



## **Course Description Guide 2018 – 2019 School Year**

Jackson Hole Community School prepares students to succeed in college and life, through challenging academics and excellence in teaching, in a community founded on personal relationships, student initiative, and integrity.

We are a school that is committed to the highest standards of education, which will lead to a life of intellectual exploration and learning. We believe in the importance of diversity within our school, and therefore, we seek to develop a school community comprised of diverse cultural, racial, religious, and economic backgrounds. We encourage our students to be independent thinkers who embody a sense of personal integrity and an understanding of fairness and justice. We believe in a commitment to service that requires every person to be a responsible and contributing member of society. We value respect for each individual and embrace ideas and opinions that are different from our own. We encourage our students to succeed individually and to develop skills which will help them to become positive members of a team. We believe that a worthwhile educational experience that fosters continued learning requires a collaborative effort from the school, the home, and the community.

The Jackson Hole Community School uses a regular *A*, *B*, *C*, *D* and *F* grading system with pluses and minuses. Students will also receive a percentage grade in each course. The letter grade which a student receives will correspond to their respective percentage in a particular course. Grades will correspond to the following percentages: *A+* (100%-98%), *A* (97%-93%), *A-* (92%-90%); *B+*(89%-87%), *B* (86%-83%), *B-* (82%-80%); *C+* (79%-77%), *C* (76%-73%), *C-* (72%-70%); *D+* (69%-67%), *D* (66%-63%), *D-* (62%-60%); *F* (59%-0%). For example, a student may receive a grade of *B*/86% in her Geometry class, meaning the student's overall grade in Geometry is an 86%, which corresponds to a *B*. A student's report card will show the number grade while the transcript will record the letter grade received in each course.

Most courses are graded on a semester basis. Beginning in 2017-18 the school adopted some quarter elective classes that may run in any of the four quarters of the school year. A grade of *C* or better is satisfactory work. Any student who receives a grade of *D* or *F* at the end of the year in a sequential course, (e.g. Spanish I) may be asked to repeat the course or complete extra work before being allowed to enter the next level (e.g. Spanish II).

A student who is in a full-year course and fails the first semester may be removed from the class and not be allowed to continue in the course. He/she may be required to retake the class in the following year. If the student is allowed to continue in the course, he/she must pass the second semester of the course in order to receive credit.

If a student fails the second semester of a full year course, he or she has to pass the course in an approved summer program, online course or take an exam that shows proficiency in the subject area before being granted credit. The student would also be allowed to repeat the course at JHCS in the following year.

A student who fails a semester course will have to repeat the course with a passing grade or pass an approved summer or online course to receive credit. If the failure is in a sequential course then the student must repeat the subject with a passing grade or pass an approved summer or online course in order to continue in the subject area.

### *Academic Requirements*

For the classes of 2019, 2020, and 2021, twenty-two credits (22) are required to graduate with seventeen required credits and five elective credits. For the class of 2022 and beyond, 22.5 credits will be required, the additional .5 credits being a Fine Arts elective. One credit is awarded for a passing grade (minimum 60%) in a full year course completed in a particular subject. Students must complete both semesters of a full year course in order to earn this single credit. In addition, requirements for athletics, community service learning, experiential learning, and the senior project must be met. These are outlined below. All students are encouraged to be enrolled in six courses each semester during their freshman and sophomore years, five courses each semester during their junior year and their senior year. Exceptions to these course load requirements can be made by the Dean of Academic Affairs in unique circumstances. Within the required twenty-two credits, the following area distribution requirements should be met:

### **Required Credits**

<u>Department</u>	<u>Credits</u>
English	4

World Language	3
History	3
Mathematics	3
Science	3
Arts	1(classes of 2019,2020,2021) 1.5(classes 2022 and beyond)

Required credits necessary to graduate: 17(classes of 2019,2020,2021) 17.5(classes 2022 and beyond)

Elective credits necessary to graduate: 5

Total credits necessary for graduation: 22 (classes of 2019,2020,2021) 22.5(classes 2022 and beyond)

## **Typical Programs of Study**

### **Ninth Grade:**

Foundations in Literature

Math 1 (title not yet determined)

Biology (for class of 2022 and later)

Big World History: Investigations of the Last 13.8 Billion Years

World Language

Art Requirement or Elective (art or other)

Health (2 of 4 quarter courses)

### **Tenth Grade:**

Exploration of World Literature

Math 2(title not yet determined)

Biology or Chemistry (depending on the year entering)

Empires and Revolutions: Parallels in the Development of Europe and the Middle East

World Language

Elective (art or other)

### **Eleventh Grade:**

American Literature

Trigonometry/Pre-Calculus, Calculus Honors

Chemistry or Physics (depending on year entering)

US History

World Language

Elective (art or other)

### **Twelfth Grade:**

English Seminars

Trigonometry/Pre-Calculus, Calculus, BC Calculus

Advanced level science elective (Adv. Biology, Adv. Environmental Science, Adv. Physics)

Modern African Politics and Identity and/or Modern Latin America and its relationship to

the West  
World Language  
Elective (art or other)  
Senior Project (all year)

## **Departments and Programs**

### **English Department**

At the Jackson Hole Community School, the English department curriculum provides students with a thorough background in reading, speaking, and writing about literature. The program reflects a belief in the value of reading widely and deeply in a variety of literary genres, traditional and innovative, and from several periods, Classical to Postmodern. Students are empowered to appreciate literature and make connections between the various genres and periods. From Socratic seminars to internet-hosted dialogues, class discussions allow students the opportunity to interpret the material, listen to one another's viewpoints, and practice asserting their opinions with textual references. The department's emphasis on the craft of writing is developed across the four-year curriculum. Through a variety of formal and informal writing exercises, students learn to compose thoughtful responses, with a special focus on the thesis-based essay. By senior year, they understand the style, usage, and mechanics necessary to articulate their ideas and learn to write in their own voice.

