Humanities and Sciences Academy
of the United States, Inc.

Humanities and Sciences
HIGH SCHOOL
International Commerce

International Commerce Secondary Schools, Inc.

Course Catalog

The International Commerce Secondary Schools, Inc. and the Humanities and Sciences Academy of the United States, Inc. grant students of any race, gender, color, national and ethnic origin all rights, privileges, programs, and activities generally accorded or made available to students at the schools. It does not discriminate on the basis of race, gender, color, national and ethnic origin, disability, or limited English proficiency in administration of its educational policies, admission policies, scholarship, athletic and other school administered programs.

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MISSION

The mission of the Humanities and Sciences Academy of the United States, Inc. and the International Commerce Secondary Schools, Inc. is to prepare adult high school students (16 years of age to 21 years of age) academically for occupational education, post-secondary education, social responsibility, employability, and lifelong learning.

The International Commerce High School also provides Adult Basic Education, Adult Secondary Education, Literacy and English Language Acquisition for Adults.

The International Commerce High School predominantly serves adult students returning to education after having exited secondary school without a regular high school diploma; or who, based on their grade or age, are significantly off track to accumulate sufficient academic credits to meet high school graduation requirements, as established by the state. The adult students served may include but are not limited to students who have been adjudicated, students who are pregnant or primary caregivers, students who have dropped out or are likely to drop out, students who are in foster care, students who are homeless, and students with a history of high mobility. The majority of adult learners enroll as 5th, 6th and 7th year seniors. Ninety-nine percent of the adult learners are overage and/or under-credited, having not completed Arizona Administrative Code §R7-2-309 Completion of Grade 10.

The International Commerce High School is open twelve months per year, nine hours per day; all adult learners may access the curriculum 24 hours a day, 7 days a week, 365 days a year. New classes begin daily, and enrollment for these classes remains open July through June. The International Commerce High School uses an educational approach that addresses the needs of an underserved population of adult learners that are overage and/or severely under-credited by assessing, upon enrollment, both cognitive ability and the credits earned from previous schools. The International Commerce High School then provides a rigorous, individualized program of study where adult learners demonstrate proficiency by meeting high school graduation standards and career and college readiness preparation for postsecondary goals.

The International Commerce High School utilizes a robust menu of assessments to verify that students have met or exceeded high school graduation requirements and college and career ready standards. These assessments include the GED Ready enrollment exam, the American Heart Association Basic Life Support certification, faculty/student inquiry-based discussions, Rosetta Stone Language Learning assessments, Naiku end-of-course assessments, the United States naturalization exam, the GED Ready end-of-course exam, Aztec end-of-course assessments, the ACT WorkKeys National Career Readiness Certificate, the GED Ready exit exam, the General Educational Development exam, and the College Level Examination Program exams. All results are available in real time.

The International Commerce High School takes responsibility for all expenses related to the following examinations and certifications:

American Heart Association Basic Life Support Certification
As a service to adult learners who pass the American Heart Association Basic Life Support certificate examinations, the International Commerce High School pays for the American Heart Association Basic Life Support certificate through the American Heart Association. This certification increases student employability and is recognized by community colleges as a prerequisite for all healthcare career certificates and degrees.

ACT WorkKeys National Career Readiness Certificate
Adult learners take the ACT National Career Readiness Certificate course, a nationally recognized work skills credential. The ACT National Career Readiness Certificate (ACT NCRC®) is an assessment-based credential powered by ACT WorkKeys®. Issued at four levels, the ACT NCRC measures and certifies the essential work skills needed for success in jobs across industries and occupations. The ACT NCRC is widely used by employers, educators, workforce developers, and others with a stake in the success of the economy. More than 2.3 million ACT NCRCs have been issued nationwide since the credential was introduced in 2006.

ACT NCRC highlights:
Awarded at four levels— Bronze, Silver, Gold, and Platinum; Research-based assessments; Measures and certifies broadly relevant foundational work skills; Recognized and recommended by thousands of employers; Gold and Platinum levels are recommended for college credit by the American Council on Education (ACE); Serves as the basis of state- and county-level workforce and economic development initiatives.

The International Commerce High School provides adult students with additional college and career readiness training opportunities through the following:

WorkKeys Curriculum Applied Technology – Electricity, Fluid Dynamics, Mechanics, Problem-Solving Strategies, and Thermodynamics
WorkKeys Curriculum Essential Skills – Customer Service, Financial Awareness, Interpersonal and Business Communication, Problem Solving and Critical Thinking, Work Discipline, and Working in Teams
WorkKeys Curriculum – Business Writing and Workplace Observation

College Level Examination Program – CLEP
Over 2,900 colleges and universities grant credit for CLEP exams. By taking the CLEP exams, learners earn college credit for what they already know, saving both time and money towards earning a degree. Students may take CLEP examinations in: Composition and Literature; World Languages; History and Social Sciences; Science and Mathematics; and Business. Since 1998, students at the International Commerce High School and the Humanities and Sciences Academy Arizona have been very successful in taking these tests. Their success has saved students time and money in their post-secondary education.

General Educational Development Test
Since 1997, adult learners, eighteen (18) years or older, may take the General Educational Development test once they have completed the Reading Foundations courses. Students who earn college readiness scores may qualify for (1) a waiver from developmental education requirements and courses, and/or (2) a waiver from placement testing. Students who score at the College Ready + Credit level earn a recommendation to receive college credits when they enroll in a participating postsecondary institution.

As a service to adult learners who pass the ACT WorkKeys National Career Readiness certificate examinations, College Level Examination Program Exams, and General Educational Development Tests, the International Commerce High School takes responsibility for all expenses related to the American Council on Education College Credit Recommendation transcript through the American Council on Education Registry of Credit Recommendations. These credit recommendations are valuable for student employability and are recognized by the military, community colleges, colleges, and universities nationwide.

The International Commerce High School does not receive federal compensatory education funding. The International Commerce High School does not participate in Title I-A: §1112(a)(1)(A), §1112(b)(7-10); Title II-A §2102(b)(3)(A), §2102(b)(2)(D); Title IIIA §3116(b)(4)(C); and Title IV-A §4106(c)(1-2) programs and does not provide Free and Reduce Priced Lunch.

GOALS

The Humanities and Sciences Academy of the United States, Inc., and International Commerce Secondary Schools, Inc., have an academic goal to assist students in reaching their maximum potential by:

a. Producing **knowledgeable and responsible students/citizens** who participate in American democracy as part of the global society with a broad based knowledge of history, cultures, geography, sciences, and mathematics.

b. Improving **employability in the workplace** with the development of basic skills (reading, writing, speaking and thinking in English, numeracy, problem solving and higher order thinking skills).

c. Developing habits, attitudes, and values necessary for **productivity in the workplace**.

d. Developing skills to become **lifelong learning citizens** able to learn about and adapt to the changes that will occur throughout life after the completion of initial formal education.

The high schools' objectives are attainable through the commitment to provide a proactive learning environment.

GRADUATION REQUIREMENTS AND TESTING

Postsecondary education and occupational education: the Arizona Academic Learning Standards define the knowledge students should possess. They also provide details for the more general, abstract goals of education by specifying what thinking and performance capabilities students should master. The standards outline the academic content and skills students should master by graduation from high school.

Social responsibility: progress in social responsibility for an individual student can be measured by reviewing individual portfolios and competency examinations. Students have a broad based knowledge of history, cultures, geography, science, and mathematics.

Employability in the workplace: progress in employability for an individual student can be measured by reviewing competency examination scores. Students must master the standards at or above the national norm to earn credit for completed courses. Students have developed their skills in reading, writing, speaking, and thinking in English, numeracy, problem solving, and higher order thinking skills. Individual students demonstrate the development of habits, attitudes, and values by their commitment to academic participation.

Lifelong learning: the high schools ensure that individual students have developed the ability to be independent, self-directed learners, and to use the tools necessary for lifelong learning.

The International Commerce High School provides a rigorous, accelerated academic program in language arts, literature, social studies, mathematics, and natural sciences. These disciplines integrate the Arizona Academic Learning Standards.

The International Commerce High School also provides Adult Basic Education, Adult Secondary Education, Literacy, and English Language Acquisition for Adults.

INSTRUCTIONAL METHODOLOGY

All courses in both schools are taught by highly qualified, certified instructors using inquiry-based discussion, cooperative learning, and technology. Instruction takes place in small groups and one to one.

GRADUATION REQUIREMENTS

Class of 2013 and Beyond [1]	
English	4 credits
Math [2]	4 credits
Science [3]	3 credits
Social Studies [4]	3 credits
CTE/Vocational Ed. or Fine Art	1 credit
Electives	7 credits
Total	**22 credits**

[1] According to Arizona Administrative Code R7-2-302.1(a-f)

[2] Math courses shall consist of Algebra I, Geometry, Algebra II (or its equivalent) and an additional course with significant math content as determined by district governing boards or charter schools.

[3] Three credits of science in preparation for proficiency at the high school level on the statewide assessment.

[4] Social Studies shall consist of one credit of American History, including Arizona History, one credit of World History/Geography, one-half credit of American government, including civics and Arizona government, and one-half credit of economics.

[5] Arizona's Tri-University system requires two (2) years of the same foreign language. Rosetta Stone Levels 1 and 2 satisfy this requirement.

