using the textbook, so that the transition to written language can be made smoothly. At every level we guide them in conversation. We ask them to listen to and act out skits and scenes, memorize poetry, read simple texts in French and begin writing and reading. We celebrate rites and festivities from various francophone countries throughout the year.

In order to earn Credit for the first semester, students must complete their homework (an audio recording for every day French class meets: Monday, Tuesday, Wednesday, and Friday; participate actively and appropriately in class conversations and show evidence of growth in their ability to use oral French. Students need to make sure that their attendance and punctuality are in good standing.

In order to earn Credit in the second semester, students must complete their daily homework, listen attentively, participate actively and appropriately in class, and show evidence of growth in their ability to use oral and written French. Students need to come to class on time and prepared.

Required material: A computer or phone enabled to make voice recordings.

*Anna Marie Smith & Maureen Gedney*

### **Core Débutants II**

This second-year French class aims at consolidating the gains from the prior year. During the course of the year, students increase the fluency and sophistication of their spoken French and make progress in their ability to write and read efficiently. We emphasize oral French through role-plays, conversations, songs, talking about pictures, and excerpts of films.

We begin with a review of basic grammatical concepts using magazines and the textbook, *Tricolore 2* or *Chemins 1*, and the topics covered in classroom conversation parallel the progress of the textbook. New concepts include the use of most common irregular verbs, the immediate future, reflexive form and past tenses. We learn about various Francophone countries and cultures, regions of France, and major landmarks in Paris. We also look at contemporary French family life.

In order to earn Credit, students must complete their daily homework, listen attentively, participate actively and appropriately in class, and show evidence of growth in their ability to use oral and written French. Students need to come to class on time and prepared. Linguistically advanced students are challenged within the Débutants II level through differentiated instruction and lessons with Teaching Assistants appointed by the French department.

*Marianne Durand, Anita Richardson*

### **Immersion Humanities**

The French Immersion Humanities and Musical Activities course is broken into three rotating modules. Together, the three trimesters cover numbers and the metric system, geography, some cultural explorations of China, and classical music.

At the start of the course, our main focus is on becoming comfortable using French numbers and the metric system. Farther into the trimester, we devote most of our time to geography, looking at geographical terms, latitude and longitude, seasons, climate, and physical features. We examine the political map of Asia, and physical maps of China and India, all in French, complementing the regular Humanities curriculum. The culture component looks at some aspects of family life and traditions in China. All students should have colored pencils. A French atlas will be supplied.

We also spend one trimester focusing on classical music, again entirely in French. This is an enrichment experience which draws upon students' sensory and emotional responses to music listening and uses visuals to explore music history through the study of composers and instruments.

In order to earn Credit, students must complete their homework, listen attentively, participate actively in class using French appropriate to their level, and show mastery of the content of the course. Students need to come to class on time and prepared.

*Maureen Gedney, Anna Marie Smith, Brigitte Lagoutte*

## **Débutants I**

Students in this class have little to no previous knowledge of French. Until January, their classes do not use written language. Classes are conducted entirely in French and students are given a useful context in which to understand and use the spoken language. Students learn to talk about their families, their homes, the weather, activities, food and drink, and their likes and dislikes. Nightly homework assignments require students to record sentences and conversations which they have practiced in class. They record every evening, following their French class, and post their recording on Google Classroom. After the transition to written French, students receive regular written assignments, though recordings may still be used, often to practice reading aloud.

The topics covered in classroom conversation parallel the progress of the textbook, *Tricolore 1*, which is used starting in January. At that time students review the same topics and structures covered in the fall, using the textbook, so that the transition to written language can be made smoothly. At every level, we guide them in conversation. We ask them to act out skits and scenes, memorize poetry drawn from different parts of the francophone world, read simple texts in French and begin writing. We often use art and music (again, drawn from various francophone cultures) to supplement the textbook.

In order to earn Credit, students must complete their homework (audio recording) every day that French class meets, and participate actively and appropriately in class conversation. They must also show evidence of growth in their ability to use spoken French, and, in the second semester, written French. Students need to make sure that their attendance and punctuality are in good standing.

Required material: A computer enabled to make voice recordings.

*Anna Marie Smith & Marianne Durand*

## **Débutants II**

This second-year French class aims at consolidating the gains from the prior year. During the course of the year, students increase the fluency and sophistication of their spoken French and make progress in their ability to write and read efficiently. Emphasis is placed on oral French through role-play, conversations, games, songs, talking about pictures, and excerpts of films.

We begin with a review of basic grammatical concepts. New concepts include the use of most common irregular verbs, the immediate future, and past tenses. We learn about various Francophone countries, regions of France, and major landmarks in Paris. We also look at contemporary French family life. Our textbook for grammar and vocabulary is Tricolore 2.

In order to earn Credit, students must complete their daily homework, listen attentively, participate actively and appropriately in class, and show evidence of growth in their ability to use oral and written French. Students need to come to class on time and prepared.

*Brigitte Lagoutte*

### **Intermédiaires I**

This class moves from the relatively simple beginner level to increasingly complex grammar and vocabulary. Classes are conducted in French. Students are expected to improve in their ability to speak and write accurately. This level of French focuses on everyday conversations in francophone countries (in the home, at school, at the hotel, at the cinema, etc.), on new cultures, and on writing short but accurate paragraphs. The aim is to build concrete vocabulary and a command of the basic verb tenses. Some of the important grammatical topics will be the study of gender rules, pronoun usage, a more in-depth review of the passé composé, and learning the imparfait and the futur simple tenses.

We frequently explore current events with videos and articles and learn songs from around the francophone world. As the year progresses, students begin to read more challenging texts and study some of Jean de la Fontaine's *Fables*. We will use the *Grammaire en dialogues*, the *Grammaire progressive du français* as well as a number of online resources in order to offer a well-balanced grounding in grammar, culture, and vocabulary.

To earn Credit, students must complete their daily homework when due, participate actively and appropriately in class discussions, and show evidence of growth in their ability to use oral and written French. Students need to make sure that their attendance and punctuality are in good standing.

*Maureen Gedney & Anna Marie Smith*

### **Intermédiaires II**

In Intermédiaires II, students increase the fluency and the sophistication of their spoken French and make significant progress in their ability to read and to write in French. The class is conducted entirely in French. To start off the year on solid ground, we spend part of our time reviewing basic elements of grammar and verb tenses. We learn more about the future and past tenses and how to use the *imparfait* and *passé composé* to narrate an event in the past. We focus on the practical skills needed to carry on everyday conversations in France and introduce abstract concepts for the first time. This involves building both concrete and abstract vocabulary as well as improving comprehension, pronunciation, and intonation.

Students are expected to bring both their oral and written command of the language to a much higher, more accurate and sophisticated level. They are asked to write regularly, more comprehensively, and to revise their writing, with an eye toward catching repetitive errors.