Four (4) credits in the English Department are required to graduate, including the completion of English 9, English 10, and English 11. In addition, students must complete two (2) Grade 12 literature courses prior to graduation.

### **Foundations in Literature (1 credit)**

In this introductory literature course, students will form a solid background in reading, writing, and speaking. We will investigate four main literary genres--fiction, nonfiction, poetry, drama--and learn how to analyze, ask questions, and construct written arguments from the reading. We will write short reflective responses as well as longer essays. Vocabulary and grammar lessons will be an ongoing focus. This course will try and parallel the subject matter in History 9, and the two humanities classes will join together for at least one research project during the year. After this course, students will know how to conduct research, identify/form a thesis statement, and write a formal essay.

### **Exploration of World Literature (1 credit)**

In this literary survey course, students further develop an ability to comprehend and think critically about texts and to respond to literature verbally. Students gain exposure to a wide range of genres (novels, plays, stories, poems, and films) and with each work apply components of literary analysis including plot, conflict, character, figurative language, and theme. Writing assignments include literary analysis, poetry, journals, and creative works. Students pursue writing as an active process by drafting and revising their essays. Students also refine their understanding of grammar and add to

their working vocabulary. Throughout the course, students will read and analyze texts, examining their literary, cultural, historical, political, and philosophical significance. We will explore questions that will challenge our own understanding of among other topics: tradition, culture, class structure, morality, freedom, and gender roles. Conventions of the English language, such as usage, grammar and punctuation, along with proper documentation of sources, will be reviewed throughout the course. Works could include Chaucer's *Canterbury Tales*, Shelley's *Frankenstein*, Shakespeare's *The Tempest*, Orwell's *Animal Farm*. Conventions of the English language, such as usage, grammar and punctuation, along with proper documentation of sources, will be reviewed throughout the course. *Prerequisite: Foundations in Literature*

### **American Literature (1 credit)**

English 11 is a course in American literature, from the early days of European settlement to the modernist era. Students should expect to read some classics of the American canon as well as investigate more contemporary, distinctive works. We'll talk about what being American means and how Americans behave and why. As we go on, you'll notice that five major themes keep popping back up: how Americans balance the needs of the individual with the demands of community, what the American Dream is, what we think about God (or gods), how we decide what's right and wrong, and what our relationship with nature is and/or should be. We will also examine the personal narrative as it appears in its many incarnations in American literature, and you will try your hand in various ways at writing your own story. Literary icons such as Nathaniel Hawthorne, Emily Dickinson, Henry David Thoreau, Mark Twain, F. Scott Fitzgerald, Kurt Vonnegut, Zora Neale Hurston, J.D. Salinger, Tim O'Brien, and August Wilson will be analyzed. Conventions of the English language, such as usage, grammar and punctuation, along with proper documentation of sources, will be reviewed throughout the course. *Prerequisite: Exploration of World Literature*

### **English 12 (2 separate semester-long seminars; .5 credit each)**

The content of these seminars will depend on the choices of the instructor and will be announced at a later date. *Prerequisite: American Literature*

### **World Language Department**

The World Language Department emphasizes the acquisition of language in meaningful ways towards functional fluency. Through the written and spoken word, world language study enables the student to appreciate and to understand a civilization or culture different from one's own. Knowledge of a world language brings students into contact with new ideas and exposes them to a more expansive view of the world. Students of all ability levels learn language through listening, speaking, reading and writing. Beginning levels focus on becoming comfortable with a world language and learning the fundamentals of the language. Upper-level courses further develop fundamental speaking and listening skills and incorporate advanced reading and writing skills. The World Language Department encourages its students to engage in target language opportunities outside of the traditional classroom setting through local community

non-profit organizations, study-abroad programs, “intercambios” (whereby students and native speakers maintain a Spanish-English ‘language exchange’ to improve each others speaking skills), and travel. Students that complete a summer, semester, or a year abroad may be eligible to receive credit pending the approval of the department chairperson and the academic dean.

**\*Successful completion of the third level of a world language is required for graduation.** New students who wish to enter a course beyond the first year of any world language must take a world language placement exam administered by the World Language Department Chair. This exam will be used to determine the world language course most appropriate for a particular student. The World Language Department encourages all JHCS Students to commit themselves to acquiring a second or even a third language at the highest and most functional level as possible before entering the university, as there are multitudinous professional, cultural, and personal benefits that will last a lifetime.

### **Spanish Level I (1 credit)**

Spanish 1 is an introduction to Spanish language and culture designed for a novice learner to achieve basic proficiency in the target language. Students develop communication skills through reading level-appropriate passages, listening to music, short dialogues, and working with their peers. Students make brief oral presentations and write dialogues and paragraphs using thematic vocabulary (*Describing Yourself, School, Family Life, Pastimes, Daily Routine, and Travel*), newly acquired grammatical structures, and all-types of present, regular and irregular past tense verbs. Cultural lessons are presented in context through readings, activities and videos. Students are encouraged to speak Spanish with their peers and instructor to facilitate acquisition of the language and build their self-confidence. Completion of this course prepares a student for Spanish 2.

### **Spanish Level II (1 credit)**

Spanish 2 students are stimulated in this challenging course to improve their proficiency skills and deepen their understanding of the Spanish language and its cultures. This course focuses on productive (speaking and writing) and receptive (listening and reading) skills as well as continues exploration of Spanish-speaking cultures and language structures. Students read and discuss poems, short stories; listen to songs and videos; and participate in a variety of activities and projects that prompt and promote production of the target language. Spanish 2 students use critical thinking skills to understand and respond to information about familiar topics; write about specific ideas in a variety of ways (dialogues, paragraphs, notes, emails); read simple texts and grasp their main ideas; and create and deliver prepared oral presentations in groups and alone. Students are expected to speak Spanish with their peers and instructor to develop more complex and meaningful communication as well as learn to work collaboratively. This challenging course curriculum presents complex grammatical structures and verb tenses embedded in thematic units. Completion of this course

prepares a student for Spanish 3. *Prerequisite: Spanish 1, Placement Exam, or Teacher Recommendation for transfer students*