TESTING

Competency Examinations

The International Commerce High School and the Humanities and Sciences Academy use the General Education Development Official Practice Test as a nationally normed competency examination. Competency examinations are used as a placement assessment device on the first day the student enters schools. At the end of each course, the student must take the pertinent section of the competency examination to assess proficiency and the assigning of a course grade. In order to graduate, each student must pass all sections of the competency examination.

**According to Arizona Administrative Code R7-2-302.5(c), upon request of the student, the local school district governing board or charter school shall provide the opportunity for the student to demonstrate competency in the subject areas listed in subsections (1)(a) through (1)(f) of this Section above in lieu of classroom time. In appropriate courses, a school district governing board or charter school shall include as a mechanism to demonstrate competency a score determined by the State Board as college and career ready on the appropriate assessment adopted by the State Board pursuant to A.R.S. §§ 15-741 or 15-741.01.

SAT, ACT, CLEP, NCRC, and GED Examinations

Upon completion of the course of study the high schools will reimburse students who successfully take the American College Testing (ACT), the Scholastic Aptitude Test (SAT), the ACT National Career Readiness Certificate (NCRC) (see page 5), and the College Level Examination Program (CLEP) examinations (see page 6). Students eighteen (18) years or older, will be reimbursed for successfully take the General Educational Development High School Equivalency Test once completing the Foundation Reading courses. This test can be used by for college or occupational program admissions and scholarships.

ACT Aspire and ACT

The ACT Aspire and ACT are Arizona's statewide achievement tests designed to measure student proficiency on reading, writing, science and mathematics standards. ACT Aspire will be given to all 9th graders and the ACT will be given to all 11th graders. Passing scores are not a graduation requirement. However, all students are expected to participate in the examination(s) according to the requirements of the Arizona State Board of Education.

AZSci

The Arizona Statewide Achievement Assessment for Science (AzSCI) is a statewide achievement test that assesses the Arizona Science Standards adopted by the Arizona State Board of Education in 2018. AzSCI is a computer-based assessment. Students' apply critical thinking skills and provides opportunities to demonstrate a deeper understanding of the materials. It is required of all 11th graders and is not a graduation requirement.

AZELLA

Arizona's English Language Learner Assessment (AZELLA) is a standards based assessment that measures English language proficiency based on the Arizona English Language Proficiency Standards. AZELLA meets both state and federal requirements in assessing the language proficiency of students identified as second language learners. Students may be required to take a placement and reassessment test in one school year.

CIVICS

Students are required to pass a civics test based on the United States Immigration and Naturalization civics questions. A minimum score of 70% is required in order to graduate from high school or obtain a high school diploma. This score is recorded on students' transcripts.

COLLEGE AND CAREER READY TESTING



A nationally recognized work skills credential
The ACT National Career Readiness Certificate (ACT NCRC®) is an assessment-based credential powered by ACT WorkKeys®. Issued at four levels, the ACT NCRC measures and certifies the essential work skills needed for success in jobs across industries and occupations. The benchmarks for the ACT WorkKeys were approved by the Arizona State Board of Education as a College and Career Readiness Indicator.

The ACT NCRC is widely used by employers, educators, workforce developers, and others with a stake in the success of the economy. More than 2.3 million ACT NCRCs have been issued nationwide since the credential was introduced in 2006.

ACT NCRC highlights
- Awarded at four levels—Platinum, Gold, Silver, and Bronze
- Powered by ACT WorkKeys research-based assessments
- Measures and certifies broadly relevant foundational work skills
- Recognized and recommended by thousands of employers
- Recommended for college credit by the American Council on Education (ACE)
- Serves as the basis of state- and county-level workforce and economic development initiative.

Based on ACT WorkKeys foundational skills assessments
The ACT NCRC is based on ACT WorkKeys research-based work skills assessments. To earn an ACT NCRC, an examinee must successfully complete three ACT WorkKeys assessments: Applied Mathematics, Locating Information, and Reading for Information.

These assessments measure a range of essential work skills, including the ability to:
- Perform basic mathematic operations relevant to the workplace
- Read and understand documents commonly found in the workplace
- Find information presented in common workplace graphics
- Set up and solve complex work-related math problems
- Determine the relevance of written information
- work-related tasks
- Apply information derived from graphics to work-related problems

Four levels of proficiency
The ACT NCRC is awarded at four levels, based on the scores achieved on the component assessments.
- Platinum: Scores of Level 6 or higher on all three exams
- Gold: Scores of Level 5 or higher on all three exams
- Silver: Scores of Level 4 or higher on all three exams
- Bronze: Scores of Level 3 or higher on all three exams

ACT NCRC levels correspond to the skill requirements of ACT-profiled jobs in the ACT JobPro® database.
- Platinum indicates the skills required for approximately 99% of profiled jobs
- Gold indicates the skills required for at least 93% of profiled jobs
- Silver indicates the skills required for at least 69% of profiled jobs
- Bronze indicates the skills required for at least 17% of profiled jobs

Benefits of the ACT NCRC
- **Job seekers and incumbents:** A valuable work skills credential with the potential to improve career outcomes
- **Employers and human resources professionals:** A trusted indicator that, in combination with other selection tools, can improve hiring, training, or promotion decisions
- **Students and educators:** A credential that helps students succeed in a variety of career pathways
- Workforce developers: A tool that helps displaced workers reenter the job market
- **Economic developers:** Evidence of a skilled workforce that helps attract business and industry to states and local communities
- **Industry associations:** A foundation for industry- and occupation-specific stackable credentials
- **Policymakers and legislators:** A component of policy and legislative solutions to the nation's economic and educational challenges

ACT® National Career Readiness Certificate

For more information about the ACT National Career Readiness Certificate, go to act.org/workforce.

THE COLLEGE-LEVEL EXAMINATION PROGRAM (CLEP) is the most widely accepted credit-by-examination program in North America. Meeting the cut score on a CLEP examination has been approved by the Arizona State Board of Education as a College and Career Readiness Indicator. The CLEP program's 33 exams span five subject areas. The exams assess the material commonly required in an introductory-level college course. Examinees can earn from three or more credits at over 2,900 colleges and universities in the U.S. and Canada.

College Board's College-Level Examination Program exams are typically taken by people who have acquired knowledge outside the classroom and who wish to bypass certain college courses and earn college credit. The CLEP program is designed to reward examinees for learning – no matter where or how that knowledge was acquired. Although most CLEP examinees are adults returning to college, many graduating high school seniors, enrolled college students, military personnel, veterans, and international students take CLEP exams to earn college credit or demonstrate their ability to perform at the college level. There are no prerequisites, such as age or educational status, for taking CLEP examinations. However, because policies on granting credits vary among colleges, see the College Board website for more information on which institutions accept CLEP exams as college credit.

In addition to their text book, students will be provided with an online *Modern States* account to supplement their learning with extra lessons and practice problems. Modern States Education Alliance is a non-profit dedicated to making a high quality college education free of cost and accessible to any person who seeks one. The courses are

What Your **CLEP** Score Means

In order to reach the total score you see on your score report, two calculations are performed.

First, your "raw score" is calculated. This is the number of questions you answered correctly. Your raw score increases by one point for each question answered correctly, and no points are gained or lost when a question is not answered or is answered incorrectly.

Second, your raw score is converted into a "scaled score" by a statistical process called equating. Equating maintains the consistency of standards for test scores over time by adjusting for slight differences in difficulty between test forms. This ensures that your score does not depend on the specific test form you took or how well others did on the same form. Your raw score is converted to a scaled score that ranges from 20, the lowest, to 80, the highest. The final scaled score is the score that appears on your score report. The score scale is defined so that a scaled score of 50 corresponds to the score recommended by a panel of educators as the lowest score for which course credit should be granted.

To see whether you attained a score sufficient to receive college credit, compare your score to the score in the table shown. The scores that appear in this table are the credit- granting scores recommended by the American Council on Education (ACE). Each college, however, reserves the right to set its own credit-granting policy, which may differ from that of ACE. If you have not already done so, contact your college as soon as possible to find out the score it requires to grant credit, the number of credit hours granted and the course(s) that can be bypassed with a satisfactory score.

Please note that College-Level Examination Program® (CLEP®) examinations are developed and evaluated independently and are not linked to each other except by the program's common purpose, format, and method of reporting results. For this reason, direct comparisons should not be made between CLEP examinations in different subjects. CLEP scores are not comparable to SAT® scores or other test scores

Test scores are kept on file for 20 years. During this period, score reports may be sent to an institution, but only at the request of the candidate. A Transcript Request Form and instructions for having a transcript sent to an institution can be downloaded from the CLEP website (collegeboard.org/clep) or obtained by contacting CLEP

Candidates may not repeat an examination of the same title within the specified wait period of the initial testing date. If the candidate retakes the examination within the specified wait period, the administration will be considered invalid, the score will be canceled and any test fees will be forfeited. For military service members: effective December 11, 2010, DANTES does not fund retesting on a previously funded CLEP exam. However, service members may personally fund a retest after the specified wait period.

If you have a question about your score report, about a test question or about any other aspect of a CLEP examination that your test center cannot answer, write to CLEP, P.O. Box 6600, Princeton, NJ 08541-6600 or email clep@info.collegeboard.org.