We use one main textbook, *Grammaire progressive du Français*. We regularly use video segments and contemporary cultural readings from a number of sources: current events articles, poems, songs, and challenging literature readings such as Eric-Emmanuel Schmitt's *Monsieur Ibrahim et les fleurs du Coran*.

In order to earn Credit, students must complete their daily homework, participate actively and appropriately in class discussions, and show evidence of growth in their ability to use oral and written French. Attendance and punctuality must be in good standing. This class may be taken at an Honors level with teacher approval. In order to earn Honors, a student must excel in all aspects of the course work, showing rapid growth with the feedback given on assignments or in class, as well as consistently adopting a leadership role in day-to-day class activities.

*Anita Richardson*

### **Intermédiaires III**

This course is designed to hone skills in all modes of communication. French is the language of instruction and fluency is acquired systematically through immersion. The teacher promotes exclusive use of French by students, and a variety of methods/tools are used to make the language relevant and useful. Grammar stretches skills learned in levels Débutant-Intermédiaire with an emphasis placed on verb tenses. Vocabulary expansion is stressed with authentic reading and listening materials from the textbook *Chemins 3* and other resources/media.

Compositions focus on accuracy and succinct self-expression in relationship to themes studied, as well as overall comprehensibility and fluency. This course is taught exclusively in French.

In order to earn credit, students must complete their daily homework, make constructive and systematic use of resources such as dictionaries, our grammar text, *La grammaire progressive du français*, and verb book, *Le Bescherelle*, or its electronic equivalent, participate actively and appropriately in class discussions, and show evidence of growth in their ability to use oral and written French. They must also make sure that their attendance and punctuality are in good standing.

This class may be taken at an Honors level with teacher approval. Additional requirements for Honors include writing both more extensively and with a more meticulous degree of accuracy, taking a consistent role of leadership in day-to-day class activities, and demonstrating consistent mastery of past and current language concepts in both writing and speaking.

*Marianne Durand*

### **Avancés Film**

In this course, students expand on their written and oral communication skills through exploring French and Francophone film with an emphasis on conversational proficiency. Students learn about the history of French cinema and practice applying film vocabulary, using specific terms to illustrate characteristics of movements in film history. We begin the year with a unit on the *Nouvelle Vague* and will then explore the birth of film with the Lumière brothers, as well as realism in contemporary films.

In order to earn Credit, students must complete their daily homework, participate actively and appropriately in class discussions, and show evidence of growth in their ability to use oral and written French. Attendance and punctuality must be in good standing. This class may be taken at an Honors level with teacher approval. In order to earn Honors, a student must excel in all aspects of the course work, showing rapid growth with the feedback given on assignments or in class, as well as consistently adopting a leadership role in day-to-day class activities. Honors candidates have additional opportunities to hone their writing skills.

*Anita Richardson, Tim Bakland, & Susan Carlson*

### **Avancés 2 AP®French**

The AP®French course is a rich cultural exploration of a wide variety of countries of the francophone world. The syllabus touches upon every aspect of a student's life, encouraging students to look inward in order to assess and to appreciate the communities around them be it their family, group of friends, school, home town, state, or even country. It also encourages the students to look outward and to gain insight into what it is like to live in the many French speaking cultures in the various continents around the world. They discover similarities, differences, and build the ability to discuss them and to write about them.



The skills this class aims to build are to: comprehend text, make connections, interpret text, make meanings, speak to others, write to others, present orally, and present in writing.

Students read articles and watch videos on current events. They read excerpts from literary texts. Our main resources outside of discussing current events and researching articles that pertain to individual interests on the internet, include the AP Classroom (an online classroom created by the College Board), as well as excerpts from the following textbooks: *AP French : Preparing for the French Language and Culture Examination*, and *Allons au-delà – La langue et La Culture du Monde Francophone*

In order to earn Credit, students must complete their daily homework, participate actively and appropriately in class discussions, and show evidence of growth in their ability to use oral and written French. Attendance and punctuality must be in good standing. This class may be taken at an Honors level with teacher approval. In order to earn Honors, a student must excel in all aspects of the course work, showing rapid growth with the feedback given on assignments or in class, as well as take a consistent role of leadership in day-to-day class activities.

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*Maureen Gedney*

# Mathematics

## Overview

At Waring we believe that all students can have joyful, meaningful, and empowering experiences learning mathematics. Our goal is for our students to reason quantitatively, make an effective mathematical argument, solve challenging or unfamiliar problems, and represent a math idea in multiple ways. Informed by our belief that all people are “math people,” we accomplish this with small classes, problem-solving, and collaborative learning. Students are expected to offer not only a reasonable “answer” but also explain or demonstrate the mathematical processes that got them there with a respect for multiple ways of problem solving. We assess student learning demonstrated through collaborative group work, oral presentations, class activities, individual conferences, projects, and reflection portfolios, as well as traditional quizzes and problem sets. The department values equity and strives to support students with dignity based on their individual needs in order to help them succeed - whether through academic support or acceleration. Mathematics is a tool for understanding our world that has been informed by many cultures. Over the course of their study of math at Waring, students will study mathematicians from diverse and traditionally underrepresented backgrounds and also consider how mathematics can help us address real world problems.

Waring students complete a program of study in college preparatory mathematics, beginning with a two-year course offering students in our Core program (grades 6 and 7) a bridge to Algebra, three years of Foundational mathematics with an emphasis on algebra and geometry, followed by two years of advanced mathematics with an emphasis on function theory, trigonometry, statistics, and data analysis. Students may study Calculus at the regular or Advanced Placement level and/or pursue an independent Intensive course in mathematics. All students are expected to take mathematics for all of their years at Waring. Group 5 students who have successfully completed Precalculus, however, may petition for a Senior Intensive in another discipline.

Math classes meet four times a week. To earn Credit in all math courses, students must keep up with assigned homework and demonstrate proficiency in written work, class participation, and in-class assessments and projects. When appropriate, students may re-submit their written work or do supplemental problems. Students are expected to come to class on time and be prepared. More than six late or missed assignments per semester are grounds for No Credit in a course. Students in groups 3 and up are eligible to earn Credit at the Honors level. In order to earn this distinction, a student must meet all the requirements for Credit in the course, as well as excel on assessments and projects, complete Honors-level assignments, communicate their mathematical thinking consistently and clearly in written and verbal form on homework and during in class activities, and take a leadership role in meeting course goals.

Co-curricular opportunities for students in math include Math Cafe elective, Math Peer Tutor Program, and Math Teaching Assistantship. The Math Cafe focus/flex and elective periods allow students to do problem-solving and get math help with a

classroom teacher. Advanced math students may train as Math Peer Tutors and work one one one each week to assist other students' learning or in the Math Cafe. Students who are Math Peer Tutor Leaders are trainers and resources to our Peer Tutor cohort and they may also teach workshops during Focus/Flex periods. If the schedule permits and with application and department permission, a student may also act as a Teaching Assistant in a specific math class.

