# COLORADO ONLINE SCHOOL CONSORTIUM

**BHS Computer Applications I**

IS A BHS PREREQUISITE FOR ANY ONLINE COURSE REGISTRATION

**Any course offered by BHS**

MUST BE TAKEN BEFORE AN ONLINE COURSE CAN BE SUBSTITUTED.

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# COL PARTICIPANT OVERVIEW

The following provides information for all COL students.

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**Needed for All Courses**

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Student Aptitudes and Abilities

- At least average high school reading skills
- Ability to present and organize information using Microsoft Office (Word, Excel, PowerPoint)
- Ability to successfully use learning tools such as e-mail, electronic forums, the World Wide Web, and Internet databases
- Self-directed, self-motivated learner or strong local support
- Ability to work within timelines

Technology

- A computer with Internet connectivity at school and/or home. Connectivity through products like Web-TV will not work for most courses.
- Netscape 4.5 or higher or Internet Explorer 5.0 or higher
- A regularly accessible e-mail account
- Basic skills in web research, attaching files in e-mail
- Regular access to a printer
- Word processing software (MS Word is preferred)

(Students may need to save/format documents from other software to be compatible with Microsoft Word)

# COL COURSES

**Arts**

Creative Drawing (Art101)

**Business**

Career Exploration (Bus100)

Accounting I (Bus101)

**Foreign Language**

Greek and Roman World – Elementary (FLGRK090)

French I (FLF101)

French II (FLF102)

German I (FLG101)

German II (FLG102)

Greek (FLGRK101)

Latin I (FLL101)

Latin II (FLL102)

Latin III (FLL103)

Latin IV (FLL104)

Spanish I (FLS101)

Spanish II (FLS102)

Spanish III (FLS103)

Spanish IV (FLS104)

**Language Arts**

Middle School Language Arts (Eng080)

English I (Eng101)

English II (Eng102)

English III (Eng103)

Intro to Composition (Eng104)

Readers/Writers Workshop (Eng105)

AP Literature and Composition (Eng106)

Shakespearean Theater: The Tragedies (Eng107)

Shakespearean Theater: The Comedies (Eng108)

PoetSpeak: Reading, Writing, and Living Poetry (Eng109)

**Mathematics**

Middle School Math 6 (M060)

Middle School Math 7 (M070)

Middle School Math 8 (M080)

Fundamental Math (M100)

Pre-Algebra (M101)

Algebra I (M102)

Geometry (M103)

Algebra II (M104)

Pre-Calculus (M105)

AP-Calculus (M107)

ACT/SAT Math Review (M108)

**Science**

Middle School Science (Sci090)

Fundamentals in Science (Sci100)

Biology (Sci101)

Health (Sci102)

College Physics (Sci103)

Future Issues: Biotechnology (Sci104)

Astronomy (Sci105)

Geology (Sci106)

Anatomy and Physiology (Sci107)

Science in Literature: The Pen and the Petri Dish (Sci108)

**Social Studies**

Middle School Social Studies (SS090)

American Government/Civics (SS101)

U.S. History (SS102)

World Geography (SS103)

World History: The Dawn of Civilization (SS104A)

World History: Wars and Revolutions! (SS104B)

Personal Psychology: The Road to Self Discovery (SS105)

Personal Psychology: Living in a Complex World (SS106)

Consumer Law (SS107)

Colorado History (SS108)

Introduction to Sociology: The Study of Human Relationships (SS109)

**Technology**

Web Page Development (Tech100)

C++ Programming (Tech101)

Java Programming (Tech102)

Computer Animation: Te Power of Flash (Tech103)

# FOREIGN LANGUAGE

**SPANISH III (FLS103)**

Course Length: 2 Semesters Grade: 10, 11, 12

Credits per Semesters: .5 Prerequisites: Spanish II or equivalent

Instructor: Deborah DeBord, Ph.D. skills; some typing ability in Spanish

Spanish III is an intermediate level class that offers students the opportunity to continue improving their listening, speaking, reading, and writing skills for survival in the Spanish-speaking world, its language and its culture. More advanced reading and listening selections challenge the student to move toward more native-like self-expression on topics of personal interest with more communicative style encouraged. Use of authentic materials such as Spanish-language web sites and television programs promote understanding of the cultural context of the language. Students will create a multi-media project from these materials and Internet investigation.

