## BOOTHBAY REGION HIGH SCHOOL



# COURSE DESCRIPTIONS 2022-2023 

## ENGLISH DEPARTMENT

Each student must enroll in an English course each of the four years of high school. 12 English credits are required for graduation.

English teachers will make individual level recommendations for all students when selecting sophomore, junior and senior English courses, with consideration given to standardized testing and class performance.
*College Prep (CP) courses are designed to offer challenges for and to meet the needs of the academically-motivated, college-bound student, which accounts for the differences in pace, materials, and assessments found in general-level courses. Students enrolled in College Prep also have the opportunity to earn Honors course distinction on their transcripts. The Honors challenge provides students an opportunity to broaden and deepen their learning and understanding of course content and to explore their interests and curiosity.

English 9/CP English 9 (3 credits)
Grade: 9
Prerequisite: None

The general goals of this class are to improve skills in all four areas of English Language Arts (writing, speaking, reading \& listening); provide exposure to \& develop an appreciation of a broad range of quality literature and nonfiction; utilize technological tools appropriately and when appropriate; and be responsible, self-advocating problem solvers capable of working cooperatively with others.

Specific focal topics/skills include writing as a process; personal essay; theme (definitions, theme statement, literary theme); research, source evaluation, and documentation; media bias; and argument/debate, rhetorical appeals, and fallacies.

Humanities 9: Global Studies (6 credits: 3 Eng., 3 S.S.)
Grade: 9
Prerequisite: None

This student-centered, cross-curricular course focuses on engaging students to further develop their communication, collaboration, critical thinking, and creative skills. As we explore the history of the world through coordination of disciplines (social studies, English language arts, and science), students will examine social, economic, political, and geographic development from ancient to contemporary times. This includes both sweeping patterns of historical development as well as the close-up examination of significant events.

English 10/CP English 10 (3 credits)
Grade: 10

## Prerequisite: Eng. 9

The general goals of this class are to continue to improve skills in all four areas of English Language Arts (writing, speaking, reading \& listening) and expand on what began in English 9. We will encounter a broad range of quality literature, ranging from drama, to novels, to short stories and even some poetry.

We will also begin to prepare students for the SAT exam they'll take their junior year through targeted multiple choice and essay practice.

Specific focal topics/skills of this course include writing both analytically and for research, a development and understanding of empathy, ELA-specific vocabulary terms and acquisition, public speaking, breakdowns of specific pieces of grammar and how they are best used, and a continued emphasis on reading for both comprehension and depth.

English 11/CP English 11 (3 credits)
Grade: 11

## Prerequisite: Eng. 10

English 11 and CP English 11 -in order to address college and career readiness standards - incorporate both imaginative literature (i.e. poems, short stories, plays and long fiction) as well as literature of fact (i.e. speeches, journalism, essays, and nonfiction books). Although not exclusively a course in American literature, junior-year English often focuses on topics rooted in the American Experience: examples include identity (e.g. "What does it mean to be an American?"), individuality vs. conformity, the American Dream, equality/inequality of opportunity, and "rhetoric vs. reality."

As students explore the American experience, they will continue to develop their knowledge of the potential of media bias, propaganda, fallacies, conspiracy theories, and disinformation to distort the "truth," as well as their own skills utilizing rhetorical appeals, and sound research methods to construct persuasive written arguments. When conditions allow, students may also participate in formal debate.

AP Language \& Composition (6 credits)
Grade: 11,12 Prerequisite:
English 10 \& teacher approval

This class, which will be taught with college-level rigor, focuses on persuasive nonfiction--e.g. journalism, essays, speeches--and is recommended for juniors before taking AP Literature their senior year. In AP Language, students will learn how ancient Greek persuasion strategies are still relevant and effective today, which types of false arguments (fallacies) not to fall for, which strategies make powerful arguments by analyzing historical and contemporary examples, as well as how to craft their own engaging, thought-provoking rhetoric. When conditions allow, we will participate in debates over critical issues, and write sustained, compelling, research essays about topics chosen by students. An additional focus is an understanding of the role media bias plays in either amplifying or distorting factual truth. This class most closely resembles a first-year, college-composition course required by colleges and universities. We will prepare for the May national exam through in-class, on-demand timed writings and multiple-choice practice. All students taking the class are required to take the national exam in May. If the cost of the test will be a financial hardship, there are supplementary funds available so that money will not be a barrier for any student. A score of 3 or higher (on a 5 scale) may result in earning college credit.

AP Literature \& Composition (6 credits)
Grade: 11,12
Prerequisite: English 10 \& teacher approval

This course will be taught with college-level rigor, and is typically, but not exclusively, taken by seniors. While AP Language \& Composition focuses upon nonfiction and persuasive rhetoric, AP Literature will challenge students to read widely and deeply within the domain of literature (i.e. novels, plays, short stories, and poetry) in order to develop an appreciation for the power of literary artists to articulate the human condition. By studying pre-1900 as well as contemporary texts, students will strengthen their vocabularies, their close reading skills, and their ability to craft sophisticated literary arguments, which are seated in relevant, cultural context. The senior thesis assignment allows students to choose major literary texts through which to answer their own sufficiently-limited, essential question in a fifteen to twenty page essay incorporating primary and secondary sources; students are encouraged to pursue topics which relate to the academic domains they plan to pursue post high school. Additionally, we will prepare for the May national exam through in-class, on-demand timed writings and multiple-choice practice. All students taking the class are required to take the national exam in May. If the cost of the test will be a financial hardship, there are supplementary funds available so that money will not be a barrier for any student. A score of 3 or higher (on a 5 scale) may result in earning college credit.

British Literature (3 credits)
Grade: 12
Prerequisite: Eng. 11

In this course, we will build on the skills that were established and developed throughout the BRHS English program. We will explore the history and cultural significance of British Literature through novels, poems, and plays. We will examine how British Literature began, how it evolved through the centuries, and where it has ended up today. We will look for themes and commonalities amongst our works and see if we can identify what element or elements connect these stories over the last 1000 years, or so. By the end of the course, you will have a much better understanding of British Literature and you will be prepared to read critically, write analytically, and speak/listen professionally throughout your life after high school.