## **Course Offerings**

### **Core Math 6**

This course allows students to develop their numerical, spatial, and algebraic reasoning, with an emphasis on problem solving and understanding rational numbers and their arithmetic. Students develop conceptual understanding of, and computational facility with fractions, decimals, percents, powers and signed numbers, using multiple representations and contexts. Special attention is paid to fractions and negative numbers, as well as concepts underlying ratio, proportion, and percent relationships. The math is used to model real-world situations, such as recipes, populations, and space travel. Number concepts are applied to spatial relationships in the study of geometry figures. Variables are introduced as a tool for generalizing, describing patterns via formulas, and solving for an unknown quantity. This course uses the *Illustrative Mathematics/Open Up Resources* program.

*Anna D'Ippolito*

### **Core Math 7**

This course is a bridge from Arithmetic to Algebra, strengthening mathematical foundations, with a focus on problem solving, deep understanding, representing mathematical ideas visually, numerically, symbolically, in tables, and graphically. We will investigate real world problems in mathematical ways and play with puzzles and games to build skills and critical thinking. Skills covered include exponential notation, fractions, decimals, ratios, percentages, signed numbers, basic plane and solid geometric figures, probability, coordinate graphing and solving linear equations. A calculator will be used occasionally, but the emphasis will be on ensuring that students are secure in number sense and computation, the foundation of math fluency, while becoming confident mathematical thinkers. We will use a variety of teacher-selected materials.

*Julie Nelson*

*Upon successful completion of the Core Math program students will be ready for a full year Algebra course.*

### **Algebra (Foundations Year 1)**

This course supports students to continue to develop algebraic reasoning skills through the study of linear equations and inequalities, systems of equations and linear relations. Students extend their comfort with algebraic notation and

manipulations, as well as computational fluency and number sense. Exponential and quadratic relationships are introduced as time permits. An emphasis is placed on learning to represent and analyze mathematical problems, real world situations, and data sets using physical and visual models, graphs and tables, and algebraic equations. Skill development is embedded in problem-solving activities and challenges to encourage critical thinking. Students are required to have the TI-84 family graphing calculator; use of graphing calculators will be incorporated into the course. Course Materials: Resources for the course includes teacher-selected materials.

*Steve Wilkins*

### **Integrated Geometry (Foundations Year 2)**

This course focuses on Geometry while also incorporating topics from Algebra as time permits. This integrated approach will allow for continuity of our program and foster student understanding of algebraic reasoning, mathematical arguments, spatial reasoning and geometric relationships. Constructions are taught as a precise method for visualizing spatial relationships with hands-on tools. We will use transformations for definitions of congruence, similarity, and symmetry with a focus on triangles, quadrilaterals and circles. An introduction to right-triangle trigonometry in the spring will include opportunities for field projects. Algebra will continue to be integrated with Geometry in our discussion of the coordinate plane and Pythagorean theorem. We will also study perimeter, area, surface area, and volume in two-dimensional and three-dimensional figures. We will introduce proof as a tool to develop students' logical reasoning. Students may demonstrate proficiency using various technologies, including the TI-84 family graphing calculator (recommended) and free tools such as Desmos online grapher, for visualizing ideas from this course. Course Materials: Resources for the course includes teacher-selected materials.

*Dan Wellehan*

### **Advanced Algebra (Foundations Year 3)**

Advanced Algebra extends the ideas of Algebra with an emphasis on the behavior of direct and inverse variation, linear, quadratic, exponential, logarithmic, power, and trigonometric functions. Students will practice operations on numbers and expressions, such as powers, absolute value, and radicals. Representations of all of these ideas in the coordinate plane are explored at length. Function attributes such as domain and range and asymptotic behavior will be identified. New ways of organizing real numbers using sequences and matrices will be explored as time permits. We will build on the ideas of right triangle trigonometry introduced in Geometry using the coordinate plane and the Unit Circle. Students will explore these concepts through a mixture of class discussion and independent work, online activities, and some project-based learning. They will build number sense and problem solving skills. In addition, we'll connect the function families we study to

diverse fields of interest by exploring how data can be modeled mathematically with a focus on the wide range of individuals who utilize mathematics in their work. Course Materials include: *Intermediate Algebra: A Functional Approach* (2020 edition), by Kelly, Alibegovic, et al., *The University of Chicago School Mathematics Project, Advanced Algebra* (3rd edition), and other teacher selected resources. Students must demonstrate proficiency using various technologies, including the TI-84 family graphing calculator (required for course) and free online tools such as Desmos, for visualizing and manipulating functions.

*Rebecca Reed*

## **Precalculus**

Precalculus extends and deepens students' understanding of functions, while fostering habits of mind around doing mathematics and strategies for problem solving. The course is designed to prepare for an advanced mathematics course in Calculus. In this course students look more closely at their library of functions, including linear, quadratic, exponential, rational, polynomial, radical, piecewise, and trigonometric functions, and explore their patterns and properties as well as applications in the real world. Graphical, numerical, symbolic and visual models will be used to describe functions, and students will be encouraged to make connections between representations. We also include ongoing review of essential algebra skills. The structure of the class includes activities to stimulate understanding that emphasize problem solving and collaboration, as well as some direct instruction and note-taking. Text for this course: *Precalculus* (9th edition) by Michael Sullivan. Students must demonstrate proficiency using various technologies, including the TI-84 family graphing calculator (required) and Desmos online grapher, for visualizing and manipulating functions.

*Julie Nelson*

## **Statistics and Introduction to Calculus (not offered AY 2022-23)**

In the first semester, the "Statistics" course is an introduction to the tools and thinking used for data analysis in such diverse fields as the sciences, manufacturing, economics, and politics, and for making decisions based on that analysis. The course covers descriptive statistics, univariate and bivariate data, data collection and bias, followed by probability as a tool to model distributions and simulate real populations. Time permitting, the course concludes with topics in inferential statistics. In the second semester, "Introduction to Calculus" provides a strong foundation to study calculus at the secondary school or college level. The term begins with a global review of Precalculus topics in function theory, algebra, and analytic trigonometry. Students may opt to study more advanced topics like sequences and series and parametric and/or polar equations. The course will end with Calculus topics in limits and, as time permits, the derivative. Course Materials include *Statistics and Probability with Applications* (3rd edition) by Daren Starnes and Josh Tabor and *Rogawski's Calculus for AP, Early Transcendentals* (2nd edition).

Students are required to have and make regular use of the TI84 family graphing calculator.

