MCI Course Catalog

2021-2022

Maine Central Institute Academic Office

295 N. Main St.
Pittsfield, ME 04967

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Notes:
All students must enroll for a minimum of six (6) academic credit courses each semester.
All students must enroll in English, History/Social Studies, Math, and a Science course each semester.
9th grade students must enroll in PE 1.

Concurrent enrollment options:

- Juniors and Seniors are eligible for Concurrent Enrollment courses. Students enrolled in English and Social Studies dual credit courses will be required to complete a Senior Project.
- Students may not take more than 3 Concurrent Enrollment courses each semester.
- Students may request to take additional 100-level college courses for Early College credit upon approval and acceptance by the college/university.
- Maine students may be eligible for Maine Aspirations funding for college courses; out-of-state or international students will be required to pay full college/university tuition rates for each course through UMaine and KVCC.
- International students may be eligible to take up to 12 college credit hours per year through Husson University's Early College program. Online courses only.

Credits Earned Legend

EN= English	M= Math
S= Science	HE= Health
FA= Fine Arts	E= Elective
SS= Social Studies	H=History
CS= Computer Science	
PE= Physical Education	
WL= World Language	

Academic Counselors
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[1] Requires audition
[2] Requires audition and acceptance to BBT program
[3] Requires an application

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MCI Graduation Requirements

Graduating Classes: 2021 & 2022

English	4 credits (required)
Science	4 credits (required)
Math	4 credits (required)
Social Studies	3 credits (required)
Electives	
Human Development	1 credit (PE) (required)
Health	.5 credit (required)
Fine Arts	1 credit (required)
Computer Proficiency	.5 credit (required)
World Language	2 sequential credits (recommended)
Additional Courses	2+ credit
Manson Essay--11th grade	
Senior Project--12th grade	
Total	**20 credits**

Graduating Classes: 2023+

English	4 credits (required)
Science	4 credits (required)
Math	4 credits (required)
Social Studies	4 credits (required)
Electives	
Human Development	1 credit (PE) (required)
Health	.5 credit (required)
Fine Arts	2 credit (required)
Computer Science	1 credit (required)
World Language	2 sequential credits (recommended)
Additional Courses	1.5-3.5 credits
Manson Essay--11th grade	
Senior Project--12th grade	
Total	**24 credits**

Recommended 9th Grade Classes

1 English I (H/CP/Gen)	.5 PE 1
1 History (H/CP/Gen)	.5 Fine Art (Drama, Music, Art)
1 Math (CP/Gen)	.5 Computer Science
1 Science (CP/Gen)	.5 Other
1 World Language (CP)	
Total credits	**7 credits**

Recommended 10th Grade Classes

1 English (H/CP/Gen)	.5 PE 2
1 History (H/CP/Gen)	.5 Fine Art (Drama, Music, Art)
1 Math (CP/Gen)	.5 Health
1 Science (CP/Gen)	.5 Computer Science
1 World Language (CP)	
Total credits	**7 credits**

Recommended 11th Grade Classes

1 English (AP/CP/Gen)	3 Other (Core/Non-Core/SCTC/CE Courses)
1 History (AP/CP/Gen)	
1 Math (AP/CP/Gen)	
1 Science (AP/CP/Gen)	
Total credits	**7 credits**

Recommended 12th Grade Classes

1 English (AP/CP/CE/Voc)	3 Other (Core/Non-Core/SCTC/CE Courses)
1 History (AP/CP/CE)	
1 Math (AP/CP/CE/Gen)	
1 Science (AP/CP/CE/Gen)	
Total credits	**7 credits**

AP: Advanced Placement courses offered through College Board
CP: College Preparatory courses
CE: Concurrent Enrollment courses offered through University of Maine, Husson University, and Kennebec Valley Community College
Gen: General-level courses
Voc: Vocational
Core: English, History, Math, Science courses
Non-Core: Fine Arts, Computer Science, World Language, PE, Health
SCTC: Somerset Career & Technical Center

MCI COURSE DESCRIPTIONS

2021-2022

Humanities

The Humanities curriculum was created with a grant from the National Endowment for the Humanities in 1982. The 4-year college bound student takes a four-year sequence of parallel history and English classes, structured to emphasize the relationship among the history, literature, art, and music of each period. The general student takes a 3-year sequence in order that he/she may take electives appropriate to their post-secondary goals. At each level, students are required to demonstrate, both orally and in writing, a developmentally appropriate ability to analyze, synthesize, evaluate and integrate historical and literary knowledge. All students are required to take notes, discuss cooperatively, debate, create, and present their ideas both in writing and orally. Humanities courses earn two credits, one in English and one in history, and students register for them as a two-course unit. Students are expected to earn a minimum of four English and three history credits in order to fulfill graduation requirements.

Humanities I

English and History I

These courses address the same topics as the corresponding CP courses described below. However, they focus on skills and approach the content in a more thematic style. Hands-on work, accessibility of texts, and adjusted pace are important elements of the Humanities I course. (1 credit English, 1 credit History)

English and History I College Preparatory

Students will study world history focusing primarily on important events from prehistory to the Reformation. In addition, students will learn about world geography and current events as they connect thematically to course topics. Similarly, English students will learn about major literary works from prehistoric stories to Shakespeare in Elizabethan England. History, religion, geography, literature, art, music, architecture, government, and technology will be integrated throughout both courses. Students will continue to develop reading, writing, speaking, research, analysis, study and citizenship skills. (1 credit English, 1 credit History)

English and History I Honors

This course will begin to prepare students for Advanced Placement (AP®) courses offered in the junior year. Students enrolled in Honors should have self-discipline, solid academic skills and habits, and be intrinsically motivated to study and learn. The instructors expect above average ability and maturity from Honors students, so they will move through curriculum faster and expect more self-directed pupils. Students can expect extensive reading assignments and a focus on essay writing. (1 credit English, 1 credit History)
Prerequisite: academic contract with instructor, writing and reading proficiency (formally evaluated), teacher recommendations, evidence of academic success (grades) and on-going evidence of scholarly habits.

Humanities II

English and History II

This course will be organized thematically and will include history, literature, art, music and architecture of 20th Century United States. Students will continue to develop reading, writing, speaking, research, study, analysis and citizenship skills. (1 credit English, 1 credit History)

English and History II College Preparatory

Students will study U.S. culture from the Spanish American War to the present. American history, literature, art, and music will be integrated throughout the course. Students will write expository essays and practice the fundamentals of research. They will continue to develop reading, writing, speaking, analysis, and study skills. (1 credit English, 1 credit History)

English and History II Honors

This course will prepare students for Advanced Placement (AP®) courses offered in the junior year. Students enrolled in Honors should have self-discipline, solid academic skills and habits, and be intrinsically motivated to study and learn. The instructors expect above average ability and maturity from Honors students, so they will move through curriculum faster and expect more self-directed pupils. Students can expect extensive reading assignments and a focus on essay writing. (1 credit English, 1 credit History)
Prerequisite: academic contract with instructor, writing and reading proficiency (formally evaluated), teacher recommendations, evidence of academic success (grades) and on-going evidence of scholarly habits.

Humanities III

English and History III

Students will study American civilization and United States history from pre-European contact through the 19th Century. History, literature, art, architecture, and music will be integrated throughout the curriculum. Students will research, write, and orally present the Manson Essay, a graduation requirement. Writing, reading, analysis, group work, and presentations will be emphasized. (1 credit English, 1 credit History)

English and History III College Preparatory

Students will study American civilization and United States history from pre-European contact through the 19th Century. American history, literature, art, architecture, and some music will be integrated throughout the course. Students will research, write, and orally present the Manson Essay, a graduation requirement. Writing, reading, analysis, discussion, and presentations will be emphasized. (1 credit English, 1 credit History)

Advanced Placement (AP®) English Language and Composition and Advanced Placement (AP®) U.S. History

Students will study American history from pre-European contact to the end of the twentieth century. Rhetoric and history will be integrated throughout this college-level course. Argumentation, synthesis and analysis of non-fiction are emphasized in this course. There will be frequent writing assessments and demanding homework expectations. Students will research, write, and orally present the Manson Essay, a graduation requirement. Writing, reading, analysis, and discussion are emphasized. This course is taught as a seminar, which requires much independent work. Taking the AP® exam (and payment of the AP exam fee by the student) is a requirement for successful completion of each course. Qualified students may receive AP exam fee assistance through The College Board. (1 credit English, 1 credit History)
Prerequisite: academic contract with instructor, writing and reading proficiency (formally evaluated), teacher recommendations, evidence of academic success (grades) and on-going evidence of scholarly habits.

Humanities IV

English and History IV College Preparatory

This course is for students intending to further their education after high school, with the goal of promoting self discovery, active citizenship, and global awareness. Students will study world culture from 1850 to the present. Contemporary issues, history, philosophy, religion, literature, art, and music will be integrated throughout the course. Analysis, synthesis, and communication skills will be emphasized. Students will read, write, discuss, and debate. They will work independently and collaborate on layered projects. Each student will initiate, develop, implement and present the Senior Project during the fourth quarter. (1 credit English, 1 credit History)

Vocational English IV

This course is designed for students who will enter the workforce directly after high school. Students will investigate viable career paths, prepare resumes, practice writing job application cover letters, and develop job search and interview skills. Current events, reading, writing, mechanics and communications skills practice will be ongoing as it pertains to success in the workforce. Each student will initiate, develop, implement and present the Senior Project during the fourth quarter. (1 credit)

Advanced Placement (AP®) English Literature and Composition

This college level literature course emphasizes understanding and analysis of imaginative writing, the college essay, and senior project. Students will read and write frequent lengthy works. Each student will initiate, develop, implement and present the Senior Project during the fourth quarter. Taking the AP® exam (and payment of the AP exam fee by the student) is a requirement for successful completion of the course. Qualified students may receive AP exam fee assistance through The College Board. (1 credit)
Prerequisite: academic contract with instructor, writing and reading proficiency (formally evaluated), teacher recommendations, evidence of academic success (grades) and on-going evidence of scholarly habits.