### **Spanish Level III (1 credit)**

Spanish 3 is an intermediate Spanish course that guides students on a review of grammatical structures and verb tenses learned at previous levels prior to delving into deeper levels of language and cultural studies. Spanish 3 students are encouraged to use linguistic knowledge to understand and predict language patterns in the target language. This course allows students to expand their knowledge base of the target language through exploration of Spanish-speaking cultures. In this fast-paced learning environment where students are required to speak Spanish with their peers and instructor, there is an increased focus on complex grammar concepts, vocabulary and culture, use of thematic frameworks, such as *Health, Technology, Housing, Nature, the City, Well-being, Jobs, Arts and Current Events*. Spanish 3 students read short articles and short stories, listen to podcasts, write compositions, make oral presentations (individually and with peers), and create culturally and linguistically relevant projects that showcase their skills and promote collaboration. Completion of this course prepares a student for college level language studies. *Prerequisite: Spanish 2; or Spanish 3 Placement Exam; or Teacher Recommendation for transfer students*

### **Spanish Language and Culture (1 credit)**

This advanced-level language and culture course is conducted completely in Spanish for students in their fourth year of language study at JHCS. Spanish 4 builds upon the skills learned in Spanish 3 by applying them to contemporary thematic contexts. The design of this course fosters the development of advanced proficiency across three communicative modes: interpersonal, presentational, and interpretive. Spanish 4 students explore different topics, personal and global contexts that encourage them to deepen their hispano-cultural understanding and explore contemporary perspectives. Students listen to interviews, broadcasts, or other spoken materials; read several journalistic or literary passages, write regular formal and informal essays, interact in group discussions and prepare regular oral presentations and dialogues to improve their proficiency skills. An ample variety of ancillary activities, assignments and assessments are used in this course to challenge, stimulate and encourage a language learner to use his or her skills beyond the classroom. Certain aspects of this course prepare students for standardized exams, college placement exams and university level coursework. This course is designed for very strong Spanish students who plan to further their study of the Spanish language beyond the high school setting. *Prerequisite: Spanish III; Spanish III Placement Exam, or Teacher Recommendation for transfer students*

### **An Introduction to Spanish Literature (1 Credit)**

This is an advanced-level language course that is conducted entirely in Spanish and designed for students who have the desire to maintain and improve their *interpersonal, presentational* and *interpretive* communication skills. Writing, oral and literary analysis skills are emphasized through the exploration and critiquing of literary works by various Latin American and Spanish authors. Enrichment programming to this course includes,

but is not limited to classroom visits from people from Spanish speaking countries willing to share their experiences in the target language. This course requires a very high level of active oral participation from each student in the form of cooperative and collaborative peer interaction. *Prerequisite: Spanish 4 Placement Exam, or Teacher Recommendation for transfer students.*

### **Spanish for Advanced Language Learners (SPALL) (1 credit)**

SPALL courses challenge students to actively engage in a Spanish-exclusive environment to expand and polish their bilingual range and literacy. Students should already possess advanced Spanish proficiency, as well as an interest and motivation in pursuing higher levels in the language. Programming is content based; structures and grammar are presented contextually and refined based on individual and personalized needs. SPALL students speak, read, listen, and write extensively in Spanish to improve their linguistic competence for social, cultural, academic and working contexts. This programming also promote real-world skills such as using Spanish outside the classroom, in community projects, in research, connecting with heritage cultures, cross disciplinary connections, etc. Certain aspects of these courses prepare students for standardized exams, college placement exams and university level coursework in the target language. *JHCS Prerequisite: Designed for students who have had at least 5 years of study in a bilingual or immersion program, or who are highly proficient in Spanish from studying abroad, or who come from a bilingual household. All incoming candidates for this immersion program are required to take a Spanish Placement Assessment.*

### **History Department**

The History Department challenges students to critically analyze events that have occurred throughout the world and to become thoughtful, active participants in our global society. Students will learn to research and present material in a variety of written and oral forms using primary and secondary source materials and available technologies. They will learn to examine the many sides that encompass all historical issues and events by weighing arguments, examining opinions, evaluating options and judging outcomes. Moreover, students will gain a fundamental knowledge of geography and an understanding of the influence of the environment on culture and history.

The three-credit History Department requirement includes Big World History: Investigations of the 13.9 Billion Years, Empires and Revolutions: Parallels in the Development of Europe and the Middle East during the tenth grade, and US History during the eleventh grade.

### **Big World History: Investigations of the Last 13.8 Billion Years (1 credit) - 9th grade**

This course serves as an introduction to social studies at the secondary level. It aims to give students the necessary skills to effectively, respectfully, and intelligently participate in a rapidly changing world. The year is framed around the exploration of the history of universe and the thresholds of increasing complexity that brought the earth and humans



to their present status. Students will learn how differing scales of time and space, claim testing, and collective learning help us understand historical, current, and future events as a part of a larger narrative. Additionally, students deepen an understanding of key historical and scientific concepts and facts, and use these to hypothesize, conduct research, revise their thinking, and construct well-supported explanations. Students also locate and understand how our own place, our community's place, and humanity as a whole fit into and impact the narrative of "Big History" (i.e. the history of the Universe). This class strives to work closely with the Foundations in Literature English class, and culminates in a cross-curricular research project.

