

Excel High School

Online Virtual Learning

Core/Elective Course Descriptions

Spring/Summer 2009



Our instructional program is aligned to national and state standards and has been successfully implemented in school districts across the country since 1998; helping students at all skill levels realize academic success. The online program is led by highly qualified master teachers delivering content rich lessons and supported by online activities. Students are able to learn at their own pace and make meaningful academic gains. Our instructional programs provide learning opportunities for students in non-traditional, at-risk, home bound, or other alternative setting to recover credits through virtual online courses in a flexible and engaging environment. Teachers and administrators can assign, monitor and assess student progress through management, tracking and reporting tools.

EDUCATION 2020 provides a comprehensive curricular offering for students in grades 7-12 in the core content areas including Mathematics, Science, Language Arts, Social Studies and Elective Courses.

Mathematics

6th Grade Math - MA877 Two-semester course that focuses on statistics, in-depth focus on the rational number system (whole numbers, integers, fractions, decimals) plane geometry topics including measurement and symmetry, introduction to variables and formulas, patterns, simple equations, number theory, probability and functions. Interspersed throughout the course are numerous opportunities for the development of vital problem-solving skills at the middle school level. These problem-solving lessons are designed to be integrated into the regular curriculum or may be used as a stand-alone mini-unit course. Topics include: working backwards, making a table, and creating a pattern.

7th Grade Math – MA878 Two-semester course that solidifies a students' knowledge of number theory (including fractions, prime factorization, exponents, percents), proportional reasoning, beginning algebraic concepts such as solving one and two-step equations containing rational numbers, two- and three-dimensional figures geometry topics, and an introduction to graphing on the coordinate plane. Interspersed throughout the course are numerous opportunities for the development of vital problem-solving skills at the middle school level. These problem-solving lessons are designed to be integrated into the regular curriculum or may be used as a stand-alone mini-unit course. Significant topics include: writing equations, try, check and revise, and drawing diagrams.

Pre-Algebra - MA879 Two-semester preparation course for students on the verge of Algebra I concepts. Well rounded and in-depth, this course offers the following topics: rational number theory (including comparing and ordering on a number line), drawing conclusions from statistical data, ratios, proportions and percents, spatial thinking (topics include congruency, translations, and symmetry), introduction to sequences and patterns, and working with polynomials and functions. Interspersed throughout the course are numerous opportunities for the development of vital problem-solving skills at the middle school level. These problem-solving lessons are designed to be integrated into the regular curriculum or may be used as a stand-alone mini-unit course. Significant topics include: writing algebraic expressions, generating patterns and problem simulations.

Algebra I - MA880 Two-semester course that solidifies topics such as real numbers and

probability, provides an in-depth coverage of writing, solving and graphing equations and inequalities, functions and their graphs, graphing linear, exponential and quadratic equations, solving systems of equations and inequalities, quadratic equations and functions, radical and rational expressions and equations, and graphing translations, including rotations, dilations, and reflections.

Geometry - MA881 Two-semester hands-on and lecture-based course that features an introduction to geometry, including reasoning and proof and basic constructions. Students are taught how to organize and meld geometrical and algebraic concepts through writing, analyzing and using proofs. An in-depth coverage of triangle relationships (similarity and congruency) and quadrilaterals enables a student to further hone such concepts as surface area and volume, circles and transformations. Trigonometry is given due credit with topics including tangent ratios and the Laws of Sine and Cosine. Students are introduced to specific geometry topics, such as Golden Connections, Taxicab Geometry, Fractals and Topology.

Algebra II - MA882 Two-semester course serving as a perfect extension of MA880. This course covers advanced algebraic concepts such as trigonometry, statistical analysis, and permutations and sequences and series. Students learn to manipulate and use matrices in various formats to determine data relationships. Functions are given center stage in this course, delving into function types such as polynomial, logarithmic, quadratic, exponential and rational and periodic. Upon completion of MA882, students will have the necessary and vital skills needed to experience success in state standardized tests and national exit exams.

Pre-Calculus - MA883 Two-semester course with explores in great detail the relationship that exists between advanced algebra topics and trigonometry objectives. An exploration into the nature of graphs (including the twelve basic functions) is provided along with nonlinear systems, polynomial and rational functions. Logarithmic knowledge and application is developed. A large portion of the class focuses on trigonometric graphs and identities. Other topics include vectors, parametric equations and sequences and series. The students are introduced into the world of calculus, by exploring topics of limits, continuity, derivatives and the Fundamental Theorem of Calculus.