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COLLEGE AND CAREER READY TESTING

2017-18 CLEP® Credit-Granting Recommendations

	Computer-Based Testing (CBT) and paper-and-Pencil Testing	
	ACE Recommended Score[1]	Semester Hours[1]
Business		
Financial Accounting	50	3
Information Systems	50	3
Introductory Business Law	50	3
Principles of Management	50	3
Principles of Marketing	50	3
Composition and Literature		
American Literature	50	3
Analyzing and Interpreting Literature	50	3
College Composition	50	6
College Composition Modular	50	3
English Literature	50	3
World Languages		
French Language, Level 1 Proficiency	50	6
Level 2 Proficiency	59	9
German Language, Level 1 Proficiency	50	6
Level 2 Proficiency	60	9
Spanish Language, Level 1 Proficiency	50	6
Level 2 Proficiency	63	9

For each of the world languages, there is only one exam covering both Level 1 and Level 2 content. ACE recommends 6 semester hours of credit for mastery of Level 1 content (a score of 50) and 9 semester hours of credit for mastery of both Levels 1 and 2 (a score of 59 on French Language, 60 on German Language, and 63 on Spanish Language).

History and Social Sciences		
American Government	50	3
History of the United States I: Early Colonization to 1877	50	3
History of the United States II: 1865 to Present	50	3
Human Growth and Development	50	3
Introduction to Educational Psychology	50	3
Introductory Psychology	50	3
Introductory Sociology	50	3
Principles of Macroeconomics	50	3
Principles of Microeconomics	50	3
Social Sciences and History	50	6
Western Civilization I: Ancient Near East to 1648	50	3
Western Civilization II: 1648 to Present	50	3
Science and Mathematics		
Biology	50	6
Calculus	50	4
Chemistry	50	6
College Algebra	50	3
College Mathematics	50	6
Natural Sciences	50	6
Precalculus	50	3

[1] The American Council on Education's College Credit Recommendation Service (ACE CREDIT) has evaluated CLEP processes and procedures for developing, administering, and scoring the exams. The scores listed above are equivalent to a grade of C in the corresponding course. The American Council on Education, the major coordinating body for all the nation's higher education institutions, seeks to provide leadership and a unifying voice on key higher education issues and to influence public policy through advocacy, research, and program initiatives. For more information, visit the ACE CREDIT website at acenet.edu/acecredit.

CollegeBoard

INTERNATIONAL COMMERCE HIGH SCHOOL

The course of study for each student follows the high school graduation requirements of the State Board of Education and the prerequisite requirements of the student's career objectives as outlined in the Community College Certificate of Completion program and/or Associate of Arts Degree, Associate of General Studies Degree or Associate of Applied Science Degree.

Foundations Reading:

- Orientation
- American Heart Association Basic Life Support/ Health
- *Merriam-Webster's Collegiate Dictionary*
- *Algebra To Go*
- *Writers INC*
- *Geometry To Go*
- *The New Dictionary of Cultural Literacy*

Foundations Mathematics:

- Mathematics 1
- Mathematics 2
- Mathematics 3
- Algebra
- Geometry
- Algebra II
- Data Analysis

Foundations Science:

- Life Science
- Earth Science
- Physical Science
- Chemistry

Foundations Social Studies:

- World Geography, World History to 1550
- World History since 1550, World Politics
- American Geography, American History to 1865
- American History since 1865, American Politics
- Arizona History and Government
- Economics
- Anthropology, Psychology, and Sociology

Foundations Writing:

- English 1-2
- English 3-4
- English 5-6
- English 7-8
- *Introduction to Great Books, 1st Series*
- *Introduction to Great Books, 2nd Series*
- *Introduction to Great Books, 3rd Series*

College-Level Examinations Program
Vocational/Career and Technical Education
Additional Electives

**All one-credit courses in both schools are divided into quarters (A, B, C, and D) and all half-credit courses are divided in half (A and B). Students earn a quarter credit (0.25) upon completion of each portion of all courses.

ADULT SECONDARY EDUCATION

English Language Arts
Mathematics
Science
Social Studies
Workplace Skills

FOUNDATIONS READING

ORIENTATION **0.25 ELE**

Student orientation includes completing a competency test to measure students' skill levels in language arts, mathematics, social studies, and science. It also includes reviewing and discussing the student contract to ensure that students understand the rules and expectations the schools has for its students, as well as what the students can expect from the schools. Students review the schools' mission, philosophy, and how students can access school services. Students also are introduced to the schools' method of instruction by participation in an inquiry-based learning discussion. An inquiry-based learning discussion includes multiple readings of a passage and a group discussion over the ideas and meanings contained in the passage. Students practice this methodology using a short story by Leo Tolstoy titled "The Two Brothers." Additionally, students receive instruction on using primary reference materials to assist them in course assignments. Students learn test taking and study strategies in order to be successful in secondary education. Orientation also includes a primer and discussion on calculator basics using the Casio *fx*-260 scientific calculator. These resources are essential for students to complete secondary education as well as to become lifelong learners.

AMERICAN HEART ASSOCIATION 0.50 ELE
BASIC LIFE SUPPORT / HEALTH

The American Heart Association Basic Life Support / Health course includes skills and functional information to help students determine personal values that support healthy behaviors, help students develop group norms that value a healthy lifestyle, and help students develop the essential skills necessary to adopt, practice, and maintain health enhancing behavior. Coursework is delivered through a blended learning delivery method. Blended learning is a combination of eLearning, in which a student completes part of the course in a self-directed manner, followed by a hands-on session. HeartCode BLS uses a variety of eLearning assets such as dramatizations, eSimulations, animations, self-directed learning, and interactive activities to teach students BLS knowledge and skills.

After completing the online portion, students attend a structured BLS Hands-On Session with an AHA Instructor. This session focuses on meaningful skills practice, debriefing, team scenarios, discussions of local protocols, and skills testing. Where available, students may also complete the hands-on session with a voice-assisted manikin (VAM).

This course teaches adult and child Cardiopulmonary Resuscitation (CPR) and AED use, infant CPR, and how to relieve choking in adults, children, and infants.

MERRIAM-WEBSTER'S COLLEGIATE DICTIONARY **0.5 ELE**

Merriam-Webster's Collegiate Dictionary course is designed to thoroughly introduce students to the dictionary. Students use an approach that integrates reading, writing, and thinking to learn key strategies needed to interpret a variety of written and graphic material. This course introduces the core skills learners need to master basic competencies in language arts, mathematics, science and social studies. The format of the course encourages both individual study as well as cooperative learning. Students are encouraged to express their knowledge orally through group discussion and teamwork.

Merriam-Webster's Collegiate Dictionary provides a wealth of knowledge reaching beyond basic definitions and information about words. Students engage in the reading process to develop skills in phonemic awareness, phonics, fluency, vocabulary and comprehension to build a solid foundation of linguistic understanding. Students acquire and use new vocabulary by learning to infer word meanings from context, distinguish between the denotative and connotative meanings of words, draw inferences about the meaning of new vocabulary based on knowledge of linguistic roots and affixes, and identify the meanings, pronunciations, syllabication, synonyms, parts of speech, and correct spellings by using *Merriam-Webster's Collegiate Dictionary*. Students improve their abilities to read with fluency and comprehend texts by employing strategies such as generating clarifying questions, using graphic organizers, as well as connecting information and events in text to experience and to relate other texts and sources. Students improve their writing abilities by using *Merriam-Webster's Collegiate Dictionary* to identify correct punctuation, grammar usage, capitalization and spelling during the drafting process. Students learn to write in a format appropriate to audience and purpose. Students learn to use word choice in their writings that reflect the writer's use of specific words and phrases that convey the intended message and employ a variety of words, such as literal and figurative language, that are functional and appropriate to the audience and purpose. Students develop an understanding for fluency in sentence structure and lengths to reinforce relationships among ideas and to enhance the flow of the writing. Students learn how to use "Biographical Names" and "Geographical Names" to describe, explain, inform and summarize ideas and content for expository writing.

ALGEBRA TO GO **0.5 ELE**

Algebra to Go is designed to reinforce reading comprehension, discussion, and writing skills by using Data Analysis A as a resource for learning mathematics. Students use an approach that integrates reading, writing, and thinking to learn key strategies needed to interpret a variety of written and graphic material. This course introduces the core skills learners need to master basic competencies in reading and mathematics. The format of the course encourages both individual study as well as cooperative learning. The student is encouraged to express his or her knowledge orally through group discussion and teamwork.

Students will learn how to use the TI-30XS MultiView™ scientific calculator to solve mathematics problems. Through Math Review students will understand and apply concepts including operations, decimals, fractions, percentages, data analysis, data displays, measurement and geometry. Through Algebra I students will understand and apply concepts including sets and set operations, number systems, algebraic laws and operations, exponents and radicals, polynomials and rational expressions, equations, graphing, linear equations and systems of equations, inequalities, relations and functions, and measures of central tendency. Through Algebraic Equations students will understand and apply concepts including matrices, determinants, and systems of equations, quadratic equations, equations of higher order, ratio, proportion and variation, logarithms, sequence and series, conic sections, and radical equations. Through Geometry I students will understand and apply concepts including points, lines and planes, angles, angel relationships, parallelism, triangles, quadrilaterals, and proportions and similarity. Through Weights and Measures students will understand and apply concepts including Systeme Internationale D'Unites, SI/metric prefixes, length-metric, nonmetric, metric-nonmetric conversions, mass-metric, weight-nonmetric, mass-weight conversions, area- metric, nonmetric, metric-nonmetric conversions, time, speed- metric, nonmetric, metric-nonmetric conversions, fluid volume- metric, nonmetric, metric-nonmetric conversions, dry volume- metric, nonmetric, metric-nonmetric conversions, energy, power and electricity, additional units for energy, power and electricity, Richter Scale of Earthquake Magnitude, modified Mercalli Intensity Scale, Saffir-Simpson Hurricane Scale and Storm Surge, Enhanced Fujita Scale, Fahrenheit to Celsius conversion, Celsius to Kelvin conversion, mineral hardness scales, geometry, Ph scale, electromagnetic spectrum, dew point, wind chill, heat index and geologic time scale. In addition, students will use an almanac of math-related skills and a glossary of mathematical formulas, terms, and symbols. Students will develop reference skills that will be used throughout the Foundations curriculum.