## **Calculus**

Calculus is the study of change, accumulation, infinity, and mathematical logic. This is a full year course covering topics in limits, differentiation, and integration, with an emphasis on problem solving to foster intuitive understanding and flexible thinking about the applications and beauty of Differential and Integral Calculus with the intention of preparing students for success in college level mathematics. While this course will cover many topics of the Calculus AP course, it will have a different pace and assessments with a particular focus on how the ideas and procedures of calculus are useful in applications. Communication and effective use of mathematical language are major goals of this course and students are expected to be able to articulate connections between topics, both in their written work and in class discussion. In projects, students will explore how calculus can be helpful in understanding a social justice topic or other application of their choice. The textbook for this class is *Calculus with Applications* (8th edition) by Lial, et al. Students will also use various technologies, including the TI-84 family graphing calculator (required) and Desmos online grapher, for visualizing functions and ideas from this course.

*Joan Sullivan*

## **Calculus AP**

Calculus AP is the study of change, accumulation, infinity, and mathematical logic. Students will engage in group work and problem solving to foster intuitive understanding and flexible thinking about the applications and beauty of Differential and Integral Calculus. The course will cover limits and continuity, differentiation and integration, applications, differential equations and slope fields, and the five main theorems of Calculus, aligning with the scope and sequence of the Calculus AB Advanced Placement (AP) course. Significant outside work is required in order to complete the curriculum and optional problem sessions will be offered one Focus/Flex period a week for students. Students who enroll in this course are expected to take the AP Calculus AB exam in May, with time allowed within the curriculum for comprehensive preparation for the AP Exam. However, the primary goal is to ignite in students a passion for mathematics and strong understanding of Calculus as the study of change and accumulation. After the AP exam, additional topics may be covered as time permits. The textbook for this class is *Rogawski's Calculus for AP, Early Transcendentals* (2nd edition) by Jon Rogawski. We also use video and problem resources provided by the College Board at our *AP Classroom* site. Students will also use various technologies, including the TI-84 family graphing calculator (required) and Desmos online grapher, for visualizing functions and ideas from this course.

*Joan Sullivan*

## Writing

The writing program at Waring helps students to discover and develop authentic, personal voices. At all levels of the program, students write poems, stories, dialogues, plays, and personal essays, among other genres. Whatever the genre, they write every week of their Waring career, and by doing so develop both imagination and self-knowledge. The writing program helps our students to speak personally and memorably at Convocation and Graduation every year; more importantly, it helps them to explore inner resources that they might not have discovered otherwise.

Writing, like any discipline, is partly a matter of habit, so we help students establish regular writing habits first. Students will present their work to an audience of peers and teacher, and the audience will critique it. Over time, the writing class audience becomes sophisticated in their critical comments; writers, in turn, increasingly understand how their work affects the audience. Put another way, whether a student has just entered the Core program or is about to complete the senior year at Waring, writing classes are workshops; students write, critique each other, revise, polish, and create finished pieces. They also publish pieces in the school magazine and at times share their work with the community at All School Meeting.

Our students enter various competitions such as the Beverly Public Library Teen Poetry Contest each year. In March, Waring typically holds a Young Writers Conference, which draws published authors from around the country and high school writers from the Boston area, including a group of students from Waring. In May, we send one or two juniors to the New England Young Writers' Conference at Bread Loaf, in Ripton, Vermont.

### Some Guidelines for Credit and Honors Requirements in Writing

Specific requirements for credit and honors in Writing depend on the specific class. However, in general, CREDIT in Writing requires at least the following:

- Alert, empathetic class participation and regular in-class reading from a student's own work
- On-time responses to prompts and assignments
- Satisfactory completion of revision assignments

HONORS in Writing asks students to consider the following:

- Preparation for class: Honors students are expected to consistently produce timely, responsive, and thorough work. They should study readings with an eye toward the writer's craft, and pick up tools for their own writing. An Honors student finds pieces, exercises, or craft ideas to share with their colleagues.
- Class participation: Honors students should show leadership in class participation. They should seek to speak regularly in discussion, listen actively and engage respectfully with fellow learners, ask questions and listen to the

answers, take notes during classroom discussions, and share their own struggles with writing, and be receptive to others. An honors student will take risks by experimenting with new writing strategies outside their comfort zone, and by sharing in-process work. Honors students may be asked to lead a class period, complete an additional assignment, or undertake a special project.

- Growth in skill and understanding: Honors students should show development of skill in reading, writing, and speaking about the texts we study and the student work we read. They should examine their writing practices and develop a reliable process that works for them. They should show a growth arc in the use of proper writing mechanics in their writing. They should seek help where necessary.
- Public demonstration of leadership: Honors students should seek opportunities to share their writing with the community outside of Waring. This can mean submitting work to online publishing sites or to a contest, writing the local newspaper, or reading pieces at All School Meeting. Honors students should also show leadership in the classroom by offering help to classmates or by leading a class session.

## **Core Writing**

Core Writing is an introduction to the Waring writing program. It is taught by Juniors and Seniors who have been selected to be Writing TAs. Students will begin each class with a freewrite, the technique of continuous, focussed writing. They will be introduced to a variety of different genres, such as poetry, memoir, and short story. Writing in different genres and modes helps Core students develop their authentic voices. They regularly read pieces to an audience of their peers and gradually learn to become helpful and sensitive critics. Students should be prepared to read their work each week in class. Students are also expected to read their pieces at least once at an All School Meeting. Teachers of Core writing give frequent assignments in order to help students improve their skills.

*Jill Sullivan, TAs*

## **Group 1 Writing**

Group 1 Writing is based on a workshop format: students read their pieces to each other each week in class in order to learn how to give and receive criticism. Students also learn how to listen to and critique (both in writing and verbally) the writing of others. The first half of the year is devoted to learning and practicing various genres: fiction, non-fiction, journalism, dialogue, and poetry. We give frequent assignments in order to help students improve their skills; we also encourage public readings whenever possible. In the spring, all students will be asked to submit to the Beverly Library



Poetry Contest. In the second semester we will concentrate on observation and character description, culminating in a major written portrait of a Waring Senior (or two) which will be read at two all-school meetings at the end of the year.

*Isabelle Skillen, TAs*

### **Group 2-3 Writing**

Group 2-3 Writing is a two-year opportunity for students to experiment with a variety of different genres which may include: fiction, poetry, personal essay, drama, critical reviews, and descriptive essays. While trying out different genres, students will work to develop three areas of their writing: process, craft, and voice. Teachers will guide each student to create their own reliable writing process that will include invention, drafting, feedback, revision, editing, and proofreading. Through workshop and critique, students will consider the craft of writing - the choices a writer makes with structure, syntax, style, vocabulary, punctuation and other mechanics in order to achieve a desired effect. Most importantly, through the consistent practice of writing, students will develop their unique writer's voice.

*Tasha Frank, Terry Kidd, Jill Sullivan, Josh Webb*

### **Group 4-5 Writing**

4-5 writing students have the opportunity to choose their writing class each semester based on descriptions of courses that will run - much like college classes. The following are the courses offered this fall.