Science

Life Science – SC754 Designed as a two-semester course for middle-school students, Life Science-SC754 offers a broad experience in the biological sciences. Beginning with life on a small scale through an introduction to cells, students are introduced to structures and functions of cells, the cell theory, cell reproduction and genetics. A brief unit on evolution gives students some background on Darwin's theory and evidence of the past. Life Science-SC754 also provides students with an understanding of the classification and organization of living organisms and the characteristics of the variety of plant and animal groups. An in-depth unit of human biology is included to emphasize the organ systems and their functions in maintaining a healthy life. The course also includes a study of ecology and the interrelationships that help to maintain life on earth.

Earth Science – SC755 This two-semester course covers many aspects of earth science including an overview of Earth's structure, rocks and minerals and Earth's resources. A major unit on the forces that change the earth includes lessons on plate tectonics, earthquakes, volcanoes and erosion, concluding in a section that discusses Earth's history of change through the fossil record. A general study of oceanography explores such concepts as the sources of water, currents and climate, and the structure of the ocean environment. Earth Science-SC755 also includes a section of atmospheric science with lessons that cover concepts in understanding weather and climate. Rounding out this analysis of the earth is a unit on space science that exposes students to the interactions of the earth, moon and sun and an overview of our solar system and the universe beyond.

Physical Science – SC756 Students receive a thorough introduction to chemistry, physics and astronomy in this two-semester course. Chemistry concepts include the structure and properties of matter, elements and the periodic table, chemical bonds and reactions, as well as acids, bases and solutions. An overview of motion, forces and energy is the focus of the physics section of the course. Newton's laws, work and machines and energy are the major ideas explored. An introduction to the earth and its place in the universe complete the contents of this course.

Biology – SC757 This two-semester high school course covers an in-depth view of biological science concepts. A brief section of biochemistry leads into an overview of ecology and the interactions of the environment and populations of living organisms. A comprehensive section on cellular biology and genetics exposes students to biology on a small scale that leads to the theory of evolution and the history of life on earth. The remainder of the course explores the complexity and variety of life on earth with sections devoted to simple organisms, plants, invertebrates and vertebrates as well as human biology.

Chemistry – SC758 Designed as a two-semester high school course, Chemistry-SC758 covers the foundation for the composition, structure and reactions of matter. Beginning with a discussion of scientific measurements, and general properties of matter, a good deal of the course covers the structures of the atoms, the periodic table, types of bonds and equations. Other topics involve students in states of matter, reactions and the energy involved in chemical change. Sections on organic chemistry are also included as well as a brief overview of nuclear chemistry. This course requires students to have a solid foundation in math as calculations and conversions are basic components of chemistry.

Physics – SC759 As upper division two-semester high school course, Physics-SC759 provides the foundation for an understanding of the laws that govern the concepts of motion and energy. This course relies on the use of mathematics to represent and illustrate different phenomena, so students need to have a strong math background to be successful. Major themes on this course include mechanics, states of matter, waves and light, energy and magnetism and modern physics.

Language Arts

Language Arts 6 - LA851 Two-semester course that focuses on a variety of contemporary text; literary, expository, and informational. Each unit in the course contains diverse lessons; Skills, Literary/Expository, Informational, Communication, Grammar, and Writing lessons. This course introduces the student to literary skills such as plot, setting, characterization, and theme. Course topics include: Genre Studies, such as adventure, fantasy, and mystery; World Literature, stories from such places as China, Vietnam, and Europe; Literary Analysis of Drama, which includes teleplays and radio plays; Analyzing Nonfiction, such as speeches, biographies, and memoirs; and Reading Comprehension of Informational Text, such as websites, health documents, and environmental documents. Throughout the course are focused Skills Lessons that teach students how to analyze and evaluate text for success on standardized tests. The Writing Process is taught in each essay. Essays included are Expository, Narrative, Literary Analysis, Creative, and Functional.

