



Upper School
Course Descriptions
2024-2025

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English

The English department exists to develop students' analytical, creative, and communication skills to promote ethical, personal, and collaborative understandings.

Analytical Writing, Reading, and Thinking

9th Grade English

The Nature of Human Nature

- *Fulfills one of three 9th grade English credit requirements*
- *1st class in the sequence*

Through close textual analysis, discussions, and critical reflections, students will examine themes such as power and authority, civilization and savagery, survival and resilience, and the nature of good and evil. Through the study of literature and mythology, students will gain insights into the universal aspects of human nature as well as the ways in which social, cultural, and historical factors shape human experiences and choices. Through a combination of discussions, presentations, and creative projects, students will engage perspectives on human nature and develop critical thinking skills, empathy, and cultural literacy. The class will also encourage students to reflect on the relevance of these timeless stories and themes to contemporary society and their own lives.

Identity: Self and Society

- *Fulfills one of three 9th grade English credit requirements*
- *2nd class in the sequence*

By the end of the class, students will develop a nuanced understanding of the complexities of identity formation, self-perception, and societal influences. It will explore insights into influences that contribute to one's definition of self. We will also examine the factors and influences that create cultural identity.

Human vs. Machine

- *Fulfills one of three 9th grade English credit requirements*
- *Option as a 3rd class in the sequence*

Through close reading, film screenings, discussions, and creative projects, students will deepen their understanding of the complex dynamics between humanity and technology in dystopian narratives. By examining these texts in dialogue with contemporary debates about automation, artificial intelligence, and ecological sustainability, students will develop critical thinking skills and ethical awareness necessary for navigating the challenges and opportunities of an increasingly technologized world.

Poetry: Finding Voice

- *Fulfills one of three 9th grade English credit requirements*
- *Option as a 3rd class in the sequence*

This English class is an option for a third class in a sequence of 9th grade English classes. In this immersive class, students will embark on a journey of self-discovery and creative expression through the exploration of poetry. Through a combination of writing workshops, close reading, and critical analysis, students will uncover the power of language to articulate personal experiences, emotions, and perspectives while deepening their understanding of poetic techniques, forms, and traditions. In

addition to writing and creative exploration, students will participate in collaborative discussions and presentations, sharing their own work and offering feedback to their peers. Through these interactions, students will develop critical thinking skills and learn to analyze and interpret poetry with nuance and sensitivity.

Novels to Film

10th Grade English

Conventions in Classical Noir and Intro to Film Analysis

- *Fulfills one of three 10th grade English credit requirements*
- *1st class in the sequence*

In the first class, students will learn fundamental concepts and accompanying terms needed for film analysis. Likewise, they'll assess how the skills needed for cinematic 'reading' translate to the close reading skills inherent to complex humanities courses. Using the centerpiece of 'noir' film and literature, we'll examine archetypal tendencies within the genre, modes of predicting outcomes via close 'detective' work while reading, and how directors translate such works to the screen.

Psychoanalysis and Romanticism within Noir

- *Fulfills one of three 10th grade English credit requirements*
- *Option as a 2nd class in the sequence*

For the second or third class, students will extend the skills and vocabulary acquired during the first class and apply similar methods to more complex theoretical and critical applications. In particular, they'll examine psychoanalytic and sociological lenses by which authors and directors shape narratives. Still within the noir genre, they'll assess how such complex study resonates within more contemporary literary to cinematic adaptations. Foci will include Freudian expectations of behavior and why they fall flat in reality, along with Blakian Romanticism and its intentions for adult behavior.

Racial and Gender Representation within Noir

- *Fulfills one of three 10th grade English credit requirements*
- *Option as a 2nd class in the sequence*

Similarly to "Psychoanalysis and Romanticism within Noir", students will similarly apply the concepts and vocabulary terms acquired during the first class to alternative lenses by which students will come to understand film and literature on more complex levels. In particular, they'll examine sociological presumptions of behavior, including racial and feminist theories, by which authors and directors shape narratives. Still within the noir genre, they'll assess how such complex study resonates within more contemporary literary to cinematic adaptations.

Contemporary Adaptations of Noir

- *Fulfills one of three 10th grade English credit requirements*
- *3rd class in the sequence*

The third class is an ongoing accretion of and reapplication of ideas covered during the previous three. Specifically, students will look at recent noir literary and film works to assess how they differ from traditional, archetypal modes and include (or manipulate) psychological and sociological presumptions. The year will culminate with the group challenge for students to write, cast, shoot, direct, edit and refine a complete noir film (of a reasonable length so as to be feasible and still coherent) that showcases the understandings they've accumulated over the year.

Bridging Divides Through Discourse

10th Grade English

Intersectionality and Identity

- *Fulfills one of three 10th grade English credit requirements*
- *No sequence*

Students will be introduced to and apply to their own lives the concept of "intersectionality," and will gain a greater understanding of the complexities of identity in a variety of contexts including community, society and world. Students will explore the concepts of bias and privilege. Students will begin the process of learning how to collaborate with and listen to others across different belief systems, worldviews and perspectives. Final assessment is a creative essay, poem, short story or art piece that applies intersectionality and identity to students' own lives/experiences to demonstrate understanding of the concepts' meaning and application.