#### **Playwriting**

In this class students explore the craft of Playwriting by learning to create thoughtful and exciting monologues, scenes, and fuller plays. We will study the ways that playwrights create layered, economical, and believable dialogue, three-dimensional characters, and compelling stories as we learn to craft our own. Readings by contemporary playwrights will illuminate techniques for creating structure, voice, and subtext. Additionally, students will partner to write plays that will become part of our Spring Theater season. Finally, we hope to participate in Boston University Playwrights' Theatre Young Playwrights Festival where we will meet student writers from all over Massachusetts, and have our work staged by professional directors and actors.

*Elizabeth Gutterman*

#### **Personal Essay:**

The personal essay does not have to be “a story from childhood, twisted into a sad, philosophical rant” (quote from former student). In this class, students will expand their notion of what a personal essay can be as they play with innovative narrative structures and experiment with different styles and moods. Students will write in weekly “invention journals”; they will read published essays to see how writers play with storytelling, form, and craft, and to measure the effectiveness of those writerly choices; and they will engage in a variety of revision strategies and hybrid workshop experiences to develop not only polished essays, but also reliable and transferable writing processes.

*Jill Sullivan*

### **Fiction:**

This class will function as a workshop. Students will write, collectively workshop, and then revise one complete short story. Students will also draft several shorter pieces throughout the semester, inspired by in-class writing prompts and exercises. We will also read and respond to published works from contemporary (living) authors on a weekly/bi-weekly basis. The purpose of the class is to help students grasp the basics of fiction writing: story structure, characterization, cause and effect, and cohesive endings. Other focuses will be close reading and how to offer and receive constructive criticism, amongst the other elements of writing effective fiction. By semester's end, students will have a clearer understanding of what makes a good story, what's required to write one and a closer relationship to themselves as writers.

*Terry Kidd*

### **Broadsides:**

Broadsides, a.k.a. Ephemera, focuses writing in the tradition of street literature: short form, fact-based, direct observational writing from a news-of-the-world perspective that turns personal observations into audience-oriented entertainment. Referencing, among other digital archives, the National Library of Scotland's broadsides collection, we work with regular deadlines and publish broadsides four times during the semester. Students write 120-150 words 3-4 days a week in preparation for workshops and public display of broadsides on a single side of 11x17 paper, with illustrations and borders according to traditional forms. Broadsides must meet the minimum word count (this varies: many prose broadsides average 1300 words or so) and address particular themes, as well as include specific formal elements in their composition. Students accompany each broadside deadline with a cover page observing artistic objectives, citations, inspirations, and an assessment of their accomplishment.

*Joshua Fishburn*

## Art

Waring's art program teaches the tools that empower students to interpret the world visually. During this process of active observation and translation, students more fully process the world around them with greater depth, clarity and self awareness. Drawing is taught as a skill – or language – that everyone can access. It is the Art Department's goal that each and every student (regardless of when they arrive at Waring) will move beyond basic skills in drawing to a fluency that allows them to express themselves visually with confidence. The Art program is designed to build skills year to year through a progressive and linked series of curricula. By the time Waring students graduate, they should feel confident in their visual voice, drawing from direct observation with relative ease, and responding to and discussing visual art with incisive critical vocabulary. The Art Department strives to create a place for ongoing critical conversation about visual culture, past and present, historical and contemporary, the canonical and traditionally under-represented. We strive to graduate students who have a high degree of visual literacy.

Building basic confidence and skills by drawing from direct observation is the hallmark of the lower levels of the art program. To this end, black and white is used primarily until the student reaches the tenth grade level. During the tenth grade year, students begin to explore both color theory and how color impacts expressive possibilities. Across all grade levels, weekly sketchbook assignments provide a means for students to more personally explore concepts presented in class, and students are encouraged to use their sketchbooks in a way that feels personally relevant. The final two years of the art program are given over to a rotating set of offerings, and students choose a course that will allow them to explore in depth a particular process or concept. Art classes meet once a week for a double block at all levels of the program. In the tenth through twelfth grades, students are also given the option of taking art class at the Honors level. While each teacher may have specific requirements, it is understood that an Honors Art student will demonstrate an ongoing desire to push their creative process forward and a commitment to expanding and improving their visual vocabulary and skill level. The Art Department also offers a Monday afternoon open studio elective called ArtLab, and qualified juniors can apply to take AP Studio Art.

When students leave the Waring Art program they should have creative confidence and an interest in engaging with art both as makers and connoisseurs of visual culture.

### Core Art Foundation

Art in grades 6 and 7 is intended to build observational drawing skills, foster expression through the visual image, develop a relationship with the sketchbook, and explore art materials through various projects. Emphasis is on composition and using shape and line effectively within the picture plane. Using primarily black and white media, students practice drawing contour, proportion and value. Projects include both two and three-dimensional design activities and are often cross-curricular. Regular critiques allow for sharing ideas, examining the work of others, and building a vocabulary and

ease in evaluating and appreciating artwork. Sketchbook assignments support concepts and techniques explored in class.

*Marika Whitaker & Kristin (KB) Breiseth*

### **Group 1: Interpretation & Process**

Group 1 Art focuses on integrating and strengthening drawing and observation skills and encouraging a more interpretive take on the world. The connection between two- and three- dimensional form is introduced, and portraiture is explored. Work continues primarily in black and white media, with landscape, the human form, and still life as subject matter. A wide variety of materials are used, including charcoal, graphite, paint, clay and printmaking. Students participate in weekly art critiques and hone their ability to express visual ideas verbally. Sketchbook assignments support concepts and techniques explored in class.

*Kristin (KB) Breiseth*

### **Group 2: Representational Studies**

Group 2 Art revisits and builds on the techniques and materials explored in Group 1, to develop drawing skills and explore connections between two and three dimensions. Using primarily black and white media, there is an emphasis on sketchbook practice, the human figure, and perspective, as well as on how to visually convey experiences and ideas through line, textures, values, composition, scale, and scope of subject. Group observation and conversation takes place in a structured way and is based on the work done at home and in class. Students develop verbal communication skills and vocabulary around art-related ideas and their visual work. Sketchbook assignments support concepts and techniques explored in class, and provide the inspiration for both 2-D and 3-D work.

*Carla Forte*

### **Group 3: Color Media**

Group 3 takes on an in-depth exploration of color using a variety of media, with a continued emphasis on drawing and composition. Building on previous years' neutral value work, students begin the year working from observation, using a variety of media while also continuing to exercise dynamic compositional choices through color relationships within the picture plane. Color theory is presented and explored, along with the color wheel, and the properties of color such as color temperature, harmonies and mixing. As one of the most expressive of the art elements, color often elicits a direct and visceral reaction, much like music. As such, in the spring semester, Group 3 students continue their investigation of color by working intuitively and constructing images based on personal expression and exploring color symbolism and the emotional impact of color in art. Throughout the year, a diverse range of work by relevant artists is presented and discussed, offering students an art historical context. Sketchbook

homework supports the development of concepts. Critique builds skills in articulating and exchanging ideas effectively using an art-specific vocabulary.