Language Arts 7 - LA852 Two-semester course that uses a variety of text to teach literary and reading comprehension skills. Each unit contains: Skills Lessons, prepares students to learn skills necessary for standardized testing; Informational Lessons, introduces students to real-life topics that connect to the literary text; Communication Lessons, topics include Propaganda vs. Ethical Reasoning, Visual Literacy, Effective Listening Skills, and Censorship; Grammar Lessons, topics include Subject-Verb Agreement, Research Guidelines, Prepositional Phrases, Pronoun-Antecedent Agreement, and End Marks; and Writing Lessons, essays are taught using the Writing Process, topics include Persuasive Essay, Expressive Writing, Expository Essay, and Research Paper. Unit topics include literary skills such as Plot, Setting, Theme and Style. Additional topics include: Literary Criticism; World Literature; Tale, Legends, and Myths; Drama and Reading Comprehension of Informational Documents.

Language Arts 8 – LA853 This two-semester course uses diverse and contemporary text in order to prepare students for high school.

Some authors represented in the course include; Gary Soto, Toni Cade, Ray Bradbury, Gabriel Garcia Marquez, Nikki Giovanni, Roald Dahl, and Desmond Tutu.

Each unit contains Skills Lessons, Literary and Expository Text Lessons, Informational Lessons, Communication Lessons, Grammar Lessons, and Writing Lessons. Literary skills targeted in the course include: Plot, emphasis on structure, conflict, and subplots; Character, topics include character traits, character motivation, and biographical characters; Setting, which focuses on tone, mood, and writer's message; and Theme, emphasis on recurring themes, symbolism, and identifying theme. Units in the course include: Poetry and Prose, which covers sensory imagery, different forms of poetry, and sound devices; Literary Criticism, topics covered include author's viewpoint and aesthetic approach; World Literature, stories from Japan, Africa, and Mayan culture; American Folk Tales; Drama; and Informational Materials. Essays included in the course cover Functional Writing, Literary Analysis, Comparison-Contrast, and Informational.

Language Arts 9 – LA854 Two-semester course that focuses on a variety of text: literary, expository, and informational. Each unit in the course contains different lessons: Skills, Literary/Expository, Informational, Communication, Grammar, and Writing lessons. This course covers literary skills such as Plot – flashback and foreshadowing, Setting – time and sequence, Characterization - dialogue, Theme – universal theme, Style – figurative language, and Narrator – different types. Units include topics: Literary Analysis-Poetry; Autobiographies, Essays and Personal Accounts; and World Literature, theme is origin myths. Students also learn classics such as Homer's *The Odyssey* and William Shakespeare's *The Tragedy of Romeo and Juliet*. Informational Text reading skills are taught using consumer, workplace, technical, and public documents. Writing Lessons cover The Writing Process and also include a Research Workshop. Essay topics in the course include Business Letter, Research Paper, Literary Analysis Essay, Persuasive Essay, and Personal Narrative Essay.

Language Arts (continued)

Language Arts 10 – LA855 Two-semester course that focuses on preparing students for success on state exit exams. Each unit contains: Skills Lessons, prepares students to learn skills necessary for standardized testing; Informational Lessons, introduces students to real-life topics that connect to the literary text; Communication Lessons, topics include Debate, Analysis of Formal Speech, Visual Media Analysis, and Mass Media and Public Opinion; Grammar Lessons, topics include Subject-Verb Agreement, Modifiers, Active and Passive Voice, Main and Subordinate Clauses, and Sentence Structure; and Writing Lessons, essays are taught using the Writing Process, topics include Autobiographical Narrative Essay, Persuasive Essay, Descriptive Essay, Expository Essay, and Letter to the Editor. Unit topics include: Literary Analysis of Poetry; Evaluate and Clarify Expository Text; World Literature – theme Social Responsibility; Legends, Epics, and Myths – *Antigone, The Sword and The Stone*; Drama – Shakespeare’s *The Tragedy of Julius Caesar*; and Reading Comprehension – Informational text.