## Literature Through Film (3 credits)

Grade: 12
Prerequisite: Eng. 11

Primarily using the medium of film, we will examine numerous great stories from literature. We'll learn about the authors and the periods in which they wrote to provide some context so we can better understand the themes and purposes of the works. Students can expect to engage in frequent class discussions, periodic writing assignments, and an individual study for presentation to the class. The works examined may vary in theme, genre, and/or period from session to session. Students may encounter mature issues and language in the films and readings.

Recent History \& Literature (3 credits)
Grade: 12
Prerequisite: Eng. 11

In this course, we will build on the skills that were established and developed throughout the BRHS English program. We will focus on modern history, beginning with the assassination of JFK and the Vietnam War-era, eventually concluding with the present day itself. The course intermingles modern fiction selections and nonfiction readings, historical knowledge, current event reports, and political
discussions. Using a narrow window in time allows students to do more than just skim over important events. Instead, students will have the chance to explore ideas and delve into historical events and literature on a deeper, more complete level. Students will finish the course with more than just a better understanding of history and literature; the goal is that students will finish the course as more active, knowledgeable and interested adult members of society.

Senior Capstone (3 credits)
Grade: 12
Prerequisite: Eng. 11
The primary focus of this course will be on the Senior Capstone: an individually designed and interest-based culminating learning challenge comprised of four components: a research paper, related project (service, product, or demonstration), presentation, and self-reflection. Additionally, we will begin the year with the college application essay, stay apprised of current affairs, and explore successful methods for transitioning from high school responsibilities to the adult world of college and career.

## FINE ARTS DEPARTMENT

Three Fine Arts credits are required for graduation. Many can be pursued multiple times. A variety of Fine Arts options are available at BRHS including Band, Chorus, Drama, Music Appreciation and a selection of Visual Arts courses which include Introductory Art, Intermediate/Advanced Art and Sculpture/Jewelry. Students are urged to explore 21st century learning skills through creative problem solving and expression in several art forms.

## Music/Performing Arts

Band (3 credits)
Grade: 9-12
Prerequisite: N/A
Come join in the fun with the talented students in band. Get involved supporting worthy causes with benefit concerts, and playing a wide variety of contemporary concert band literature and pops music. This class is geared for students who already have instrumental music experience, but motivated beginners are always welcome.

Chorus (3 credits)
Grade: 9-12
Prerequisite: N/A
No experience necessary. Join the class and free your inner singer. All styles of music will be covered including: classical, pop, spirituals, folk, jazz, etc. Student requests are encouraged. Learn vocal techniques and build your repertoire. One major performance is planned for the semester.

In this fun and interactive course, students will make connections among various art forms through experimentation in music, drama, art and other forms of expression. Each month will concentrate on a different topic with multiple exciting activities. What art form is your favorite?

Mindfulness Through the Arts (3 credits)
Grade: 9-12
Prerequisite: N/A
This course will involve listening to (and appreciating) great music, looking at great art \& dance as well as creating art forms, including those currently embraced by students. Discover how the arts make us whole as well as giving us a sense of well-being. We will use the arts to react positively to our world, ourselves, and our environment. How do we, as individuals and collectively, choose our actions to make a difference that in turn feeds our spirits. We will learn what it means to be happy, resilient, and well-adjusted human beings. The ultimate purpose of this class is having fun through self discovery.

Performing Arts/Drama (3 credits)
Grade: 9-12
Prerequisite: N/A

This class is geared toward the aspiring performer. Students may act, sing, build sets, do everything or choose an area of interest. The class focuses on the whole performer, however, set building, costume making, lighting, and publicity... anything theatrical will be covered during class. Comedy, drama, and improvisation will be covered. Two performances are planned for the semester. Only an interest in performing is required as well as a willingness to participate.

## Visual Arts

Express Yourself Through the Arts (3 credits)
Grade: 10-12
Prerequisite: N/A

In this fun and interactive course, students will make connections among various art forms through experimentation in music, drama, art and other forms of expression. Each month will concentrate on a different topic with multiple exciting activities. What art form is your favorite?

Introduction to Art (3 credits)
Grade: 9-12
Prerequisite: N/A

This basic one-year course will deal with various elements of drawing, two-dimensional design / painting and three-dimensional design / sculpture. Students will make artwork to create a social message, express emotions as well as tap into imagination! Additionally, you will draw and sculpt from observation. A multitude of interesting materials and techniques will be explored! Art history and appreciation will also be included. No experience necessary!

Second, third and fourth year art students may choose to take this course. A wide variety of tools, techniques and materials will be used to address drawing skills, two dimensional design / painting, three dimensional design and sculpture. Possible materials and techniques could include plaster gauze, linoleum block printing, carving soapstone, using pastels, collaging and maybe even finger painting! Third and fourth year students may choose to take this class as an advanced course and as a tool to build and create a portfolio to use for application to art, design and architecture colleges/universities. Art history and appreciation will also be included in order to put the artwork created into context.

Mindfulness Through the Arts (3 credits)
Grade: 9-12

## Prerequisite: N/A

This course will involve listening to (and appreciating) great music, looking at great art \& dance as well as creating art forms, including those currently embraced by students. Discover how the arts make us whole as well as giving us a sense of well-being. We will use the arts to react positively to our world, ourselves, and our environment. How do we, as individuals and collectively, choose our actions to make a difference that in turn feeds our spirits. We will learn what it means to be happy, resilient, and well-adjusted human beings. The ultimate purpose of this class is having fun through self discovery.

Sculpture \& Jewelry (3 credits)
Grade: 10-12
Prerequisite: Introduction to Art
Students will be given opportunities to work three-dimensionally with a variety of interesting materials, both traditional and nontraditional. Additionally, the sculpture forms will vary in size and scale including both large and small formats. Assignments will address the subtractive (carving) and additive methods of making sculpture. The course will include design problems addressing form as well as function in metals. Materials and methods will include the manipulation (sawing, cutting, bending, piercing) of both wire and sheet metal as well as the possibility of pewter casting and beading. Students will experiment with metal patinas (coloration), line and texture while creating imaginative jewelry and metal sculpture. This is truly a hands-on, interactive course!

## FOREIGN LANGUAGE DEPARTMENT

French I (3 credits)
Grade: 9-12
Prerequisite: N/A

This is a course introducing students to the French language. Students develop a solid foundation of all necessary language skills including listening, speaking, reading and writing as well as an appreciation of French culture. Emphasis is placed on accurate pronunciation, vocabulary acquisition and communication with a focus on a variety of daily life topics. These mechanics of grammar are given a special focus: sentence structure, question and answer development, adjectives, and verb practice in the present and the immediate future tenses.