*Marika Whitaker*

#### **Group 4/5: The Art of Handmade Photography**

Explore the art of photography through historic techniques using analog film cameras and printing by-hand in the darkroom lab. Students will learn and apply new approaches to the craft of film photography, re-discovering this diverse approach to image making. Various photographic processes and techniques will be covered (including Cyanotype/Sun-Printing, The Camera Obscura, or Walk-In Camera, Pinhole Photography) in addition to 35mm Film Camera Photography. Students will learn to process black and white film, contact print, create photo-grams and enlargements, apply toner and hand-tinting, and how to mount and present their work. Looking at photographs of the masters and contemporary artists will help students find their own unique visual sensibilities. Weekly discussions on composition, observation, subject and craft will help students prepare work for exhibition and portfolio sharing.

*Patricia Scialo*

#### **Group 4/5: Portraiture**

Is a portrait a straightforward representation, a careful, objectively rendered likeness of someone or something? Or is it an expression of one subjective viewpoint in one small moment of time? The answer is, of course, that it is both. This course will explore portraiture and push its limits as a genre, working with a variety of media and unorthodox approaches. Students will be expected to use their sketchbooks to explore and refine the ideas being presented in class, and then to turn these initial sketches and ideas into more fully realized and personalized portraits. Slideshows will explore a range of approaches to portraiture (both representational and non-representational, traditional and historically underrepresented), and studio experiments will encourage a personal approach and interpretation to the genre.

*Kristin (KB) Breiseth*

## **Performing Arts**

The Performing Arts Program was launched in the 2013-2014 academic year as a way to bridge the previously well-established programs of Music and Theatre and to foster a variety of performance opportunities for Waring students. Students are encouraged to make connections between many areas of performance, including instrumental and choral programs, Theatre performances, school-wide concerts, and student-run coffee houses. In addition, the Performing Arts faculty seek to explore ideas across the curricula, encouraging collaboration between students (and faculty) in various areas of the larger Waring program. For example, students who do music or Theatre projects in other departments (from Humanities, to French, to Science) are encouraged to perform their work, collaborate with choruses or ensembles, or find any other appropriate venues to take their work further.

Students in Groups 3, 4 and 5 are eligible to pursue honors tracks in Music, Theatre, or both. Students who wish to work at the honors level should speak with Chris Brandt (music) or Elizabeth Gutterman (theater) who serve as liaisons between the student and the other faculty. A student's honors program is a mix of core honors requirements (enumerated for both Music and Theatre tracks) and also a program that is fitted for the particular student and their strengths or interests.

Honors in the Performing Arts Program is achieved separately in Music and in Theatre. Students interested in Music Honors should speak directly with Chris Brandt at the beginning of the year. Students interested in Theatre Honors should speak directly with Elizabeth Gutterman at the beginning of the year.

## **Music Program**

Through the many aspects of our music program we hope to foster understanding and appreciation for music, and the interconnectedness of the styles loosely defined by the terms "classical," "folk," "jazz," "contemporary," and the myriad styles in-between. Core, Group 1 and Group 2 students will study music in the classroom, in addition to their participation in Orchestra and the Choirs during the twice-weekly Performing Arts Blocks. Classroom music units may be classified as music theory, music history, performance, composition, world music & music technology. In many cases the unit will combine two or more of these categories. Special attention will be given to alternative voices in music and music as an agent in promoting social justice.

Waring students experience and learn about music in a variety of settings:

Music and Humanities classes

Orchestra, Small Ensembles

Small Choruses, All-School Chorus

Private Instrumental or Voice Lessons

Winter and Spring Concerts, Student Soirées, Faculty Soirée, Cabaret, Coffeehouses, in-class performances, etc.

Theatrical Productions

Guest Artists  
Northeast District Orchestra and Chorus opportunities

## Private Music Lessons

Believing that much can be learned by focused *listening* to music, and even more by *creating* music, the Waring School strongly encourages students to enroll in the study of a musical instrument or voice. Private lessons are available to students who demonstrate the desire, commitment and discipline necessary to profit from this opportunity.

Expectations for participants include commitment to:

1. Consistent lesson attendance.
2. Regular practice.
3. Eventual performance in a soirée or other appropriate venue.

Participation in small ensembles, group lessons, class presentations or other collaborations will be encouraged for motivated students.

Any interested students should contact the private lessons coordinator:

(Chris Brandt, [cbrandt@waringschool.org](mailto:cbrandt@waringschool.org))

*Lessons teachers: Chris Brandt (double bass & electric bass), Susan Burnett-Halling (clarinet & oboe), Steve Chaggari (drums & percussion), Tim Deik (trumpet), Renée Dupuis (voice & ukulele), Peter Fedele (guitar), John Hyde (jazz & pop piano), Andrea LeBlanc (flute), Martha Leven (piano), Shaylor Lindsay (piano), Dennis Shafer (saxophone), Ben Swartz (cello), Susan Slowick (violin & viola).*

*Susan Slowick leads a beginning and advanced String Ensemble.*

*Peter Fedele and Dennis Shafer lead the Jazz Ensembles*

*These ensembles are open to interested students.*

## Core Music

CORE students meet for one period of music class and two chorus rehearsals per week. Throughout the year, students will explore the relationship between different musical periods, genres, and styles, learning to discuss and think critically about basic building blocks of music (melody, harmony, rhythm, and form). This class also serves as an introductory class to the music classes they will have in Grades 8 and 9. Material

covered includes an introduction to notation, musical terminology, basic music theory, and solfège. In chorus students will perform music from across the globe with regular selections from non-European traditions. In Music students will study Tchaikovsky's *Nutcracker* as well as other works informed by the great ballet, especially Duke Ellington's *Nutcracker Suite*. We will, furthermore, examine the ways in which contemporary ballet productions are working to establish a more sensitive portrayal of the dances in the Land of Sweets.

*Chris Brandt*

## **Music 1**

Music 1 meets for one period each week. In this course, students continue to learn the basic techniques of reading and listening to music. In addition to solidifying their knowledge of music theory, students gain familiarity with a broad range of musical styles and techniques from across history. As part of the units on non-classical music, students will study the cultural background of the tradition under discussion with a view toward examination of the barriers posed to composers and performers by systemic racism.

In the first semester we will examine the first decade of rock & roll, the 1950s with Fats Domino as the featured artist. Topics include: the birth of the genre; the great innovators of the piano and guitar; the relationship between the Afro-American originators of the genre and White performers, along with radio, TV, and record company executives; and the role of rock music in bridging the cultural gap between Black and White performers and audiences. Subsequent units will explore compositional technique, world music, and intermediate music theory.

*Chris Brandt & Anna Marie*

## **Music 2**

Music 2 is a full-year course that meets one 45-minute period each week. Music 2 students follow either the French immersion or the English language course.

