



cocheco arts and technology academy

2010-2011 Course Catalog, Semester 1

There may be course fees associated with courses to help defray additional expenses. Fees will never be more than \$25.00 per course and will always be set as low as possible.

Academics

ENGLISH DEPARTMENT

CORE CLASSES

English I—English I is a “101-type” course grounded in the foundations of reading and writing; students will spend significant time gaining mastery over the basic skills they will need to have in order to be able to progress through subsequent core classes and electives with confidence. Focus in the first half of the course is on basic grammar, sentence structure, and paragraph development, along with an introduction to writing from experience and critical reading and thinking skills, which will lead students to producing well-organized, thoughtful, coherent writing with a view toward college-level abilities. The second half of the course gives students a wide sampling of reading experiences, from short novels and stories to an overview of poetry. Here, students will practice their writing skills as they think their way through the works they read. Emphasis in this course is on accuracy and proficiency in both 'big idea' content matters and the conventions of grammar and structure.

Instructor: Sherry Frost Course Fee: \$20.00

English II—English II builds on the writing skills students acquired in English I, but the focus shifts from mechanics to style. Here, students are encouraged to experiment with their writing skills in order to find their own unique voice. A number of different writing opportunities are presented - from personal writing to genres that require a more professional voice - in order to give students experience in addressing particular forms and definable audiences. The reading in English II becomes more rigorous as students delve into longer works from a wider range of time periods and genres. It is in English II where students begin to practice critical reading and thinking skills as they focus less on the plot and character - the “whats” - and more on the tone and theme - the “whys” - of what they read.

Instructor: Adam Michaud Course Fee: \$20.00

English III—English III is where students begin to function as independent learners while maintaining a strong and cohesive learning community with their peers. They read poetry, drama, and prose from both literary and historical perspectives, and they learn to recognize universal themes while making connections between texts, or between texts and film, television, art, music, and their own experiences. Through the critical engagement of primary and secondary sources, students hone their reading and thinking skills and learn to express their ideas in other forms of writing as well. Fiction and poetry assignments encourage students to engage texts by using thoughtful language and imagination. English III also introduces students to research strategies and techniques. Students become independent researchers by learning how to analyze a source critically, how to take careful notes, and how to apply those notes to focused research and writing assignments. Additionally, attention will be given in class to the college essay; student will have the opportunity to compose and workshop their essays utilizing the community for support.

Instructor: Sherry Frost Course Fee: \$20.00

English IV—English IV is where students are encouraged to begin to shift their modes of thinking toward a more mature and disciplined approach. Based in great measure on what professors at universities expect their incoming freshmen to be able to do, the English IV curriculum is designed to guide students toward more self-directed modes of inquiry. In this course, students read extensively and discuss the work they do not only in terms of its meaning to the learning community as a whole, but to the student as an individual, as well. Broad investigation into a wide variety of literature encourages the students to move beyond their comfort level and to test the edges of their own reading and writing skills. Em-

phasis is on effective communication, both oral and written, and on finding and articulating connections between texts and other experiences of our culture.

Instructor: Sherry Frost Course Fee: \$20.00

ELECTIVES

Film as Literature—Stories are an essential part of every human culture; they help us to make meaning and to understand ourselves, each other, and our place in the world. The means by which these stories are told - whether they are written, spoken, or acted on stage or screen - influence the way we approach and interpret them. Film, while it may be influenced by written work, should be considered an entirely separate piece of art for the purposes of critique and analysis. This course explores the complex interplay between film and literature. Selected novels, short stories and plays are analyzed in relation to film versions of the same works in order to gain an understanding of the possibilities—and problems—involved in the transition from written word to film. We will also investigate films that do not have written work as their inspiration to discover the ways in which these stories work in terms of our understanding of the nature of literature and the role it plays in our lives.

Instructor: Sherry Frost Course Fee: \$20.00

Playwriting (Semester 1)—In this course, students will explore the various elements that work together to make a great story for the stage. We will read several plays from various playwrights throughout history and examine how each uses structural element like beat, scene, and stage direction to enhance their story. Since each student will have the opportunity to write several short scripts on the subject matter of their choice, considerable time will be spent on dialogue, plot, and the current “mechanics” for formatting a play manuscript. As a final project, the entire class will have a hand in crafting the script for the Spring production of “Alice in Wonderland.” If time allows we will also touch on the differences between stage and film scripts.