Internet based instruction is available to supplement all written work. Students will also be provided the Encyclopedia Britannica Online, World Data Analyst, Annals of American History and Merriam-Webster's 3rd Unabridged Dictionary Online as resources.

WRITERS INC **0.5 ELE**

Writers INC is designed to introduce and enhance students' abilities to read and comprehend the following types of materials: nonfiction, poetry, short fiction, and visual aids. Students use an approach that integrates reading, writing, and thinking to learn key strategies needed to interpret a variety of written and graphic material. This course introduces the core skills learners need to master basic competencies in reading and writing. The format of the course encourages both individual study as well as cooperative learning. Students are encouraged to express their knowledge orally through group discussion and teamwork.

Students are introduced to the writing components of prewriting, drafting, revising, editing, and publishing. The writing process is applied to personal narratives, expository essays, functional writing, persuasive essays, literary responses, and research applications. Students learn to clearly express the main ideas of an expository or persuasive essay, personal narrative, and literary response with a focus on maintaining the reader's attention. Students learn how to use literal and figurative language to enhance word choice and a variety of sentence structures and lengths to reinforce relationships among ideas and to enhance the flow of the writing. Students are able to formulate a thesis and support their hypotheses with evidence from primary sources based on research, observation, and/or experience. Students learn to write functionally for real-world tasks including memos, schedules, forms, and technical pieces for specific content areas. Students learn to edit their essays by identifying punctuation, spelling, grammar and usage errors in their drafts. Students learn to use their resources and apply proofreading marks and editing tools to improve their drafts. Students develop a convention for addressing the mechanics of writing, to include capitalization, punctuation, spelling, grammar and usage and paragraph breaks. This course provides instruction, practice, and assessment on reading comprehension, cultural knowledge, and various reading, writing, and thinking skills.

GEOMETRY TO GO **0.5 ELE**

Geometry to Go is designed to reinforce reading comprehension, discussion, and writing skills by using Data Analysis B as a resource for learning mathematics. Students use an approach that

integrates reading, writing, and thinking to learn key strategies needed to interpret a variety of written and graphic material. This course introduces the core skills learners need to master basic competencies in reading and mathematics. The format of the course encourages both individual study as well as cooperative learning. The student is encouraged to express his or her knowledge orally through group discussion and teamwork.

Students learn how to use the TI-30XS MultiView™ scientific calculator to solve mathematics problems. Through Algebra II students will understand and apply concepts including systems of linear equations, quadratic equations, equations of higher order, quadratic functions, polynomial functions, rational functions, conic sections, ratio, proportion and variation, exponents and roots, compound interest, logarithms, sequence and series, permutations, combinations, and probability, matrices, determinants, and systems of equations, mathematical induction and the Binomial Theorem, partial fractions, and complex numbers. Through Geometry II students will understand and apply concepts including circles, polygons, solid figures, and coordinate geometry. Through Trigonometry students will understand and apply concepts including trigonometric definitions, trigonometric functions, graphs of trigonometric functions, trigonometric identities, solving triangles, trigonometric equations, and trigonometric and exponential functions. Through Precalculus students will understand and apply concepts including coordinate geometry, fundamental algebra, solving equations and inequalities, functions and equations, trigonometry, exponents and logarithms, conic sections, matrices and determinants, and miscellaneous topics. Through Calculus students will understand and apply concepts including functions, transcendental functions, limits, continuity of a function, the derivative, the definite integral, computing antiderivatives, trigonometric substitution, application of the integral, polar coordinates, analytic geometry, vectors, determinant, cross (vector) product, vector applications, and infinite series. In addition, students use an almanac of math-related skills and a glossary of mathematical formulas, terms, and symbols. Students will develop reference skills that will be used throughout the Foundations curriculum.

Internet based instruction is available to supplement all written work. Students will also be provided the Encyclopedia Britannica Online, World Data Analyst, Annals of American History and Merriam-Webster's 3rd Unabridged Dictionary Online as resources.

THE NEW DICTIONARY OF CULTURAL LITERACY **1.0 ELE**

The New Dictionary of Cultural Literacy is designed to thoroughly introduce students to cultural literacy. Students use an approach that integrates reading, writing, and thinking to learn key strategies needed to interpret a variety of written and graphic material. This course introduces the core skills learners need to master basic in language arts, social studies, science, and mathematics. The format of the course encourages both individual study as well as cooperative learning. Students are encouraged to express their knowledge orally through group discussion and teamwork.

The New Dictionary of Cultural Literacy provides a wealth of knowledge reaching beyond basic definitions and information about words. It provides a means for students to improve their cultural literacy, information commonly understood in America. Using this dictionary, students study basic knowledge in the Bible; mythology and folklore; proverbs; idioms; world literature, philosophy, and religion; literature in English; conventions of written English; world history; American history; American politics; world geography; American geography; anthropology, psychology, and sociology; business and economics; physical sciences and mathematics; earth sciences; medicine and health; and technology. Students acquire and use new vocabulary in relevant contexts such as inferring word meanings from context, distinguishing between the denotative and connotative meanings of words, identifying the meaning of metaphors based on common literary allusions, and drawing inferences about meanings of new vocabulary based on knowledge of linguistic roots and affixes. Students employ strategies to comprehend text by generating clarifying questions in order to comprehend text and connect information and events to experiences and to related text and sources. Students learn to identify, analyze, and apply knowledge of the structures and elements of literature, such as the author's use of theme, point of view, characterization, setting, dialogue, and plot. Students are able to recognize and apply knowledge of the historical and cultural aspects of American, British, and world literature through elements of folklore and myths. Students are able to identify, analyze, and apply knowledge of the purpose, structures, and elements of expository text by making relevant inferences, by synthesizing concepts and ideas from a single reading selection, by comparing and contrasting readings on the same topic, and by explaining how authors reach the same or different conclusions based on differences in evidence, reasoning, assumptions, purpose, beliefs, or biases. Students learn to identify, analyze, and apply knowledge of the purpose, structures, clarity, and relevancy of functional text to synthesize information from multiple sources such as texts, maps, and

illustrations to solve a problem. Students explain basic elements of argument in text and their relationships to the author's purpose and use of persuasive strategies by cause and effect, analogy, authority, emotion, and logic.

FOUNDATIONS MATHEMATICS

ALGEBRA **1.0 MAT**

Saxon Algebra 1 is a mathematics course that covers beginning algebraic topics and focuses on teaching students the fundamental building blocks of problem solving. Repetition is the backbone of the teaching methodology in this course. New concepts are introduced in small increments, while previously taught material is thoroughly reinforced. The idea of using small steps to teach certain algebraic concepts allows students to master one aspect of a concept before the next is introduced. The end goal is mastery, but the instruction is delivered incrementally. Major topics include: solving for unknown variables; writing, manipulating, and factoring polynomials; writing, solving, and graphing linear and quadratic equations; simplifying complex fractions; solving systems of equations; working with exponents; simplifying radicals; analyzing and solving real-world word problems; and much more.
Saxon Algebra 1 covers all the topics in a first-year algebra course and builds the algebraic foundation essential for all students to solve increasingly complex problems. Students employ higher-order thinking skills, real-world applications, reasoning, and justifications to make connections to math strands. *Saxon Algebra 1* focuses on algebraic thinking and multiple representations—verbal, numeric, symbolic, and graphical. Students learn how to apply and calculate measurements of lengths, heights, circumference, areas, and volumes. Graphing calculator labs model mathematical situations. Upon successful completion of Algebra 1, students will have created a solid base of algebra knowledge, and are prepared to take Geometry and Algebra 2.

GEOMETRY **1.0 MAT**

Saxon Geometry provides incremental instruction and continual review. Distributed increments are spread throughout the course, building in complexity, so that by the end of the course students have reached deep understanding and fluency. Cumulative practice and assessments include concepts from the most recent lessons as well as from earlier in the course, ensuring students retain all concepts and can make connections between them.

The content coverage is similar to other geometry courses, although it has a bit more trigonometry than some. Proofs are taught very early and used throughout the course. Constructions with straight edge and compass are taught as labs within the pertinent lessons. Other labs have students do such things as make and use a hypsometer, cut and trace triangles to investigate symmetry and patterns, create and use a spinner to conduct a probability experiment, and use the Geometry Sketching Software. *Saxon Geometry* includes perspective, space, and dimension associated with practical and axiomatic geometry. Students learn how to apply and calculate measurements of lengths, heights, circumferences, areas, and volumes. *Saxon Geometry* introduces trigonometry and allows students to work with transformations. Students use logic to create proofs and constructions and work with key geometry theorems and proofs.