Advanced Placement (AP®) United States Government and Politics

This introductory course to US Government and Politics will study constitutional underpinnings, civil liberties and civil rights, political culture and socialization, citizen participation and influence, political institutions and policy making that are the foundation of modern U.S. government and politics. Students will interpret classic and contemporary political writings and apply pertinent Supreme Court rulings to enduring social and political issues in this country. This course prepares students to take the Advanced Placement United States Government and Politics exam. An AP® exam fee is required for students choosing to take the exam. Qualified students may receive AP exam fee assistance through The College Board. (1 credit)

English and History for Global Learners College Preparatory (ESOL)

This course is offered in conjunction with the Humanities Department, and it is intended for international students/non-native speakers of English who are approaching fluency in the language. In the first semester, students will thoroughly examine a series of global issues and also discuss the nature of English as a global language while honing their academic writing skills. In the second semester, students will learn about key historical concepts such as change, causation and significance through examining the major events of the twentieth century. This class exposes students to a variety of academic and journalistic texts with a lesser emphasis on literary works. By the end of the course, students will be fully prepared to enroll in mainstream humanities classes at MCI. (1 credit per course)

Humanities Electives

Creative Writing

Students will explore several different forms of creative writing. Topics include poetry, short fiction, creative nonfiction, mixed genre, drama, and digital creative writing. Students will also take part in the writing workshop process, where they will work with their peers to critique and review their writing. (.5 credit)

Film Studies

This course encourages students to explore films as texts. As a medium of presentation, films convey narrative and employ many of the same elements of literature and art in a beautiful combination that is enhanced by the dramatic performance and functional form and style. The artistic construction can be appreciated along the lines of its individual elements as well as its original medium. This course will involve various activities to explore film techniques and analysis of films, create original films, and enjoy watching films as a classroom community. Students completing the first course may opt to continue their study in Film Studies II. (.5 credit each)

Media Analysis

Over the past 30 years, our definition of mass media, and media in general, has exploded past the comprehension of the newspaperman in the 1800s or even the inventor of the internet. This course will be a look at how Media came to be what it is today. It will track the history of the TV/ publishing houses/Internet to the dominance of social media (Tik-Tok, Snapchat, Instagram). The course will cover some of the following materials: the history of the internet; social media; memes; the evolution of language; the rise of the superhero genre; edutainment; and emojis. (.5 credit)

Introduction to Journalism & Publishing

This class will result in a school newspaper/video news program in which students will investigate, record, and disseminate information about the school, on-campus people or events of interest, and local community news. Students will collaborate

with other students and adults frequently; they will learn professional writing skills, source evaluation and crediting, and web publishing and/or video creation and editing. (.5 credit)

Personal Finance

This course will be focused on the financial literacy of the individual, preparing people for basic life events such as finding and applying for a job, managing a budget, buying a house, and planning for retirement. Students will focus on factors that go into deciding on careers, managing household finances (paying for rent, mortgages, managing debt, etc.), and buying and selling assets such as stocks and bonds. We will also dedicate a portion of the class to paying for college. This course is open to sophomores, juniors and seniors and will only require very basic math skills. (.5 credit)

Model UN

In this course, students will examine social, political, scientific, and economic issues and how they influence decision making on the global stage. Students will explore multiple perspectives on these diverse topics in order to generate solutions. Throughout the semester, students will cultivate research, writing, debate, and collaboration skills. This course will also serve as a preparatory time for the school's Model UN team, which will compete at a conference in the spring. This course is offered in the **Spring semester only**. (.5 credit)

Sports and Society

This semester-long elective course will look at sports using sociological skills to understand how sports are a microcosm of a greater society. Students will also look at the impact sports has had on different groups and vice versa. This course will cover world sporting topics such as the Olympics and World Cup along with more North American topics such as high school football and Little League. Issues of race, gender, ethics, and economics as they relate to sports will also be looked at. Students will read, write, research, and present throughout this course. (.5 credit)

English for Speakers of Other Languages (ESL/ESOL)

ESOL I Foundations

Class meets daily for students who are in the early stages of English language acquisition. The emphasis is on vocabulary and reading comprehension skills development. (1 credit)

ESOL II Intermediate

Class meets daily for students who are at the intermediate level of English language proficiency. Students work intensively on building their academic reading, writing, speaking, and listening skills. (1 credit)

ESOL III Advanced

Class meets daily for students who are approaching the advanced level of English language proficiency. This class exposes students to extensive reading and academic writing assignments. Students will be able to take college preparatory humanities classes upon successful completion of this course. (1 credit)

ESOL World History

This class combines the study of geography and world cultures with Level I and II ESOL vocabulary skills. Students learn everyday vocabulary as well as the academic vocabulary of social studies. The emphasis is on developing literacy skills. (1 credit)

ESOL US History I (First Americans - Civil War)

This is a two-semester course that focuses on the development of the American culture by studying the past. Studies begin with Native American history and end with the Civil War. Students will engage in analysis of historical events, participate in group discussions, and learn new vocabulary. The course equips students with note-taking, research, critical thinking, and academic writing skills. (1 credit)

ESOL US History II (Civil War - Modern Era)

This is a two semester course beginning with post-Civil War Reconstruction through modern times. Students will engage in analysis of historical events, participate in group discussions, and learn new vocabulary. The course equips students with note-taking, research, critical thinking, and academic writing skills. (1 credit)

English Language Learner Support Center

This class supports all ELL students in their academic pursuits by providing a dedicated class period during which students can work on their written assignments for their mainstreamed classes and receive feedback from a teacher. (0.5 credit)

Mathematics

In all mathematics courses, there is a strong emphasis on problem solving, real-world applications and verbally communicating mathematical concepts. Students are active participants in their own learning as teachers aid them in making their own discoveries about mathematics. Algebra, geometry, statistics, probability and discrete math are integrated into all courses, thus connecting the traditional branches of mathematics as they are in the real world.
Placement in specific courses is always dependent on teacher recommendation. Students must earn a minimum of four math credits while at MCI. The courses are full-year unless otherwise noted.

Pre-Algebra

The pre-algebra course is designed for students who find the study of mathematics to be extremely challenging. Students enrolled in this classes have historically experienced difficulty in mastering the concepts that are the foundation of mathematics, such as the computation of fractions and decimals. Though often very competent in other disciplines, students for whom math presents a unique challenge find this course helpful. Integrated throughout the curriculum are the basic concepts of algebra, geometry, probability, statistics and discrete math. The course is double-blocked and paced according to the needs of each individual group of students. (1 credit)

Math 1

In this year long course, students will study Algebra I and Data Analysis A in the first semester. Topics include solving, graphing, and writing linear equations, inequalities, absolute values, and functions. Students will build on their knowledge of linear functions and learn regression techniques to describe approximate linear relationships between quantities. They will use graphical representations and knowledge of the context to make judgments about the appropriateness of linear models. The use of hands-on activities, mini-projects and technology will be threaded throughout. In the second semester, students will study Geometry and Probability A. Topics include the basic properties of plane and solid figures such as triangles, quadrilaterals, polygons, coordinate and transformational geometry. Students will use Geometric Constructions to deepen their understanding of shapes and figures throughout the semester. The concepts of deductive and inductive proofs are studied. GeoGebra, hands-on activities, projects and technology will be utilized throughout the semester. Additional topics in Probability will include sample spaces, uniform probability, the fundamental counting principle, Venn diagrams and independence. Upon successful completion of Math 1, students will be prepared to continue into Math 2 or Math 2 Honors. (1 credit)

Math 2

In this year long course, students will study Algebra I and Data Analysis B in the first semester. This semester is the second half that covers an introduction to Algebra standards. Topics include systems of equations, exponents and exponential functions, data analysis, radicals, polynomials and quadratic functions. Students will create and analyze data to construct and compare linear, quadratic, and exponential models and solve problems. The use of hands-on activities, mini-projects and technology will be threaded throughout the semester. In the second semester, students will study Geometry & Probability B. Topics build from the previous course and include the study of similarity, right triangles, circles, polyhedron, basic trigonometry, area, volume, coordinate geometry. Students will extend their understanding of probability through area applications. Students will continue to utilize Geometric Constructions and 3-D modeling to help deepen their understanding. GeoGebra, the use of hands-on activities, projects and technology will be threaded throughout the semester. Upon successful completion of Math 2, students will be prepared to continue into Algebra IIA or Introduction to Data Science. (1 credit)
Prerequisite: Math 1