**Learning experiences:**

- ❖ Deriving meaning from conversation at a normal rate of speed
- ❖ Using strategies to determine meaning from unfamiliar material
- ❖ Distinguishing among grammatical signals (e.g., verb form markers)
- ❖ Comprehending more complex questions, statements, and commands
- ❖ Becoming aware of a variety of products of their target culture (e.g., music)
- ❖ Comprehending spontaneous speech (e.g., interruptions)
- ❖ Describing and naming
- ❖ Expressing and justifying simple opinions
- ❖ Asking and answering more complex questions
- ❖ Applying patterns of pronunciation, rhythm, stress, and intonation without a model
- ❖ Applying expanded and recombined vocabulary
- ❖ Beginning to show control over verb tense in the past, present, and future
- ❖ Continuing to apply the precept of social register
- ❖ Speaking in a series of connected sentences
- ❖ Initiating and sustaining conversation in a variety of circumstances and situations
- ❖ Determining unfamiliar vocabulary from context

- ❖ Simplifying complex sentence structures
- ❖ Identifying the type of authentic reading source (e.g. poetry)
- ❖ Analyzing the cultural aspects found of the reading material
- ❖ Drawing conclusions based on the content of the reading selection
- ❖ Writing paragraphs using new vocabulary and more complex grammar
- ❖ Expressing and justifying simple opinions
- ❖ Reporting factual information
- ❖ Planning, drafting proofreading, and revising own work and that of other students
- ❖ Using correct grammar, spelling, punctuation, capitalization and diacritical marks
- ❖ Using dictionaries efficiently
- ❖ Using culturally appropriate language and gestures
- ❖ Exchanging information with people of the target culture (e.g., conversation partners)
- ❖ Speculating and inferring importance of tangible and intangible cultural products
- ❖ Making connections between language, products, people, and cultural practices

**Standards Addressed**

**S1.1 LISTENING** Students listen to and derive meaning from a variety of foreign language sources.

**S1.2 SPEAKING** Students speak in the foreign language for a variety of purposes and for diverse audiences.

**S1.3 READING** Students read and derive meaning from a variety of materials written in foreign language.

**S1.4 WRITING** Students write in a foreign language for a variety of purposes and for diverse audiences.

**S2** Students acquire and use knowledge of cultures while developing foreign language skills.

**Grading criteria:** Based on a percentage of points earned in learning activities.

**Course materials (Supplied by COL):**

Paso a Paso level two – student text, CD ROM tutorial, at home video course study guide on tape

**Course materials required** (not supplied by COL): One floppy disk, one 90-minute blank cassette tape, construction paper/markers, postage and long distance phone use. Bilingual dictionary is optional. Access to a printer, cassette tape recorder and VCR.

## SPANISH IV (FLS104)

Course Length: 2 Semesters

Grade: 10, 11, 12

Credits per Semesters: .5

Prerequisites: Spanish III or equivalent skills

Instructor: Dr. Deborah DeBord, Ph.D.

Spanish IV is an intermediate to advanced Spanish class that offers students the opportunity to cross the bridge from everyday usage of Spanish into the realm of literature and art. While continuing to strengthen language skills through personalized activities and situations encountered in daily life and travel, students receive an introduction to Hispanic literature and an opportunity for expanded self-expression.