Students will aim to meet the novice-mid level of proficiency (ACTFL Guidelines) in the four linguistic skill areas. Aspects of French civilization, music, food, film, history and geography are introduced.

Materials include a textbook, a workbook, games, authentic sources and various media such as TV5 Monde reflecting the diversity of the French-speaking world. Text: Discovering French Bleu, level I.

French II (3 credits)
Grade: 9-12
Prerequisite: French I

This course builds upon the basic language skills acquired in French I. Students expand knowledge and continue to focus on communication, both oral and written, on everyday topics and situations. Students also apply their skills to further investigate Francophone traditions, geography, and culture through reading and listening activities, projects and presentations. New aspects of grammar are introduced with a special emphasis on mastering more complex structures and talking about the past. Students will be able to produce sentences while comprehending more advanced structures. Students will strive to meet the novice-high level of proficiency (ACTFL Guidelines). Materials include a textbook, a workbook, games, videos, authentic Internet sources and various media such as TV5 Monde. Active participation is an integral part of the class. Text: Discovering French Blanc, level II.

French III (3 credits)
Grade: 9-12
Prerequisite: French II

Students continue to strengthen listening and written communication skills in French and to enlarge the scope of discussions and readings about French customs and culture, with a special concentration on French art and the European Union. Grammar and vocabulary are more advanced: a complete study of the verb tenses and pronoun system is included. The focus remains on acquiring proficiency about relevant daily life topics while engaging in tasks such as role-plays, dialogues and storytelling. Students will be able to produce written and spoken language in the present, past, and future tenses. They will communicate using strings of sentences and paragraphs aiming to reach the intermediate-low level of proficiency (ACTFL Guidelines). Their increase in vocabulary will aid in understanding more complicated texts and films. Materials include a textbook, a workbook, videos, authentic Internet sources and various media such as TV5 Monde. Active participation is an integral part of the class. Text: Discovering French Rouge, level III.

```
Spanish I (3 credits)
    Grade: 9-12
Prerequisite: N/A
```

This is a full year introductory course in the language, culture, geography and history of Spanish Speaking countries. Students learn practical vocabulary and expression to start communicating in basic conversation on a variety of topics. The course explores all communications competencies: Listening and Reading, Speaking and Writing and Conversation, with an emphasis on Listening and Conversation so students may start gaining confidence in using the language from day one. Materials include:
Textbook (and other related materials): Realidades 1, audios, videos, songs, games and a hands on approach to the exploration of some of the most relevant practices and products from the target culture.

Spanish II (3 credits)
Grade: 9-12
Prerequisite: Spanish I

This is a full year course that continues with the basic development of all communication competencies explored in Level I: Listening and Reading, Speaking and Writing and Conversation. Students start to focus on more grammatical structures and expression. As they expand their skills in Listening and Conversation, they also engage in short readings and more emphasis on written exercises in Spanish. In addition students continue to explore the culture, geography and history from other selected Spanish Speaking countries in a hands on approach. Materials: Textbook (and other related materials): Realidades 1-2, audios, songs, games and a hands on approach to the exploration of other relevant practices and products from the target culture.

Spanish III (3 credits)<br>Grade: 9-12<br>Prerequisite: Spanish II

This is a full year course that stresses the development of conversational skills as they occur in several Spanish countries. It also incorporates more complex grammatical structures, including the various verb tenses and pronoun systems to address a variety of expression modes. Students write and converse on practical, everyday conversation in longer and more complex contexts and also engage in longer reading material from a variety of genres. Students are expected to use Spanish as much as possible. Materials: Textbook and other related materials Realidades 2-3, audios, authentic materials to prompt students to engage in communication.

Spanish IV (3 credits)
Grade: 9-12
Prerequisite: Spanish III

This course continues to master the development and refinement of conversation skills as they occur in several Spanish countries. Students use and gain control of the verb and pronoun system as well as many other grammatical structures. Students read, write and converse about practical and everyday themes from a variety of materials, including current events from selected countries and discussions about works of visual art, including movies to understand the variety and richness of the Spanish language and culture.

## MATHEMATICS DEPARTMENT

## Pre-Algebra (3 credits)

Grade: 9

## Prerequisite: N/A

This course is an introduction to basic algebra concepts and a review of arithmetic algorithms. It emphasizes concepts, strategies, and skills necessary to be successful in Algebra I. Students will explore whole numbers and integers, order of operations, factors, fractions, decimals, ratio and proportion, percent, algebraic expressions, and solving equations.

The major objective of this course is to help students gain an understanding of higher order math skills. Algebra I is designed to give students a foundation for all future mathematics courses. Students will learn how to solve linear equations and inequalities (including absolute value), write and graph linear functions, solve systems of equations, perform operations with exponents, and be introduced to polynomials and factoring. Students will be encouraged to improve their algebraic problem solving abilities and apply those techniques to real world applications and other situations that can be modeled and analyzed using a mathematical function.

Geometry (3 credits)
Grade: 9,10
Prerequisite: Alg. 1

Geometry is a college preparatory course in plane, analytical, and solid geometry with emphasis on formal proof as well as algebraic manipulation of geometric situations. In Geometry, students will develop reasoning and problem solving skills as they study topics such as; congruence and similarity, and apply the properties of lines, triangles and quadrilaterals. They will also develop problem-solving skills by using length, perimeter, area, circumference, surface area and volume to solve real world problems.

Business/Integrated Math (3 credits)
Grade: 10-12
Prerequisite: Algebra $1 \&$ Geometry

This class is designed for the student who does not plan to further their formal education in math or science. In this course, students will learn to think logically and approach real-life problems. Review of Algebra I (linear equations and systems), Geometry (surface area/volume, transformations, right angle trigonometry), introduction to Probability and Statistics, and Consumer Math (debt, credit and interest, budgeting and spreadsheets, credit cards, loans, and planning).

Algebra II (3 credits)
Grade: 10,11
Prerequisite: Algebra I \& Geometry
The content of Algebra II is organized around families of functions; namely linear, quadratic, polynomial, radical, exponential, and logarithmic functions. As you learn about each family of functions, you will learn to represent them in multiple ways - as verbal descriptions, equations, tables, and graphs. You will also learn to model real-world situations using function in order to solve problems arising from those situations.