Instructor: Adam Michaud Course Fee: \$20.00

MATHEMATICS DEPARTMENT

CORE CLASSES

Algebra 1—This course is the foundation for high school mathematics courses. It takes what students know of arithmetic and some prior Algebra exposure. Topics include simplifying expressions, evaluating and solving equations and inequalities, and graphing linear equations. The focus of the class is to cover the state standards while preparing students for future high school math courses.

Instructor: Ryan Tolfree

Algebra 2—Many of the same skills from Algebra 1 are explored in algebra 2, only more in depth and with more advanced questions. Algebra 2 also extends these skills to new concepts and prepares students for college level mathematics. The course covers the same state standards as Algebra 1, adding a few more in and covering the Algebra 1 standards under the “Advanced” stage.

Instructor: Ryan Tolfree

Geometry—This course is an introductory to Geometric thinking in Mathematics. It is based off of basic understanding of Area, Perimeter, and other concepts involving shapes then broadened to think about all of the concepts more in depth, through geometric proof, and applying them to new concepts. The focus of the class is to cover geometric state standards while preparing students for future math courses that deal with geometric thinking.

Instructor: Ryan Tolfree Course Fee: \$5.00

Pre-Calculus—Pre-Calculus: The purpose of this class it to set up students for success in a high school or college level Calculus class. We will cover many different types of mathematical concepts that are used in Calculus. These concepts will range from being Algebraic, Geometric, and Trigonometric based. We will cover past concepts that the students have seen more in depth and new topics that really get into the depth of function notation, function limits, and the slope of all different function types.

Instructor: Ryan Tolfree Course Fee: \$10.00

SCIENCE DEPARTMENT

CORE CLASSES

Biology—In this class students will explore the classification, structure, life-cycles and life processes of living organisms. Students will learn the practical applications of biological science, and will gain experience with authentic technology and knowledge of important contributors to the field of biology. Through hands-on investigations, students will become familiar with the scientific method

and how it is put to use to solve human and environmental problems. Students will also become familiar and proficient with the New Hampshire frameworks for Biology.

Instructor: Shrijnana Sering Course Fee: \$15.00

Earth Science—An introduction to the study of the earth and space. Topics include the composition, chemistry, and geological history of the earth; oceans and movement of the ocean; water in the atmosphere, weather and climate; and the planets and minor bodies of the solar system and space. Emphasis is equally divided between developing a conceptual understanding of the major topics and developing problem solving skills in those topic areas. Understanding the theories at hand and identifying them in everyday life will be stressed.

Instructor: James Duprie Course Fee: \$15.00

Physics—An algebra based introduction to physics course examining the relationships between matter, energy and motion. The four major areas of study will be Mechanics, Waves, Electricity and Magnetism, and Models and Properties of Atoms. Specific areas of study are: kinematics in one and two dimensions, circular motion, potential and kinetic energy, electricity, thermodynamics, and particle physics. Emphasis is equally divided between developing a conceptual understanding of the major topics of physics and developing problem solving skills in those topic areas. Algebra and basic trigonometry will be used extensively throughout. Emphasis will be put on understanding the theories at hand and identifying them in everyday life.

Prerequisite: Algebra 2 (Algebra 1 with consent of instructor)

Instructor: James Duprie Course Fee: \$15.00

SOCIAL STUDIES DEPARTMENT

CORE CLASSES

Economics (Grade 12)—You say macro, I say micro, but what does all that really mean? **Course Overview:** Students will examine various economic systems and their history. We will examine the relationship between the market and society and how each affects and influences the other. Through various projects, we will endeavor to apply the different theories so that we may understand common occurrences. The course, which requires the student to demonstrate strong verbal and writing skills, also focuses on the development of critical thinking skills. Through class discussions, group presentations, and individual written work, the students will be expected to articulate various economic theories and phenomena, develop theses, and organize and present position papers. **Key concepts:**

- What is the difference between micro- and macro- economics?
- How does the market function?
- What is the role of government in an economy?
- How does all of this effect the individual consumer?