**Learning experiences:**

- ❖ Deriving meaning from conversation at a normal rate of speed
- ❖ Using strategies to determine meaning from unfamiliar material
- ❖ Distinguishing among grammatical signals (e.g., verb form markers)
- ❖ Comprehending more complex questions, statements, and commands
- ❖ Becoming aware of a variety of products of the target culture (e.g., music)
- ❖ Comprehending spontaneous speech (e.g., interruptions)
- ❖ Describing and naming
- ❖ Expressing and justifying simple opinions
- ❖ Asking and answering more complex questions
- ❖ Applying patterns of pronunciation, rhythm, stress, and intonation without a model
- ❖ Applying expanded and recombined vocabulary
- ❖ Beginning to show control over verb tense in the past, present, and future
- ❖ Continuing to apply the precept of social register
- ❖ Speaking in a series of connected sentences
- ❖ Initiating and sustaining conversation in a variety of circumstances and situations
- ❖ Determining unfamiliar vocabulary from context
- ❖ Simplifying complex sentence structures
- ❖ Initiating and sustaining conversation in a variety of circumstances and situations
- ❖ Determining unfamiliar vocabulary from context
- ❖ Simplifying complex sentence structures
- ❖ Identifying the type of authentic reading source (e.g., poetry)
- ❖ Analyzing the cultural aspects found in the reading material
- ❖ Drawing conclusions based on the content of the reading selection
- ❖ Writing paragraphs using new vocabulary and more complex grammar
- ❖ Expressing and justifying simple opinions
- ❖ Reporting factual information
- ❖ Planning, drafting, proofreading, and revising own work and that of other students
- ❖ Using correct grammar, spelling, punctuation, capitalization and diacritical marks
- ❖ Using dictionaries efficiently
- ❖ Using culturally appropriate language and gestures
- ❖ Exchanging information with people of the target culture (e.g., conversation partners)
- ❖ Speculating and inferring importance of tangible and intangible cultural products
- ❖ Making connections between language, products, people and cultural practices

**Standards Addressed**

**S1.1 LISTENING** Students listen to and derive meaning from a variety of foreign language sources.

**S1.2 SPEAKING** Students speak in the foreign language for a variety of purposes and for diverse audiences.

**S1.3 READING** Students read and derive meaning from a variety of materials written in foreign language.

**S1.4 WRITING** Students write in a foreign language for a variety of purposes and for diverse audiences.

**S2** Students acquire and use knowledge of cultures while developing foreign language skills.

**Grading criteria:** Based on a percentage of points earned in learning activities.

**Course materials (Supplied by COL):** ***Encuentros Maravillosos, Learn to Speak Spanish CD-ROM***

**Course materials required (not supplied by COL):**

One floppy disk, one 90-minute blank cassette tape, construction paper/markers, postage and long distance phone use. Bilingual dictionary is optional, access to a printer, cassette tape recorder and VCR.

# LANGUAGE ARTS

### Shakespearean Theater: The Tragedies (Eng107)

Course Length: 1 Semester (fall or spring) Grade: 12

Credit per Semester: .5 Prerequisite: None

Instructor: Carolynn Wilcox

**Course Description:**

It that a dagger before mine eyes?! Find out how Lady Macbeth gets her husband a promotion…mafia-style in the cursed *Macbeth,* learn how dysfunctional Denmark royalty deals with death and deceit in *Hamlet,* and fall in love again in *Romeo and Juliet.* If you are interested in theater, acting, or Shakespeare, or if you're just curious, this may be the English course for you!

**Objectives:**

- Identify and explain the characteristics of a comedy.
- Read and understand "A Midsummer Night's Dream."
- Read and understand "The Taming of the Shrew."
- Read and understand "The Tempest."
- Associate characteristics and famous passages with the correct play.
- Define and find examples of literary terms and devices withint the three plays.
- Understand stage directions and blocking a scene.
- Memorize and perform a monologue or solloquy.

**Topics:**

- Shakespeare's Life

- A brief history of Elizabethan/Jacobean England
- Shakespeare's language
- Stage directions and stage movement
- The life of an Elizabethan actor
- Romeo and Juliet
- Macbeth a.k.a. The Scottish Play
- Hamlet
- Set Design
- Costuming
- The Globe Theater
- Film versions of the plays

**Standards Addressed**

**S1** Students will read and understand a variety of literary works, including short stories, poetry, a novel and nonfiction works.

**S2** Students will write for a variety of purposes and audiences

**S3** Students will use conventional grammar, usage, sentence structure, punctuation, capitalization and spelling.

**S4** Students will apply thinking skills to their reading and writing skills.

**S5** Students will use the Internet and other reference sources for learning basic research skills.

**S6** Students will read and recognize literature as a record of human experience.

**Grading Criteria:**

The overall grade will be based on assignments, activities and projects.