## *Algebra II and Geometry may be studied concurrently with teacher permission.

Probability/Statistics (3 credits)
Grade: 10-12
Prerequisite: a minimum final grade of $70 \%$ in Algebra I and II, or teacher recommendation/permission

Probability and Statistics teaches students to collect, organize and interpret data, along with the fundamentals of probability theory. They are two of the primary fields of math that underpin many of the calculations in advanced science courses. Additionally, they are two areas that benefit consumers to have at least a basic understanding.

Pre-Calculus/Trigonometry (3 credits)
Grade: 10-12
Prerequisite: Algebra II

This course builds on the algebraic, geometric, and trigonometric techniques learned in previous algebra and geometry courses. Some of the course topics include logarithmic/exponential functions, trigonometry, matrices/determinants, and probability/statistics. Compared to previous mathematics courses, this Pre-calculus course will be more demanding, as all new topics will require proficiency in algebra and geometry. This class is important for any student planning on taking a calculus course or intending to study mathematics, science, physics, or engineering in college. For students electing to enroll in the honors distinction, there will be additional assignments and requirements required. The amount of content covered in the course will remain the same, however the honors students will explore these topics in more depth and detail.

Calculus (3 credits)
Grade: 10-12
Prerequisite: Pre-Calc
In this course students will learn the following: limits, derivatives, rules of differentiation, trigonometric, functions and their derivatives, differentials, graph sketching, maximum and minimum problems, related rates, anti-differentiation, Reimann sums, Fundamental Theorem of Calculus and techniques of substitution in integrals. This course is a school level curriculum for students needing more preparation for Advanced Placement (AP) college-level Calculus AB/BC.

AP Calculus AB (6 credits)
Grade: 10-12
Prerequisite: Pre-Calc
This is a college-level course in differential and integral Calculus, which will cover the standards for the Advanced Placement Calculus AB exam. The course is equivalent to a typical college level Calculus I and II course and is designed for students who excel in mathematics. AP Calculus AB is a very challenging course due to the complexity of the material and the pace at which the class is taught. In order to succeed in this class, students must have mastery of algebra, geometric, and trigonometric skills and concepts taught in previous mathematics classes. All students taking the class are required to take the national exam in May. If the cost of the test will be a financial hardship, there are supplementary funds available so that money will not be a barrier for any student. A score of 3 or higher (on a 5 scale) may result in earning college credit.

AP Calculus BC (3 credits)
Grade: 10-12
Prerequisite: AP AB
This is a college-level course in the calculus of series, parametric and polar functions, which will cover the kk standards for the Advanced Placement Calculus BC exam. The course is equivalent to a typical college level Calculus III course. AP Calculus BC is the most challenging AP mathematics course offered due to the depth and higher level of knowledge required to do well on the exam. In order to succeed in this class, students must have mastery of all Calculus AB material. All students taking the class are
required to take the national exam in May. If the cost of the test will be a financial hardship, there are supplementary funds available so that money will not be a barrier for any student. A score of 3 or higher (on a 5 scale) may result in earning college credit.

## PHYSICAL EDUCATION/HEALTH DEPARTMENT

## Personal Fitness (3 credits)

## Grade: 9

Prerequisite: N/A

The Personal Fitness curriculum will emphasize proper, life-long exercise concepts. Students will learn appropriate exercise techniques that will enhance the health and well-being for a lifetime. Proper terminology and vocabulary will be taught and reinforced. Proper technique and movements will be taught in a fitness room setting and, in a gym setting, with a varied exercise routine that could include medicine balls, stability balls, and kettle bells to name a few. Health concepts that include exercise heart rate, exercise annotation, and muscle terminology will be taught and reinforced. The introduction of Team Sports concepts that include proper participation levels, sportsmanship, and teamwork will be taught and reinforced. Advanced Personal Fitness will coincide with Personal Fitness with additional requirements. Additional requirements will consist of nutritional concepts, more advanced goal setting and assessment, and exercise research and implementation.

Recommended for all $9^{\text {th }}$ grade students. This course is a graduation requirement.
Health (3 credits)
Grade: 10
Prerequisite: N/A
The Health curriculum will include the following topics: personal growth, human growth and development, nutrition, environmental health, infectious/non-infectious diseases, community and consumer health, substance abuse and prevention, and world health.

Recommended for all $10^{\text {th }}$ grade students. This course is a graduation requirement.
Advanced Exercise Physiology (3 credits)
Grade: 10-12
Prerequisite: N/A
This course is designed to give students the opportunity to learn, develop, and implement fitness concepts and conditioning techniques used for obtaining optimal physical fitness. Students will benefit from comprehensive weight training and cardiorespiratory endurance activities. Students will learn the basic fundamentals of strength training, aerobic training, and overall fitness training and conditioning. Course includes both lecture and activity sessions. Students will be empowered to make wise choices, meet challenges, and develop positive behaviors in fitness, wellness, and movement activity for a lifetime.

## SCIENCE DEPARTMENT

Students planning to apply to a four-year college are strongly encouraged to take CP Freshman Science and three years of college preparatory (CP) science. Those planning to enter the allied health fields are also strongly encouraged to complete four years of high school science, including CP Biology, CP Chemistry and CP Physics.

Freshman Science/CP Freshman Science (3 credits)
Grade: 9 Prerequisite: N/A

This course is designed to give students a solid foundation for future science courses. Students will learn the safe and proper use of basic laboratory equipment. The course will provide focus on data collection, analysis, and presentation. Topics include the scientific process, STEM exploration, chemistry, geology, and astronomy.
*College Prep and Honors Distinction course note: Academic rigor is more than simply assigning students a greater quantity of work. Through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted, students are challenged to think and collaborate critically on the content they are learning.

Biology/CP Biology (3 credits)
Grade: 10
Prerequisite: Freshman Science

This course is designed to give you the fundamental knowledge about the processes that encompass the world of Biology. We will be doing problem solving, hands-on lab work, experimental design, and projects. The goal of this class is to help you progress as a learner, to work on your time management skills, and to function properly in a scientific lab setting.
*College Prep and Honors Distinction course note: Academic rigor is more than simply assigning students a greater quantity of work. Through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted, students are challenged to think and collaborate critically on the content they are learning.