### **Empires and Revolutions: Parallels in the Development of Europe and the Middle East (1 credit) - 10th grade**

Throughout history, the themes of empire and revolution have been paramount and exhibit an intrinsic relationship with one another. This course will survey major episodes in World History while closely analyzing the systems of empire and causes and consequences of revolution. The first semester will ground students in an understanding of major world empire, beginning with the Crusades and the establishment of the Muslim Empires of the Ottomans, Safavids, and Mughals. These governments will then be compared to Medieval Europe through the Renaissance. Second semester will explore the demise of these behemoth governments with case studies of the French Revolution, World War I, the Russian Revolution, the failure of the Weimar Republic and World War II and the Iranian Revolution. Students will be asked to consider the patterns of conquest and upheaval and will be evaluated through exams, a research project, a student discussion blog and presentations. *Prerequisite: Big World History: Investigations of the Last 13.8 Billion Years*

### **US History (1 credit) - 11th grade**

History 11 is a thematic survey of United States history from the pre-Columbian Era to the present. Major social, political, economic, and cultural issues will be examined. Students will critically analyze such events as the American Revolution, the Civil War, Sectionalism, Reconstruction, the Progressive Era, American Imperialism, and America's involvement in the World Wars. Students will need to consider the complexities of events/policies often given in US history texts. Students will learn to utilize primary sources and to recognize bias within these sources. Finally, students will assess their own preconceptions/biases and perhaps take a non-western perspective toward US History. This is a required 11<sup>th</sup> grade course. *Prerequisite: Empires and Revolutions: Parallels in the Development of Europe and the Middle East*

### **"Yibana-Mayele": Modern African Politics and Identity (.5 credit) - Fall**

"Yibana-mayele--steal cleverly, little by little" advised Zairean President Mobutu in 1977, addressing his party delegates, exemplifying the unspeakable corruption that characterized his 32-year rule. This course examines the history of Africa between its colonization by European nations in the 1880s through its interactions with Western nations today. By examining specific time periods, countries, and events in the last 150 years, students will become more informed global citizens. Using current issues to drive

inquiry, students will learn to use history as their tool to answer and ask difficult questions, such as, why Africa as a whole is still left socially, politically, and economically stagnant in the world. Using primary and secondary historical texts, as well as literature and film, students will analyze topics including, colonial impact, independence movements, government creation, civil war, genocide, health, environmental concerns, ethnic and racial identity, and economic prospects. This course is largely based on class discussion and inquiry, and will give students the opportunity to improve their writing, research, and discussion skills. *Prerequisite: Empires and Revolutions: Parallels in the Development of Europe and the Middle East*

### **Modern Latin America and its Relationship to The West (.5 credit) - Spring**

This course provides an introduction to the history of Latin America between the independence movements in the early 19th century and today. We will investigate the problems, uniqueness, and individual histories of Latin American nations as well as their relationship with former colonizers and modern colonizers. Main themes we will engage with include Latin America's unequal relationship to the US and Europe, and the inequalities that exist within Latin American nations and the preservation and popular resistance to them. This course will attempt to cover the whole region but will more reasonably focus on specific cases and countries as examples. We will use current issues to spark inquiry and history as a tool to begin explaining them. Using a variety of texts, primary sources, films, and literature, students will analyze various critical topics. Ultimately, students will enhance their worldview, become participatory global citizens, and have a better understanding of their neighbors to the south. *Prerequisite: Empires and Revolutions: Parallels in the Development of Europe and the Middle East*

### **Writing Lab: The Power of the Pen (.25 credit) - Quarter 1 - not being offered**

*"Writing, to me, is simply thinking through my fingers." Isaac Asimov*

Have you ever had an incredible idea, but couldn't get the words down on the page? Awaken your inner writer in this writing workshop. This course will help students solidify foundational writing skills and gain confidence in their abilities as a writer. Students will have the opportunity to work on writing assignments from other classes during Writing Lab as well as practice various writing forms, approaches, and conventions.

### **International Affairs (.50 credit) - Fall**

This course will examine current international developments occurring across the globe and will consider the historical background of these events. Students will explore a variety of contemporary media sources as well as historical documents and will further refine their research, writing, and discussion skills. Student interest will help guide the course, and all class members will participate in the Teton County Model United Nations Conference. Overall, this course aims to enable students to critically analyze current events, helping them continue their development as informed and participatory global citizens. *Prerequisite: Big World History: Investigations of the Last 13.8 Billion Years*

## **Mathematics Department**

The Mathematics Department offers a wide range of classes that aim to instill habits of mathematical thinking, which will prepare students for further inquiry in math and for the use of quantitative reasoning throughout life. The department's goal is to help students solve problems and to interpret data graphically, numerically, orally, symbolically, and analytically. Students will be instructed to use calculators and computer software to solve problems, graph solutions, and develop spreadsheets. Furthermore, we recognize that developing the habit of questioning leads to deeper understanding. Discovery, then, is a valuable teaching tool in the learning of math. Such opportunities arise in teacher-led discussions, individual explorations, and in learning groups, which offer a natural environment for practicing mathematical communication.

Students are required to complete three (3) credits of mathematics, including Quantitative Foundations or Algebra 1, Algebraic Geometry or Geometry, and Algebra II. In addition, students are required to take at least one math course during the ninth, tenth, and eleventh grades. Graphing calculators are required for all math courses (supported models are Texas Instruments TI-83 plus and TI-84 plus).

### **Quantitative Foundations (1 credit)**

Quantitative Foundations is a course that will help students build a strong foundation in the language of mathematics with a strong emphasis on numeracy, mathematical operations, algebra, algebraic operations, algebraic reasoning, modeling, and problem solving. There will be emphasis on computational skills as well as related calculator operations. There is a strong focus on solving equations and inequalities, solving systems of equations, and graphing equations and inequalities. Additional topics include exponents and polynomials, factoring, rational equations, and quadratic equations.

### **Algebraic Geometry (1 credit)**

Geometry is the mathematical study of shape and space. Through this study, students develop deductive reasoning skills and the ability to express geometric patterns mathematically. Topics covered include lines and angles, polygons, circles, area and volume, and the Pythagorean theorem. Mathematical relationships and properties are analyzed, and students develop the skills to support their analysis using deductive proof. Lecture is complemented by group work, and deductive explanations are supported by discovery through guided activities. This course will place a strong emphasis on geometry applications which build foundational algebra skills.