Math 2 Honors

In this year long course, students will study Honors Geometry & Probability B in the first semester. This is a rigorous semester that builds from the previous course. It includes the study of similarity, right triangles, circles, polyhedron, basic and more advanced trigonometry, area, volume, coordinate geometry, and conditional probability. The concepts of deductive and inductive proof are studied. Students will use GeoGebra and other technology to create 3-D modeling, the use of hands-on activities, projects and technology. An emphasis will be placed on proofs of given theorems, problem solving, communicating the problem solving process, and justifying solutions. In the second semester, students will study Honors Algebra I and Data Analysis B. This is a rigorous semester long course that includes topics such as linear functions, polynomials and factoring, solving quadratic equations, graphing quadratic functions and exponential functions, special functions, sequences, systems of equations, exponential applications, and data analysis. Students will create and analyze data to construct and compare linear, quadratic, and exponential models and solve problems. An emphasis will be placed on problem solving, communicating the problem solving process, and justifying your solution. Upon successful completion of Math 2 Honors, students will be prepared to continue into Algebra II or Introduction to Data Science. (1 credit)
Prerequisite: Math 1

Geometry

Available to students enrolled in Algebra 1A/CP or Algebra 1 CP in 2019-20 ONLY. Students will study concepts of Geometry without formal proofs. The pace will be somewhat slower and some concepts will be approached less rigorously. However, all basic concepts will be studied and applied in practical situations. (1 credit)
Prerequisite: Algebra I

Geometry College Preparatory

Available to students enrolled in Algebra 1A/CP or Algebra 1 CP in 2019-20 ONLY. This course is tailored to the student who seeks a more rigorous pace and depth of study. First semester topics include an introduction to the basic properties of plane and solid figures such as triangles, quadrilaterals, polygons, similarity, coordinate and transformational geometry. The concepts of deductive and inductive proof are studied. Math communication, GeoGebra, and the use of technology will be integrated into the course. In the second semester topics include the study of right triangles, circles, trigonometry, area, volume, and coordinate geometry. (1 credit)
Prerequisite: Algebra I

Algebra II

Students will study the concepts of Algebra II. The pace will be somewhat slower and some concepts may be approached less rigorously. Since these students are unlikely to proceed to a Statistics course, data analysis is emphasized during the last quarter. (1 credit)
Prerequisites: Algebra I and Geometry

Algebra II College Preparatory

Students will identify and graph algebraic functions and use them to solve real-life problems. In addition, they will study matrices, systems of linear equations and inequalities, radicals, and exponents. Students will use technology and choose appropriate methods for problem solving. Throughout their study of integrated mathematics, students will continue to recognize the interconnectedness of all topics and branches of mathematics. (1 credit)
Prerequisites: Algebra I and Geometry

Introduction to Data Science

Introduction to Data Science (IDS) is designed to introduce students to the exciting opportunities available at the intersection of data analysis, computing, and mathematics through hands-on activities. Data are everywhere, and this curriculum will help prepare students to live in a world of data. The curriculum focuses on practical applications of data analysis to give students concrete and applicable skills. Instead of using small, tailored, curated data sets as in a traditional statistics curriculum, this curriculum engages students with a wider world of data that fall into the "Big Data" paradigm and are relevant to students' lives. In contrast to the traditional formula-based approach, in IDS, statistical inference is taught algorithmically, using modern randomization and simulation techniques. Students will learn to find and communicate meaning in data, and to think critically about arguments based on data. (1 credit)
Prerequisites: Algebra I and Geometry

Statistics College Preparatory

Students use a non-theoretical approach to the study of statistics in which concepts are explained intuitively and supported by examples. Students can expect to spend significant time writing and reading articles throughout the course. The applications are general in nature and include problems from agriculture, business, biology, economics, education, psychology, engineering, medicine, and sociology. This course is designed to create a framework in which students who find math challenging can gain a fundamental understanding of the importance of statistical analysis. At the same time, students who wish to pursue a math or science related career would acquire a strong foundation in statistics upon which they can build in advanced courses.
Prerequisite: Algebra II

Discrete Mathematics College Preparatory

This course will provide an introduction to several discrete math topics and build to applications involving these ideas. The probability course will have several hands-on activities to enhance understanding, and the statistics unit will provide a basic working understanding with opportunities to analyze provided data sets and also collect data, as well. In the second semester, we will tackle basic financial ideas, with activities to prompt thinking using relevant ideas. We will finish the year with graph theory, which uses squiggle and dots to do such things as determining the most efficient path for snow-plowing a city, the order a salesperson visit several cities to minimize cost, how to place a power station to service many parts of a town, and how many work teams a business will need to facilitate a harmonious work environment. (1 credit)
Prerequisite: Algebra II

Pre-Calculus College Preparatory

In this course students regularly employ a variety of problem-solving techniques and build skills using the TI-84 graphing calculator. Students study advanced functions and graphing, discrete mathematics, statistics and Trigonometry. Students will be expected to purchase their own TI-84 calculator or rent one from MCI. (1 credit)
Prerequisite: Algebra II

Advanced Placement (AP®) Calculus AB

This course covers the same material as the traditional Calculus course, but with more emphasis on analysis, application and the relationship between all representations of functions. The course prepares students to take the College Board's AP® Calculus AB exam in the spring. Taking the AP® exam (and payment of the AP exam fee by the student) is a requirement for successful completion of the course. Qualified students may receive AP exam fee assistance through The College Board. Students will be expected to purchase their own TI-84 calculator or rent one from MCI. (1 credit)
Prerequisite: Pre-Calculus and teacher recommendation.

Advanced Placement (AP®) Calculus BC

This course covers the equivalent of two semesters of college Calculus. Students will expand on knowledge from Calculus AB to further explore limits, derivatives and integrals and apply their understanding to challenging new concepts such as sequences, series, parametric curves and polar curves. The course is designed to prepare students to take the College Board's AP® Calculus BC exam in the spring. Taking the AP® exam (and payment of the AP exam fee by the student) is a requirement for successful completion of the course. Qualified students may receive AP exam fee assistance through The College Board. Students will be expected to purchase their own TI-84 calculator or rent one from MCI. (1 credit)
Prerequisite: AP® Calculus AB or teacher recommendation

Science

Science courses at MCI support students in learning to inquire, understand and solve problems using scientific methods. Our courses integrate the processes of investigation and communication about the natural world with a scientific body of knowledge that includes concepts, principles, facts, laws, and theories about how our world and universe work. The Science Department offers students a variety of courses and levels from Earth and Space Science in freshman year through AP® courses. All students must complete four credits in science. These must include an earned credit in each of the following: Earth and Space Science; Biology; and Chemistry, Physics or Engineering.

Earth and Space Science

This course studies the four primary Earth Systems--the Atmosphere, Biosphere, Geosphere, and Hydrosphere--and the interconnections between each system. Through various methods of scientific inquiry, students will examine the

interactions of air, water, and other physical processes that shape the physical world. Students will also explore the Earth and its place in space as part a the solar system, galaxy, and the universe. (1 credit)

Earth and Space Science College Preparatory

Course material covers the same topics as General Earth Science, but with more emphasis on deep analysis and understanding. Topics will be explored in greater depth and detail. Students enrolling in this class must have good mathematical and strong critical thinking skills. (1 credit)

Biology

A systems approach to the important concepts and ideas of biology, this course is designed to lead students to an understanding and appreciation of the common characteristics of living systems. Topics include cells, genetics, organisms and ecosystems. This class includes many lab activities, which require analytical and communication skills. (1 credit)

Biology College Preparatory

This course is an exploration of all life, from molecules to ecosystems. This course will study the structure and function and behavior of organisms on a changing planet. Students are required to solve problems using algebra, measure and compute accurately, research and write critically and design experiments. This class includes extensive lab work, which require math and reporting skills. (1 credit)

Advanced Placement (AP®) Biology

This is a college-level course designated as an official AP course by the College Board. This course addresses all areas of modern biology through extensive reading, writing, computation and lab work. Taking the AP® exam (and payment of the AP exam fee by the student) is a requirement for successful completion of the course. Qualified students may receive AP exam fee assistance through The College Board. Summer work is required for all students. (1.5 credits)
Prerequisites: Grades of 80 or above in Biology, Chemistry and Algebra.

Chemistry

This course is a basic high school chemistry course in which students focus on chemistry concepts and how chemistry touches all aspects of everyday life. Topics covered will include metric system measurement, classification of matter, physical and chemical changes, structure of the atom, the periodic table, chemical formulas, bonding, reactions and equations, as well as basic acid/base chemistry. (1 credit)
Prerequisites: Junior/Senior standing or recommendation from a science teacher

Chemistry College Preparatory

This is a standard high school chemistry course in which students perform a variety of activities, lab experiments and research in order to explore and explain matter. Topics include classification and measurement of matter, atomic theory, structure of atoms, use of the periodic table, chemical bonding and formulas, the mole concept, and stoichiometry. (1 credit)
Prerequisites: Algebra I (completed with minimum grade of 80), Algebra II (may be taken concurrently); Junior/Senior standing or recommendation from a science teacher

Advanced Placement (AP®) Chemistry

Learn about the fundamental concepts of chemistry including structure and states of matter, intermolecular forces, and reactions. Students will conduct hands-on lab investigations and use chemical calculations to solve problems. The skills students learn include designing experiments and procedures to test a prediction or theory; creating graphs, diagrams, and models that represent chemical phenomena; explaining how the microscopic structure of a substance determines its chemical properties; balancing a chemical equation; and making a scientific claim and supporting it with evidence. Taking the AP® exam (and payment of the AP exam fee by the student) is a requirement for successful completion of the course. Qualified students may receive AP exam fee assistance through The College Board. (1 credit)
Prerequisites: Chemistry CP and Algebra II (both completed with minimum grade of 80)