## AP Biology (6 credits)

Grade: 11, 12
Prerequisite: Honors Bio
Students taking this course will be preparing for the Advanced Placement Test. The guidelines provided by the College Board are as follows. There are twelve in-depth labs covered in the program to ensure student conceptual understanding of biological concepts. A college text is used and summer work given prior to summer break should be expected. Summer reading is required. All students taking the class are required to take the national exam in May. If the cost of the test will be a financial hardship, there are supplementary funds available so that money will not be a barrier for any student. A score of 3 or higher (on a 5 scale) may result in earning college credit.

Prerequisite: CP Freshman Science, CP Biology, Honors Designation, or teacher permission.
*This course is offered alternating years. This course is not offered in 2022-23
Chemistry (3 credits)
Grade: 10, 11
Prerequisite: Freshman Science
This course is designed for students desiring a less mathematical approach to the study of chemistry. Applied Chemistry focuses on the role of chemistry and chemicals in the modern world.

## Chemistry/CP Chemistry (3 credits)

Grade: 10, 11
Prerequisite: Freshman Science \& Algebra II
This course is designed to meet the needs of college-bound students planning a science related career. This academically demanding course will provide a solid foundation in the basic principles and methods of chemistry, emphasizing theory and problem solving. A solid understanding and ability to apply the skills learned in Algebra II is required. This is a math-based chemistry class.

Physics (3 credits)
Grade: 10-12
Prerequisite: Alg. I required, Int. Math or Alg. II recommended

This course will explore physics with less rigorous mathematical modeling than the CP version. Topics will be similar, and include fundamentals of kinematics and Newton's laws as well as momentum and energy. Focus will be on how physics affects the world around us.

CP Physics (3 credits)
Grade: 10-12
Prerequisite: Alg. II, minimum grade of $80 \%$ or instructor permission

The course covers the fundamentals of kinematics, Newton's laws, momentum, and energy, with an emphasis on mathematical modeling, lab work, and in-depth conceptual understanding. This course is designed to provide students with the framework necessary to undertake an introductory college physics course.

Anatomy \& Physiology (3 credits)
Grade: 11, 12
Prerequisite: Honors Bio

This course provides advanced studies in five systems of the human body. Students need to be prepared to follow a rigorous academic schedule involving lengthy lectures, fast-paced learning of large amounts of medical information, and taking college level tests. Application of medical knowledge is expected. Animal dissection is part of the course. A college text is used.

Prerequisite: CP Freshman Science, CP Biology, Honors Designation, or teacher permission.
*This course is offered alternating years

Biotechnology (3 credits)
Grade: 11, 12
Prerequisite: CP Science

This inquiry-driven course is designed to develop your critical thinking and analytical reasoning skills in the specific context of Biotechnology and its real-world applications. We will explore a wide variety of technologies used in the fields of genetic engineering, molecular biology, forensics, agriculture, medicine, warfare, and bioethics. This is cutting edge science using the same tools as scientists in the biomedical industry. A skills-based course with a focus on experimentation and research. Students considering a career in biomedical research, pharmaceuticals, and any health-related fields are encouraged to take this course.
*This course is offered alternating years. This course is not offered in 2022-23

Marine Science/Oceanography ( 3 credits) Grade: 11,12
Prerequisite: Freshman Science

This course introduces students to the biological and physical aspects of the ocean environment through a comprehensive study of marine biology and oceanography.

## STEAM (SCIENCE, TECHNOLOGY, ENGINEERING, ART AND MATH) COURSES

All STEAM courses use science, technology, engineering, art and mathematics in an interdisciplinary approach to focus on a particular topic or theme. Most courses include a design and build component. Students that pursue STEAM careers can choose from a wide range of profitable occupations. STEAM courses at BRHS offer students a chance to explore those career options and are strongly recommended for students with an interest in science or engineering.

## Introductory Robotics \& Applied Physics (3 credits) <br> Prerequisite: Algebra I or Permission of Instructor

Grade: 9-12

In this introductory level course, students will be exposed to the engineering design process, mechanical systems, basic physics concepts, and programming in python. Students will use the vex robotics system to build, code, test, and revise robots to complete various tasks and in class competitions. Students will start the course following set directions and end the course creating their own designs. Through lots of cooperative learning students will work to solve problems and complete tasks with their newly acquired skills. This course is aimed at those with little to no programming or robotics experience. Students in this course are encouraged to attend a competition, but are not required to do so.
*For 2022-2023, both Robotics courses will meet during the same period.

Advanced Robotics \& Applied Physics (3 credits)
Grade: 10-12
Prerequisite: Introductory Robotics or Permission of Instructor

In this course students will build on the basics that they learned in the introductory course. Through building robotic solutions to complex problems, students will advance their understanding of mechanical systems, programming and physics. We will continue to use the VEX Robotics system and program in
python, while those with appropriate coding backgrounds can choose to work in C++. The majority of the course will be based around students developing a robot to compete in a Maine VEX Robotics Competition. Attendance at at least one competition is required to pass the course. Generally students decide to compete in multiple competitions.

## *For 2022-2023, both Robotics courses will meet during the same period.

## Computer Aided Design (CAD) Prototyping I (3 credits) <br> Grade: 10-12 <br> Prerequisite: Permission of Instructor

Course will introduce CAD using Rhino 3D and the use of basic 2D and 3D tools. Students will learn real world skills of technical drawing and designing and will complete several open-ended projects. This course is intended for the student considering a career in engineering, architecture, graphic design, industrial design or drafting. Basic computer skills are helpful, but not required.
*Teacher permission is required.

## Computer Programming (3 credits) <br> Grade: 10-12 <br> Prerequisite: Permission of Instructor

Students will explore computer programming and object-oriented language using Python. This course provides an understanding of program structure, procedures, and event programming through the use of hands-on labs and programming assignments.

Furniture (3 credits)
Grade: 10-12
Prerequisite: N/A
Build high quality furniture. Learn to use power and hand tools safely and effectively. Apply finishes. Students will leave the course with two pieces of furniture: one production piece and one of their own design. Measurement, relevant mathematics, and technical drawing will be covered, along with principles of design, and wood identification.
*Freshmen by instructor permission.

## Intro to Digital Technology (1.5 credits) <br> Grade: 9 <br> Prerequisite: N/A

This course will provide students with the knowledge and skills to understand how to navigate digital spaces for a variety of purposes including research, social engagement, communication, and collaboration. Content will cover security, ethics, critical thinking, decision-making and media creation. *This course is required for $9^{\text {th }}$ grade students.