ALGEBRA II **1.0 MAT**

Saxon Algebra 2 provides a comprehensive teaching of the fundamental aspects of problem solving. It offers a substantial review of all topics in *Saxon Algebra 1* and then moves on to cover these topics at an advanced level. Major topics include the solving and graphing of linear and quadratic equations, factoring, a variety of types of word problems, solving quadratic equations by completing the square, solving simultaneous equations with fractions and decimals, complex roots of quadratic equations, solving systems of nonlinear equations, graphing and solving a system of inequalities, exponential equations, and review of key geometry, probability and statistics topics.

Saxon Algebra 2 prepares students for calculus and includes explicit embedded geometry instruction. This course reinforces trigonometry concepts and provides practice with statistics. Real-world problems and applications for other subjects like physics and chemistry are also included. *Saxon Algebra 2* is a mathematics course that covers intermediate-to-advanced algebraic topics. Students analyze and problem-solve at a more advanced level, equipping them with critical thinking skills that apply to both mathematics and real-world situations. Students who successfully complete this course should be able to understand and apply the following concepts: linear, quadratic, exponential, inverse, composite, and radical functions; matrices; advanced factoring; direct, inverse, and joint variation; polynomials; linear programming; measures of central tendency; probability and the binomial theorem; trigonometric functions, special triangles, and the unit circle; complex, rational, and decimal numbers; synthetic division; advanced statements of equality; advanced word problems; and beginning logarithms. Upon successful completion of *Saxon Algebra 2*, students will be prepared for Advanced Mathematics.

DATA ANALYSIS **1.0 MAT**

Data Analysis is designed to reinforce reading comprehension and discussion skills while studying

key concepts in data analysis. Students use an approach that integrates reading, writing, and thinking to learn key strategies needed to interpret a variety of written and graphic material. This course introduces the core skills learners need to master college entrance exams and college coursework. The format of the course encourages both individual study as well as cooperative learning. Students are encouraged to express their knowledge orally through group discussion and teamwork.

This course includes instruction, practice, and inventory assessments on communication, problem-solving, reasoning and proof, connections, and representations. Students use data collection, data analysis, statistics, probability, and the study of graphs in preparation for the study of discrete functions as well as to make inferences, decisions, and arguments. Students build on their understanding of data collection to draw inferences about data sets from lists, tables, and plots. Students organize collected data into appropriate graphical representations, display data, including paired data, as lists, tables and plots, and make predictions and observations about patterns or departures from patterns. Students make inferences by comparing data sets using one or more summary statistics. Students determine which measure of center is most appropriate in each situation. Students evaluate the reasonableness of conclusions drawn from data analysis and identify misrepresentations and distortions in displays of data. Students apply the law of large numbers to their knowledge of theoretical and experimental probability. Students make predictions and solve problems based on theoretical probability models, determine the theoretical probability of events, estimate probabilities using experiments, and compare the two. Students use simulations to model situations involving independent and dependent events to determine the number of possible outcomes of an event.

ENGLISH LANGUAGE MATHEMATICS
1.0 MAT

English Language Mathematics is designed to strengthen basic math and problem-solving skills in topics from whole numbers to algebra and geometry of English language learners. Students develop skills in reading comprehension, discussion, and referencing skills while studying these concepts. Students use an approach that integrates reading, writing, and thinking to learn key strategies needed to interpret a variety of written and graphic material. This course introduces the core skills learners need to master basic competencies in reading and mathematics. The course includes instruction practice and inventory assessments on basic mathematical principles and their applications to real life. Students improve number, number sense and operations skills by computing various consumer costs. Students solve math problems in the use of fractions and decimals through exercises in real-life situations. Students improve ratio, proportion, and percent calculation skills. Students improve skills in solving area and perimeter computation problems. Students improve their data and graph interpretation skills by asking them to analyze data. Students practice solving algebraic equations. Students learn concepts in number sense, whole numbers, fractions, decimals, percents, data analysis and probability, algebra, and geometry. The format of the course encourages both individual study as well as cooperative learning. The student is encouraged to express his or her knowledge orally through group discussion and teamwork.

Students are provided *Rosetta Stone*, the *Encyclopedia Britannica Online* and *Merriam Webster's Advanced Learner's Dictionary* as additional resources. Students learn to use scientific calculators throughout the course.

APPLIED MATHEMATICS **1.5 MAT**

Saxon Applied Mathematics courses A, B, and C provides an in-depth coverage of trigonometry, logarithms, analytic geometry, and upper-level algebraic concepts. It also completes the study of geometry. Emphasis is on problem solving and the development of productive thought patterns. Primary emphasis is on a continuation of the practice of intermediate algebraic concepts and skills, while the upper-level algebraic concepts and skills are introduced. The study of trigonometry begun in Algebra II is continued, and heavy emphasis is placed on the study of trigonometric functions, common and natural logarithms, and the equations of conics.

Saxon Advanced Mathematics uses an incremental development approach. Thus, every problem set contains a problem that permits the practice of every concept previously presented. This course continues the development begun in Algebra and Algebra II. Practice in the fundamental skills of algebra, geometry, and trigonometry is provided, while advanced topics are introduced and practiced. Logarithms are introduced early and are contained in each lesson until the end of the book. Heavy emphasis is given to all equations and graphs of sinusoids. Other topics that are covered in depth include matrices, determinants, arithmetic series, geometric series, conic sections, roots of higher-order polynomial equations, and functions, including curve sketching.

CALCULUS **1.5 MAT**

The *Saxon Calculus* courses A, B, and C is designed for prospective mathematics majors and students interested in engineering, computer science, physics, business, or the life sciences. It is designed to be completed over three semesters. The course begins with a condensed review of the algebra, trigonometry, and analytic geometry topics necessary for success in calculus. The lessons cover topics in the syllabus for the College Board's Advanced Placement (AP) program for calculus. The topics in the AP Calculus AB syllabuses are generally found in the first two thirds of the textbook and are covered in A and B courses. The final third of the textbook covers the syllabus of AP Calculus B/C and is covered in course C. Incremental development and continual practice and review are used in all Saxon texts.

Saxon Calculus includes: aspects of sequences and series, tests for convergence, approximating functions with series, and term-by-term differentiation and integration of power series. The approximation strand has been improved by the addition of lessons on Newton's method, Euler's method, and trapezoidal rule. Other topics include slope fields, parametric equations, polar functions, vector functions, logistic growth, arc length, piecewise integration, projectile motion, and volumes of solids by cross sections.

FOUNDATIONS MATHEMATICS ELECTIVES

MATHEMATICS 1 **1.0 ELE**

The goal of *Saxon Mathematics Course 1* is to produce mathematically proficient students, including fluency with computational and conceptual understanding, and is intended to provide students with the skill proficiency needed in grade level math courses. The distributed nature of *Saxon Mathematics Course1* lends itself naturally to developing abstract and quantitative reasoning. Because students are exposed to different concepts at the same time through incremental instruction and mixed practice, review, and assessment, they learn the importance of making sense of quantities and their relationships and of carefully considering the units involved. Problems do not focus simply on one concept, but rather may involve multiple concepts just as they would in real-world situations. Therefore, it is essential that students make connections, think about what the quantities mean in a specific context, and solve problems appropriately.

Saxon Mathematics Course1 emphasizes structure throughout the program, explicitly teaching number properties as well as how concepts connect. A strong focus on number properties also prepares students to utilize structure in problem-solving situations. Because the fundamentals of numbers and operations are highlighted in every lesson through mixed review, students develop a strong sense of mental math and comfort when composing and decomposing numbers. Regularity and repeated reasoning are supported throughout the *Saxon Mathematics Course 1* to ensure students understand their importance and how they can be used to solve problems. Repeated reasoning scenarios allow students to make better sense of numbers and operations.

Saxon Mathematics Course1 emphasizes ratios and proportional relationships, the number system, expressions and equations and geometry. In this course, students learn how to solve to a wide variety of ratio and rate problems. The text creates a straightforward transition for the students to be able to divide fractions by fractions. Students are shown, using visual fraction models, how to divide using fractions and interpret and compute quotients of fractions Students write and evaluate numerical expressions involving exponents, apply the techniques taught on area, surface area, and volume to solve real-world mathematical problems.

MATHEMATICS 2 **1.0 ELE**

Saxon Mathematics Course 2 is designed to produce mathematically proficient students, as measured by computational fluency, effective modeling of conceptual understanding, and meaningful application of concepts, and is intended to provide students with the skill proficiency needed in grade level math courses. Students understand the information that has been provided and the question being asked, to plan accordingly, to use their plan to solve the problem while remaining open to re-direction, and to check their solution for reasonableness and possible extensions.
Saxon Mathematics Course 2 extends students' understanding of ratios to that of proportionalities. Students distinguish proportional from other relationships, represent their work with numbers, words, pictures and equations, relate unit rates of measure to the steepness of the slope of a line, and apply proportional reasoning to solve problems involving percent and scale factors. Students apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. Students solve real-life and mathematical problems using numerical and algebraic expressions and equations. Students draw, construct, and describe geometrical figures and describe the relationships between them, and solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale. Students solve real-world and mathematical problems involving area, volume and surface area

of two- and three dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms. Students understand that statistics can be used to gain information about a population by examining a sample of the population and that generalizations about a population from a sample are valid only if the sample is representative of that population. Students understand that random sampling tends to produce representative samples and support valid inferences. *Saxon Mathematics Course 2* builds a foundation for advanced analytical statistics by practicing concepts of central tendency and having students create graphs to draw conclusions about a given population. This course introduces a variety of concepts related to both theoretical and experimental probability, including multiple opportunities for students to explore chance processes and draw conclusions based on these investigations. Students learn and practice the basics of probability models before diving into deeper applications and critical-thinking activities.