Language Arts 11 – LA856 This two-semester course’s main emphasis is American Literature. The course is structured chronologically by time period and literary era. Each unit contains introductory lessons that set the stage for the student to understand the background and historical events that impacted American literary and expository text. Topics include: Origins 2000 BC -1620; Slave Narratives; Puritan Style and Sermon; Romanticism and Transcendentalism; Realism; The Harlem Renaissance; Modernism; and Contemporary Literature. Authors represented include, Benjamin Franklin, Patrick Henry, Frederick Douglass, Chief Joseph, Edgar Allan Poe, Emily Dickinson, Walt Whitman, Henry David Thoreau, Nathaniel Hawthorne, Kate Chopin, Willa Cather, F. Scott Fitzgerald, Langston Hughes, Zora Neale Thurston, Martin Luther King Jr., Amy Tan, and Judith Ortiz Cofer. The course also contains a World Literature unit with stories from The Middle East, India, Japan, and Argentina. The course is rounded out by including Informational, Communication, Grammar, and Writing Lessons throughout each unit.

Language Arts 12 – LA857 Two-semester British Literature based course. The course is organized by chronological time period that includes: Anglo-Saxon and Old English Period: 449-1066; The Medieval Period: 1066-1485; The Renaissance 1485-1660; 17th & 18th Centuries (Restoration & Enlightenment): 1660-1798; Romantic Period 1798-1832; Victorian Period: 1832-1901; and Modern Period: 1901-1950. Each unit contains an introduction to the time period using a timeline and background lecture that discusses the philosophical, political, religious, ethical, and social influences of each time period. Authors represented include Homer, Chaucer, Boccaccio, William Shakespeare, Francesco Petrarch, Mary Wollstonecraft, Queen Elizabeth I, Percy Bysshe Shelley, Elizabeth Barret Browning, Robert Browning, and Virginia Woolf. The course also contains a World Literature unit with stories from India, Europe, China, and Spain. The course also includes Informational Lessons, Communication lessons, Grammar Lessons, and Writing Lessons.

Classics Novel Package includes thirteen classic novels and two author study courses. Novel titles include *Red Badge of Courage, The Three Musketeers, Call of the Wild, Midsummer' Night's Dream, Dr. Jekyll and Mr. Hyde, 1984, Gulliver's Travels, Jane Eyre, Robinson Crusoe, House of the Seven Gables, Portrait of the Artist as a Young Man, Mrs. Dalloway, and Heart of Darkness*. The two author study courses are Jorge Luis Borges and Flannery O’Connor. All reading material is included in an online format for the student. Novel courses include lectures, web activities, journals, homework/ practice, quizzes, and a test.

Social Studies

Middle School U.S. History – SS824 Designed as a two-semester course for middle school students, the lessons provide students with a comprehensive understanding of all aspects of American History, from colonization to present-day society. Upon completion of the course, students will have examined early European colonization and settlement in America, interactions with Native Americans, the Revolutionary War and the Declaration of Independence, America as a new nation, expansion and Manifest Destiny, progressive reforms, the Civil War, Reconstruction, industrialization, urbanization and social reform, World War I, the Great Depression, World War II, the Cold War, the Civil Rights Movement, the Korean War, the Vietnam War, modern America as a global power, and America in the 21st century.

Middle School World History – SS657 Designed as a two-semester course for middle school students that provides a basic overview of all aspects of World History from pre-historical times through the 21st century. Topics covered in this course include early civilizations, ancient empires, early formations of democracy, medieval societies, the Renaissance and Reformation, the Age of Exploration, the Enlightenment, revolutionary times, industrialization, urbanization, the emergence and acceptance of social reform, World War I, World War II, the Cold War, the emergence of modern society, and the continuing development and interdependence among 21st century nations.

Economics – SS662 Designed as a one-semester high school course, students will analyze the aspects of both the current American economy and the global economy as a systematic entity. The primary topics summarized in this course include the primary principles of economics, aspects of microeconomics, business and labor, monetary principles and banking, fundamentals of macroeconomics, government and its role in the economy, and conventions of current global economies.

Geography – SS663 Designed as a two-semester high school course, lessons examine all aspects of geography providing students with a concrete understanding of major geographic locations, world economic activities, historical and cultural aspects of societies, and a comprehensive understanding of both geographical tools and themes. Major global regions studied include: North America, Latin America, Europe, Russia, Asia, Africa, Oceania, and Antarctica.

Government – SS661 Designed as a one-semester high school course, students will examine all facets of American government from its formation to its present-day role as a global power. Topics discussed include: The foundations of American government, participating in government, the legislative branch, the executive branch, the judicial branch, civil liberties and law, state and local government, and global, political, and economic systems.