*Prerequisite: a grade of C or higher in Algebra 1, Quantitative Foundations, or its equivalent.*

### **Algebra 2 (1 credit)**

In Algebra 2, students study the graphic and algebraic properties of functions. This course will cover topics such as linear, quadratic, and rational functions, direct and inverse variation, inequalities and absolute value, systems of equations, complex numbers, conic sections, basic trigonometry, and exponential and logarithmic functions.

The use of graphing calculators is encouraged, and class work is frequently conducted in small groups. *Prerequisite: Geometry, Algebraic Geometry, or its equivalent*

### **Algebra 2 - Honors (1 credit)**

This course will cover topics such as linear, quadratic, and rational functions, direct and inverse variation, inequalities and absolute value, systems of equations, complex numbers, conic sections, trigonometry, and exponential and logarithmic functions. The use of graphing calculators is required, and class work is frequently conducted in small groups. The honors Algebra 2 course covers many of the same topics as Algebra II, but concepts are explored in greater depth. Formulas and methods will be derived, and real-world applications of mathematical concepts will be emphasized. This course is recommended for students with a strong background in mathematics who display exceptional ability in Geometry. *Prerequisite: a grade of A- or higher in Geometry, Algebraic Geometry, or its equivalent and recommendation by the Math Dept.*

### **Pre-Calculus/Trigonometry (1 credit)**

Precalculus/Trigonometry covers all the topics included in the Mathematics Level II Subject Test given by the College Board. Topics covered include rational, exponential, and logarithmic functions, polar coordinates, vectors, systems of linear and nonlinear equations, matrices, sequences, series, limits, and an exploration of trigonometry. The use of graphing calculators is required. *Prerequisite: Algebra II or its equivalent*

### **Precalculus /Trigonometry - Honors (1 credit)**

Honors Precalculus/Trigonometry is designed to give a thorough preparation for college Calculus and covers all topics included in the Mathematics Level II Subject Test given by the College Board. This course covers many of the same topics as the Precalculus/Trigonometry class but moves at a faster pace and offers a more in-depth analysis of many topics. Formulas and methods will be derived, and real-world applications of mathematical concepts will be emphasized. Topics covered include rational, exponential, and logarithmic functions, polar coordinates, vectors, systems of linear and nonlinear equations, matrices, sequences, series, limits, and an extensive exploration of trigonometry. The use of graphing calculators is required. This course is recommended for students with a strong background in mathematics who display exceptional ability in Algebra II. Honors Precalculus/Trigonometry may be taken as a dual credit course through Central Wyoming College. *Prerequisite: a grade of A- or higher in Algebra II (or its equivalent) and recommendation by the Math Dept.*

### **Calculus (1 credit)**

Calculus is a year-long course covering an introduction to differential and integral calculus through an emphasis on the conceptual framework of calculus. Topics covered include limits of functions, derivatives, applications of differentiation, integrals, applications of integration, and curve sketching. Additional topics may include techniques of integration, differential equations, parametric equations, and polar coordinates. The use of graphing calculators is required. This course is designed for the

student who is interested in an introduction to calculus with a slower pace than that in the Honors Calculus. *Prerequisite: Pre-Calculus / Trigonometry or its equivalent*

### **Honors Calculus (1 credit)**

Calculus is a year-long course covering an introduction to differential and integral calculus. Topics covered include limits of functions, derivatives, applications of differentiation, integrals, applications of integration, and curve sketching. Additional topics may include techniques of integration, differential equations, parametric equations, and polar coordinates. The use of graphing calculators is required. This course is designed for the student who is interested in pursuing a college major with a strong emphasis on mathematics and/or analytical thinking. Students who successfully complete the course and are willing to do individual preparation will be well prepared for the AP Calculus AB exam. This course may also be taken as a dual credit course through Central Wyoming College. *Prerequisite: Pre-Calculus / Trigonometry or its equivalent*

### **BC Calculus – (1 credit)**

BC Calculus is a second level calculus class. The course includes a review and extension of AB calculus concepts to build a strong foundation for advanced mathematics courses in college. Additional BC topics include integration of rational functions by partial fractions, work related problems, improper integrals, differential equations, logistic growth, Euler's method, arc length and area under a curve for parametric and polar equations, infinite sequences and series and Taylor and Maclaurin polynomials. Students who take this course will be prepared to take the AP Calculus BC Test. *Calculus AB is a prerequisite.*

### **Statistics (0.5 credit) - Fall - not being offered**

We are surrounded by statistics in society, from polls in the news to claims about the newest dieting method. In this course, we will learn the basics of how statistics can be used to investigate the world in which we live. In general, statistics is the process of collecting, analyzing, and drawing conclusions from data. We will explore data, plan and conduct studies, explore random phenomena using probability and simulation, and use statistical inference to make conclusions about data. We will learn how statistics are used to conduct sound research to learn more about our world. We will also investigate how statistics can be manipulated to misrepresent data. Students will develop college and career skills such as collaborating, conducting research, and presenting their work. *Prerequisite: Algebra II*

### **Personal Finance (0.5 credit) - Fall**

This course will cover the topics of money management, budgeting, financial goal attainment, the wise use of credit, insurance, investments, taxes, and more. This course will give students the tools and resources needed to make wise financial decisions. Students will analyze their personal financial decisions, evaluate the costs and benefits of their decisions, and apply the knowledge learned to financial situations encountered later in life. Students will learn how to use spreadsheets to track finances and solve

problems. They will also develop college and career skills such as collaborating, conducting research, and presenting their work. *Prerequisite: Algebra II*

### **Introduction to Computer Programming (0.5 credit) - Fall - not being offered**

Have you ever wondered about the language that drives computers, phones, and other electronics to complete numerous tasks and solve complicated problems? In this semester elective, you will learn the basics of writing and understanding computer programs using the Scratch and Python programming platforms. Python is a powerful, easy-to-learn, and widely used programming language. You will learn the Python syntax and write small programs to solve computational problems and complete tasks. You will write code to simulate real world situations, debug a program, learn the basics of hacking and computer security, write the code for an interactive game, and more. *Prerequisite: None*

## **Science Department**

The Science Department emphasizes the connection of scientific principles to the natural world. Using lab and field-based studies, students will develop hypotheses and test their assumptions through experimentation and documentation. They will learn to be objective in their observations, to accurately gather, record, and interpret data, and to make conclusions based upon scientific evidence. Instructional technologies will be incorporated throughout the science curriculum as students learn to graph and input data using computer software, probes, and other analytical tools. Students will incorporate mathematics into their study of science and are encouraged to evaluate current scientific issues, technologies, and discoveries. The department aims to instill in students an appreciation for science as an interesting and dynamic human endeavor.