Justice

- *Fulfills one of three 10th grade English credit requirements*
- *No sequence*

Students will be introduced to current literature and perspectives on the concept of justice. What does it mean to be "just" and "equitable," or to live in a world, country, society, state, town, school that is just and equitable? How do ideas of justice vary across cultures and histories? How does justice work? What is our responsibility to work towards creating more just and inclusive communities, and what should this look like? Students will also be introduced to the broad concepts of diversity, equity, and inclusion through case studies and articles that explore the concepts in their educational, legal, and societal implications.

Empathy, Listening, and Wonder

- *Fulfills one of three 10th grade English credit requirements*
- *No sequence*

Students will explore the practice of deep listening by engaging with a variety of examples and case studies. Students will reflect upon their roles and responsibilities of listening to people with differing opinions as their own. Students will learn about the possible challenges that can come with empathy and listening when that listening engages people who do not share their same beliefs, and will consider how we can learn by listening to people who share different beliefs. Students will consider how wonder and empathy can support our work for justice and our journey towards better understanding ourselves and how we show up in the world.

American Literature

11th or 12th Grade English

*Every class in American Literature has an Advanced option as well within the class.

Dystopias of the Past, Present and Future

- *Fulfills one of three 11th grade English credit requirements*
- *1st class in the sequence*

"Dystopias Past, Present, and Future" is interested in the historical, contemporary, and speculative realms of societal critique. By examining dystopian narratives that offer us an alternative way of viewing America's past, present and future, participants will gain insights into the socio-political landscape, fostering a deeper understanding of the foundation of American society and its potential

trajectories. This class's primary text will be *The Crucible*, *The Handmaid's Tale*, and *Parable of the Sower*.

Literature of Place

- *Fulfills one of three 11th or 12th grade English credit requirements*
- *2nd class in sequence*

"Literature of Place" explores the relationship between people and place through literature. In this course students will analyze literary works where setting transcends its traditional role, emerging as a dynamic character in its own right. By engaging with texts that prioritize the interplay between people and place, students will deepen their understanding of the connections between literature, culture, and the world around us. This class will use a range of primary texts including fiction, non-fiction, poetry and film.

American Horror Stories

- *Fulfills one of three 11th grade English credit requirements*
- *Option as 3rd class in sequence*

"American Horror Stories" looks at the underbelly of American history through the lens of horror and true crime literature. This course offers a chilling exploration of historical injustices, uncovering the realities that lurk beneath the surface of our society. From colonial atrocities to contemporary criminal cases, students will analyze how horror and true crime narratives reflect, critique, and sometimes perpetuate societal norms and power structures.

Literature of Conflict

- *Fulfills one of three 11th or 12th grade English credit requirements*
- *Option as 3rd class in sequence*

"Literature of Conflict" is a class that explores America's military engagements through the lens of fiction. Focusing on conflicts in the 20th and 21st century, we will examine the motivations behind America's past military actions and the present consequences. Students will critically analyze themes related to patriotism, heroism, morality, and the human cost of warfare. Texts will include *The Things They Carried* by Tim O'Brien, *Catch-22* by Joseph Heller, and *Redeployment* by Phil Klay, among others.

Postmodernism

11th or 12th Grade English

*Every class in American Literature has an Advanced option as well within the class.

Intro to Postmodernism: Humanism and Now

- *Fulfills one of three 11th or 12th grade English credit requirements*
- *1st class in the sequence*

Within the first class, students will be introduced to the complex web of ideas they'll reassess in increments over the course of the year, essentially beginning at the end in conceptual terms. To supplement their reactionary analyses of postmodern concepts, we'll then cycle back to the age-old philosophical undertakings and presumptions of humanism. By contrasting humanist claims with contemporary counter theory regarding truth and reasoning, they'll assess how such ideas have changed over recent decades. Central texts revolve around the social and ideological problems caused by dependence on humanistic assumptions of truth within worlds that increasingly construct their own senses of logic and 'truth.'

Structuralism and Intro to Post-Structuralism

- *Fulfills one of three 11th or 12th grade English credit requirements*
- *Option as second class in the sequence*

Within the second class, students will begin with the concepts of structuralism to consider how, in springing from humanist intentions, they establish the terms and reasonings for what we now call 'post-structuralism' and its very different presumptions of "truth" over truth. Central works and concepts will focus on how identity is constructed, or at least highly influenced by social constructs that are external to an inherent 'self.'

Postmodern Satire and Social Commentary

- *Fulfills one of three 11th or 12th grade English credit requirements*
- *Option as second class in the sequence*

The third class centers on the various questions and complications of what is vaguely called 'postmodern' and 'poststructuralist', and engages with paradox to consider how and why such questions without answers may be differently productive than whole answers with neat and tidy edges. In essence, we'll look at how artists contend with absurdity, nihilism, and chaos, often rendering productions that mimic the mess they see, rather than solving it.

Postmodernism, Redux: Now, Again

- *Fulfills one of three 11th or 12th grade English credit requirements*
- *3rd class in the sequence*

The third class is an ongoing accretion of and reapplication of ideas covered during the previous three. Students will take a deep dive into how systems and presumptions influence behavior, and how artists react to such systems. They'll likewise reconsider the opening premises of the course, even as far back as day one, to reconsider how the array of ideas they've acquired, while non-linear and collage-like in chaotic array, more accurately describe the world in which we live today than may a tidy, linear, or traditional design.