French immersion Music 2 continues sight-singing/ear-training practice while adding to the program important building blocks in Music Theory, analysis, form and hands on composition. The class will continue use of Mike Campbell's *Sight-Singing Book* and will also use visual in-class aids from MusicTheory. Net as well as miniature white lapboards with music staves for hands on practice with notation, intervals and ear-training. Additionally, students will use *Noteflight's* online software for composition and notation. In some cases, the teacher might supplement units with exercises from the textbook *Music in Theory and Practice*.



In the first unit of English Music 2 course, students will compose an original song as a group project. Each group will select a pre-existing text, usually a poem, and use the rhythmic ideas suggested by the words to begin work on the verse and chorus material. The groups will compose suitable melodies for the two sections and finalize the song with appropriate harmonies using standard chord symbols. A subsequent unit will explore key opera arias with an emphasis on the contributions of Black singers.

*Chris Brandt & Anna Marie Smith*

## **Performing Arts Block**

Music-making together is a longtime tradition at the Waring School. Valued for its contribution to general health and well-being, as well as social and academic growth, it begins with informal sing-alongs and student performances at the opening camping trip on the shores of Lake Winnepesaukee. Then, on campus it becomes a part of the regular academic curriculum when all students are assigned to one of a variety of ensembles, which meet twice each week during the Performing Arts Block for formal instrumental or choral training. Rehearsals for each ensemble culminate with a performance on the Winter and Spring concerts.

Through performing and listening to music together, students learn to recognise musical patterns and compositional techniques that inform our understanding of music history, styles, and structure, and help us to appreciate more deeply the emotional language of music. In-class ear-training and rhythmic exercises allow students to experience the performance aspects of music, and to continue to make music together in innovative ways. Class discussions may also center on music philosophy, including the purpose of music in everyday life and what music is as an art form. Students are also invited to work on projects, including creating their own percussion and other instruments, and to bring their love of music into the class through sharing their personal musical knowledge, opinions and experience.

## **Additional Ensembles, Chamber Groups, Electives**

Throughout the academic year there are many opportunities for small ensembles and chamber music work. Jazz Ensembles, String Ensembles, and Madrigals are among the many groups that typically meet on a weekly basis. Honors students will be required to participate in one or more of these each year and all others would be encouraged to do so as time permits.

## **Theatre Program**

The Theatre program at Waring is focused on nurturing our students' artistic impulses, thereby enabling them to flourish in multiple performance roles and as confident lifelong learners who create fully realized and inclusive theatrical experiences. Waring Theatre is an ensemble-based program that encourages students to participate in multiple design aspects while simultaneously fully developing their onstage potential. Through exercises, improvisation, and scene study, students increase their range of physical and vocal expression. The Theatre Department has strong ties with Humanities, and we strive to produce plays that dovetail with the themes and periods being covered in the upper level Humanities courses. The Theatre Department typically produces four plays each year including a collection of student-written plays written in the fall semester Playwriting class, plays for Core Night, and the Core Winter Theatre production. Additionally, the Theatre Department offers a yearly musical in the upper school.

### **Core Theatre**

Core Theatre introduces students to the fundamentals of theatrical experience. Students participate in multiple exercises designed to hone their skills as listeners, observers, and collaborators. Drawing inspiration from artwork, poetry, and folk tales, as well as their Humanities readings, students create several plays and perform a selection of these at the Core Night presentation in November. During the winter elective term, Core students have the option of participating in the Core play which provides an opportunity for motivated students to immerse themselves in a customized theatrical production. Our craft exploration resumes in the spring, when students read and analyze plays, and then create and devise their own pieces inspired by our readings.

*Elizabeth Gutterman, Tiffany Soucy*

### **Group 1 Theatre**

Group 1 Theatre builds on the foundations established in Core Theatre. The course begins second semester and meets 2 periods per week as well as during allotted Group 1 Humanities periods. Students participate in several character and ensemble-building exercises building toward a final production developed in collaboration with their Humanities class.

*Elizabeth Gutterman & Tiffany Soucy*

## Health

In line with Waring's mission, the Health program takes an interdisciplinary approach to the subject, integrating wellness education, leadership and team building, and health information into the curriculum. Because research has shown that adolescents make healthy lifestyle choices based not only on information but also on relationships with their families, peers, coaches, and teachers, the health program sets out both to inform the students of the possible outcomes of different choices they may face, and to help students examine and understand the influences and relationships which affect them. We make space for students to think, talk, and learn about crucial topics, and cover the following units throughout the program: community development, self care, rest and sleep, body image and nutrition, exercise, mindfulness and meditation, hygiene, navigating social media and internet safety, first aid and CPR, self defense, "adulthood" skills, mental health, addiction and substances, relationships with family, peers, and romantic partners, puberty and changing bodies, sex, sexuality and intimacy, LGBTQIA+ content, current events, and other items that may fall under the DEIJA (Diversity, Equity, Inclusion, Justice, and Anti Racism) umbrella. The program engages with these subjects at age-appropriate levels for each class, and in each area, we blend pre-existing curricula with specific lessons we've developed ourselves over the years. We use a host of different approaches, including speakers, role-playing, videos, discussions and readings and we use a multitude of activities ranging from student-led presentations to art-making, to anonymous written questions and to serial testimony.

### Core Health

*Cory Grant*

In Core Health we focus our time together on building community and a safe open classroom environment where the students feel comfortable taking risks and asking questions. Through a mix of experiential learning activities and guided conversation we practice listening, considering other perspectives, and connecting through sharing what makes our individual perspectives different. Most classes have at least one activity that necessitates pro-social interaction with their peers and helps to define what we value as a community. In Health we learn about puberty, hygiene, reproduction, friendship, equality, equity, distribution of health resources, the evolution of life, fetal development, anatomy, gender identity and sexuality, internet safety and developing appropriate communication boundaries, the study of happiness and joy, nutrition, and the effects of consuming sugar. Health is a wonderful place to ask questions, for students to speak about what is on their minds, and to address current events and scientific discoveries, and discuss the needs of the community.

## **Group 1 Health**

*Sara Golden*

During the first semester of Group 1 Health we will be focusing on topics related to self care. We will discuss and practice meditation and mindfulness, we will learn about nutrition, and we'll delve into conversations about body image and good hygiene. After this unit on physical health, we'll then turn our attention to mental health and have Waring School Social Worker Lindsay Goldstein come in and talk to us about happiness and gratitude, anxiety and coping strategies for dealing with changing emotions. We'll close out the semester exploring the science of addiction. We'll learn about the brain's reward pathway and discuss how different substances (alcohol, nicotine, marijuana and social media) interact with that pathway. We also hope to welcome guest speakers from AA, who will talk to us about their own experience with addiction. In the second semester, Group 1 will explore relationships and we'll discuss what healthy and unhealthy relationships look and feel like. We'll review changes associated with puberty and we'll discuss menstruation from both a physiologic perspective as well as discussing it within a larger social context. We'll introduce the conversation of sex, sexuality, intimacy and LGBTQiA+ related content and we will discuss issues pertaining to consent: victim blaming, pornography, and toxic masculinity. We will explore these topics through the lens of Diversity, Equity, Inclusion, Justice, and Anti-Racism (DEIJA), and as always, there will be time for students to ask questions anonymously.