The JHCS science program is designed to introduce students to the basic concepts of physics, biology, and chemistry through a progressively integrated approach. The three disciplines will be taught through lectures, demonstrations, laboratory experiments, and a variety of performance-based activities that emphasize problem solving, critical thinking skills, and teamwork. Students will be encouraged to work and to think independently as well as collaboratively. Three (3) credits of science are required to graduate from JHCS. Students must take Physics in the ninth grade, Biology in the tenth grade and Chemistry in the eleventh grade.

### **Physics (1 credit) - 9th grade(2017-18) - not offered for 2018-19 and 2019-2020 - will be offered to Juniors in 2021-22 as a required class.**

This course is designed to be an introduction to the world of physics. The aim is to introduce the students to the many different, interesting, and fun aspect of physics: such as motion, Newton's Laws, momentum, energy, electric charges, waves, and heat. Though the class is conceptual in nature and an emphasis on understanding physical principles is the goal, math is the language of physics and many mathematical principles and equations will be introduced and used to further student understanding.

Data collection and technology will be incorporated into the curriculum through the use of physical measurements and data recording devices interfaced with the students' computers to record, present, and interpret data to enhance conceptual understanding of ideas in physics.

### **Biology (1 credit) - 9th grade and 10th grade (2018-19)**

In this year-long course, students will study the fundamentals of biology through an ecological approach. The course will emphasize the importance of asking questions and making observations while developing an understanding of the living world that surrounds us. Students will develop their critical thinking skills through application of the scientific method during indoor laboratories and field experiences. Through investigations and readings, macrobiology topics such as plant and animal adaptations, evolution, and ecology will be studied, and the course will include elements of microbiology such as cell functions and genetics as well. Students will also be asked to draw connections between what we study in class and current biological issues in Jackson Hole and around the globe. *Prerequisite: Physics*

### **Chemistry (1 credit) - 11th grade**

This course is designed to give the student a strong background in the fundamentals of chemistry, including the study of measurement, matter, atomic structure, chemical symbolism, nomenclature, bonding, chemical reactions, atomic theory, stoichiometry, states of matter, gas laws, and acids and bases. Students will participate in class discussions, work together on laboratory assignments, and do independent research for class presentations. Skills in the lab will be developed, as students will be able to collect and interpret data and to solve problems.

*Prerequisite: Physics and Biology. Co-requisite: Algebra II or permission by the Academic Dean and Department Head*

### **Advanced Physics (1 credit)**

Advanced Physics is a full-year, college level physics course. The course will expand on the material covered during Physics, applying more complex mathematical principles along the way. Upon completion of Advanced Physics students will be prepared to take the AP Physics 1 exam. The course will cover the mechanics topics and principles included in a freshman college course, including kinematics, dynamics, circular motion and gravitation, energy, momentum, simple harmonic motion, torque and rotational motion, electric charge and electric force, DC circuits, mechanical waves and sound, and other topics. Data collection and technology are important components of the course, as labs will be conducted most weeks, and students will be responsible for generating computational models, designing experiments, analyzing data, and interpreting results. *Prerequisite: Physics and Biology or Chemistry. Co-requisite: Trigonometry/Pre-Calculus and a recommendation from current math or science teacher.*

### **Environmental Science (1 credit) - not being offered**

Environmental Science is a full-year course covering environmental principles and problems that focuses on educating students to become discerning and actively engaged citizens regarding a range of environmental dilemmas. The topics covered in the course include ecosystems and ecological principles, population dynamics, energy, renewable (water, soil, air, sun, ecosystems) and nonrenewable (geologic, fossil fuels, nuclear) resources and their management, conservation biology, land use, agriculture and pest control, pollution (water, air, land, solid waste, hazardous waste) and its prevention, environmental health, global changes (climate, ozone depletion), restoration and remediation, environmental policy, sustainable development, and environmental planning. While traditional methods, such as labs, essays, and discussions, will be essential to the learning process, off-campus site visits, guest lectures, and individual investigations will also be incorporated. *Prerequisites: Physics, Biology, and Chemistry*

### **The Science of Sport (.5 credit) - Spring**

Sports Science is a semester-long course designed to look at many of the ways physics and chemistry apply to sports situations in the world. Students will explore applications of the material and how it can be used to explain situations they see in practice and on TV. Potential questions to be studied involve: How can a baseball curve? How hard do football players really hit each other? How can an ice skate glide on ice? How do snow conditions affect skiers? Students will collect their own data and explore how experiments can be conducted in the real world to study various situations. *Prerequisite: Physics or permission from the department. Prerequisites: Physics or permission from the department.*

### **Intro to Engineering, 3D Design, and Construction (.5 credit) - Fall - not being offered**

This course will introduce students to the basics of engineering and construction. It will be a project-based course where students will be asked to use materials to build structures and models to accomplish various tasks. Students will also be using computers to model and create various designs using 3D printers. Their geometric designs will then be integrated into construction projects to complete more complicated tasks.