Optional English Classes

10th, 11th, or 12th Grade English

Public Health and Writing in Alaska

- *Fulfills one of three 10th, 11th or 12th grade English credit requirements*
- *Travel Mod, will occur during the 2nd Mod in October*
- ***This class is an ADDITIONAL COST to the standard tuition***

In 1915, C.-E. A. Winslow launched the Yale School of Public Health. He defined public health as "the science and art of preventing disease, prolonging life, and promoting health through the organized efforts and informed choices of society, organizations, public and private communities, and individuals." Through readings, research, discussion, creative writing and experiential travel, we will delve into current public health issues and trends in Alaska with a special look at how they pertain to indigenous people there.

Social Studies

The Social Studies department exists to build global and diverse understanding, create cultural competence and draw socially informed connections between events and humanity.

World History

9th Grade History

Middle Eastern Studies

- *Fulfills one of three 9th grade history credit requirements*
- *1st class in the sequence*

Middle Eastern Studies explores the region's dynamic past and its profound influence on modern day. Through an examination of the political, social, cultural, and economic dimensions, students will gain a nuanced understanding of the Middle East, ending with the Israeli-Palestinian conflict.

The World Wars

- *Fulfills one of three 9th grade history credit requirements*
- *2nd class in the sequence*

The World Wars class offers a comprehensive examination of the two World Wars that profoundly influence global dynamics today. Through a multifaceted exploration of the political, social, economic, and cultural dimensions, students will gain a deep understanding of the causes, consequences, and legacies of these transformative conflicts.

Himalayan Studies

- *Fulfills one of three 9th grade history credit requirements*
- *Option as third class in the sequence*

This course offers an exploration of the Himalayan region, which is a diverse and culturally rich area. We will study philosophical religion, complex politics and migration, and conflict today.

Colonization in the Modern World

- *Fulfills one of three 9th grade history credit requirements*
- *Option as third class in the sequence*

This course provides an in-depth examination of colonization in recent history; we'll explore the processes, consequences, and enduring legacies of expansionism across the globe. Finally, we will dive into neo-colonialism and modern day influence.

Human Geography

10th Grade Social Studies

Modern Cartography and Geology of the Mountain West

- *Fulfills one of three 10th grade history credit requirements*

- *First class in the sequence*

This class explores how cartography is an ever evolving field that can be used to answer a variety of questions ranging from personal reflections to concrete data investigations. Students will learn to use and analyze maps in addition to creating their own maps (using ARCGIS software) that illustrate data and alternative views of a current or potential local issue. In the second half of this course, students will explore the history of and dynamic changes occurring in the physical landscapes they experience in Steamboat Springs and the Utah desert.

Electoral Geography and Human Rights

- *Fulfills one of three 10th grade history credit requirements*
- *Second class in the sequence (ideally in October or November)*

In this class, students learn about how cartography plays a pivotal role in city, state, and federal elections. In addition, this class encourages students to develop the knowledge, skills, and values to fully exercise and protect the human rights of themselves and others.

Storytelling, Border Conflicts, and Cultural Diversity

- *Fulfills one of three 10th grade history credit requirements*
- *Third class in the sequence*

In this class, students will research a topic related to one of the five themes of geography. As part of their research, they will interview an expert in the field and write an article modeled after those found in National Geographic Magazine. Students will also explore border conflicts around the world and end the class with a celebration of the diverse cultures that exist on our shared planet!

US History

11th Grade History

Indigenous History

- *Fulfills one of three 11th grade history credit requirements*
- *1st class in sequence*

Indigenous History will explore the culture, stories and conflict of native voices in the United States. From colonial encounters to contemporary challenges, students will look closely at the relationship between indigenous tribes and the US government.

The American West

- *Fulfills one of three 11th grade history credit requirements*
- *Option as 2nd or 3rd class in sequence*

This class delves into the multifaceted history of the American West, examining its complex tapestry of how manifest destiny impacted economic and political expansion. We will also explore American environmental history and how it shapes land protection today. Finally, we will study World War II: the atomic bomb and Japanese internment.

Civics

- *Fulfills one of three 11th grade history credit requirements*
- *Option as 2nd or 3rd class in sequence*

Civics is an inquiry based class during which students will explore how factors of structure, process, and policy influence each other at the local, state, and federal levels of government. Emphasis is on teaching students how to develop a critical understanding of diverse perspectives from the founding

of the United States and the Constitution to political beliefs and behaviors that influence current public and economic policy.

Justice

- *Fulfills one of three 11th grade history credit requirements*
- *Option as 2nd or 3rd class in sequence*

Students will be introduced to current literature and perspectives on the concept of justice. What does it mean to be "just" and "equitable," or to live in a world, country, society, state, town, school that is just and equitable? How do ideas of justice vary across cultures and histories? How does justice work? What is our responsibility to work towards creating more just and inclusive communities, and what should this look like? Students will also be introduced to the broad concepts of diversity, equity, and inclusion through case studies and articles that explore the concepts in their educational, legal, and societal implications.

Music and Revolution

- *Fulfills one of three 11th grade history credit requirements*
- *Option as 2nd or 3rd class in sequence*

Music & Revolution offers a dynamic exploration of how music has served as a catalyst for social change and shaped the landscape of U.S. history. From the anthems of the Civil Rights Movement to the rebellious spirit of the counterculture era, this course delves into the symbiotic relationship between music and social change.