MATHEMATICS 3 **1.0 ELE**

Saxon Mathematics Course 3 is designed to produce mathematically proficient students and is intended to provide students with the skill proficiency needed in grade level math courses as measured by both computational fluency and in modeling conceptual understanding with numbers and variables in expressions, equations, and inequalities. To ensure that students use appropriate terminology correctly, communicate precisely, calculate accurately and efficiently, and then maintain that proficiency, 30 fully integrated and evolving written practice problems have been added.

Saxon Mathematics Course 3 is designed to ensure that students know that there are numbers that are not rational and approximate them by rational numbers. Students use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions. Students apply the properties of integer exponents to generate equivalent numerical expressions, and use square root and cube root symbols to represent solutions to equations. Students understand the connections between proportional relationships, lines, and linear equations and perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Students understand the connections between proportional relationships, lines, and linear equations and graph proportional relationships, interpreting the unit rate as the slope of the graph. Students analyze and solve linear equations, and pairs of simultaneous linear equations, solve linear equations with one variable, analyze and solve pairs of simultaneous linear equations and define, evaluate, and compare functions. Students understand congruence and similarity using physical models, transparencies, or geometry software, verify experimentally the properties of rotations, reflections, and translations, understand and apply the Pythagorean Theorem, solve real-world and mathematical problems involving volume of cylinders, cones, and spheres, and investigate patterns of association in bivariate data.

FOUNDATIONS SCIENCE

LIFE SCIENCE **1.0 SCI**

Life Science is a survey course that introduces students to the theories, important figures, and key advancements in life science. Students use an approach that integrates reading, writing, and thinking to learn key strategies needed to interpret a variety of written and graphic material. This course introduces the core skills learners need to master basic competencies in life science. The format of the course encourages both individual study, as well as cooperative learning. Students are encouraged to express their knowledge orally through group discussion and teamwork.

Science is a dynamic process of gathering and evaluating information, looking for patterns, and then devising and testing possible explanations. Active engagement in scientific investigation leads students to think critically and to develop reasoning skills that allow them to become independent, lifelong learners. Science methods and thought processes have application well beyond the bounds of science and support learning goals in all subject areas.

Students understand the role of the cell and cellular processes, the organization of living systems, and the role of energy within those systems. Students understand the basic principles of heredity, the molecular basis of heredity, and the resulting genetic diversity.

EARTH SCIENCE **1.0 SCI**

Earth Science is a survey course that introduces students to the theories, important figures, and key advancements in earth science. Students use an approach that integrates reading, writing, and thinking to learn key strategies needed to interpret a variety of written and graphic material. This course introduces the core skills learners need to master basic competencies in Earth science. The format of the course encourages both individual study, as well as cooperative learning. Students are encouraged to express their knowledge orally through group discussion and teamwork.

Science is a dynamic process of gathering and evaluating information, looking for patterns, and then devising and testing possible explanations.

Active engagement in scientific investigation leads students to think critically and to develop reasoning skills that allow them to become independent, lifelong learners. Science methods and thought processes have application well beyond the bounds of science and support learning goals in all subject areas.

Students analyze the interactions between the Earth's structures, atmosphere, and geochemical cycles. Students understand the relationships between the Earth's land masses, oceans, and atmosphere, as well as analyze the factors used to explain the origin and evolution of the universe.

PHYSICAL SCIENCE 1.0 SCI
Physical Science is a survey course that introduces students to the theories, important figures, and key advancement in physical science. Students use an approach that integrates reading, writing, and thinking to learn key strategies needed to interpret a variety of written and graphic material. This course introduces the core skills learners need to master basic competencies in physical science. The format of the course encourages both individual study, as well as cooperative learning. Students are encouraged to express their knowledge orally through group discussion and teamwork.

Science is a dynamic process of gathering and evaluating information, looking for patterns, and then devising and testing possible explanations. Active engagement in scientific investigation leads students to think critically and to develop reasoning skills that allow them to become independent, lifelong learners. Science methods and thought processes have application well beyond the bounds of science and support learning goals in all subject areas.

Students analyze relationships between force and motion, and gain an understanding of the ways that energy is conserved, stored, and transferred.

CHEMISTRY 1.0 SCI
Chemistry is a survey course that introduces students to the theories, important figures, and key advancements in chemistry. Students use an approach that integrates reading, writing, and thinking to learn key strategies needed to interpret a variety of written and graphic material. This course introduces the core skills learners need to master basic competencies in chemistry. The format of the course encourages both individual study, as well as cooperative learning. Students are encouraged to express their knowledge orally through group discussion and teamwork.

Science is a dynamic process of gathering and evaluating information, looking for patterns, and then devising and testing possible explanations. Active engagement in scientific investigation leads students to think critically and to develop reasoning skills that allow them to become independent, lifelong learners. Science methods and thought processes have application well beyond the bounds of science and support learning goals in all subject areas.

Students gain an understanding of the physical, chemical, and atomic properties of matter, and the interaction of energy and matter.

ENGLISH LANGUAGE SCIENCE 1.0 SCI
English Language Science is designed s is designed to facilitate the review and application of grammar and writing skills for the English language learner. Students use an approach that integrates reading, writing, and critical thinking to learn key strategies needed to interpret a variety of written and graphic material. This course introduces the core skills learners need to master basic competencies in the sciences. Specifically chosen readings supplement courses in earth science, life science, and physical science. Students develop capacities to analyse, interpret, criticize, and communicate. Each inquiry-based learning discussion promotes comprehension, analysis, and evaluation. The writing components of the course focus on writing functional, persuasive, expository, literary analysis, and research essays. Students apply prewriting strategies to establish a controlling idea appropriate to the type of writing, use organizational strategies to plan writing, maintain a clear narrow focus to support the topic, write with an identifiable purpose and for a specific audience. Students provide sufficient, relevant and carefully selected details for support, demonstrate a thorough, balanced explanation of the topic, and include ideas and details that show original perspective and insights. The format of the course encourages both individual study as well as cooperative learning. Students are encouraged to express their knowledge orally through group discussion and team work.

Students are provided *Rosetta Stone*, the *Encyclopaedia Britannica Online* and *Merriam Webster's Advanced Learner's Dictionary* as additional resources.

PHYSICAL SCIENCE, TECHNOLOGY, AND HISTORY OF MATHEMATICS 1.0 SCI
Physical Sciences, Technology, and History of Mathematics is a survey course that introduces students to the theories, important figures, and key advancements in physics, chemistry, technology, and mathematics. Students use an approach that integrates reading, writing, and thinking to learn key strategies needed to interpret a variety of written and graphic material. This course introduces the core skills learners need to master basic competencies in science and mathematics. The

format of the course encourages both individual study as well as cooperative learning. Students are encouraged to express their knowledge orally through group discussion and teamwork.

Students understand how science is a process for generating knowledge, and how scientists evaluate and extend scientific knowledge. Students develop an understanding in mathematics, physics, chemistry, and technology from primary source documents that discuss topics such as the Pythagorean theorem, Hindu mathematicians' concept of zero, lenses, signs and symbols and gravitation, the electromagnet, vaccinations, the Morse Code, nuclear power, quantum mechanics, the mechanics of a television, and the Bohr atom. Students understand ways that energy is conserved, stored, and transferred from one system to another, calculate the quantitative relationships associated with the conservation of energy, as well as analyse the relationship between energy transfer and disorder in the universe. Students understand the interaction of energy and matter and quantify the relationships among the frequency, wavelength, and the speed of light. Students explain the relationship between the wavelength of light absorbed or released by an atom or molecule and the transfer of a discrete amount of energy. During the course, students participate in discussions about readings by authors Steven Weinberg, Aristotle, Galileo Galilei, Isaac Newton, Max Planck, and Stephen Hawking with an instructor.

EARTH AND SPACE SCIENCE **1.0 SCI**

Earth and Space Science is a survey course that introduces students to the theories, important figures, and key advancements in cosmology and Earth science. Students use an approach that integrates reading, writing, and thinking to learn key strategies needed to interpret a variety of written and graphic material. This course introduces the core skills learners need to master basic competencies in these areas of science. The format of the course encourages both individual study, as well as cooperative learning. Students are encouraged to express their knowledge orally through group discussion and teamwork.

Students analyze the factors used to explain the origin and evolution of the universe, including the Ptolemaic System and the Copernican Revolution. Students describe the interactions of the Sun, Moon, and Earth during lunar and solar eclipses. Students describe the Big Bang Theory as an explanation for the origin of the universe and explain the evolution and life cycles of galaxies including the Milky Way. Students will demonstrate an understanding of the interactions of energy and matter and explain the mechanisms of heat transfer (convection, conduction, and radiation) among the atmosphere, land masses and oceans. Students explain the relationship between the Earth's internal convective heat flow and plate tectonics and explain how the rock cycle is related to plate tectonics. Students distinguish between weather and climate and explain the effect of heat transfer on weather and climate. During the course, students will participate in discussions with instructors about readings by authors Gordon L. Miller, Vladimir I. Vernadsky, Kenneth E. Boulding, Aldo Leopold, and James E. Lovelock.