### **Environmental Microbiology (.5 credit) - Fall**

Why do we care about these simple, single cell organisms that are too small to see with the naked eye? Microbiology seems like a narrow niche of science but, in fact, microbes are key players in a wide range of scientific topics: geology, medicine, climate science, waste management, astrobiology, alternative energy and many more. Microbes, which make up as much biomass as all plant life on earth, are key regulators of biogeochemical cycles in virtually all of the earth's ecosystems. These fascinating organisms can thrive in places where nothing else can survive, are fast to adapt to



changing conditions, able to communicate with each other, and are willing to share useful DNA with their neighbors. Over the past 3.5 billions years, microbes have evolved to utilize nearly every material on earth as food – sunlight, soil, rocks, organic material, synthetic compounds, and even radioactive material. They are literally everywhere and they are little metabolic machines. With the rise of interdisciplinary science, scientists are digging deep into the evolution, genetics and metabolism of microbes to solve some of the most fascinating scientific questions of our time.

After learning the basics of cell structure and function, students will learn the chemistry of microbial metabolism and study the major classes of bacteria driving elemental cycling on earth (C, N, S, O, Fe). Students will explore microbial communities living in extreme environments such as hot springs, deep sea vents, acid mines, and high salt environments. Students will also be introduced to basic molecular biology and will get to “design” their own bacteria to solve a current environmental problem.

Through case studies, research projects and presentations, student will investigate current topics in microbial research including (i) gut bacteria and the human immune system, (ii) the search for life in space, (iii) the search for alternative energy, (iv) bioremediation of toxic chemicals spills (v) the rise of antibiotic resistance (vi) and bacterial communication and biofilms. *Recommended Prerequisites: Biology and Chemistry*

### **Reading Science (.5 credit) - Spring**

This semester-long course will expose students to an array of engaging scientific writing about scientific discoveries and advancements. Students will read selected articles and essays from scientific journals and *The Best American Science and Nature Writing 2015*. The readings will address a wide range of topics from human attempts to eradicate introduced species to New York’s response to rising sea levels to a company that rents LED lanterns to villages in India that don’t have electricity. Relevant scientific studies will be discussed and further investigated, as students develop their own scientific literacy and become more familiar with the important roles played by scientific journals and non-fiction science writing. The readings in this course will shift from year to year, as the course may be taught by more than one member of the science department or science department members may co-teach the course. *Prerequisite: Physics or permission of the department*

### **Arts Department**

The Arts Department provides visual and performance classes in which students learn foundations of artistic technique. Arts are a vital component of each student’s educational experience. Students learn the structural elements of art, the cultural,

historical, and social significance of the arts, and the skills needed to communicate through form and image. Through the making of art, they gain a conceptual understanding of a variety of mediums and an aesthetic awareness. Students will learn to judge the works of others, to work collaboratively on projects, and to challenge and extend themselves intellectually and emotionally as they discover the artistic process. Coursework will include out-of-class work and may include field-trip experiences, guest lectures, and historical perspectives. *In order to graduate, students are required to complete one (1) full credit of art. For the class of 2022, this requirement will be expanded to 1.5 credits.*

### **Performing Arts**

The Performing Arts curriculum provides students with an introduction to drama, dance, and music through participation, creation, observation, and discussion. The performing arts are an essential component of a well-rounded education, as they specifically address concentration, collaboration, the senses, imagination, kinesthetic awareness, verbal and nonverbal expression, emotion and the intellect. The performing arts can provide an interdisciplinary entry point into literature, history, current events, and world cultures; they can also give students the opportunity to express their ideas, concerns, and creative impulses.

#### **Theater (.5 credit) – Fall**

This course will give students a strong understanding of the elements of drama. These components will be broken up into three major categories: performance, literary & technical. Students will practice acting with the body, learn vocal exercises, memorize monologues, analyze characters, rehearse blocking on stage, study technical terms and ultimately put together a substantial production for the student body and community. *Students who have completed Theater 1 have the option to take a second semester of Theater with the understanding that they will be asked to take on leadership roles, greater responsibilities and complete more advanced assignments.*

#### **Video Production (.5 credit) – Spring**

This course gives students a deep understanding of the elements of video production. The class will be broken up into three major categories: pre-production, production and post-production. Student will be exposed to a variety of cinematic terms, such as green screen, the 180 degree rule, B-Roll, rule of thirds, jump cuts, montage, etc. They will create storyboards, shot lists and scout locations. The class will practice camera techniques - movement, angles and framing. Students will learn basic editing tools including transitions, voice over, sound effects, slow motion) in order to assemble and create final cuts. Students work will be compiled into a video reel and screened in front of the school community at the end of the semester. *Students who have completed Video 1 have the option to take a second semester of Video provided that they will be asked to take on leadership roles, greater responsibilities and complete advanced assignments.*

#### **Jazz Band (1 credit)**

Jazz Band offers a solid foundation in musicianship and performance. Through a varied repertoire, musicians will hone their individual technique, learn to take solos and back up others, and perform as a cohesive ensemble. Fundamentals of musicianship, including sight-reading, melodic interpretation, and chord theory will be emphasized as well. Performances throughout the year will provide students with consistent goals to work toward and feedback for improvement. *Prerequisite: permission of the instructor*

### **Beginning Instrumental Ensemble (1 credit)**

Beginning instrumental ensemble is an introductory level class, which is designed for the student with little or no previous musical experience. Basic instruction in note reading, music terminology, and musical performance on selected band instruments is provided for students electing the class. By learning an instrument, students will discover the joys of music, and at the same time, will learn educational discipline. *Prerequisite: NONE*

### **Visual Arts**

The Visual Arts curriculum at JHCS provides all students an opportunity to study the aesthetic appreciation, criticism, history and production of visual arts. This discipline-based approach to art is an essential component to a well-rounded education. Through a multi-disciplined curriculum, students will learn about the integrated nature of the arts into all subject areas such as math, science, social studies and the other humanities. They will also learn formal art technique in a variety of media (2-D and 3-D) to be used in their own artistic expression.