**Course Materials:**

Students will be able to read all three plays, *A Midsummer Night's Dream, The Taming of the Shrew, and The Tempest,* online at the following website, "The Complete Works of William Shakespeare": http://the-tech.mit.edu/Shakespeare/

If a student finds Elizabethan English too difficult, he or she may choose to purchase one of the parallel text editions listed in the recommended textbook section of the syllabus.

**Recommended**: A Midsummer Night's Dream and The Taming of the Shrew – William Shakespeare Perfection Learning, 1986.

## Shakespearean Theater: The Comedies (Eng108)

Course Length: 1 Semester

Grade: 12

Credit per Semester: .5

Prerequisite: None

Instructor: Missy Kizer

**Course Description**

Need a laugh? Check this class out! Find out how love runs amuck in Shakespeare's *A Midsummer Night's Dream,* learn how evil older sisters really are in *A Taming of the Shrew,* and face a farcical shipwreck in *The Tempest.* If you are interested in theater, acting, or Shakespeare, or if you're just curious, this may be the English course for you!

**English 106 is divided into twelve units that will cover the following topics:**

- Shakespeare's Life
- A brief history of Elizabethan/Jacobean England
- Shakespeare's language
- Stage directions and stage movement
- The life of an Elizabethan actor
- A Midsummer Night's Dream
- The Taming of the Shrew
- The Tempest
- Set Design
- Costuming
- The Globe Theater
- Film versions of the plays

**Course Objectives**

- Identify and explain the characteristics of a comedy.
- Read and understand "A Midsummer Night's Dream."
- Read and understand "The Taming of the Shrew."
- Read and understand "The Tempest."
- Associate characters and famous passages with the correct play.
- Define and find examples of literary terms and devices within the three plays.
- Understand stage directions and blocking a scene.
- Memorize and perform a monologue or soliloquy.

**Standards Addressed**

**S1** Students will read and understand a variety of literary works, including short stories, poetry, a novel and nonfiction works.

**S2** Students will write for a variety of purposes and audiences

**S3** Students will use conventional grammar, usage, sentence structure, punctuation, capitalization and spelling.

**S4** Students will apply thinking skills to their reading and writing skills.

**S5** Students will use the Internet and other reference sources for learning basic research skills.

**S6** Students will read and recognize literature as a record of human experience.

**Grading Criteria:** The overall grade will be based on assignments, activities and projects

**Course Materials** (supplied by COL)

Students will be able to read all three plays, *A Midsummer Night's Dream, The Taming of the Shrew,* and *The Tempest,* online at the following website, "The Complete Works of William Shakespeare": http://the-tech.mit.edu/Shakespeare/

If a student finds Elizabethan English too difficult, he or she may choose to purchase one of the parallel text editions listed in the recommended textbook section of the syllabus.

**Recommended:** *A Midsummer Night's Dream* and *The Taming of the Shrew* – William Shakespeare Perfection Learning, 1986.

# MATHEMATICS

### SAT/ACT Math REVIEW (M108)

Course Length: 1 Semester

Credit per Semester: .5

Instructor: Bridget Kreutzer

Grade: 10, 11, 12

Prerequisite: None

**Course Description**

This course is designed to refresh your math skills so that you are better prepared to take the ACT or SAT. It is not geared towards your actual test-taking skills, but towards the math concepts involved in these tests. This course will provide lessons, reviews, and practice problems.

**Topics Covered**

- Basic math (basic operation, mean, median, mode, percents, prime, numbers, number properties, ratio and proportion, divisibility)
- Algebra (factoring, linear equations and inequalities, positive integer exponents, quadratic equations, word problems, simplifying expressions, substitution)
- Geometry (area, perimeter, circumference of a circle, volume, Pythagorean Theorem, properties of triangles, lines, graphing, slope)

**Grading Criteria:** Grades are based on homework problems and exams

**Course Materials Required:** None

# SCIENCE

## COLLEGE PHYSICS (Sci103)

Course Length: 2 Semesters

Credit per Semester: .5

Instructor: Ed Adams / Sig Kutter, PH. D.