Physics College Preparatory

This is primarily a course in mechanics and teaches experimental design with graphical and numerical analysis. Experimental results are used to teach the fundamentals of linear motion and force and the analogous topics of rotational motion and torque. Students will also learn to solve problems using the conserved quantities of momentum and energy. Students must have good mathematical skills. (1 credit)
Prerequisite: Algebra I (completed with minimum grade of 80), Algebra II or its equivalent (may be taken concurrently)

Advanced Placement (AP®) Physics I

This course is an algebra-based, introductory college-level physics course. The course is intended as a first year physics course for high school students who have a strong interest in physical science. Students will develop critical thinking and reasoning skills through inquiry-based lab investigations, along with traditional classroom work. There will be an emphasis on student led discussions about experimental observations, and applying those ideas to answer real world questions. Topics covered in this course are those that are typical of a first semester introductory college-level course. Topics include: kinematics; Newton's laws of motion; rotational motion; work, energy, and power; linear momentum; oscillations; mechanical waves and sound; and simple circuits. Taking the AP® exam (and payment of the AP exam fee by the student) is a requirement for successful completion of the course. Qualified students may receive AP exam fee assistance through The College Board. (1 credit)
Prerequisites: Geometry and Algebra II (may be taken concurrently)

Advanced Placement (AP®) Physics II

This course is an algebra-based, introductory college-level physics course. The course is intended as a second year physics course for high school students who have a strong interest in physical science. Students will develop critical thinking and reasoning skills through inquiry-based lab investigations, along with traditional classroom work. There will be an emphasis on student led discussions about experimental observations, and applying those ideas to answer real world questions. Topics covered in this course are those that are typical of a second semester introductory college-level course. Topics include: fluids; thermodynamics; electric forces, fields, and potential; electric circuits; magnetism and electromagnetic induction; geometric and physical optics; quantum, atomic, and nuclear physics. Taking the AP® exam (and payment of the AP exam fee by the student) is a requirement for successful completion of the course. Qualified students may receive AP exam fee assistance through The College Board. (1 credit)
Prerequisites: AP Physics 1, Algebra II, and Pre-calculus (may be taken concurrently)

Anatomy and Physiology College Preparatory

Course material focuses on the structure and function of the major human body systems. Semester 1 includes the introduction, histology, skeletal, muscular and part 1 of the nervous system. Semester 2 is part 2 of the nervous system, cardiovascular, digestive and reproductive system. Labs for this class are integrated throughout each unit. An emphasis is placed on learning proper terminology, as well as the integration of body systems. (1 credit)
Prerequisite: Biology

Advanced Anatomy & Physiology (and Concurrent Enrollment Anatomy & Physiology)

Course material focuses on the structure and function of the eleven human body systems. It is a fast paced, content focused class with a small lab section. An emphasis is placed on learning proper terminology, as well as the integration of body systems. For an additional fee, this course may be taken as a dual enrollment course in which students earn both high school and university credits. Four college credits will be awarded by University of Maine at Fort Kent upon successful completion of each semester for a total of 8 college credits. (1 MCI credit)
Prerequisite: Biology

Environmental Science

This course provides students with a foundation in the principles and concepts of environmental science. Topic selection is based on current environmental science issues and includes: sustainability, population, recycling, waste management, alternative energies, agricultural practices, and human relationships with environmental change. Students are required to work in the student garden and participate in the campus recycling program and greenhouse. (1 credit)
Prerequisite: Biology

Advanced Placement (AP®) Environmental Science

This course is a college-level, introductory environmental science course devoted to integrating our understanding of biological, physical and social sciences through the study of environmental interactions. Students will examine the causes, consequences, and potential solutions for both natural and human created environmental problems along with the interrelationships that living things have with each other and with their environment. These concepts are explored through laboratory activities, environmental case studies, and student projects. Considerable emphasis is placed on field investigations as well as on laboratory study. Taking the AP® exam (and payment of the AP exam fee by the student) is a requirement for successful completion of the course. Qualified students may receive AP exam fee assistance through The College Board. (1 credit)
Prerequisite: Earth/Space Science and Biology (grade point average of 85 or above)

Sustainable Living

This course investigates the challenges of implementing sustainability in a variety of forms: home energy use, recycling/reusing/reducing/precycling, climate change and pollution, natural resource use, gardening and ecosystems/land use. This class is a hands-on approach to learning how to reduce the environmental impact of your living area, home, and here at MCI. Class size is limited, and enrollment is restricted to juniors and seniors. (.5 credit)
Prerequisites: Biology or equivalent and instructor permission

Botany

This course examines the vital role of plants on Earth along with plant anatomy, growth and development and the characteristics of major groups of plants. Students will engage in hands on projects with plants. As a part of the class students will participate in the maintenance and growth of plants in the garden, around campus and in the greenhouse. (.5 credit)
Prerequisites: Biology (may be concurrently taking)

Laboratory Science: Watershed Investigations

This course explores how healthy water is by investigating local watershed by land use, field work at the Sebasticook River and performing lab tests. The course also includes a survey of clean water laws, how cities and towns clean their water and careers in municipal water management. This course is offered in the **Spring semester only.** (.5 credit)
Prerequisite: Biology

Laboratory Science: Wildlife Forensics

This course covers the multi-billion dollar world of illegal wildlife trade and the efforts of wildlife forensic specialists to police it. You will learn how to conduct investigations using real-life cases of poaching and illegal trade. The course includes training in forensic lab techniques and a survey of current laws and job opportunities. This course is offered in the **Fall semester only**. (.5 credit)
Prerequisite: Biology

Forensic Science

This course explores the scientific aspect behind crime scene investigations. Major topics include fingerprint analysis, hair/fiber evidence, blood and DNA evidence, toxicology, handwriting and document analysis, ballistics and impressions. A focus will be on how this evidence is collected from a crime scene and its use in determining guilt or innocence. The class will have a heavy lab focus and end with a mock crime scene investigation. This course is offered in the **Fall semester only**. (.5 credit)

Diseases and Disorders

This course is an exploration into the various illnesses that affect the human body. There will be a large focus on infectious diseases which will include a history of various pandemics, current epidemics, the development and use of antibiotics, and the effects of vaccinations as well as the current controversy surrounding their use. The course will also look at different degenerative, autoimmune, deficiency and hereditary diseases. A study of mental disorders will also be included. This course is offered in the **Spring semester only**. (.5 credit)
Prerequisite: Biology

Technology and Engineering

Introduction to Design

This course is a semester long course for students interested in learning basic fundamentals of modeling, scaling, and 3D printing. This course will provide students with a foundation of designing and modeling skills that will be incorporated in future STEM classes here at Maine Central Institute. Students will learn the principles of design, how a 3D printer works, and how to successfully print models that can be tested in the lab setting. As students explore the capabilities of 3D printing, there will be a focus on real life application for the models they design and print. Tinkered is one platform that will be used to design models for 3D printing, but a variety of other printing app's will be introduced as well. This course is offered in the Fall and Spring semesters. (.5 credit)
Students who are interested in taking Intro to Engineering and Physics of Sports will be given priority for the class.

Introduction to Engineering

This is a first year engineering course intended to build upon the skills developed in Introduction to Design. Students will apply this knowledge into to design and creation of various civil, mechanical, and environmental engineering project. (.5 credit)
Prerequisite: Introduction to Design

Physics in Sports

This is a semester long course intended for students interested in studying physics and its role in athletics. This course will cover introductory level physics concepts with a focus on conceptual understanding. Students will also explore the science behind sports equipment and how engineering has lead to advancements in sports over time. A major component of this course will be designing and testing 3D models. Topics covered in this course will include: kinematics; force and Newton's laws, work, energy, and power; momentum; rotational motion; mechanical waves; fluids; and simple circuits. (.5 credit)
Prerequisite: Introduction to Design

Advanced Design

This course is a semester-long course for students interested in building upon their skills learned in Introduction to Design. Students will explore more advanced CAD programs such as Sketchup, Shapr3d, and Fusion 360. The use of Apple Pencils with the iPads will be incorporated as part of the process of design. As students develop their CAD abilities they will also work with Adobe Suite Apps to create 2D graphical designs. Throughout the course, students will be using a variety of 3D printers, 3D pens, and will be learning about Laser Engraving as a method of modeling. This course is offered in the Fall and Spring semesters. (.5 credit)
Prerequisite: Introduction to Design

Robotics

This one-semester, hands-on class will teach students the basics of robotics. Focusing on small-scale robots, students will learn basic coding, design and building techniques. (.5 credit)
Prerequisites: 11th & 12th grade only

Advanced Placement (AP®) Computer Science A

This AP course teaches students to design and implement computer programs that solve problems relevant to today's society, including art, media, and engineering. AP Computer Science A teaches object-oriented programming using the Java language and is meant to be the equivalent of a first semester, college-level course in computer science. It will emphasize problem solving and algorithm development, and use hands-on experiences and examples so that students can apply programming tools and solve complex problems. Taking the AP® exam (and payment of the AP exam fee by the student) is a requirement for successful completion of the course. Qualified students may receive AP exam fee assistance through The College Board. (1 credit Science OR Math)
Prerequisite: if taking as a 4th year Math course, students must have successfully completed Algebra II.