### **2D ART (.25 credit each quarter) - Quarter 1 and Quarter 2 (students may take either quarter for .25 credit or both quarters for .5 credit)**

2D ART provides students with an introduction to two-dimensional art using the elements (line, shape, texture, value and color) and principles (contrast, emphasis, balance, unity, pattern, movement and rhythm) of design. Students will use a variety of mediums including charcoal, pencil, pastel, watercolor and acrylic to complete class and final assignments. Assignments will include still life, portraits, figures and landscapes. Through weekly critiques followed by discussions, students will learn to identify and understand various famous artists and their works.

### **3D ART (.25 credit each quarter) - Quarter 3 and Quarter 4 (students may take either quarter for .25 credit or both quarters for .5 credit)**

3D ART provides students with an introduction to three-dimensional art and exposure to the elements and principles of design. Students will use a variety of mediums including cardboard, paper mache, wire, clay, wax, mixed media and other recycled material to complete class and final assignments. Through weekly critiques followed by discussions, students will begin to identify and understand various artists and their works.

### **Photography 1 (.5 credit) - Fall**

In this one-semester course, students will be introduced to a variety of photographic techniques, beginning with creating cyanotypes and functional pinhole cameras. The students will then learn how to implement the black-and-white photography process through shooting and processing film and printing images in the darkroom at the Center for the Arts. Students will also have opportunities to experiment with dodging and burning prints and using contrast filters to improve the contrast and light in their images. After black-and-white photography, color photography and digital photography will be introduced. The course will conclude with student-designed final projects that involve photographic techniques of their choice. Throughout the course, students will be introduced to the work of a variety of famous photographers, and each student will have a chance to teach the class about a photographer of his/her choice.

### **Photography 2 (.5 credit) - Spring**

This semester-long course will enable students to refine darkroom skills, become more familiar with camera operations, and delve into the world of digital photography while photographing topics of their choice. Digital photography will be a focus of the course, and students will experiment with using software to manipulate their images. Students will also have opportunities to study photographers of their choice and develop their ability to look at art analytically through class critiques and exposure to published articles. Lastly, students will get a glimpse of what it is like to be a curator through matting and hanging their images. *Prerequisite: Photography I*

### **American Architecture**

American Architecture explores concepts in architecture and the U.S. built environment through readings, discussions and creative design. Students study our constructed world and its relationship to the ideals we share as a culture including the American Dream, commercialism and community. Creative thought and design, investigated through spatial drawing, collage and 3D models, is explored as a strategy to address the challenges posed by our built and social worlds. Students learn to articulate their ideas through design and are encouraged to create an alternate vision of our built world that better serves and inspires us as a culture. *(Prerequisite: students must not have previously taken Architecture 1)*

### **World Architecture**

World Architecture focuses on recurring cultural themes in historical international architecture and the role social ideals have played in shaping the man-made world. The evolution and meaning of architectural styles are also explored within the context of the fundamentals of architectural design. Creative thought and design, investigated through spatial drawing, collage and 3D models, reinforce students' abilities to use design and abstraction as problem solving tools. As a final project, students collaborate as a community to design a town and then each design a civic building that would have a positive impact on the shared built environment. *(Prerequisite: students must not have previously taken Architecture 2)*

**Health** (Two of the following courses must be completed by the end of 10th grade.. All courses are .25 credits.)

**Physical Health (.25 credit) - 1st quarter**

Physical Health will incorporate elements of nutrition, disease prevention, body image and physical fitness. Throughout the course students will engage in a variety of physical activities on and off campus and meet with various professionals in the community to discuss previously mentioned aspects of health. Upon completion students should understand the importance and impact of proper nutrition and activity.

**Social Health (.25 credit) - 2nd quarter**

Social Health will introduce students to elements of healthy relationships, conflict resolution, social media literacy, gender roles in society, healthy sexual behavior and bullying prevention techniques. Additionally, students will participate in various physical activities on and off campus and meet with several social health professionals to discuss different aspects of this course. Upon completion students should have a better understanding of the multiple elements that encapsulate the various social relationships throughout one's life.

**Mental Health (.25 credit) - 3rd quarter**

The mental health course will introduce students to various mental health illnesses, the challenges afflicted individuals face and treatment options. They will also discuss suicide prevention and intervention techniques in addition to general life coping skills. Students will participate in various physical activities on and off campus and meet with local mental health experts to discuss the various aspects of this course.

**Emotional Health (.25 credit) - 4th quarter**

Emotional Health will introduce students to multiple stress management strategies, media literacy, addiction, and how to incorporate mindfulness practices into everyday life. Additionally, students will participate in multiple physical activities on and off of campus and meet with local experts to discuss different aspects of this course.

**Independent Study**

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Independent study options are available for students who have an unusual need or interest in a particular subject area at a time when directly pertinent courses in that area are not available. The purpose of a student participating in an independent study course

at JHCS can vary widely, but primarily such a direction results from a student's need to fulfill JHCS graduation requirements or to supplement his/her learning in a particular area. Independent study is not available to replace or to supercede courses already offered by JHCS. If a student needs to take an independent study course, he/she must submit a proposal in writing using the appropriate form, which can be obtained from the Director of Independent Study. The Director of Independent Study and the Academic Dean must approve all proposals. The teacher of the subject area in which the student wishes to take an independent study course may be consulted, as well. A student should have a solid understanding and/or interest in the subject area. For more detailed information regarding independent study, please refer to *Appendix C: JHCS Independent Study Guidelines* in the 2014-2015 Parent-Student Handbook.

## **Senior Project**

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Required for graduation, the Senior Project is a capstone of 12+ years of schooling, an opportunity to investigate personal passions and showcase critical thinking skills, a culmination of learning and an integral part of each student's legacy at JHCS. All projects have a research, writing, and fieldwork component, and are formally presented at a symposium at the end of the school year. The most successful projects explore a topic that the student is passionate about. In the process of completing this project students demonstrate initiative by managing their time independently and effectively, utilizing community resources, and incorporating correct and scholarly research methods. Students choose to express their findings via one of three approaches: humanities-focused, experiment-based, or product/performance-based.