Grade: 11, 12

Prerequisites: Algebra, Trig. and first semester of College Physics to take 2nd semester

**Course Description:**

Students will explore Physics in a variety of ways, to include:

- Understanding and interpreting physical information (verbal, mathematical, and graphical).
- Describing and explaining the sequence of steps in the analyzing physical phenomena.
- Using basic mathematical reasoning (algebra, trigonometry, and graphs) in solving a broad range of physical problems.
- Interpreting physics experiments, including determining experimental uncertainties.

**Topics to be Covered:**

- Mechanics
- Waves and Sound
- Thermodynamics
- Electricity and Magnetism
- Light and Optics
- Quantum Mechanics and Atomic Physics

**National Standards addressed**

- **S1** Students understand the processes of scientific investigation and design, conduct, communicate about, and evaluate such investigations.
- **S2.1** Students know that matter has characteristic properties, which are related to its composition and structure.
- **S2.2** Students know that energy appears in different forms, and can move (be transferred) and change (be transformed).
- **S2.3** Students understand that interactions can produce changes in a system, although the total quantities of matter and energy remain unchanged.
- **S5** Students know and understand interrelationships among science, technology, and human activity and how they can affect the world.

- **S6** Students understand that science involves a particular way of knowing and understand common connections among scientific disciplines.

**Grading Criteria:** Grades will be based on course participation and on the successful completion of assignments and exams.

**Course Materials** (Supplied by COL) -D.C. Giancoli. "*Physics: Principles with Applications*, 5th Edition." Prentice Hall. 1998. ISBN:0-13-611971-9.

**Course Materials Required** (not supplied by COL)**:** None

## FUture ISSUES: BIOTECHNOLOGY (Sci104)

Course Length: 1 Semester (offered Fall and Spring)

Credit per Semester: .5

Instructor: Mark Friedman

Grade: 10, 11, 12

Prerequisite: Successful completion of a high school level biology course

**Course Description**

Issues in Biotechnology will explore the promises, uses, and abuses of genetic engineering and other exciting new technologies that are currently emerging. Students will be required to use technology to research and assess the impact of scientific breakthroughs on their own futures. Students will interact via the Internet with scientists using cutting edge technologies. The class is project-based and largely student-directed. (This is an interdisciplinary class integrating materials from science, social studies, economics, technical education, and language arts.)

**Class Proficiencies:**

- Analyze how the introduction of these new technologies could affect human activity. (5.1)
- Analyze the benefits, limitations, costs, and consequences of future technologies or current scientific breakthroughs. (5.1)
- Analyze the relationship between public opinion and the introduction of new technologies.
- Ask questions and state hypotheses using prior scientific knowledge to help guide their development. (1.1)
- Communicate and evaluate scientific thinking that leads to a particular conclusion. (1.4)
- Define biotechnology and explain the use of these technologies in an occupation. (5.1)
- Describe the history and historical influences of biotechnology.
- Evaluate print and visual media for scientific evidence, bias, or opinion. (6.1)
- Explain a current tool or process used in biotechnology in detail.
- Explore the scientific and technological aspects of contemporary problems. (5.2)
- Research an area in which possible future technologies or current scientific breakthroughs promise to change our day-to-day existence.
- Select and use appropriate technologies to gather, process, and analyze data and to report information related to an investigation. (1.2)

**Topics to be Covered**

- Careers in biotechnology
- Biotechnology-A new industrial revolution
- Ancient and Modern biotechnology
- DNA and the birth of molecular biology
- Cell chemistry and the tools of biotechnology
- Genes
- Recombinant DNA technology produces human products
- Monoclonal antibodies
- Vaccines
- Antibiotics
- Biotechnology on the farm
- Engineering new plants
- Fermentation: Providing new sources of food and fuels
- Materials and biotechnology
- Waste management and the environment
- Biosensors and biochips
- Impact on society
- Biotechnology – the future

**Grading Criteria**

Evaluation of each student is based on his/her meeting the course proficiencies. Instruments of assessments include regular (weekly) E-mailed responses to questions from assigned readings, thoughtful and timely participation in on-line threaded discussions, and an "electronic portfolio" of computer-based projects. A percentage will be determined based on points earned.