Advanced Placement (AP®) Computer Science Principles

This course offers a multidisciplinary approach to teaching the underlying principles of computation. The year-long course will introduce students to the creative aspects of programming, abstractions, algorithms, large data sets, the Internet,

cybersecurity concerns, and computing impacts. AP Computer Science Principles will give students the opportunity to use technology to address real-world problems and build relevant solutions. Together, these aspects of the course make up a rigorous and rich curriculum that aims to broaden participation in computer science. Taking the AP® exam (and payment of the AP exam fee by the student) is a requirement for successful completion of the course. Qualified students may receive AP exam fee assistance through The College Board. (1 credit Science OR Math)
Prerequisite: if taking as a 4th year Math course, students must have successfully completed Algebra II.

Introduction to Python

This is an introductory course on the basics of coding using Python, a powerful language known for its ease of use. This project-based class will explore writing code to solve everyday problems. Students also learn how to build simple games with Python and explore the vast library of Python games and apps available online. While this course is introductory, it is designed for students of all abilities and can be adapted for students to work at different paces. (1 credit)
Prerequisite: Algebra I

Introduction to Web Design

This is a project-based course will introduce students to basic and advanced concepts of HTML and CSS. Students will learn the languages and then create their own homepages. By the end of the course students will be able to explain how web pages work, analyze and fix errors that might occur on a website, understand the foundations of user centered design, and understand prototyping and user testing. By the end of the course, student will produce a professional, mobile responsive website. (.5 credit)

Introduction to Computer Science Applications

This course introduces students to the fundamental concepts of computer applications and emphasizes the use of technical reading skills to help students become proficient at using word processors, spreadsheets, databases, and presentations. Areas of instruction include computer applications and integration of Google Suites (docs, sheets, slides, etc), computer technologies, decision-making, productivity, communications such as email etiquette, and problem solving skills. Students will acquire the necessary skills to create, edit and public industry appropriate documents. (.5 credit)

Introduction to Graphic Design

Using design as a creative process in communications, this all-inclusive semester long course explores communication through the understanding of the elements and principles of design, as well as the design process. Students will discover the immense professional opportunities graphic designs provide. Dabbling in Adobe Photoshop, Illustrator, Lightroom, students will gain the basics of each platform to create professional layouts, designs, photo edits, and more. Must be sophomore standing or above. (.5 credit)

Computer Science Discoveries

This course introduces students to the basic concepts of computational thinking. This course will take students on an adventure examining the concepts of abstraction, algorithms, and basic programming. Along the way students will create games in Javascript, design functioning apps, learn the basics of web design, and build programs to control circuit boards. This course is designed for anyone who has ever wanted to peek inside a computer to understand just how it works. (.5 credit)

Aviation and Flight Program

Students enrolled in the Aviation program will enroll in a course curriculum outlined by AOPA for 1 semester, which will count as a Physics credit at MCI. The second semester course work is taken through University of Maine-Augusta. Students earn concurrent MCI science credit, as well as college credit hours. Students wishing to obtain their small craft private pilot's license will be eligible to earn licensure following the UM-A course. Most students will log flight hours over the summer. (1 credit)
*Pre-requisites: open to **junior and senior students** in good standing. University of Maine acceptance and high school academic counselor recommendation required. The UM-A course has additional course fees, licensing fees, and flight time fees.*

Human Development

Human development courses are built on the "Holistic Wellness" approach. This approach recognizes the symbiotic relationship among physical, mental / intellectual, emotional, social and spiritual health. Because health issues are so dynamic, HD courses strive to give students the skills, resources and knowledge to be healthy, happy, lifelong learners. Students are encouraged to think for themselves, be knowledgeable consumers and problem solvers and to make educated decisions.

Health I

The Health education course acquaint students with attitudes, values, and practices surrounding the topics of health and wellness. Students learn to make positive, educated decisions associated with mental, physical, social and emotional wellness. Topics include (but are not limited to) drug use and abuse, conflict resolution, nutrition, reproductive health and disease prevention. Students develop the critical thinking skills required to make educated decisions surrounding health and wellness. Health is a semester-long course required of all students. (.5 credit)

Health II

The Health II Education course will acquaint students with attitudes, values, and practices surrounding the topics of health and wellness. Students will learn to make positive, educated decisions associated with mental, physical, social and emotional wellness. Topics will include (but are not limited to) nutrition, disease prevention, mindful thinking, stress reduction, first aid and safety, CPR, and drug use and abuse. Students will develop the critical thinking skills required to make educated decisions surrounding health and wellness. (.5 credit)
Prerequisite: Health I

Physical Education I

This course introduces students to "lifetime" sports, recreation and games. The curriculum focuses on fitness education and motor skill development for the purpose of improved individual health and encouraging participation for a lifetime. Emphasis is placed on certain health-related fitness (HRF) areas known to have a great impact on one's quality of life. Activities may include golf, archery, racquet sports and volleyball. PE I is a semester-long course required of all students. (.5 credit)

Physical Education II

Good fitness habits as a youth translate to a healthier, more satisfying adulthood and higher overall quality of life. In PE II we will concentrate on fitness and being active. For lifelong fitness, it is important to find activities that you will enjoy and that will make you a healthier person. The course goal is to expose students to a wide variety of fitness activities such as aerobics, weight lifting, yoga, pilates, medicine ball, physioball and calisthenics, as well as active recreational activities such as mountain biking and canoeing. This introduction to activities, along with a strong knowledge base, will enable you to make individualized choices to improve your well-being based on your own strengths and weaknesses. PE II is a semester-long course required of all students. (.5 credit)
Prerequisites: PE I

Physical Education III

This semester-long elective course engages students in a variety of lifelong activities. Activities include soccer, ultimate, tennis, volleyball, canoeing, fitness, cross-country skiing /snowshoeing and cycling. In addition to gaining experience in a wide range of outdoor activities, students will also learn first-hand how to dress appropriately for different weather conditions, how to stay safe and deal with adverse conditions, and how to stay fit in any environment. (.5 credit)
Prerequisites: PE I and PE II

Introduction to Medical Concepts

During this course, students will become acquainted with orthopedic and general medical concepts including, but not limited to, general medical illnesses and care, orthopedic injury and rehabilitation, as well as first aid, CPR and the use of an AED. Students will have the opportunity to earn his/her First Aid/CPR/AED certification from the American Heart Association. Students will have opportunity to job shadow with healthcare professionals at Northern Light Sebasticook Valley Hospital and gain clinical experience with patient assessment and treatment. (.5 credit)
Prerequisite: PE II and Health

Introduction to Sports Medicine

Introduction to Sports Medicine will be a one-semester hands-on, interactive class where students will learn the foundations of providing health care to athletes with musculoskeletal injuries and conditions. Students will learn the basics of injury prevention, assessment, management, rehabilitation and emergency care. The course will cover basic anatomy, pathology and kinesiology. Students will receive the opportunity to become CPR/AED and First Aid certified. The class will benefit students who are interested in entering a career as a health care provider. (.5 credit)
Prerequisites: Health, PE II, junior/senior standing only. Max. 12

Jobs for Maine's Graduates (JMG)

Initially created for high school seniors as a school-to-work program, JMG has evolved into an organization serving more than 5,000 students per year in more than 85 school-based sites. Through JMG programs, high-school and middle-school students discover their individual talents, develop skills, and seize opportunities to achieve their personal potential. JMG at MCI offers a venue for students to interact with employers, community-based organizations, and post high school opportunities. The JMG program teaches more than 37 core competencies comprised of six skill sets: personal skills, leadership skills, communication skills, job attainment skills, job success skills, and career development skills. JMG is successfully preparing Maine's young people to be responsible and productive employees, customers, and citizens. MCI offers JMG for grades 9-12. The JMG teacher will interview every student before acceptance to the program. (1 credit)

Navy Junior ROTC

MCI offers grade 9-12 students the opportunity to engage in a Junior ROTC program that emphasizes citizenship and leadership development, as well as our nation's maritime heritage, the significance of sea power, and naval topics such as the fundamentals of naval operations, seamanship, navigation and meteorology. Classroom instruction is augmented throughout the year by extra-curricular activities of community service, academic, athletic, drill and orienteering competitions, field meets, flights, visits to naval or other activities, marksmanship sports training, and physical fitness training. Enrollment is not limited to students considering a career in the military.