The goals of this course are to explore the capabilities of the Maker Space, discover the joy of making, and learn new skills that can be used throughout high school. CAD (Computer Aided Design) and a variety of tools and materials will be used to create products from student designs. Basic mathematics, measuring skills, and material properties will be taught as needed. Projects will include: laser cutting/engraving, metals, woods, and CNC router.
*This course is required for $9^{\text {th }}$ grade students.
Making \& Marketing (3 credits)
Grade: 10,11,12
Prerequisite: N/A
Students will design, market, and mass-produce a product that will be sold to make a profit. Marketing strategies, design, manufacturing, accounting, research, technical writing, and media production will be taught and applied just as it would be in any business. Profits for the sale of the product will be donated to a charity chosen by the class. A great course for students who want to learn about business, manufacturing, or just like working with a team.
*This course is offered in alternating years.

```
Marine Technology (3 credits)
Grade: 10-12
Prerequisite: N/A
```

This course will explore principles of design and the construction of boats. Students will use wood and composite materials to construct working models and a full size craft. Students will gain skills with hand tools, power tools. measurement, and vacuum bag technology. Course content will include fluid mechanics, principles of boat design, lofting and applicable mathematics. This is an excellent course for technical school candidates or future engineers.

```
Musical Instruments (3 credits)
    Grade: 10-12
Prerequisite: N/A
```

Learn about sound, instrument design, and music as you build your own musical instrument. Develop skills in measuring, hand tool use, power tool use, and finish application. An excellent course for juniors or seniors interested in a technical career, engineering, music, or building a high quality product.

## *Sophomores by instructor permission.

## SOCIAL STUDIES DEPARTMENT

Nine social studies credits are required for graduation with a minimum of three credits being in United States History. Coursework in Civics/Government and Personal Finance are also required.

In this course students will explore the history of the world through a variety of lenses including the social, economic, political and geographic development from ancient to contemporary times. This class studies both sweeping patterns of historical development as well as the close up examination of significant events.
*College Prep and Honors Distinction course note: Academic rigor is more than simply assigning students a greater quantity of work. Through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted, students are challenged to think and collaborate critically on the content they are learning.

Humanities 9: Global Studies (6 credits: 3 Eng., 3 S.S.)
Grade: 9 Prerequisite: None

This student-centered, cross-curricular course focuses on engaging students to further develop their communication, collaboration, critical thinking, and creative skills. As we explore the history of the world through coordination of disciplines (social studies, English language arts, and science), students will examine social, economic, political, and geographic development from ancient to contemporary times. This includes both sweeping patterns of historical development as well as the close-up examination of significant events.

## United States Government/CP US Govt. (3 credits) Prerequisite: N/A

Grade: 10-12

Students are introduced to the complexities and dynamics in the creation and implementation of the political system. Key issues include but are not limited to the development and creation of the US Constitution, politics and elections, civil liberties, immigration, issues of race, voting rights, and legal issues. The focus of the course will be on the development and implementation of America's government in the early republic and its relationship to current events.
*College Prep and Honors level course note: Academic rigor is more than simply assigned students a greater quantity of work. Through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted, students are challenged to think and collaborate critically on the content they are learning.

United States History /CP US History (3 credits)
Grade: 11
Prerequisite: N/A
This course covers the history of the United States from the colonial period through the present. Students continue to build and develop history skills they have learned since ninth grade, including primary and secondary source analysis, critical thinking, essay writing and historiography.
*College Prep and Honors Distinction course note: Academic rigor is more than simply assigning students a greater quantity of work. Through the application, analysis, evaluation, and creation of
complex ideas that are often abstract and multi-faceted, students are challenged to think and collaborate critically on the content they are learning.

```
Modern European History (3 credits)
Grade: 10
Prerequisite: World History
```

European History students investigate significant events, individuals, developments, and processes in four historical periods from approximately 1450 to the present. The course also allows students to explore historical developments in different times and places: interaction of Europe and the world; poverty and prosperity; objective knowledge and subjective visions; states and other institutions of power; individual and society; and national and European identity.

Personal Finance (3 credits)
Grade: 10-12
Prerequisite: N/A

Money, money, money! It is said to make the world go round and in this course, students will examine all things personal finance. Through the exploration of real life concepts, students become informed and better able to make sound financial decisions, both as a teen and an adult. Topics such as career, taxes, checking, saving, paying for college, types of credit, managing credit, investing, insurance, and budgeting will be covered in this class.

Holocaust \& Human Rights (3 credits)
Grade: 10,11,12 Prerequisite: N/A

In this course students will come face to face with the evil of the Holocaust. They will investigate scapegoating, prejudice, fear and hatred in an attempt to understand what led to the Holocaust and gain understanding of themselves and tolerance of others. The course will trace the roots and growth of Anti-Semitism, the rise of Hitler and the Nazi Party, the systematic exclusion of the Jews and other "undesirable life" from German Society, the entry into WWII, and finally-the ultimate violation of human rights-the Holocaust. Materials will include: Documents, first hand accounts, short stories, film and finally a visit to the Holocaust and Human Rights Center of Maine in Augusta.

Historical Inquiry \& Field Research (3 credits)
Grade: 10-12
Prerequisite: N/A
This is an experiential learning, inquiry-based, course that will explore a period of history on the Boothbay Peninsula. As a class, students will choose topics for research, construct working replicas of the technology of the day, and build a permanent structure. Technology of the period will be replicated to the greatest extent possible using the tools and methods of the time period. In this course you will participate in field research and off-campus trips to various natural environmental habitats and local businesses.
*This course is offered in alternating years. Not offered in 2022-2023.

The psychology class will investigate human growth, development, learning styles and abnormal behavior. Students will use this survey course to understand development from preschool through the high school and beyond. What makes us who we are? How important is our environment? How do we obtain and reduce phobias? What do dreams mean? What is your learning style? How is intelligence defined? Those questions and more will be explored, as well as a personal area of interest.
*This course is offered in alternating years. Not offered in 2022-2023.
AP Psychology (3 credits)
Grade: 10,11,12
Prerequisite: N/A
The AP Psychology course is designed to introduce students to the systemic and scientific study of the behavior and mental processes of human beings and other animals. Students are exposed to the psychological facts, principles, and phenomena associated with each of the major subfields within psychology. They also learn about ethics and methods psychologists use in their science and practice. All students taking the class are required to take the national exam in May. If the cost of the test will be a financial hardship, there are supplementary funds available so that money will not be a barrier for any student. A score of 3 or higher (on a 5 scale) may result in earning college credit.
*Course offered in alternating years.
Sociology (3 credits)
Grade: 10-12
Prerequisite: N/A
The fundamental concepts, principles, and methods of sociology; analyzes the influence of social and cultural factors upon human behavior; evaluates the effect of group processes, social classes, stratification, and basic institutions on contemporary society.