**Course Materials** (Supplied by COL) - None - The course uses web-based resources.

## ASTRONOMY (Sci105)

Course Length: 1 Semester (offered Fall and Spring) Grade: 10, 11, 12

Credit per Semester: .5 Prerequisites: Algebra I

Instructor: Ed Adams

**Course Description**

This is a general astronomy survey course. We will investigate the history of astronomy, the basic physics used to decipher the night sky and the tools of the modern astronomer. Once the tools are mastered the investigation will continue by looking at our neighborhood, the Solar System, our galaxy and eventually the furthest reaches of our universe. We will look at the evolution of stars into black holes and the metamorphosis of our thinking about the universe.

**Topics to be covered**

- Introduction, Just how big is space
- How to find your way around the sky
- Earth, moon and sun geometry
- Old astronomers
- Laws of motion and relativity
- The physics of light and tools of the astronomer
- Spectra
- Stellar properties and our Sun
- Birth, death and life of stars
- Stellar remnants
- Large-scale communities
- Closer to home, the solar nebula
- Earth, simple geology and meteorology
- The inner planets and moons
- Gas Giants
- Outer planets
- Comets and asteroids
- SETI – The Search!

**National Standards addressed**

- **S1** Students understand the processes of scientific investigation and design, conduct, communicate about, and evaluate such investigations.
- **S2.1** Students know that matter has characteristic properties, which are related to its composition and structure.
- **S2.2** Students know that energy appears in different forms, and can move (be transferred) and change (be transformed).
- **S4.1** Students know and understand the composition of Earth, its history, and the natural processes that shape it.
- **S4.2** Students know and understand the general characteristics of the atmosphere and fundamental processes of weather.
- **S4.3** Students know major sources of water, its uses, importance, and cyclic patterns of movement through the environment.
- **S4.4** Students know the structure of the solar system, composition and interactions of objects in the universe, and how space is explored.
- **S5** Students know and understand interrelationships among science, technology, and human activity and how they can affect the world.
- **S6** Students understand that science involves a particular way of knowing and understand common connections among scientific disciplines.

**Grades:** Will be compiled through the use of tests, labs, and assorted written assignments.

**Course Materials** (supplied by COL) - Pashacoff; *Astronomy, From the Earth to the Universe*

**Course Materials Required** (not supplied by COL)

Colored pencils or markers, a dark observing place.

## GEOLOGY (Sci106)

Course Length: 1 Semester (offered Spring & Fall) Grade: 10, 11, 12

Credit per Semester: .5 Prerequisite: Algebra I

Instructor: Ed Adams

**Course Description**

This is a general survey of geologic processes that shape the Earth today. We will specifically look at rock and mineral formation and identification, plate tectonics and associated phenomenon, e.g. earthquakes, volcanoes, surface processes, the work of running water, glaciers and mass movement.

**Topics to be covered**

- Introduction, geologic time and welcome
- Minerals and a little Chemistry
- Igneous rocks and activity
- More Volcano stuff
- Weathering and Sedimentary rock
- Metamorphic rocks
- Mass Wasting
- The Work of Water
- The Work of Water continued
- Groundwater
- Deserts and oceans
- Glaciers
- Earthquakes
- Basic Tectonics

**National Standards addressed**

- **S1** Students understand the processes of scientific investigation and design, conduct, communicate about, and evaluate such investigations.
- **S2.1** Students know that matter has characteristic properties, which are related to its composition and structure.
- **S2.2** Students know that energy appears in different forms, and can move (be transferred) and change (be transformed).
- **S2.3** Students understand that interactions can produce changes in a system, although the total quantities of matter and

energy remain unchanged.

- **S4.1** Students know and understand the composition of Earth, its history, and the natural processes that shape it.
- **S4.2** Students know and understand the general characteristics of the atmosphere and fundamental processes of weather.
- **S4.3** Students know major sources of water, its uses, importance, and cyclic patterns of movement through the environment.
- **S4.4** Students know the structure of the solar system, composition and interactions of objects in the universe, and how space is explored.
- **S5** Students know and understand interrelationships among science, technology, and human activity and how they can affect the world.
- **S6** Students understand that science involves a particular way of knowing and understand common connections among scientific disciplines.