Advanced Social Philosophy

Intro to Social Philosophy

- *Fulfills one history credit for 11th or 12th graders (11th graders must also take 3 US History credits)*
- *No sequence, optional*

This class explores the foundational concepts and ethical frameworks shaping society in "Social Philosophy." Students will investigate theories of justice, freedom, and power dynamics while critically analyzing the role of institutions and cultural norms in shaping social structures.

Roots of Inequality

- *Fulfills one history credit for 11th or 12th graders (11th graders must also take 3 US History credits)*
- *No sequence, optional*

This class explores the deep-seated origins of inequality in human societies through an examination of historical, cultural, and environmental factors. Anchored in Jared Diamond's "Guns, Germs, and Steel," this class challenges historical notions about how Eurasian hegemony is due to any form of Eurasian intellectual, moral, or inherent genetic superiority. Instead, we'll seek to establish an evidence-based, historical perspective of what accounts for contemporary disparity.

Civil Disobedience

- *Fulfills one history credit for 11th or 12th graders (11th graders must also take 3 US History credits)*
- *No sequence, optional*

This class will explore the moral, ethical and political dimensions of civil disobedience. From the abolitionist movement to the modern fight against climate change, this course will examine the role dissent, protest, and sabotage plays in shaping social change.

Optional Social Studies Classes

Female Anatomy and Women's Studies

- *Fulfills one history credit for 11th or 12th graders (11th graders must also take 3 US History credits)*
- *No sequence, optional*

This class explores the multifaceted intersection of female gender and health. We will learn about the complex anatomy and physiology of the female body: the menstrual cycle, birth control, pregnancy and birth, menopause, etc. We will also explore women's history and contemporary issues, diving deeper into the waves of feminism, the pay gap, reproductive rights, etc. This will be a safe space to explore a variety of conversations and topics.

Art History

- *Fulfills one history credit for 10th, 11th or 12th graders (10th graders must also take 3 Geography credits, and 11th graders must also take 3 US History credits)*

This class provides an evolution of artistic movements from Classicism to Postmodernism, offering students a deep understanding of the major shifts, trends, and innovations in the world of art across centuries. Students will examine the cultural, social, political, and philosophical contexts that shaped each movement, as well as the key artists, artworks, techniques, and themes associated with them. Students will investigate how these movements challenged traditional notions of representation, perspective, and artistic expression, pushing the boundaries of form and content.

Math

The math department exists to build quantitative reasoning skills, numerical critical thinking, and problem solving among students, both through the conceptualization of data and its real world applications.

Integrated 1 (A, B, and C)

- *Sequential*
- *Fulfills a year-long math requirement*

Integrated 1 provides the foundations for the Steamboat Mountain School's math program and prepares students to enter Integrated 2. The Integrated 1 course dives deep into algebraic ideas while exposing students to content across other mathematical subject areas. The scope and sequence follows an integrated framework with content from algebra to geometry to statistics. The course challenges students to master algebraic skills and procedures and then apply those skills and procedures to geometric shapes, concepts and logic

Integrated 1 (A)

- *Fulfills one of three classes for a math course*
- *1st class in sequence*

Includes:

- Introduction to number theory
- Expressions
- Equations in one variable

- Relations and functions
- Linear and nonlinear functions

Integrated 1 (B)

- *Fulfills one of three classes for a math course*
- *2nd class in sequence*

Includes:

- Creating linear equations
- Linear inequalities
- Systems of linear equations and inequalities
- Exponential functions
- Statistics

Integrated 1 (C)

- *Fulfills one of three classes for a math course*
- *3rd class in sequence*

Includes:

- Tools of geometry
- Angles and geometric figures
- Logical arguments and line relationships
- Transformations and symmetry
- Triangles and congruence

Integrated 2 (A, B, and C)

- *Sequential*
- *Fulfills a year-long math requirement*

The Integrated 2 math course solidifies students' basic algebra skills learned in Integrated 1 and expands on these principles to develop new and more advanced algebra skills. This course also incorporates new geometry principles and shows students how to apply their algebraic knowledge to shapes and figures.

Integrated 2 (A)

- *Fulfills one of three credits for a math requirement*
- *1st class in sequence*

Includes: Integrated 1 Algebra Review, relationships in Triangles (including medians, altitudes, and bisectors), and quadrilaterals (including special properties of parallelograms, rectangles, squares, trapezoids and rhombi)

Integrated 2 (B)

- *Fulfills one of three credits for a math requirement*
- *2nd class in sequence*

Includes: Similar polygons, triangles, and proportionality, right triangles and the basics of trigonometry (including Pythagorean theorem, sine, cosine, tangent, and trigonometric identities), circles (including arcs, sectors and inscribed angles), area, surface area and volume

Integrated 2 (C)

- *Fulfills one of three credits for a math requirement*
- *3rd class in sequence*

Includes: Linear equations, inequalities and systems of equations, exponents and radical expressions, algebraic manipulation of polynomials, and quadratics (including multiplication, factoring and the quadratic formula)

Integrated 3 (A, B, and C)

- *Sequential*
- *Fulfills a year-long math requirement*

Integrated 3 builds upon and extends the mathematics learned in Integrated 1 and Integrated 2. The scope and sequence follows an integrated framework with content from algebra to geometry to statistics. Integrated 3 challenges students to master algebraic skills of increasing difficulty and then apply those skills using patterns, modeling and conjectures. The course emphasizes problem solving and applications in real-world situations, and students explore the connection between the concepts they are learning and the way those concepts model the world around them.