Naval Science 1

This course introduces students to the meaning of citizenship, the elements of leadership, and the value of scholarship in attaining life goals; promote an awareness of the importance of a healthy lifestyle, including physical fitness, a proper diet, and controlling stress; drug awareness; provide the principles of health and first aid, geography and survival skills and an overview of Naval ships and aircraft. These elements are pursued at the fundamental level. The course content includes introduction to the NJROTC program; introduction to Leadership, Citizenship and the American Government; introduction to Wellness, Fitness, and First Aid to include diet, exercise and drug awareness, introduction to Geography, Orienteering, Survival and Map Reading Skills; Financial Skills and introduction to the U. S. Navy. (1 credit per year/.5 per semester)

Naval Science 2

This course builds on the general introduction provided in Naval Science 1, to further develop the traits of citizenship and leadership, and to introduce cadets to the technical areas of naval science and the role of the U. S. Navy in maritime history and the vital importance of the world's oceans to the continued well-being of the United States. Course content includes ongoing instruction into Leadership; introduction to Maritime History, including the American Revolution, Civil War, the rise of the U. S. to world power status, World Wars 1 and 2, the Cold War Era and the 1990s and Beyond; introduction to Nautical Sciences to include Maritime Geography, Oceanography, Meteorology, Astronomy, and Physical Sciences. (1 credit per year/.5 per semester)

Naval Science 3

This course broadens the understanding of students in the operative principles of military leadership, the concept and significance of teamwork, the intrinsic value of good order and discipline in the accomplishment of objectives, and the importance of sea power and national security. Students gain a more in-depth knowledge of Naval ships and aircraft and an introduction to marine navigation and seamanship. Course content includes instruction in Sea Power and National Security, Naval Operations and Support Functions, Military Law, and International Law and the Sea. Provides introduction to Ship Construction and Damage Control, Shipboard Organization and Watch Standing, Basic Seamanship, Marine Navigation, and Naval Weapons and Aircraft. Ongoing instruction in leadership, citizenship and discipline. (1 credit per year/.5 per semester)

Naval Science 4

This course focuses primarily on practical leadership techniques and implementation. The intent is to assist seniors in understanding leadership and improving their leadership skills by putting them in positions of leadership, under supervision, then helping them analyze the reasons for their varying degrees of success throughout the year. Classroom activities include seminars, reading assignments, classroom presentations, and practical work with younger cadets. Seniors are mentored/guided in their preparation for life after high school to include college preparation, scholarship applications, and the variety of choices that are available to them. The course content includes instruction in theoretical and applied aspects of leadership, training, and evaluation of performance. Students will become aware of the techniques used to create motivation, develop goals and activities for a work group, and the proper ways to set a leadership example. Students are provided access to ACT/SAT prep courses, guidance in selecting a college and pursuing available scholarships, and mentoring in establishing long range life goals. (1 credit per year/.5 per semester)

Visual and Performing Arts

MCI offers a variety of instruction and opportunity within the fine arts. Art, music, drama, and dance all help to build a sense of community and contribute to understanding and appreciating diverse cultures. Beyond the classroom, students are able to develop their individual talents, participate in performances and displays and compete for regional awards.

Art

Studio Foundations I

No prior art experience needed. Developing Visual Language Studio practices in 2D and 3D methods with connections to Art and Historical contexts. (.5 credit)

Studio Foundations II

Mastering Visual Language. More in-depth practices of 2D and concept development and media use. Portfolio development for college available. (.5 credit)
Prerequisite: Studio Foundations I

Ceramics

Exploring fundamentals of clay through hand building, throwing on the wheel, and concept development. This is a physically demanding class. Preference is given to juniors and seniors. Maximum enrollment of 6 per class. (.5 credit)
Prerequisite: Studio Foundations I

Painting

Course will cover color theory understanding color functions in works of art. We will explore watercolor, acrylic and oil paint in studio and outside in landscape.

Drama

Technical Theatre I

This course provides students with a hands-on approach to stagecraft. Students will build sets, learn scenic painting techniques, and create properties, costumes and makeup designs for MCI Drama productions. Students will also serve as the run crew for MCI Drama productions and will learn stage management techniques, as well as lighting and sound design and operation. (1 credit)

Technical Theatre II

This course provides students with a hands-on approach to stagecraft. Students will build sets, learn scenic painting techniques, and create properties, costumes and makeup designs for MCI Drama productions. Students will also serve as the run crew for MCI Drama productions and will learn stage management techniques, as well as lighting and sound design and operation. (1 credit)

Prerequisite: Technical Theatre I

Stage and TV Makeup I

What is makeup? When was it first used and for what reason? How has makeup evolved through history? This hands-on semester long course will cover the basic techniques of theatrical makeup by exploring makeup materials, color and light, and modeling techniques in the development of makeup designs for youth, middle and old age, historical persons, stylized faces, clowns, animals, and fantasy makeup. Through practical application on themselves, students will demonstrate skills and techniques of the various materials presented in the course, build resources and be able to complete character analysis for makeup design and technique. (.5 credit)

Stage and TV Makeup II

Building on the techniques and skills learned in Stage and TV Makeup 1, students will further their skills in the use and application of make up for performance settings. (.5 credit)
Prerequisite: Stage and TV Makeup I.

Social Theater

Social Theatre Class is an interactive exploration of local and global issues affecting today's high school students: bullying, cyber bullying, acceptance, risk-taking, school violence and discrimination. Student will build community, heal divisions and shatter stereotypes through class discussions, guest speakers, videos and selected play readings. (.5 credit)

Actor's Studio I

Have you ever wondered what an actor does? The mission of this semester-long class is to awaken the students' imagination, emotion and intellect while introducing fundamental skills and tools required for developing strong communication skills. Students will build self-awareness, develop imagination and concentration, learn the actor's vocabulary, and demonstrate the ability to be honest and committed in their acting. Coursework will include: Improvisation, Comedy Sketch Work, Mask Acting, Voice, and Movement. (.5 credit)

Introduction to Costume Design

This is a beginning course and workshop designed for students who are interested in learning the requirements, process and expectations for costume design. Using various techniques, students will develop designs and costumes through a process of character analysis, script analysis, research, budgeting and director's vision. Period research, design, and rendering skills will be fostered through practical exercises. Instruction will include: basic costume construction, including drafting and draping, how to use a straight stitch and serger machine. Other techniques offered will be dyeing, fabric selection, draping, flat pattern drafting, pattern manipulation, adaptation, fitting, and alteration. (.5 credit)

Play Production

Play production class is for the student who has a sincere interest in continuing to grow as a theatre artist. This class will incorporate technical production work, acting, and all aspects of a theatrical performance. Students must seek permission from the course instructor for permission to take this course.(.5 credit)
Prerequisite: Technical Theatre, Stage and TV Makeup, or Festival Theatre Ensemble.

Getting Down with Shakespeare

This course is an interdisciplinary course utilizing both English and dramatic arts to explore the cultural relevance of Shakespearean drama. This class will be co-taught by humanities and performing arts faculty members. (.5 credit)

Festival Theatre Ensemble

An honors level course which advances all theatre techniques learned in previous coursework (audition process/set design/acting/play production). Participants will take part in the MPA Drama Festival. Individual pieces will also be prepared for college auditions. Students must audition for placement in this course. (.5 credit)

Concert Band

Students are expected to have a rudimentary reading ability of sheet music to join this class. Students enrolled in Concert Band will have an opportunity to explore music on their chosen wind, percussion, or string instrument and further develop music performance practices. Students will perform music in a variety of styles and settings ranging from serious wind ensemble literature at concerts, to popular music for home football and basketball games, to contemporary music written for cinematic collaboration. Performances are given in the community as well as outside of the community. Extended trips are planned once every four years to areas such as New York City or Virginia. (1 credit)

Concert Choir

Open to all students. Students enrolled in Concert Choir will perform music from a wide range of styles. Concert Choir encourages students to develop confidence in their own singing voice in a positive and welcoming space. Repertoire will balance traditional choral music, contemporary choral literature, and musical theater favorites. Fundamental singing techniques will be covered, including: sight singing, pitch-matching, diction, projection, rhythm, musicality, and interval recognition. Performances are given in the community as well as outside of the community. Extended trips are planned once every four years to areas such as New York City or Virginia. (1 credit)

Instrumental Jazz Ensemble

Students must audition for placement in this course. Students are encouraged to explore improvisation. Students will learn how to be multi-genre artists in this course, studying the principles of jazz, bebop, hip-hop, rock & roll, funk, and the blues. Along with class time there are practices scheduled once a week after school. Students must be enrolled in Concert Band to be eligible for Instrumental Jazz. (1 credit)

Vocal Jazz Ensemble

Students must audition for placement in this course. Students are encouraged to explore improvisation. Students will learn how to sing over chord changes and how to sing in the harmonic progressions and rhythmic structures of multiple different jazz genres. Along with class time there are practices scheduled once a week after school. Students must be enrolled in Concert Choir to be eligible for Vocal Jazz. (1 credit)

Guitar

Open to all students. This course is designed to introduce beginning students to the guitar as well as develop growth for students that already have some experience with the guitar. By the end of this course, students will be able to read popular music, folk music, and lead sheets. Students will learn how to play melodies and chords and the basic principles of improvisation. Students will also study basic music theory and basic songwriting skills. Instruction is both group and individual. Students may sign up for successive years of this course; however, they must have approval from the instructor in order to sign up for the course after the first year. (.5 credit)

Piano

This one-semester course is designed to stimulate student growth in music through the understanding of keyboard technique, basic theory, and efficient practice methods. Everyone is welcome—from those without previous experience with music or piano to those who have previous experience. Students will be learning pieces by using proper technique to read music notation, listen to, analyze, and describe music, evaluate music and music performance, and understand the relationship between music and the world. (.5 credit)

Music Theory and Composition

This year-long course will give students a foundation in the fundamentals of songwriting using music theory guiding principles. Rhythm, Melody and Harmony will be taught and students will use “Sibelius” notation software and Logic Pro X music production software in developing their songwriting skills. (1 credit)

Digital Music Production I

Open to all students. Digital Music Production is open to both students that are new to writing music as well as those who are highly experienced in the field. Topics covered will include: counterpoint, harmony, melody, rhythm, music notation, EQ design, digital automation design, and microphone technique. All styles of music are welcome in digital music production and students are encouraged to explore their unique musical output. Students may sign up for successive years of this course; however, they must have approval from the instructor in order to sign up for the course after the first year. (.5 credit)

Video Production

Intro to Video Production

This course introduces students to the world of audio/video communications and digital filmmaking. Students learn the basic skills needed to create high end, broadcast quality video, including shooting, non-linear editing, gathering professional audio, continuity, composition, and workflow management. (.5 credit)

Video Production II

This course builds upon the skills learned in Intro to Video Production. Students may choose to enroll in advanced level courses at Husson University or University of Maine as concurrent enrollment credit. (.5 credit)

Ballet

Members of the Bossov Ballet Theatre, MCI's resident ballet company, teach ballet. The theatre is both a performing company and international ballet school. In addition to classes offered during the day for academic credit, students may train after school.