**Grades:** Will be compiled through the use of tests, labs, and assorted written assignments.

**Course Materials** (supplied by COL)

*Essentials of Geology,* Lutgens and Tarbuck

**Course Materials Required** (not supplied by COL):

Colored pencils

# SOCIAL STUDIES

### CONSUMER LAW (SS107)

Course Length: 1 Semester (offered Fall and Spring) Grade: 10, 11, 12

Credit per Semester: .5 Prerequisites: None

Instructor: Paul Oslund

**Course Description**

"Consumer law is law that is of practical use in everyday life (on the streets). Every purchase, lease, contract, marriage, divorce, crime or traffic violation places the citizen face-to-face with the law. Consumer Law is designed to provide you with an understanding of your legal rights and responsibilities, a knowledge of everyday legal problems, and the ability to analyze, evaluate, and, in some situations, resolve legal disputes."

"Consumer Law addresses general problems in the areas of criminal and juvenile justice; torts; and consumer, family, and individual rights law." The course ". . .also helps you learn what to do if you are the victim of crime, when and how to select an attorney, the legal rights and responsibilities of parents and children. . .how to solve problems without going to court, and what to do about discrimination or other violations of your constitutional rights."

**Course Topics:**

- Introduction to law and the legal system
- Criminal law
- Torts
- Consumer law
- Family law
- Legal rights

**Grading Criteria:** Grade is based on a percentage of points earned in learning activities.

**Course Materials** (Supplied by COL)

*Street Law, A Course in Practical Law, 6th Edition*, National Textbook Company, Lincolnwood, Illinois 1999

# TECHNOLOGY

### WEB PAGE DEVELOPMENT (Tech100)

Course Length: 1 Semester (Offered Fall and Spring) Grade: 10, 11, 12

Credit per Semester: .5 Prerequisites: Basic Computer Skills

Instructor: Rayetta Palmer

**Course Description**

Students will learn the basics of designing a web page using Netscape Communicator. This will include everything from planning the initial idea on paper to adding the finishing touches including text, graphics, links, targets, and publishing. Students may also use Photoshop or similar software to enhance scanned objects or pictures taken with a digital camera. The Internet will be used extensively for research and reference materials.

**National Standards addressed**

**S1** Basic computer operations and concepts

**S2** Social, ethical, and human issues and Responsible use of technology

**S3** Productivity tools

**S4** Telecommunications and Communications tools

**S5** Research tools

**S6** Problem-solving and decision-making tools

**Specific Activities**

- Create and publish a personal home page
- Create and publish an electronic portfolio
- Research, design, and publish a topic of interest

**Grading Criteria:** The overall grade will be based on assignments, activities and projects.

**Course Materials (supplied by COL):** None

**Course Materials Required (not supplied by COL):**

Netscape Composer (part of Netscape Communicator 4.5 or higher)

Other items that will be useful include Photoshop or similar software, a scanner and a digital camera.

## C++ PROGRAMMING (Tech 101)

Course Length: 1 Semester (Offered Fall and Spring) Grade: 10, 11, 12

Credit per Semester: .5 Prerequisites: Completion of Algebra I and Geometry

Instructor: Terry Rosen

**Skills/Aptitudes Students Need to be Successful**

- An understanding of mathematical variables and functions
- The ability to abstractly conceptualize events and processes
- A genuine interest in computers and specifically computer programming

**Course Description**

This course introduces students to the discipline of computer science. Students will begin by exploring computer systems (hardware) and a brief history of computer programming (software). Students will continue to add to their capabilities by learning simple syntax of the C++ programming language. The real programming begins, as students use their mathematics and logic skills to solve problems using computer programs. Complex programming techniques and data structures will conclude the C++ portion of this course.