Integrated 3 (A)

- *Fulfills one of three classes for a math course*
- *1st class in sequence*

Includes:

- Review integrated 1 and 2 algebra
- Quadratic functions
- Polynomials and polynomial functions
- Polynomial equations

Integrated 3 (B)

- *Fulfills one of three classes for a math course*
- *2nd class in sequence*

Includes:

- Inverse and radical functions
- Exponential functions
- Logarithmic functions

Integrated 3 (C)

- *Fulfills one of three classes for a math course*
- *3rd class in sequence*

Includes:

- Rational functions
- Inferential statistics
- Trigonometric functions

Precalculus

Precalculus A

- *Fulfills one of three credits for a math requirement*
- *1st class in sequence*

Exploration of functions represented graphically, algebraically, numerically, and verbally. Each of these will be used to review the concept of functions and how they are applied. Journaling will be introduced and thorough journal entries will be written for each chapter.

Precalculus B

- *Fulfills one of three credits for a math requirement*
- *2nd class in sequence*

Trigonometry, a full development of the topic so that students have a robust understanding of the trigonometric functions and their applications. Learning to think about transcendental functions is often a new and intriguing concept for students.

Precalculus C

- *Fulfills one of three credits for a math requirement*
- *3rd class in sequence*

Advanced math topics will be explored, vectors, probability, conic sections, complex numbers, sequences and series are among the possibilities. All this will be done with an eye toward preparing for calculus along with applications.

Advanced Calculus 1 (A, B, and C)

- *Sequential*
- *Fulfills a year-long math requirement*

This course introduces the fundamental topics of calculus. The Calculus 1 course emphasizes visualization and correlation of all related perspectives and concepts. Students are encouraged to recognize how all new material in calculus fits into material they have already learned in previous math courses. Students in the course look at "the big picture" of mathematics. Students are expected to become proficient users of the graphing calculator, which is used regularly throughout the course in order to help them visualize the concepts being covered in class.

Calculus 1 (A)

- *Fulfills one of three credits for a math requirement*
- *1st class in sequence*

Includes:

- Concept of rate of change
- Limits
- Derivatives (physical meaning, geometrical meaning, definitions, properties)
- Indefinite integrals (physical meaning, geometrical meaning, definitions, properties)

Calculus 1 (B)

- *Fulfills one of three credits for a math requirement*
- *2nd class in sequence*

Includes:

- Derivative rules and application to more complicated functions
- Evaluation of derivatives with regard to displacement, velocity and acceleration
- Parametric equations, implicit relations and related rates

Calculus 1 (C)

- *Fulfills one of three credits for a math requirement*
- *3rd class in sequence*

Includes:

- Definite integrals (physical meaning, geometrical meaning, definitions, properties)
- Application of definite integrals with respect to area and volume
- The calculus of exponential and logarithmic functions

Advanced Calculus 2 (A, B, and C)

- *Sequential*
- *Fulfills a year-long math requirement*

This course reinforces the fundamental topics of calculus and develops advanced calculus topics. The Calculus II course reinforces concepts learned in Calculus I and applies them to more complex problems. For example, basic integration is expanded to more difficult equations and the use of new techniques such as trigonometric substitution are employed. Students go more in depth into real life calculus problems such as minimizing building materials, calculating the center of mass for a complicated 3D shape, and the evaluation of motion through vector analysis. Finally the students' attention to detail and organization is developed through exploring power series. Students are expected to be proficient users of the graphing calculator, which is used regularly throughout the course in order to help them visualize the concepts being covered in class.

Calculus 2 (A)

- *Fulfills one of three credits for a math requirement*
- *1st class in sequence*

Includes:

- The calculus of exponential growth and decay, including application of logistic functions
- The calculus of plane and solid figures (including maximization and minimization of 2D and 3D shapes)
- Polar coordinates applied to arc length and sector areas

Calculus 2 (B)

- *Fulfills one of three credits for a math requirement*
- *2nd class in sequence*

Includes:

- Integration by parts and reduction formulas
- Integration with trigonometric substitution and partial fractions
- The calculus of hyperbolic and inverse hyperbolic functions
- Improper integrals

Calculus 2 (C)

- *Fulfills one of three credits for a math requirement*
- *3rd class in sequence*

Includes:

- The calculus of motion - averages, extremes, and vectors (including average value and minimal path problems, as well as evaluating velocity and acceleration using vectors)
- The calculus of variable-factor products (including work done by a variable force, mass of a variable density object, moments, centroids and center of pressure)
- The calculus of functions defined by power series (including geometric sequences, power series, Taylor and Maclaurin series, convergence, divergence, and Lagrange error bounds)

Optional Math Classes

Introduction to Engineering

- *No sequence*
- *Fulfills one of three year-long math requirements for 12th graders, or acts as a math elective*

Includes: Advanced trigonometry, introduction to physics, and engineering design principles (applied to bridge design project). Develops students' understanding of how forces are applied, real world

design principles like efficient material use and safety factors, and critical thinking with regard to external project factors such as community impact and environmental considerations, structural design principles and building (applied to designing and building small scale projects, includes design principles such as structural load evaluation, angles, efficient use of building materials, as well as improving construction skills and use of tools)

Statistics

- *No sequence*
- *Fulfills one of three year-long math requirements for 12th graders, or acts as a math elective*

Our world is filled with data. Everywhere we look data is being collected from us and presented to us to accomplish a variety of tasks. While it is an incredibly powerful tool, it is not straightforward or easy to use and understand. However, in your future education and lives, you will have to be able to understand and work with data in a variety of ways. The goal of this project is to build a knowledge base of how data is created, manipulated, and used for a variety of purposes in our world. We will learn how to read and understand different data sets and graphics, and then how we can make these on our own. We will discuss how and why data is reliable and credible, along with how we can find good data on the internet.