LIFE SCIENCE, MEDICINE, AND HEALTH **1.0 SCI**

Life Sciences, Medicine, and Health is a survey course that introduces students to five topics in life sciences, medicine, and health. Students use an approach that integrates reading, writing, and thinking to learn key strategies needed to interpret a variety of written and graphic material. This course introduces the core skills which learners need to master the basic competencies of science. The format of the course encourages both individual study, as well as cooperative learning. Students are encouraged to express their knowledge orally through group discussion and teamwork.

Students analyze the relationships among various organisms and their environments, and identify the relationships among organisms within populations, communities, ecosystems, and biomes. Students to understand the role of the cell and cellular processes and the scientific principles and processes involved in biological evolution. Students and use a biological classification system to analyse the degree of relatedness among various species. Students describe the levels of organization of living things from cells, tissues, organs, organ systems, organisms, populations, and communities to ecosystems. Students explain the molecular basis of heredity, in viruses and living things, including DNA replication and protein synthesis. Students explain how genotypic and phenotypic variation can result in adaptations that influence an organism's success in an environment. Students compare the processes of photosynthesis and cellular respiration in terms of energy flow, reactants, and products. During the course, students participate in discussions with instructors about readings by authors Edward O. Wilson, Paul Colinvaux, Loren Eiseley, Hippocrates, Charles Darwin, and Lynn Margulis with an instructor.

FOUNDATIONS SOCIAL STUDIES

WORLD HISTORY/GEOGRAPHY 1.0 SOC

World Geography, World History to 1550 is a survey course that introduces students to the concepts, places, and events in world history and geography. Students use an approach that integrates reading, writing, and thinking to learn key strategies needed to interpret a variety of written and graphic material. This course introduces the core skills learners need to master basic competencies in social studies. The format of the course encourages both individual study as well as cooperative learning. Students are encouraged to express their knowledge orally through group discussion and teamwork.

Students construct maps using appropriate elements, identify the characteristics that define a region, and describe the factors that contribute to the variations between developing and developed regions. Students develop an understanding of the geographic, political, economic, and cultural characteristics of early civilizations that significantly influenced the development of later civilizations. Students learn about the people of different regions and how they developed unique civilizations and cultural identities characterized by increased interactions, societal complexity, and competition. Students analyze how the rise of individualism challenged traditional western authority and belief systems and resulted in a variety of new institutions, philosophical and religious ideas, and cultural and social achievements.

AMERICAN/ARIZONA HISTORY 1.0 SOC

American/Arizona History is a survey course that introduces students to concepts, places, and events in United States history with a special focus on Arizona history. Students use an approach that integrates reading, writing, and thinking to learn key strategies needed to interpret a variety of written and graphic material. This course introduces the core skills learners need to master basic competencies in social studies. The format of the course encourages both individual study as well as cooperative learning. Students are encouraged to express their knowledge orally through group discussion and teamwork.

Students develop an understanding of the causes and effects of the Revolution and the New Nation, reasons for the American victory, the impact of the Revolution on politics, economy, and society, and the creation of the American political system looking at origins, and key political and social figures. Students explore the idea of Nation Building and Sectionalism including the territorial expansion and its impacts on external powers and Native Americans, regional tensions due to industrialism, immigration, and the expansion of slavery, changes in the political democracy after 1800, and cultural, religious, and reform movements in the Antebellum period. Students learn about the causes, course, and impact Civil War and Reconstruction. In the second half of this course, students develop an understanding regarding the emergence of modern America including industrialization, immigration and migration, progressivism, Federal Indian Policy, suffrage movements, racial, religious and class conflict, the growth of the United States as a global power and World War I and its aftermath. Great Depression and World War II including the social, political, and economic changes during the 1920's, the role of government, impact of the depression on diverse groups of Americans, the New Deal, and the cause and course of World War II, the character of the war at home, and the impacts of the war on the United States is explored. Students develop an understanding of the causes and effects of the postwar United States including the economic boom and social transformation of the United States, the Cold War, the impact of conflicts in Korea and Vietnam, domestic and international policies, and the struggle for civil rights and equality. Students develop an understanding of the causes and effects contemporary United States including domestic politics and policies, economic, social and cultural developments, growing international conflict and tension, 9-11 and responses to terrorism, environmental issues, poverty, globalization, nuclear proliferation, and human rights.

AMERICAN/ARIZONA GOVERNMENT 0.5 SOC

American/Arizona Government is a survey course that introduces students to the foundations of government. Students use an approach that integrates reading, writing, and thinking to learn key strategies needed to interpret a variety of written and graphic material. This course introduces the core skills learners need to master basic competencies in social studies. The format of the course encourages both individual study as well as cooperative learning. Students are encouraged to express their knowledge orally through group discussion and teamwork.

Students explore the structures and function of tribal, local, Arizona and other states, national, and international governments and how governments are organized, limits and powers of the legislative, judicial, and executive branch, and comparative governments. Students learn about the institutions of the national government including but not limited to Congress, the President and the bureaucracy, federal courts; and institutions of the state government including the legislature, the law making process, governor and the bureaucracy, and the state courts. Students explore the media, interest groups, and political parties including but

not limited to the how these linkage institutions connect the people to government and shape political and social interests, the role of the free press in the American political system, the origin and role of political parties, the two-party system, the role of third parties in American politics, and the social, political, and economic positions of American political parties in history and the present day. Students learn about elections, voting, and voting behavior including but not limited to political socialization, creation of legislative and congressional districts, opportunities for participation, campaigns, types of elections including primary process and general election process (local, state, and federal), laws governing elections, voter turnout, and barriers to voting. Students learn about the rights, roles, and responsibilities of a citizen including civil liberties and civil rights, and the process for naturalization. American political culture, values, and principles that are basic to American constitutional democracy and the republic such as individual rights, popular sovereignty, common good, patriotism, rule of law, freedom of conscience and expressions, privacy and civil society, justice, representative government, checks and balances, freedom of religion, civilian control of the military, and equality are explored. Students learn about public policy including researching current issues or policies at the local, state, or federal level and foreign policy.

ECONOMICS 0.5 SOC

Economics is a survey course that introduces students to business and economics. Students use an approach that integrates reading, writing, and thinking to learn key strategies needed to interpret a variety of skills which learners need to master in the basic competencies of social studies. The format of the course encourages both individual study as well as cooperative learning. The students are encouraged to express their knowledge orally through group discussions and teamwork.
The goal of the Economics course is to enable students to make reasoned judgments about both personal economic questions and broader questions of economic policy. Students develop an economic way of thinking and problem solving to understand and apply basic economic principles to decisions they will make as consumers, members of the workforce, citizens, voters, and participants in a global marketplace. This prepares students to weigh both short-term and long-term effects of decisions as well as possible unintended consequences. The study of economics explains historical developments and patterns, the results of trade, and the distribution of income and wealth in local, regional, national, and world economies. Students analyze current issues and public policies and understand the complex relationships among economic, political, and cultural systems.

ANTHROPOLOGY, PSYCHOLOGY, SOCIOLOGY 0.5 SOC

Anthropology, Psychology, Sociology is a survey course that introduces students to three social sciences: anthropology, psychology, and sociology. Students use an approach that integrates reading, writing, and thinking to learn key strategies needed to interpret a variety of written and graphic material. This course introduces the core skills which learners need to master in the basic competencies of social studies. The format of the course encourages both individual study as well as cooperative learning. Students are encouraged to express their knowledge orally through group discussions and teamwork.

Students develop an understanding about the ancestry of man in anthropology. Students discuss the cultural significance of man in anthropology. Students explain the various psychological theories and discuss their similarities and differences in psychology. Students develop an understanding of abnormal psychology through their studies of psychology. Students explain the significance of social organization, age demography, geographic demography, and cultural characteristics in sociology. A pre-reading question at the beginning of every unit and an interpretive question for thought and discussion at the end of every unit promote thoughtful interpretation of written material.

ENGLISH LANGUAGE SOCIAL STUDIES 1.0 SOC

English Language Social Studies is designed to facilitate the review and application of grammar and writing skills for the English language learner. Students use an approach that integrates reading, writing, and critical thinking to learn key strategies needed to interpret a variety of written and graphic material. This course introduces the core skills learners need to master basic competencies in Social Studies. Specifically chosen readings supplement courses in United States history, geography, politics and media, and law, government and citizenship. Students develop capacities to analyze, interpret, criticize, and communicate. The reading components of this course focus on acquiring and using new vocabulary in relevant contexts, reading fluently, employing strategies to comprehending a variety of texts. Each inquiry-based learning discussion promotes comprehension, analysis, and evaluation. The writing components of the course focus on responding to document-based questions, cause and effect, process, compare and contrast, problem and solution, research writing narrative, functional, persuasive, and expository essays. Students are encouraged to express their knowledge orally through group discussion and team work. Students are provided Rosetta Stone, the Encyclopedia Britannica Online and Merriam Webster's Advanced Learner's Dictionary as additional resources.