**Topics to be Covered**

- Computer architecture / Computer science history
- Algorithms and program design
- Compiling and running programs / Programming errors
- C++ programming structure
- Variables and assignments / Input and output
- Documenting code
- Branching and looping / Program style
- Data types
- Using predefined functions / Creating functions
- Variable scope
- Overloading functions / Calling functions by reference
- Testing and debugging functions
- Using files for input and output
- Using and creating data structures
- Using classes Arrays
- Inheritance

**Specific Learning Activities**

- Threaded discussions
- On-line chat sessions
- Guided programming practice
- Text and course content reading
- Programming projects

**National Standards addressed**

**S1** Basic computer operations and concepts

**S2** Social, ethical, and human issues and Responsible use of technology

**S3** Productivity tools

**S4** Telecommunications and Communications tools

**S5** Research tools

**S6** Problem-solving and decision-making tools

**Grading Criteria:** The overall grade will be based on assignments, activities and projects.

**Course Materials (Supplied by COL):**

- Course text – A guide to Programming in C++

- Course CD – Visual C++

**Course Materials (not supplied by COL):**

- Access to PC (Macs will not work)
- Permission to load software on PC

**JAVA PROGRAMMING (Tech 102)**

Course Length: 1 Semester (Offered Fall and Spring) Grade: 10, 11, 12

Credit per Semester: .5 Prerequisites: Completion of Algebra I

Instructor: Terry Rosen and Geometry

**Skills/Aptitudes Students Need to be Successful:**

- An understanding of mathematical variables and functions
- The ability to abstractly conceptualize events and processes
- A genuine interest in computers and specifically computer programming

**Course Description**

This course introduces students to the computer programming language Java. Students will begin by exploring a brief history of software engineering. Students will then learn simple syntax of the Java programming language. Applets will be created and shared, and the concepts of inheritance, algorithms, data structures, object-oriented programming, and recursion will be utilized.

**Topic to be Covered:**

- Software Engineering history
- Algorithms and program design
- Compiling and running programs / Programming errors
- Basic Java Programming Constructs
- Java Class Libraries
- Variables and assignments / Input and output
- Documenting code
- Branching and looping / Program style
- Data types
- Stacks
- Sets
- Queues
- Recursion

**Specific Learning Activities**

- Threaded discussions
- On-line chat sessions
- Guided programming practice
- Course content internet research
- Programming projects

**National Standards addressed**

**S1** Basic computer operations and concepts

**S2** Social, ethical, and human issues and Responsible use of technology

**S3** Productivity tools

**S4** Telecommunications and Communications tools

**S5** Research tools

**S6** Problem-solving and decision-making tools

**Grading Criteria:** The overall grade will be based on assignments, activities and projects.

**Course Materials (supplied by COL):** Introduction to Computer Science using Java

**Course Materials (not supplied by COL):** Permission to load software on PC

**COMPUTER ANIMATION: THE POWER OF FLASH (Tech 103)**

Course Length: 1 Semester (Offered Fall and Spring) Grade: 10, 11, 12

Credit per Semester: .5 Prerequisites: None

Instructor: Kevin Viau

**Course Description**

Get ready for some extreme multimedia fun! Using cutting edge software, students are introduced to:

- The power of Macromedia Flash - #1 web animation program on the market!
- Creative web page/computer animations projects using vector graphics and graphic design principles that will make the web come alive!
- Eye-popping 2D/3D computer animation resources.

Students will have the opportunity to use real-world software tools that will teach computer graphic and animation skills. By the end of the course, students will have the skills to create their own computer and web page animations using Flash.

**Topic to be Covered:**

- 2D Animation – Students will explore computer animation and visual effects software that is used by the entertainment industry. Students will learn basic animation tools to produce their own animated movies.
- An analysis of graphics design and animation principles that will provide students with the skills to develop visual designs that transform text and images into effective computer and web page animations.

**National Standards addressed**

**S1** Basic computer operations and concepts

**S2** Social, ethical, and human issues and Responsible use of technology

**S3** Productivity tools

**S4** Telecommunications and Communications tools

**S5** Research tools

**S6** Problem-solving and decision-making tools

**Grading Criteria:** Grade is based on a percentage of points earned in course projects and unit assignments.

**Course Materials (supplied by COL):** No textbook required. All software provided by COL

**Course Materials (not supplied by COL):** Permission to load software on PC (Macs/Apple computers will not work with this course). Access to PC with the minimum technology requirements:

PC – Intel® Pentium® III or 4 processor (any speed)

Microsoft® Windows® 2000 with Service Pack 3 or Window 98 or Windows XP

## OTHER COURSE DESCRIPTIONS ARE AVAILABLE IN THE COUNSELOR'S OFFICE