The class is a combination of student-driven and instructor-driven activity. This includes role-plays, discussions, "jig-saw" analysis, lecture and students teaching their peers. Participation and note-taking are essential.

Assessment: Students have a great deal of autonomy in deciding the method of assessment. This may include plays, music, visual arts and/or writing. All assessments must provide evidence of learning. All students are required to present. Additionally, the class will include a rigorous writing component.

Geography (Grade 10 and 11; Semesters 1 and 2)—**Course Overview:** Students will examine the physical geography of the earth's surface, including plate tectonics, landform analysis and natural hazards. Additional themes will include geography as a social science -- including travel and tourism, cultural exchanges and social phenomena relative to 'place'. The course, which requires the student to demonstrate strong verbal and writing skills, also focuses on the development of critical thinking skills. Through class discussions, group presentations, and individual written work, the students will be expected to articulate evidence of various geographical phenomena through writing, maps and projects.

Key concepts:

- What is the relevance of people when discussing geography?
- What social factors are created by or a result of geographic location?
- What is the significance of geographic placement?
- How are people, ecosystems and cultures affected by geography?

The class is a combination of student-driven and instructor-driven activity. This includes role-plays, discussions, "jig-saw" analysis, projects, lecture and students teaching their peers. Participation and note-taking are essential.

Instructor: Thomas Keith

ELECTIVES

Local Living History—This class will focus on three key areas:

- Personal interviews and how to document them,
- Client-side management of a dynamic online information system
- The historian's process of documenting history through primary contact.

The size of the class will be limited to a small number of students as this class will work in conjunction with the Faces of Dover project, a non-profit community organization developing preservation projects in aid of preserving local history about Dover and it's patrons. Parent/guardian permission is required as students will be conducting first-hand, offsite interviews of Dover residents. The class will be run as an organization, with each student having specifically assigned tasks within the process. Local Living History promises to be a real academic résumé booster.

Instructor: Thomas Keith

WELLNESS

CORE CLASSES

Wellness (Semesters 1 and 2)—This class will examine the inter-related systems of the human body while exploring methods and techniques for maintaining the optimum performance of these systems. Disease and unhealthy habits will also be discussed, and assessments will be project-based, creative, and student-portfolio oriented.

Instructor: Meghan E. Samson Course Fee: \$10.00



Majors

ART DEPARTMENT

2-D Art Exploration—This course is designed to give students the opportunity to explore many different 2-D materials and concepts in art. We will be experimenting with such materials as pencil, marker, paints, charcoal, and printmaking. This is an introductory art course.

Instructor: Meghan E. Samson Course Fee: \$20.00

Life and Landscape Drawing I—This is an advanced drawing course for students whom have taken prior art courses at CATA. We will spend the first half of the semester drawing from the landscape and the second half of the semester drawing from life indoors. We will be exploring different drawing materials such as pencils, inks, charcoals and marker, as well as working large scale and with various papers.

Instructor: Meghan E. Samson Course Fee: \$20.00

Textiles—Students will be exploring traditional skills with various types of textiles. Such as sewing, making paper, exploring yarns and basketry and playing with other natural and human-made materials. We will be creating functional, and sometimes non-functional, works of art. No prior art experience necessary.

Instructor: Meghan E. Samson Course Fee: \$20.00

MUSIC DEPARTMENT

Beginning Guitar Ensemble (Prerequisite: Pass reading assessment)—Beginning Guitar Ensemble will introduce students to the art of ensemble performance at a beginning level. Reading and performance skills will be the focus as well as basic guitar technique. The ensemble will take part in public performances. Techniques on improvisation and rhythm playing will also be covered with the main focus on musicality in an ensemble atmosphere.

Instructor: Robert Walker, Jr. Course Fee: \$10.00

Freshman Introduction to Music—Introduction to Music serves as an introduction to the history, literature, and theory of music for the non-musician. Composers, historical eras, musical forms, instruments, and styles are included in the course. Listening to music will be a focus, and attendance at live performances may be required. The course is designed to give students a broader

understanding and respect for music. Music students may take the course as a stepping stone to more advanced courses such as Music Theory, but it is not a prerequisite.