World Religions (3 credits) Grade: 10,11,12 Prerequisite: N/A

What is the meaning of life? What is death? Is there life after death? How should one behave towards his/her fellow human beings? These and a host of other questions have continually preoccupied the minds of men since the dawn of mankind's history. This course will provide students with a historical survey of the main Western and Eastern religions, and philosophies that have attempted to answer these questions. This foundational course will discuss concepts of gods and founders of religious communities, as well as their impact on world events. Core beliefs and practices of Hinduism, Buddhism, Judaism, Christianity, and Islam (as well as some splinter groups) will be explored and discussed.

## INTERDISCIPLINARY ELECTIVES

Interdisciplinary electives are meant to enrich students outside of the general curriculum.

Historical Inquiry \& Field Research (3 credits)
Grade: 10-12
Prerequisite: N/A

This is an experiential learning, inquiry-based, course that will explore a period of history on the Boothbay Peninsula. As a class, students will choose topics for research, construct working replicas of the technology of the day, and build a permanent structure. Technology of the period will be replicated to the greatest extent possible using the tools and methods of the time period. In this course you will participate in field research and off-campus trips to various natural environmental habitats and local businesses.
*This course is offered in alternating years. Not offered in 2022-2023.
Making \& Marketing (3 credits)
Grade: 10,11,12
Prerequisite: N/A

Students will design, market, and mass-produce a product that will be sold to make a profit. Marketing strategies, design, manufacturing, accounting, research, technical writing, and media production will be taught and applied just as it would be in any business. Profits for the sale of the product will be donated to a charity chosen by the class. A great course for students who want to learn about business, manufacturing, or just like working with a team.
*This course is offered in alternating years.

## BATH REGIONAL CAREER \& TECHNICAL CENTER

The Bath Regional Career \& Technical Center (BRCTC) is open to all students attending Boothbay Region High School, Lincoln Academy, Morse High School, and Wiscasset High School, with priority given to juniors and seniors. We offer traditional vocational courses to prepare graduates for a career after high school as well as a mix of highly technical offerings that prepare you to continue your education at the community college or university level. All of our programs can be college preparatory; most of our programs offer the ability to earn college credits while you complete high school. For more detailed information about our programs, please check out our website: http://www.rsu1.org

It can be difficult to meet all of your graduation requirements while attending BRCTC. Several of our programs offer integrated credits in science upon completion of the program. In addition, we offer the opportunity to earn credit (with approval of sending school) through our Applied Academics program using curriculum guides provided by your school, through direct instruction, and using online resources, such as Odysseyware. If you have questions, please check with the Guidance Office before enrolling in BRCTC. Final approval for the awarding of academic credits is at your sending-school Principal's discretion.

## Articulation and Dual Enrollments

As a student at Bath Regional Career and Technical Center, you will have an opportunity to work and learn at a college level and obtain college credits while still in high school. BRCTC provides opportunities to earn transferable college credits through Articulation Agreements and Dual Enrollments. Please refer to course descriptions for specific information.

## What is the difference between an Articulation Agreement and Dual Enrollment?

Articulation Agreement: An articulation agreement is a formal agreement between institutions that allows credits earned in specific programs at a college to be applied towards direct entry or advanced standing at that institution. Articulation agreements allow you to continue your education at that college without having to repeat certain courses to graduate.

Dual Enrollment: Dual Enrollment is for academically qualified students enrolled in a high school and also enrolled in a college level course at the community college. Upon successful course completion the students exclusively earn college credit(s). Many of these credits may be transferable.

## TECHNICAL PROGRAMS

## AUTOMOTIVE TECHNOLOGY I \& II

The Automotive Technology department offers foundational knowledge that is essential to a rewarding automotive career. The automotive world is changing at a rapid rate and is becoming very complex. The first year of Auto Technology will introduce students to the basic mechanical workings of the automobile. The program starts with safety and tools and fasteners. The remainder of the first year focuses on basic vehicle maintenance, engines and brakes. Auto Technology II concentrates on electricity from Ohm's law to the latest in computer controls. Students will be taught how to diagnose problems with the same complex computer equipment used in the industry today. Please note that there is a good deal of reading and classroom instruction at various times in this program.
*Articulation and dual enrollment credits available through SMCC and CMCC.

## CARPENTRY I \& II

Carpentry introduces students to basic residential construction techniques through hands on application of theories taught in the classroom and applied in the construction of a modular home. Students will apply geometry and physics as well as learn to present themselves in a positive, professional manner. Math and reading skills are required for this course. At the conclusion of the two-year carpentry program, students will have the skills to enter the field of residential construction and/or continue their education at the Community College level with one credit earned through a dual enrollment with CMCC.
*Articulation and dual enrollment credits available through CMCC.

## CULINARY ARTS I \& II

This is a fast-paced, academically challenging college-prep program designed to help you be successful in a job or matriculate into a culinary school after high school. The American Culinary Federation standards will be taught along with ServSafe, a nationally recognized certification. Students will learn technical and employability skills for career and life management.

Culinary II provides students the opportunity to improve their knowledge and skills as they receive advanced instruction in Culinary Arts. Culinary II will incorporate reading and writing culinary-related assignments as part of the coursework.
*Articulation and dual enrollment credits available through SMCC.
*Articulation agreement through Culinary Institutes of America and Johnson \& Wales University.

## COSMETOLOGY I \& II

This two-year program allows students interested in the field of Cosmetology to begin their training by earning approximately 700 hours of the 1500 hours required for a Maine Cosmetology license over the two years. These hours will transfer to post-secondary Cosmetology schools and enable students to begin their studies with a substantial portion of the program completed. Beginning with basic theory and advancing to practical skills, students will explore hair sculpting, design, and cutting. Professional ethics are a vital expectation of the program. For the 2021-22 school year, a class of 11th grade students will be accepted into the two-year program, and a class of seniors will be accepted to complete one year of the program.