World History – SS660 Designed as a two-semester high school course, in which World History is presented to students as an integrated study of the political, economical, and social aspects of history. Topics covered include pre-history, the Nile and the Fertile Crescent, the Indus Valley, China's ancient civilizations, early American civilizations, Greece and Rome, the Middle Ages, the Crusades, African civilizations, East Asia, Renaissance and Reformation, the Global Age, Absolutism, Enlightenment and revolution, The Industrial Age, The Age of Revolutions, industrial nationalism, the New Imperialism, World War I and its aftermath, Fascism and dictatorship, the holocaust and World War II, origins of the Cold War, and conflict and cooperation in the modern world.

U.S. History – SS659 Designed as a two-semester high school course, students will examine the political, social, and economic aspects of American history from early colonization to present-day. Topics covered include European colonization, early settlements, the colonies and colonial society, English mercantilism, Native American conflict, the founding fathers, the Declaration of Independence, the Constitution, starting a nation, the Bill of Rights, Westward expansion, the War of 1812, the industrial revolution, early elections, states' rights, population and sectionalism, women's rights, slavery, the Civil War, Reconstruction, the Far West, Manifest Destiny, Native Americans, American industry, elections, foreign acquisitions, industrialization, labor, immigration, the progressive movement, American expansionism, Populism, World War I, women's suffrage, the Great Depression, U.S. occupations and World War II, the Red Scare, the Korean War, civil rights, the Vietnam War, America's role as a modern world leader after WWII, the Clinton years, the 9/11 attacks, the Bush Presidency, and America in the 21st century.

Electives

Health – EL683 Designed as a two-semester course for high school students. Health immerses students in knowledge spanning all aspects of health education pertinent to students' immediate world, their future, and that of society as a whole. Topics examined include character development, the varying facets of mental health, stress and its resulting consequences, family relations, emotional development, sexuality, functions and development of the human body, and overall physical well-being.

Career Skills – EL687 Intended to be an upper level high school one-semester course, Career Skills introduces students to a wide variety of career choices, by exploring the skills and steps required in obtaining optimum professional and financial success. Units include, assessing one's goals and attributes, exploring possible career opportunities and any accompanying skills necessary, preparing career documents (ex: cover letter, resume, applications, etc.), the job-search process, interviewing, work ethic, interpersonal relationships at work, professional communication, time management, and personal economic responsibilities.

Computer Applications – EL688 Intended as a one-semester course for any student, Computer Applications provides a broad overview of the basic computer applications used by society today. Students emerge with the essential knowledge to ensure continued academic and personal success. In this course, the primary computer applications covered include the basic components of the present-day computer, essential skills involved in word processing, desktop publishing, understanding and creating functional spreadsheets, databases, effective presentations using computer technology, and the Internet and website creation.

Consumer Skills – EL686 Designed as a one-semester course for the upper level high school student. Lessons present students with essential information regarding desired consumer skills for personal success. The primary skills examined include, ascertaining an understanding of the economic aspects of personal financial stability and success along with accompanying consumer responsibilities, aspects of healthcare, housing and its financial facets, and transportation cost and decisions.

Psychology - EL864 Designed as a one-semester course for high school students, the curriculum introduces the primary facets of psychology. The components of psychology discussed include a basic introduction to the history and research of psychology, an understanding of the biological aspects of psychology, learning and cognitive development, the stages of human development, aspects of personality and individuality, the development and management of psychological disorders, and the interactions of society as it relates to psychology.

Sociology – EL685 Designed as a one-semester course for high school students, the curriculum outlines the fundamental concepts of sociology. The elements of sociology examined include cultural diversity and conformity, basic structures of society, individuals and socialization, stages of human development as they relate to sociology, deviance from social norms, social stratification, racial and ethnic interactions, gender roles, family structure, the economic and political aspects of sociology, the sociology of public institutions, and collective human behavior both historically and in modern times.

Spanish I – EL689 Created to be a two-semester course for high schools students that allows for an individualized development of the Spanish language through the study of the core grammatical structures and the vocabulary necessary for elementary communication. Spanish I also provides students with an introduction into the traditions and customs of Spanish-speaking people across the world.