Instructor: Robert Walker, Jr.

Music Technology—Students will learn and use software for composition, sequencing, recording and editing. They will also develop basic understanding of how sound works and how effects, mics and amplification is used through hands on training with studio and live sound equipment. Students will be assessed through tests, quizzes and unit projects. Students who successfully pass this course will earn studio time credit throughout their time at CATA by running sound for various school and community events.

Instructor: Robert Walker, Jr.

Show Choir—is a singing group performance class with some movement and acting expression. We will work on harmonies, duets and solos. This course will perform at local nursing homes and festivals. This is a non-auditioned performance group.

Instructor: Melissa Manseau Course Fee: \$5.00

TECHNOLOGY DEPARTMENT

Introduction to Adobe Photoshop CS4 (Semester 1)—This introductory class is intended for a diverse audience: students who want to learn to create and enhance graphics for marketing materials, newsletters, blogs, and web sites; photographers who want to work with and prepare photos for print or web; or those with an interest in graphic design. This software is the industry standard for professional manipulation of digital photos and creation of digital images. Topics to include digital photography, digital self-portraits and portraits, and digital collage.

Instructor: Helene Edelstein Course Fee: \$10.00

Freshman Technology Seminar (Tech Sem)—Students will develop an understanding of the computer as a tool. The fact is that most students understand video games, how to send an e-mail, and how to surf the web. However, conducting an effective search, knowing how to filter results, and knowing what to search for is another story. The course will help students develop the skills required to write formal papers, conduct authentic research, and use the world-wide web as a means of acquiring information and improving communication.

Additionally, parts of the class will be developed as needed throughout the quarter. All staff will be contributing to the content of this course as needs develop over the course of the quarter. Likewise, students may request certain things be added to the curriculum if they see a need arise. **A laptop and thumb drive are required for this class.**

Instructor: Robert Walker, Jr.

Robotics—Introduction to Robotics is a course that examines the basic principles of autonomous robot design, build and programming. We will be using the Lego NXT™ robotics kits and programming environment. The course is broken into two major components: During the first month or so, we will go over robotic guidance systems, different types of sensors, and basic programming. The second part of the course consists of 3 month long “challenges”. These are real world scenarios where robots are used to perform tasks. The students will design and build a robot to complete the task. Students will be required to prepare design documents and software flowcharts prior to actually building and programming their robots, and will also keep change logs of modifications to their designs that they make. These documents will be assembled into a “challenge portfolio” for each challenge. Grading is based on completing the objectives, and the challenge portfolios.

Instructor: James Duprie Course Fee: \$25.00

THEATRE DEPARTMENT

Acting I/II—This class provides students with an introduction to acting technique, along with providing a review for more advanced students. Students will explore the fundamentals of acting through the work of theatre games pioneer, Viola Spolin, as well as the use of improvisation exercises to improve spontaneity onstage. With improvisation as our lens, students will learn the importance of the ensemble in performance. Additionally, the course will briefly touch upon various acting techniques, from Stanislavski to Strasberg to Hagen. Learning to score scripts, outline character objectives, and analyze texts will also serve as a major component of the class. Through the use of monologues, scenes, and short plays, students will complete the semester with a basic foundation in technique and a renewed sense of acting as a serious art form.

Instructor: Libby Page

Advanced Musical Theatre—Musical Theatre Workshop is a performance and project based class covering all styles of musical theatre. Each student will be required to prepare the following:

Performance assignments: 1 solo
1 duet or trio
participate in 2 group songs
1 audition prep (2 contrasting songs, 16-32 bars each plus a 1 minute monologue)

**All students will perform in a final showcase for students, family and friends at the end of the semester.

Projects: Each student will attend a live performance of a musical in the local area and write a review.
(examples will be given in class) (possible field trip?)

Each student will choose a source material (play, book, movie, Disney) that then became a live stage musical and compare the source material to the musical in a written paper. Examples will be given in class.

The class will watch several movie musicals and discuss the differences between live and film versions. All assignments will be graded for effort and preparation.

Instructor: Melissa Manseau