## EARLY CHILDHOOD OCCUPATIONS I \& II

Our Early Childhood Occupations class can give you the opportunity to learn about children and how they develop, learn and play by using hands-on experience. In this class, you will get experience reading to children, playing with children, planning activities, making healthy snacks and learning how to be a team player in a preschool setting.

The ECE morning program collaborates with RSU 1 Adult Education, running the early learning center for the Sail Into Literacy Program. In addition, we place students in the local Family Focus and Head Start settings to offer a variety of field site locations for students to learn and practice. Students will rotate through these placements throughout the year.

The ECE II program runs a three to five year old program three days a week. This program provides a preschool experience to local children by giving them an enriched classroom setting. During this second year, students' skills and knowledge will grow and the students will be prepared to continue their education or enter the workforce after graduation.
*Articulation and dual enrollment credits available through SMCC.

## ELECTRICITY I \& II

This two-year program provides the student with a foundation in both residential and commercial wiring. Students will learn basic electrical theory, how to install wiring systems in both residential and commercial applications using blueprints, and the National Electrical Code. Safety is a major focus of instruction and students will learn basic wiring techniques and how to use the tools necessary to install the different systems.

Real life application of electrical theory will be a daily component of the electrical program with many hands-on projects available for students to gain valuable experience. The class will wire the modular home constructed by the Carpentry program as well as participate in a variety of projects in the classroom and around the school. The students will also participate in live work out in the community, experiencing real-life electrical work on the job. Upon completion of two years in the program each student will receive a certificate stating that they have completed 576 hours of classroom time in Electrical Technology.
*Enhanced articulation with Maine Community College System.

## ENGINEERING DESIGN \& ARCHITECTURE

Skills gained in this program will prepare students for further training in design fields such as engineering and architecture. Students wishing to pursue further education in engineering/architecture will gain a positive "step-up" in college by taking this class in high school.

The major focus of this course is to provide students the opportunity to investigate various types of engineering and similar high-tech careers. Students will be trained in the use of 3D modeling design software, the documentation and communication of problem solutions, statics and strength of materials, materials testing and an introduction to dynamics/kinematics.

Students will work on real-world projects and develop real-world solutions to problems. They will learn to utilize multiple hand and shop tools, along with a mini-CNC mill \& lathe and a 3D printer. Projects that students will be involved in will include: balsa-wood tower and bridge design and testing; paper airplane design, modeling and testing; water rockets; Estes rockets; mouse-trap cars; Lego Mindstorm robots; small composite projects; and wind, water and solar projects.
*Articulation and dual enrollment credits available through SMCC.

## GRAPHIC DESIGN I \& II

This two-year college prep program prepares students to design and produce a variety of electronic and print publications while exploring the techniques and employing Adobe Industry standards. Commercial Arts offers an introduction to digital imaging, photo manipulation and computer based art using Adobe Photoshop and Illustrator as students explore different avenues of visual communication, self expression, and creative problem solving. Students will learn graphic design principles, techniques and software as they experience career opportunities available to them through live work opportunities such as logo designs, advertising, and t-shirt designs.
*Articulation and dual enrollment credits available through SMCC.

## HEALTH SCIENCE CAREERS I \& II

## CERTIFIED NURSING ASSISTANT (CNA)

The CNA course is a one-year program available to juniors and seniors interested in a career in the health field. Students receive 350 hours of academic preparation including classroom material and supporting lab practice. Instruction in all human body systems is designed for an understanding of each system and its relationship to the healthy or diseased body. Students will participate in a supervised clinical experience in local health care and extended living facilities. Students are required to apply their classroom lessons in completing actual patient assignments. Students are co-assigned with professional staff providing valuable assistance while they learn. The program also provides training and/or observation in hospital departments specific to each student's interest. Successful students will be well prepared to take the State of Maine Certified Nursing Assistant exam in June. Graduates are readily employable at various healthcare facilities and well prepared for further health career training.

## MEDICAL SCIENCE

The Medical Science course is a one-year program designed for students who are interested in pursuing a career in the medical field--doctor, nurse, physical therapist, occupational therapist, radiology/imaging, veterinarian, dietician, and others. All students will complete a concurrent enrollment with the Maine Community College system for Medical Terminology. The course integrates basic medical information, anatomy and physiology, medical terminology, integrated research projects, field trips to medical facilities, and skills labs. Students will earn CPR and First Aid Certifications.
*Articulation and dual enrollment credits available through SMCC.

## WELDING \& METAL FABRICATION I \& II

Welding I introduces students to basic welding fabrication skills through hands on application in the shop. First year students will learn to correctly and safely set up and operate various power tools as well as cutting and welding equipment. The students will develop skills in the following topic areas.

Welding \& Shop Safety
Metallurgy
Layout \& Measurement Tools and Techniques
Welding Symbols and Blueprint Reading
Welding Joints and Positions
(SMAW) Shielded Metal Arc Welding (Stick)
(GMAW) Gas metal Arc Welding (Mig)
Fabricate Various Objects

Students will apply basic math and science skills during this course and learn to demonstrate positive and productive workplace behavior.

Second year welding students will continue to develop and apply the skills they have learned. Live work projects will be designed and built for customers using various welding and fabrication procedures.
Advanced welding techniques will be taught and applied during this program including. (FCAW) Flux Core Arc Welding
(GTAW) Gas Tungsten Arc Welding (TIG)

- (OFC) Oxygen Fuel Cutting
- (PAC) Plasma Arc Cutting

By completing this two-year program, all students will be given the opportunity to develop the skills required to pass the American Welding Society (AWS) Limited Thickness, Structural Plate Test. This certification test will be provided at no cost to the students participating. As a Certified Welder, many career and postsecondary education opportunities are available. These opportunities are discussed and encouraged through participation in this class.
*Articulation and dual-enrollment credits available through EMCC.

## SUPPORT PROGRAM

## APPLIED ACADEMICS

Applied Academics provides all Bath Regional Career and Technical students with academic support for their academic classes and their CTE programs. Students can visit during office hours or set up an appointment to meet with the instructor. In addition, BRCTC students may be eligible to earn academic credits with the recommendation of his or her guidance counselor and the permission of his or her sending-school principal. Finally, the Applied Academics program supports all BRCTC programs through various initiatives, such as Accuplacer testing, resume-writing workshops, and portfolio development.