Bossov Ballet Theatre

Students enrolled in ballet study, practice and perform classical ballet at a pre-professional level. Ballet students may earn 1 credit in physical education upon successful completion of 2 semesters of ballet. (1 credit per year; max 2 credits)
Prerequisite: Audition with Bossov Ballet Theatre

World Languages

World Language offerings are full year, one-credit college preparatory courses. The courses are designed, both in content and academic experience, to prepare students for further study at the post-secondary level and/or the ability to use the language in real life experiences. Successful world language students build a strong knowledge base by being active learners in class and supplementing their class experience with nightly assignments and studying. Courses require students to demonstrate communication skills appropriate to the language they study. Also, students will learn about, reflect on, discuss and share information about the cultures and society of users of the language. A World Language credit is not required for graduation.

French I College Preparatory

French I students listen to, read, write and speak French through lessons built around the level I text (*D'Accord*) and supplemental materials. Level I students work to build the knowledge base of vocabulary and grammar structures and the skills for communication at a basic level. Students should expect to practice the communication skills each day in class and to regularly demonstrate what they've learned through performances of those skills and knowledge base. These assessment performances are through listening, reading, speaking, writing, knowledge base and cultural connections. There are nightly assignments, and in some units students do unit projects, reports and/or presentations. (1 credit)
Students wishing to advance to level II French must conclude the year with a 70 or higher or have permission from the teacher.

French II College Preparatory

French II students increase their knowledge base of vocabulary and grammar and their listening, reading, writing and speaking skills through lessons built around the level II text (*D'Accord*) and supplemental materials. Students should expect to practice the communication skills each day in class, to complete nightly assignments, and to regularly demonstrate what

they've learned through performances of those skills and knowledge base. These assessment performances are through listening, reading, speaking, writing, knowledge base and cultural connections. In some units students do unit projects, reports and/or presentations. (1 credit)
Students wishing to advance to level III French must conclude the year with a 70 or higher or have permission from the teacher.
Prerequisite: 70 or higher in French I or permission from teacher

French III & IV College Preparatory

Combining two traditionally separate levels, this course seeks to improve and refine students skills and knowledge learned in French 1 and 2 as indicated by the American Council of Teachers of Foreign Language (ACTFL). Through daily practices in speaking, reading, writing and listening, students will be exposed to a higher degree of abstract concepts, vocabulary, and authentic materials presented in the target language. Through 90-100% target language instruction, interpretation of short films and short novels, analytical discussions, cultural comparisons and essays, students will see themselves immersed in the language which will provide the necessary exposure to gain more confidence as well as more authentic and spontaneous production than in the previous two levels. Students work from the *D'accord* level 3 text, the *Thèmes AP* level text, as well as a short novel that changes with each year. The course ends the year with a thematic focus on "The Other," in the purpose of developing student awareness of the globalized world and the growing need for empathy in the 21st century. Students will be assessed through written exams, oral presentations, role plays, and daily participation.
Prerequisite: 70 or higher in French II or permission from teacher

Spanish I College Preparatory

Level I Spanish focuses on building competency so that a student might successfully interact at a basic level to exchange information about individuals and interests. Our units of study are theme-based and include information, practice and performance of the communication skills each day in class, and information and practice to help students make cultural connections. There are nightly assignments. Assessment is in listening, reading, speaking, writing, knowledge base and cultural connections. In some units students do unit projects, reports and/or presentations. (1 credit)
Students wishing to advance to level II Spanish must conclude the year with a 70 or higher or have permission from the teacher.

Spanish II College Preparatory

In level II Spanish, vocabulary is developed in theme-based units. Students develop an understanding of and the ability to use grammar that supports broader communication, such as tenses and pronouns. Students should expect to practice the communication skills each day in class, to complete nightly assignments, and to regularly demonstrate what they've learned through performances of those skills and knowledge base. These assessment performances are through listening, reading, speaking, writing, knowledge base and cultural connections. In some units students do unit projects and/or presentations. (1 credit)
Students wishing to advance to level III Spanish must conclude the year with a 70 or higher or have permission from the teacher.
Prerequisite: 70 or higher in Spanish I or permission from teacher

Spanish III College Preparatory

In level III, vocabulary is developed in theme-based units; the history, geography, culture and people of Spain are the areas of study for the units in Spanish III. The grammar base is expanded to help students produce and comprehend more sophisticated communication. Students should expect to practice the communication skills each day in class, to complete nightly assignments, and to regularly demonstrate what they've learned through performances of those skills and knowledge base. These assessment performances are through listening, reading, speaking, writing, knowledge base and cultural connections. In some units students do unit projects and in others, reports and presentations. (1 credit)
Students wishing to advance to level IV Spanish must conclude the year with a 70 or higher or have permission from the teacher.
Prerequisite: 70 or higher in Spanish II or permission from teacher

Spanish IV College Preparatory

Level IV units are built around investigation and discussion of social issues, and of cultural themes. Emphasis is placed on stating and supporting opinions. In level IV students continue to build upon their knowledge base of vocabulary and more advanced grammar structures. Students should expect to practice the communication skills each day in class, to complete

nightly assignments, and to regularly demonstrate what they've learned through performances of those skills and knowledge base. These assessment performances are through listening, reading, speaking, writing, knowledge base and cultural connections. In some units students do unit projects, and in others, reports and presentations. (1 credit)
Prerequisite: 70 or higher in Spanish III or permission from teacher

Other Electives

Teaching and Research Assistants

Teaching and Research Assistants are assigned by department and according to need. There is an application that must be filled out and submitted to the Academic Office for consideration by the associated Department Head. Students who wish to become teaching or research assistants are expected to behave responsibly, and to be of good character. Honesty and integrity are crucial to such positions. Teacher recommendation letters may be required. (1 credit)

HPER

Health, Physical Education and Recreation assistants, or HPER assistants, are upper level students who must have completed one full credit of Physical Education. The Human Development Department faculty may allow up to two HPER students in each class (PE I, PE II, Health). These students will be responsible for a variety of tasks including daily attendance, classroom setup and breakdown, fitness testing, and teaching small sections within activity units. Students are expected to model characteristics of leadership, responsibility, independence, morals, sportsmanship, and ethical behavior. Students wishing to pursue a career in teaching, or in the fields of health, wellness and/or fitness are encouraged to apply for this course. Applications for enrollment are required. (.5 credit)

Concurrent Enrollment Courses

*Concurrent enrollment courses are offered **for juniors and seniors only** through University of Maine, Kennebec Valley Community College, Husson University campus. Students may enroll in no more than 4 concurrent enrollment courses per year; students may concurrently take MCI-UMFK dual enrollment courses for an additional 4 courses. Students interested in enrolling in concurrent college courses MUST apply prior to the start of each semester. Enrollment is subject to available seats and courses in college courses and schedules. Applications to and acceptance into each college's program are required. See your Academic Counselor for an application and additional details.*

College Composition (online and in-person afternoon/evening)

College Composition emphasizes critical reading and thinking as part of the process of clear and effective writing. Various writing skills will be practiced and applied through numerous writing assignments. Students will also be required to conduct research and write an essay based on that research. College Composition values the process of writing and students will actively engage the revision process. Students may be required to work in a computerized writing lab; therefore, word processing and keyboarding skills are required. (.5 MCI credit)

Introduction to Literature (online and in-person afternoon/evening)

This humanities course will provide students with the opportunity for personal growth and an insight into social problems as revealed through literature. Students will read and discuss a selection of short stories, plays, poems and novels. Prerequisite: A grade of "C" in ENG101 College Composition, or permission of instructor. (.5 MCI credit)

Principles of Economics I (Macro) (online and in-person afternoon/evening)

This course examines functions of the United States economy, economic security, supply and demand, causes of unemployment and inflation, the nature of money and monetary policy, government fiscal policy, the federal debt, and international money matters. Students will receive 3 college credits upon successful completion. (.5 MCI credit)

Principles of Economics II (Micro) (online and in-person afternoon/evening)

Course content includes analysis of the interrelations of the individual consumer, the firm, and industry with regard to markets and pricing, monopoly power, the role of government, and income distribution. Prerequisite: ECO113. Students will receive 3 college credits. (.5 MCI credit)

Multicultural Nature of American Society (online and in-person afternoon/evening)

This course will examine, through selected interdisciplinary readings, the experience of several ethnic groups in American society, specifically African Americans, Native Americans, Hispanic Americans, and Asian Americans. As appropriate, an individual instructor may elect to include other significant groups as time allows. Students will explore the historical and social experiences of these groups and their cultural contributions to the diversity of our American society. Students will receive 3 college credits. (.5 MCI credit)

Psychology (online and in-person afternoon/evening)

This course is an introduction and overview of the study of human behaviors. Lectures and discussion topics will include motivation, perception, historical roots, biological basis of behavior, scientific methods, human development, psychopathology, and theory. Students will receive 3 college credits. (.5 MCI credit)

Sociology (online and in-person afternoon/evening)