Finances

- *No sequence*
- *Fulfills one of three year-long math requirements for 12th graders, or acts as a math elective*

Students learn how to enter and manipulate functions within google sheets, to apply mathematical equations to real life situations and utilize that information to make decisions. They will focus on interest, credit and loans (applied to car purchases, credit cards, and student loans), taxes and budgeting (applied to taxes and creating a holistic life budget for a potential future situation).

Introduction to Economics

- *No sequence*
- *Fulfills one of three year-long math requirements for 12th graders, or acts as a math elective*

Science

The science department exists to generate appreciation and curiosity for the natural world. Our students learn to observe, investigate, and reflect as a way to gain knowledge of the natural world.

Biology

9th Grade Science

- *Sequential*
- *Fulfills a year-long science requirement*

Biology covers introductory scientific and biological principles. Beginning with characteristics, organization and needs of living things, the class becomes more comprehensive as the year progresses. The structure and function of unicellular through multicellular organisms is stressed. Particular focus is placed on the scientific method.

Chemistry

10th or 11th Grade Science

Chemistry A

- *Fulfills one of three credits for a chemistry requirement*
- *1st class in sequence*

It's time to get serious about chemistry. Students learn to be comfortable with how equations represent reactions and what those little particles doing the reacting are all about.

Chemistry B

- *Fulfills one of three credits for a chemistry requirement*
- *2nd class in sequence*

After looking at reactions and learning about the particles involved it is time to find out how they all fit together to form the world around us.

Chemistry C

- *Fulfills one of three credits for a chemistry requirement*
- *3rd class in sequence*

After looking at reactions and learning about the particles involved it is time to find out how they all fit together to form the world around us.

Anatomy and Physiology

11th or 12th Grade Science

Intro to Anatomy and Physiology and Homeostasis

- *Fulfills one of three optional 11th or 12th grade science credit requirements*
- *First class in sequence*

Human Anatomy and Physiology is a concentrated introduction to the biology of human beings, its organs and organ systems. Special attention is given to eukaryotic cell structure and functions, homeostasis, the integumentary system and the urinary system.

Musculoskeletal and Control

- *Fulfills one of three 11th or 12th grade science credit requirements*
- *No sequence, optional*

Human Anatomy and Physiology is a concentrated introduction to the biology of human beings, its organs and organ systems. Special attention is given to the anatomy and physiology of the musculoskeletal system and our control systems. This class will include a detailed mink dissection and a look at the nervous and endocrine systems.

All the Goopy Guts

- *Fulfills one of three 11th or 12th grade science credit requirements*
- *No sequence, optional*

Human Anatomy and Physiology is a concentrated introduction to the biology of human beings, its organs and organ systems. Special attention is given to the anatomy and physiology of the cardiovascular, respiratory, digestive, lymphatic and reproductive systems.

Advanced Environmental Science

Ecological Systems (with a Lab)

- *Fulfills **two** of three 11th or 12th grade science credit requirements*
- *Will occur during the 1st mod in September*

In this class, students will learn how ecosystems function and the role individual species play in maintaining a dynamic balance. This course will operate in conjunction with a lab, where students will practice data collection skills throughout our campus that will enable them to successfully plan a project that utilizes the principles of Permaculture, or sustainable agriculture. This class will take up two periods, and should be considered an additional time commitment.

Circular Economies: Waste Management and Reduction

- *Fulfills one of three 11th or 12th grade science credit requirements*
- *Option as a second class in sequence*

This course provides a comprehensive exploration of environmental policy, sustainable resource management, and waste reduction practices. Students will engage with a range of topics including environmental policy frameworks, mining practices and their impacts, recycling methodologies, composting techniques, and innovative approaches to waste disposal.

Conservation Biology and Solutions to Pollution

- *Fulfills one of three 11th or 12th grade science credit requirements*
- *Option as a second class in sequence*

Through a multidisciplinary approach, students will not only learn about the science behind conservation biology, but also explore innovative solutions to combat air and water pollution in the Colorado context. By the end of the course, students will be equipped with the knowledge and skills necessary to contribute to the preservation of Colorado's precious natural resources and biodiversity.

Designing for the Future

- *Fulfills one of three 11th or 12th grade science credit requirements*
- *Third class in the sequence*

Students will investigate how the products we use impact the environment and how to lessen that impact. They will research an individual product and conduct a Life Cycle assessment of its manufacture and use. In the second half of the mod, we will learn about how we design cities/communities to limit our impact on the environment.

Advanced Physics

Mechanics: Newton–Projectiles to Satellites

- *Fulfills one of three 11th or 12th grade science credit requirements*
- *No sequence*

Mechanics, a simple term to describe how things move. Two dimensions, three dimensions, in circles, small (wheels) and large (orbits) and how gravity fits into it all.

The Nature of Matter, Electricity, Magnetism, Sound, and Light

- *Fulfills one of three 11th or 12th grade science credit requirements*
- *No sequence*

This will be a quick review of matter and then on to exploring sound, electricity and magnetism, and finishing up with a study of light.