## **Group 2 Health**

*Sara Golden*

The aim of Health for Group 2 this year will be to delve deeper in some of the topics that were addressed in Group 1, while also starting a conversation about relationships, sex, sexuality, intimacy, and LGBTQiA+ related content. Group 2 will spend the first part of this semester focusing on self care, self advocacy and mental health. We will have Waring School Social Worker Lindsay Goldstein come in and talk to us about anxiety and depression and coping strategies for dealing with changing emotions. We'll then discuss addiction and substances like alcohol, stimulants and depressants and we'll have a guest speaker from North Shore Recovery High School to talk about her experiences with teens affected by addiction. This unit will give us the opportunity to discuss peer pressure and to role play situations that our kids might face. In the second semester our focus will shift to relationships and we'll explore what healthy/unhealthy relationships look and feel like. Through lectures, interactive games, videos and group discussion the class will discuss intimate relationships, we'll review anatomy and sexual response and we'll discuss in more depth the topics of sexuality, sexual readiness,

consent and pornography. We will explore all of these topics through the lens of Diversity, Equity, Inclusion, Justice, and Anti-Racism (DEIJA), and will take time to discuss current events related to each topic. We will end the semester certifying our Group 2 students in First Aid through the American Red Cross.

### **Group 3 Health**

*Sara Golden*

During the first semester of Group 3 Health this year there will be a large emphasis placed on romantic relationships, sex, sexuality, intimacy and LGBTQiA+ related content. Students will learn what it means to be in a healthy and thriving relationship and the signs of unhealthy or potentially abusive relationships, how to practice and respect consent, and why sex portrayed in the media and/or pornography is not representative of sex in real life. We will review reproductive and sexual anatomy, and discuss in detail, contraception and STIs. We will also review pregnancy and LGBTQiA+ terminology with a focus on supporting LGBTQiA+ peers. With the help of Waring School DEIJA Department Chair Tay Amin-Arsala, we will explore these topics through the lens of Diversity, Equity, Inclusion, Justice, and Anti-Racism (DEIJA), and will take time to explore current events related to each topic. Through discussion, reading, research, and submission of anonymous questions which we answer as a group, the class will raise their own and others' awareness about the nuts and bolts of sexual health. Next semester we plan to explore body image, personal values and boundaries and self advocacy. We'll build on past discussions of substances and learn more about opiates and hallucinogens and we'll end the year certifying students in CPR/AED through the American Red Cross.

### **Group 4 Health**

*Gallaudet Howard*

Group 4 Health focuses on the information students need to move into a healthy young-adulthood, including establishing positive relationships, understanding gender and sexuality, and making good decisions around intimacy and sex. We review the nuts and bolts of contraception, sexually transmitted infections, and using the health care system, and learn about recognition and treatment of common mental health conditions like OCD, Bipolar, and Generalized Anxiety Disorder. Outside experts also visit the class to share information about personal finance management, including doing taxes and making a budget; creating effective resumés; and presenting well for interviews. Classes also include time for meditation, yoga, and relaxation exercises, and for students to ask questions anonymously.

## **Group 5 Health**

Group 5 Health will meet during the second semester of the school year and continue the topics which students have been discussing throughout their time in Health at Waring. The course is largely driven by the students. They decide which topics they need information about, and through discussion, reading, research, and submission of anonymous questions which we answer as a group, the class will raise their own and others' awareness about the nuts and bolts of staying healthy. Much of our time together will be spent looking to the future and discussing how to stay safe and healthy at college so students feel prepared for the next phase of their lives. Topics typically include substance use, abuse and party culture, sexual health, resources, mental health, and current events.

# Athletics

## **“A Sound Mind in a Sound Body”**

-Thales of Miletus, 624 – 546 BC

The Waring School athletics program fosters the development of character and personal responsibility through sports. It promotes teamwork, sportsmanship, fitness, joy, and individual mastery of athletic skills. As an integral part of Waring’s mission, athletics help to advance the leadership and interpersonal skills necessary to a community built on respect, camaraderie, stewardship, sacrifice and discovery, while taking pride in team and individual accomplishment. The athletics program cultivates lifelong habits for good physical health, enhances mental alertness and emotional stability, while encouraging our entire student body to excel to the best of their ability.

### **Fall Sports**

Students have the opportunity to compete in boys and girls varsity, junior varsity, and middle school (Pride of the Program) “building the foundation” soccer. The varsity boys compete in the Mass Bay Independent League and the varsity girls compete in the Independent Girls Conference. Varsity and junior varsity cross-country is offered to students in groups 1-5. Theater is another offering available to groups 1-5.

### **Winter Sports**

Students have the opportunity to compete in boys and girls varsity and junior varsity basketball. The varsity boys compete in the Mass Bay Independent League and the varsity girls compete in the Independent Girls Conference. Middle school basketball for both girls and boys is built into the academic day from late November up to the week before spring break. We also offer kick-boxing / self defense, as well as strength and conditioning through the YMCA for groups 1-5. Debate, First Tech Challenge and Theater are also options for groups 1-5. Students in groups 3-5 can opt out of winter sports but need to demonstrate another athletic activity that would produce similar benefits gained as participating in one of the Waring winter sport options. A proposal form should be filled out if a student wishes to opt out. These can be found in the Director of Athletics office.

### **Spring Sports**

Students have the opportunity to compete in boys and girls varsity, junior varsity, and middle school (Pride of the Program) “building the foundation” lacrosse. Ultimate is also an option and is co-ed, competing against other schools in the MBIL and IGC as we do with our lacrosse teams. Theater and kickboxing / self defense is also an option for students in groups 1-5, where older students will have priority relative to numbers.

## **Electives**

The Elective Program is an after-school opportunity for students to commit to learning a new skill or taking an intellectual or creative risk in a variety of areas. Some offerings are of a more traditional, academic nature, and some are less so. Most Electives do not require that work be done outside of their meeting time, and while all are listed on a student's class list, only some are evaluated. This year offerings include Art Lab, Ceramics, Debate, First Tech Challenge, First Lego League, Green Thumb, Madrigals, Math Café, Yoga and Mediation. In addition, a Supervised Study period is offered if students wish to work together collaboratively or get a head start on homework.

For the 2022-23 year Electives are scheduled at the end of the day on Mondays. As Electives are after the academic day, students not participating in an Elective should plan to go home if possible. If they must stay on campus (for transportation reasons) but do not wish to participate in an Elective, they should sign up for the Supervised Study.