A general scientific study of people and the dynamics of society with an emphasis upon the nature of culture, social institutions, social interaction, social units, and their influence on the individual. An overview of sociological concepts and perspectives is also presented. Students will receive 3 college credits. (.5 MCI credit)

Quantitative Reasoning (online and in-person afternoon/evening)

Quantitative Reasoning is a one-semester provides a foundation in critical thinking, problem solving, and mathematical skills aligned with citizenship, workforce and real-world applications. The goals of the course are to engage students in meaningful mathematical experiences that will increase their quantitative and logical reasoning abilities and to strengthen the mathematical abilities that they will encounter in other disciplines. Developing and supporting communication and collaboration skills when doing mathematics will be a focus of the course. This course is particularly designed as a gateway for students entering non-STEM degree programs. Must be taken in conjunction with Technical Math. (.5 MCI credit)

Technical Math (online and in-person afternoon/evening)

This one-semester course will provide students with the concepts, principles, and problem solving techniques and skills needed in diverse occupational fields. Interactive techniques will be used which emphasize an understanding of the topics followed by applications of math concepts using problem solving computations. Topics covered include the numbering system, percents, charts, tables and graphs, calculations in both S. I. (metric) and the English systems, algebraic operations, simple equations, ratio and proportions, fundamentals of plane geometry, angular measure, triangles, area and volume calculations of various geometric shapes, introduction to right angle trigonometry. Must be taken in conjunction with Quantitative Reasoning. (.5 MCI credit)

Anatomy & Physiology (MCI-UMFK)

Course material focuses on the structure and function of the eleven human body systems. It is a fast paced, content focused class with a small lab section. An emphasis is placed on learning proper terminology, as well as the integration of body systems. Four college credits will be awarded by University of Maine at Fort Kent upon successful completion of each semester for a total of 8 college credits. Open to students who have fulfilled the necessary prerequisites for the course. (1 MCI credit)
Prerequisite: Biology

College Algebra (MCI-UMFK)

DE College Algebra is a full year course that provides students with basic algebraic skills. Covers algebraic concepts including linear, fractional and quadratic and exponential equations and graphs. Also covers basic trigonometry for right triangles. This course is a partnership with the University of Maine at Fort Kent and carries a cost of approximately $100 for Maine students. (Cost is approximately $430 for non-Maine students). Students will receive 3 college credits from University of Maine Fort Kent upon successful completion. Course offered on MCI campus and is open to students who have fulfilled the necessary prerequisites. (1 MCI Math credit)
Prerequisite: Algebra II

Somerset Career and Technology Center (SCTC)

Courses at the Center are available to juniors, seniors, and some eligible sophomores from Somerset County school districts. Students must complete an application for the program and attend an interview with the program instructor.

Automotive Technology I & II

This ASE (Automotive Service Excellence) certified program is designed to teach students how to repair and service gasoline and diesel-powered cars and light duty trucks. First year Auto Technology students are taught general repair work in a safe manner. From there, they will learn vehicle service, engine cooling, brakes, suspension, steering, and front-end alignment. Second year students move on to the electrical aspects of the automobile, such as the Starting and Charging System, Computerized Engine Control, Anti-lock Brakes and Air Bag Systems, Ignition, Fuel Delivery, Suspension, and Drivetrain. Seniors are able to be ASE Certified, Snap-on Multi-meter Certified, and obtain their Maine Motor Vehicle Inspection License after graduating.

Career Exploration Program

Students in this program Program will focus on teaching students the skills to be successful in a variety of jobs. The curriculum covers the basic skills in several different SCTC Programs. Students will be learning the soft skills necessary in any career field. The program will foster an environment for students to learn about careers, safety, team building, positive attitudes, and work habits that meet employment standards.

Certified Nursing Assistant

Students in this program gain knowledge in multiple health care careers through job shadows, community service projects, and clinical experiences. Students learn CPR, first aid, basic anatomy and physiology, and study the concepts of health promotion and disease prevention. SCTC's CNA program uses the State of Maine Nursing Assistant Curriculum which is approved by the Maine State Board of Nursing. Students also have the opportunity to earn up to three college credits from KVCC with completion of the program.

Commercial Truck Driving

This program qualifies students to test for the State of Maine CDL Class B Commercial Driver's Permit and License. Instruction is based on state laws, industry regulations, and equipment inspection required for licensing. According to Federal Motor Carrier law, students in the Commercial Truck Driving program must hold a current Class C automobile driver's license. Students must be 16 years of age to enter the program and must have a clean driver's record.

Cooperative Education

The Cooperative Education Program provides an opportunity for students to participate in an occupational training program for which facilities and courses are not otherwise available at SCTC. This program is designed for the student to spend part of the day at their sending school and part of the day "on the job." Students attend class with their instructor where job seeking, workplace skills, and personal finance is taught. An arrangement between the school, employer, student, and parents will then be created. The goal is to find training stations that will meet the varying needs and interest and provide appropriate employment for the student.

Culinary I & II

The Culinary Arts program prepares students for a future in the food service industry. Students learn entry-level culinary skills as well as cooking and baking techniques. Students will learn by working in a professional kitchen environment at the high school. First year students focus on: Sanitation and Personal Hygiene; Kitchen Safety; Knife Skills; Standardizing Recipes; Basic Butchery; Mother Sauces; Proper Food Storage; Basic Cooking Methods; Working As A Team. Second year students focus on: Secondary Sauces; Advanced Butchery; Cost and Portion Control; Advanced Baking and Cooking Methods; International and Regional Cuisine. Second year students also have the opportunity to earn their ServSafe Manager certification.

Digital Graphics I & II

Students in the Digital Graphics Program learn design concepts related to Graphic Design, Digital Photography, and Marketing. Students use professional software and equipment to design and produce a variety of projects including promotional displays, brochures, logos, signage, note pads, decals and custom clothing. In the second year, Digital Graphics students operate an in-house print shop, "DG Print Shop & Design Center." By aligning "live jobs" for a variety of clients,

students are not only able to apply and develop the skills they've acquired in the previous year of class, but gain skills in professionalism through real world experience.

Early Childhood Education

The Early Childhood Education Program is a two year course for students who are interested in working with young children. Students learn about child development and theory, psychology, curriculum development, child guidance and professionalism. Early Childhood students have the opportunity to earn 6-9 college credits; receive the State of Maine Early Childhood Assistant certification; enroll in the Maine Roads to Quality registry and the ECE career lattice; job shadow; become CPR/First Aid certified; train in various settings, including: Infant/toddler classrooms; Family child care centers; Child care facilities; Preschool; K-8 Elementary classrooms; Special education programs.

Electrical Construction I & II

This course provides students with the knowledge and background that prepares them for a career in the electrical field. Students learn electrical safety, tools of the trade, wiring, conduit parts, and assembly. In the first year of this two-year program, students learn the basics of the National Electrical Code and the theory of electricity. Students work in the shop applying the six common wiring methods using industry required tools. During the second year, students continue to advance their studies of the National Electrical Code as well as learning to read blueprints. The students work outside of the shop on practical "live work" projects including, Service Entrance Equipment, Motor Starters, Motor Controls, Electric Heat, Solar Energy, and Programmable Logic Controllers (PLC's). Seniors have the opportunity to receive a certification through the National Association of Home Builders.

Emergency Medical Technician

The EMT course is an introduction to patient assessment skills. Upon successful completion of the course, students will earn 5 credits from KVCC for EMS 111 and be prepared to sit for the EMS Basic Certification Exam. Content includes: Management of airway and respiratory problems; Cardiopulmonary resuscitation; Techniques of oxygen therapy; Bleeding control and treatment for shock; Soft tissue injuries and fracture care; Principles of spinal immobilization; Fundamentals of triage and transportation of the sick and injured; Treatment modalities for a range of medical, obstetrical, pediatric, environmental and behavioral emergencies.

Pre-Engineering

This class exposes students to a variety of engineering fields, such as: AP Computer Science Principles (Coding); Structures; 3D Design; Robotics. With numerous hands-on projects, students learn how to apply the engineering design process. Some of the activities include the design and build of: Cardboard boats; Concrete canoe; Balsa wood bridges / truss; VEX robots to compete in challenges; Scale model wind turbine blades; Various projects using Solidworks and 3D printers; Coding using HTML, CSS and Javascript.

Residential Construction

The Residential Construction Program is a two-year program that concentrates on the residential carpentry trade. Students learn to work cooperatively in groups to complete projects. They learn organizational and leadership skills that help them to be successful in the workplace. Throughout both years of the program, there is a strong focus on employability skills. In the first year, students receive instruction in the following units: Hand & Power Tools; Building Materials and Fasteners; Floor & Wall Framing; Roof Framing. During the second year, students receive instruction in: Construction Drawings; Energy Efficiency; Basic Stair Construction; Wall Systems; Career Opportunities; Practical Application of Skills.

Welding

The Welding Program is held at the Cianbro Training Facility in Pittsfield. Students learn the importance of workplace safety as they train next to Cianbro employees to become certified as a welder. The National Center of Construction Education and Research (NCCER) provides the curriculum students follow as they learn different types of welding techniques and positions. Students progress at their own pace which allows everyone the chance to become proficient before progressing. The Welding Program can be either a one or two year program depending on a student's interests and ambitions. Students can earn the OSHA 10 Safety Certification, Cianbro Welding Certifications and NCCER credentials.

Maine Central Institute

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