Atomic, Nuclear, Relativity, and Research

- *Fulfills one of three 11th or 12th grade science credit requirements*
- *No sequence*

Topics in modern physics including nuclear physics and relativity. Find out what Einstein, his contemporaries, and those following in his footsteps today are doing.

Optional Science Classes

Wilderness First Aid

- *Fulfills one of three 10th, 11th, or 12th grade science credit requirements*
- *No sequence, optional*
- ***This class has an ADDITIONAL COST to the standard tuition***

Learn about the scope of wilderness medicine, patient care, common backcountry injuries and health problems, and environmental concerns. You will have the opportunity to earn a Wilderness First Aid certification through Desert Mountain Medicine as a part of this class.

Female Anatomy and Women's Studies

- *Fulfills one of three 11th or 12th grade science credit requirements*
- *No sequence, optional*

This class explores the multifaceted intersection of female gender and health. We will learn about the complex anatomy and physiology of the female body: the menstrual cycle, birth control, pregnancy and birth, menopause, etc. We will also explore women's history and contemporary issues, diving deeper into the waves of feminism, the pay gap, reproductive rights, etc. This will be a safe space to explore a variety of conversations and topics.

Public Health and Writing in Alaska (NOT RUNNING IN 24-25)

- *Fulfills one of three 11th or 12th grade science credit requirements*
- *Travel Mod will occur during the 2nd Mod in October*
- ***This class has an ADDITIONAL COST to the standard tuition***

In 1915, C.-E. A. Winslow launched the Yale School of Public Health. He defined public health as "the science and art of preventing disease, prolonging life, and promoting health through the organized efforts and informed choices of society, organizations, public and private communities, and individuals." Through readings, research, discussion, creative writing and experiential travel, we will delve into current public health issues and trends in Alaska with a special look at how they pertain to indigenous people there.

IT Explorations

- *Fulfills one of three 10th, 11th or 12th grade science credit requirements*
- *No sequence, optional*

Language

The Spanish department exists to foster confident, empathetic, and global learners who strive to engage genuinely with other people and the Spanish language.

Spanish 1: Mastering the Basics (A, B, and C)

- *Sequential*
- *Fulfills a year-long language requirement*

Spanish 1 is focused on mastering the basics of the Spanish language while simultaneously introducing students to an exploration of cultural comparisons to develop the beginnings of cultural competency. In Spanish 1, students will learn basic grammar and vocabulary that builds the foundation for communication in their second language. They will develop tools that they can utilize as they participate in basic listening, speaking, reading, and writing.

Spanish 2: Utilizing the Language (A, B, and C)

Cultura y Identidad

- *Fulfills one of three language credit requirements*
- *1st class in the sequence*

In this course, students continue to build their speaking, writing, and listening skills in Spanish, with an emphasis on gaining confidence speaking through regular conversations. This class focuses on identity, culture, and stories. Students will master the present tense and start the simple past.

El Bienestar y la Tecnología

- *Fulfills one of three language credit requirements*
- *2nd class in the sequence*

In this course, students continue to build their speaking, writing, and listening skills in Spanish, with an emphasis on gaining confidence speaking through regular conversations. This class focuses on mental health, wellness, and technology. Students will practice the preterite and imperfect.

La Comida y el Medioambiente

- *Fulfills one of three language credit requirements*
- *3rd class in the sequence*

In this course, students continue to build their speaking, writing, and listening skills in Spanish, with an emphasis on gaining confidence speaking through regular conversations. This class focuses on food and the environment. Students will learn commands and the future tense.

Spanish 3: Movement throughout Spain and the Americas (A, B, C)

- *Sequential*
- *Fulfills a year-long language requirement*

In Spanish 3, students explore the theme of historical and modern movement of people within, throughout, and between Spain and the Americas. The study of movement occurs using contemporary informational sources, rich discussions and debates, and the beginnings of analytical writing, all completely in Spanish. Through delving into movement in the Spanish speaking world, students are asked to think critically about how cultural encounters and clashes in the past have affected and influenced modern cultures, why people move between places and cultures, and what the effects of current movement have on today's society and the future of our world.

Advanced Spanish (Level 4 or 5)

La Literatura Hispánica

- *Fulfills one of three advanced language credit requirements*
- *No sequence, optional*

This class introduces students to literary analysis and critical writing through selected literary masterpieces by Hispanic writers from a variety of time periods. Students will learn about key literary movements such as magical realism, anti-establishment poetry, philosophical short stories and debate and articulate issues of justice and identity as they relate to the Spanish-speaking world.

El Cine Hispánico

- *Fulfills one of three advanced language credit requirements*
- *No sequence, optional*

This class will explore feature films, documentaries, TV episodes, and music videos by, for, and/or about the Spanish-speaking world. Students will discuss and analyze these works, their socio-historical context, and their social, cultural, and political themes.

Español para la Vida Real

- *Fulfills one of three advanced language credit requirements*
- *No sequence, optional*

In this class, students will continue to deepen their listening and speaking skills in Spanish. It emphasizes the use of idiomatic expressions, correct pronunciation, development of useful thematic vocabulary and the ability to communicate at a practical level.

Español para la Justicia Social

- *Fulfills one of three advanced language credit requirements*
- *No sequence, optional*

This service-learning class gives students the opportunity to use cultural and linguistic knowledge acquired in Spanish classes in real-world settings focused on social justice. Students will engage with the Spanish-speaking community in Steamboat through engagement with local organizations and gain a deeper understanding of current events as they affect the Spanish-speaking population.

Radio Latina

- *Fulfills one of three advanced language credit requirements*
- *No sequence, optional*

In this class, students examine current events in the Spanish-speaking world along with their historical roots. Sources include Spanish-language newspapers and magazines, podcasts, news clips, and blogs.

La Traducción

- *Fulfills one of three advanced language credit requirements*
- *No sequence, optional*

This class uses translation to help students consolidate complex grammatical structures and further develop their awareness of the particular subtleties of Spanish. Students will be introduced to the history and theory of translation and practice with a variety of texts: newspaper and journal articles, songs, letters, advertisements, film subtitles, and literary works.

Art

The art department exists to stimulate student curiosity and playfulness, to provide global connections between historical, structural, and cultural perspectives, and to guide in the development of students' own artistic voices.

2-D Art

Drawing

- *Fulfills one of three art credit requirements*
- *No sequence, optional*

Students will develop drawing skills that focus on the use of mark-making, line, space, pattern, gesture, light and shade, focal point, and composition. Students will investigate how art can be used to communicate ideas, identity, emotion, and stories using graphite, charcoal, ink, and pastels.

Film

- *Fulfills one of three art credit requirements*
- *No sequence, optional*

Students will explore the art of creative writing and filmmaking techniques, focusing on how to harness everyday experiences to generate ideas. The course will cover basic concepts with an emphasis on storytelling through visual media. Students will be encouraged to shoot short films using their phones and, when possible, to edit their projects directly on their phones or tablets.

Painting

- *Fulfills one of three art credit requirements*
- *No sequence, optional*

Students will develop painting skills that focus on surface texture, layering techniques, color, depth, and paint application using creative tools, and composition. Emphasis will be placed on investigating personal history, identity, and aspects of the self through watercolor, acrylic, and oil paint.

Mixed Media Fine Arts

- *Fulfills one of three art credit requirements*
- *No sequence, optional*

Students will create a variety of print projects including block printing (lino), cyanotypes, and screen printing, to understand how the ability to mass produce an image has completely altered social and cultural paradigms.

Photography

- *Fulfills one of three art credit requirements*
- *No sequence, optional*

Students will engage in photography projects from a variety of genres (landscape, street photography, photojournalism, portraiture, still life, art photography, etc), as well as contributing to the SMS photo archive for Yearbook.

3-D Art

Assemblage Sculpture

- *Fulfills one of three art credit requirements*
- *No sequence, optional*

Students will make wire sculptures, assemblage sculptures, mobiles, wall-hangings, and nature installations to explore mass, time, and space. Major themes include impermanence, object value, context, and narrative.

Clay and Ceramics

- *Fulfills one of three art credit requirements*
- *No sequence, optional*

Students will learn how to use traditional and contemporary techniques using clay and glaze to investigate where aesthetics and function intersect in the art making process.

Adornment: Fabric, Fashion, and Wearable Art

- *Fulfills one of three art credit requirements*
- *No sequence, optional*

Students will have opportunities to engage in creative embroidery, hand stitching, machine sewing, fashion design, jewelry, and weaving techniques to make functional and aesthetically pleasing wearable objects.

Craftism

- *Fulfills one of three art credit requirements*
- *No sequence, optional*

Students investigate the concept of art as activism and have the opportunity to create a large-scale concept-driven installation, performance, sculpture, video, or land art project, as well as a small-scale but impactful traditional craft installation. Major themes include: social activism, domesticity and historical gender roles, the environment, propaganda, civil rights, etc.

Dance

- *Fulfills one of three art credit requirements*
- *No sequence, optional*

Students have the opportunity to enrich kinesthetic awareness by learning several genres of dance (ballet, jazz, hip-hop, modern, social and cultural dance). Basic fitness principles, the history of dance, dance terminology, choreography, and dance production will be major themes of the class.

Drama

- *Fulfills one of three art credit requirements*
- *No sequence, optional*

This introductory class will investigate: theater vocabulary, roles in the theater, improvisation, pantomime, movement, acting (scene work and one act plays), theatre history (from ancient Greek to the present), the reading of plays, theater set/costume design and tech.

Writing

Creative Writing

- *Fulfills one of three art credit requirements*
- *No sequence, optional*

Bookmaking

- *Fulfills one of three art credit requirements*
- *No sequence, optional*

Students explore the process of writing and illustrating graphic novels using digital design processes, photography, drawing, and/or printmaking to publish a complete mini graphic novel by module completion.

School Newspaper

- *Fulfills one of three art credit requirements*
- *No sequence, optional*

A weekly output of journalistic investigation into graphic design, DEI, journalistic writing, current events, photography, copyright issues, advertising, and publication ethics based on Steamboat Mountain School happenings.

Graphics and Yearbook (A, B, C)

- *Sequential*
- *Fulfills a year-long art requirement*

Students learn the principles and fundamentals of visual arts and photography with the final goal being the creation of the school yearbook. Students learn how to use a professional body camera, and how to cover events as they happen. Photoshop mastery comes next as students master skills needed to enhance yearbook designs in our publishing system, Yearbook Avenue. The yearbook team develops roles for each member, assigns pages and subjects and works together toward the final goal, creation of their own graphically designed pages on the computer. Together, the yearbook team produces a 68-page yearbook to be released to students in the spring.