FOUNDATIONS WRITING

ENGLISH 1-2 **1.0 ENG**

English 1-2 is the beginning course in the series for required English credits. Instruction builds upon the students' reading, writing, listening, speaking and critical thinking foundations. Included is the study of thematic literature collections related to personal experiences. Reading comprehension strategies and control of the Six Traits of Writing are emphasized. The writing components of the course focus on writing narrative, functional, persuasive, expository, literary analysis, and research essays. Active listening and speaking are practiced in formal and informal situations. This course includes the study of grammar, composition, resource orientation and research, vocabulary, spelling, literature, oral expression, reading skills and study skills. This course includes basic composition and a survey of world and American literature.

ENGLISH 3-4 **1.0 ENG**

English 3-4 continues to refine and expand skills developed in previous English courses. This course improves students' skills in composition, oral expression and literary analysis. Thematic collections of world literature, with an emphasis on the universality of themes, are presented. The Six Traits of Writing are further refined in this course in the context of narrative and academic writing. MLA and APA guidelines are introduced. Students' writing focuses on idea development, drafting, editing, revising, research, vocabulary, grammar, and usage skills. The writing components of the course focus on writing narrative, functional, persuasive, expository, literary analysis, and research essays. Students read and analyze multicultural literature from the following genres: short story, drama, poetry, and non-fiction. This course provides a study of world literature, language and composition. Challenges to critical thinking, reading and academic writing are provided. Students pursue high cognitive goals through intensive study and independent work.

ENGLISH 5-6 **1.0 ENG**

English 5-6 is designed to facilitate the review and application of grammar and writing skills. Students use an approach that integrates reading, writing, and critical thinking to learn key strategies needed to interpret a variety of written and graphic material. This course introduces the core skills learners need to master basic competencies in writing and introduces students to works by great authors of the Western World.

The reading components of this course focus on acquiring and using new vocabulary in relevant contexts, reading fluently, and employing strategies to comprehending a variety of texts. Students identify, analyze and apply knowledge of the structures and elements of literature, and recognize and apply knowledge of the historical and cultural aspects of a variety of literature. Students learn how to identify, analyze and apply knowledge of the purpose, structures, and elements of expository text. Following the critical reading of each selection, students discuss with an instructor the ideas contained in the selection. Each inquiry-based learning discussion promotes comprehension, literary analysis, and evaluation.

The writing components of the course focus on writing narrative, functional, persuasive, expository, literary analysis, and research essays. Students apply prewriting strategies to establish a controlling idea appropriate to the type of writing, use organizational strategies to plan writing, and use time-management strategies, when appropriate, to produce a writing product within a set period. Students use prewriting to maintain a clear narrow focus to support the topic, write with an identifiable purpose and for a specific audience. Students provide sufficient, relevant and carefully selected details for support, demonstrate a thorough, balanced explanation of the topic, and include ideas and details that show original perspective and insights. Students use organizational skills to create a structure that fits the type of writing, and include a strong beginning or introduction that draws in the reader. Students learn to place details appropriately to support the main idea, use effective transitions among all elements while employing a variety of paragraphing strategies, and create an ending that provides a sense of resolution or closure.

ENGLISH 7-8 **1.0 ENG**

English 7-8 is designed to facilitate the review and application of grammar and writing skills. Students use an approach that integrates reading, writing, and critical thinking to learn key strategies needed to interpret a variety of written and graphic material. This course introduces the core skills learners need to master basic competencies in writing and introduces students to works by great authors of the Western World.

The reading components of this course focus on acquiring and using new vocabulary in relevant contexts, reading fluently, and employing strategies for comprehending a variety of texts. Students identify, analyze and apply knowledge of the structures and elements of literature, and recognize and apply knowledge of the historical and cultural

aspects of a variety of literature. Students learn how to identify, analyze and apply knowledge of the purpose, structures, and elements of expository text. Following the critical reading of each selection, students discuss with an instructor the ideas contained in the selection. Each inquiry-based learning discussion promotes comprehension, literary analysis, and evaluation.

The writing components of the course will focus on writing research, literary analysis, functional, persuasive, narrative, and expository essays. Revising includes evaluating the draft for use of ideas and content, organization, voice, word choice, and sentence fluency. Students learn to add details to the draft, delete irrelevant or redundant information, rearrange words, sentences, paragraphs, and add transition works and phrases to a draft to enhance the writing style. Students convey a sense of identity through originality, sincerity, liveliness, or humor appropriate to the topic and type of writing. Students learn how to use literal and figurative language to enhance word choice and a variety of sentence structures and lengths to reinforce relationships among ideas to enhance the flow of the writing. Editing involves identifying punctuation, spelling, grammar and usage errors in the draft. Students learn to use their resources and apply proofreading marks and editing tools to improve their drafts. Students develop a convention for addressing the mechanics of writing, to include capitalization, punctuation, spelling, grammar and usage and paragraph breaks. Publishing involves formatting and presenting a final product for the intended audience.

INTRODUCTION TO GREAT BOOKS SERIES **1.0 ENG**

Introduction to Great Books Series introduces students to works by great authors of the Western World. These readings were specifically chosen to supplement courses in Western world history, geography, politics, and civilization.
Students develop capacities to analyze, interpret, criticize, and communicate. Selections in the first portion of the course include “On Happiness” by Aristotle, “Habits and Will” by John Dewey, “Happiness” by Mary Lavin, “Crito” by Plato, “On Liberty” by John Stuart Mill, and “Conscience” by Immanuel Kant. In the second half of the course, students read “A Hunger Artist” by Franz Kafka, “Of the Limits of Government” by John Locke, “Antigone” by Sophocles, “Why Great Revolutions Will Become Rare” by Alexis de Tocqueville, “A Room of One’s Own” by Virginia Woolf, and “In Dreams Begin Responsibilities” by Delmore Schwartz.

Following the critical reading of each selection, students discuss with an instructor the ideas contained in the selections. Each inquiry-based learning discussion involves comprehension, literary analysis, and evaluation.

WILL OF THE PEOPLE **1.0 ENG**

Will of the People is designed to facilitate the review and application of grammar and writing skills. Students use an approach that integrates reading, writing, and critical thinking to learn key strategies needed to interpret a variety of written and graphic material. This course introduces the core skills learners need to master basic competencies in writing and introduces students to works by great authors of the Western World.

The reading components of this course focus on acquiring and using new vocabulary in relevant contexts, reading fluently and employing strategies to comprehending a variety of texts. Students identify, analyze and apply knowledge of the structures and elements of literature, and recognize and apply knowledge of the historical and cultural aspects of a variety of literature. Students learn how to identify, analyze and apply knowledge of the purpose, structures, and elements of expository text. Following the critical reading of each selection, students discuss with an instructor the ideas contained in the selections. Each inquiry-based learning discussion promotes comprehension, literary analysis, and evaluation.

Selections in this course include the Declaration of Independence, “The Federalist No. 10” by James Madison, “The Federalist No. 51” by Alexander Hamilton or James Madison, “The Federalist No.78” by Alexander Hamilton, the Constitution of the United States of America, “Farewell Address” by George Washington, and the “Declaration of Sentiments and Resolutions, Seneca Falls Convention.” In the second half of the course, students read “Emancipation Proclamation” by Abraham Lincoln, “Gettysburg Address” by Abraham Lincoln, “Second Inaugural Address” by Abraham Lincoln, “Address to the First Annual Meeting of the American Equal Rights Association” by Sojourner Truth, *The United State of America v. Susan B. Anthony*, “Let America Be America Again” by Langston Hughes, and “Letter from Birmingham Jail” by Martin Luther King Jr. These readings were specifically chosen to supplement courses in American history, geography, politics, and civilization. Students develop capacities to analyze, interpret, criticize, and communicate.

The writing components of the course focus on writing narrative, functional, persuasive, expository, literary analysis, and research essays. Students apply prewriting strategies to establish a controlling idea appropriate to the type of writing, use organizational strategies to plan writing, and use time-management strategies, when appropriate, to produce a writing product within a set period.

Students use prewriting to maintain a clear, narrow focus to support the topic, and write with an identifiable purpose and for a specific audience. Students provide sufficient, relevant and carefully selected details for support, demonstrate a thorough, balanced explanation of the topic, and include ideas and details that show original perspectives and insights. Students use organizational skills to create a structure that fits the type of writing, and include a strong beginning or introduction that draws in the reader. Students learn how to place details appropriately to support the main idea, use effective transitions among all elements while employing a variety of paragraphing strategies, and create an ending that provides a sense of resolution or closure.

ENGLISH LEVEL 1 1.0 ENG
English Level 1 is designed to introduce/review grammar and writing skills for the English language learner. Students focus on speaking, listening, reading, and writing in English. Students use an approach that integrates reading, writing, and critical thinking to learn key strategies needed to interpret a variety of written and graphic material. This course introduces the core skills learners need to master basic competencies in English Language Arts. The reading components of this course focus on acquiring and using new vocabulary in relevant contexts, reading fluently, employing strategies to comprehending a variety of texts. Students identify, analyze and apply knowledge of the structures and elements of literature, and recognize and apply knowledge of the historical and cultural aspects of a variety of literature. Students identify, analyze and apply knowledge of the purpose, structures, and elements of expository text. Following the critical reading of each selection, students discuss with an instructor the ideas contained in the selection. Each inquiry-based learning discussion promotes comprehension, analysis, and evaluation. The writing components of the course focus on writing narrative, functional, persuasive, and expository essays. Students apply prewriting strategies to establish a controlling idea appropriate to the type of writing, use organizational strategies to plan writing. Students use prewriting to maintain a clear narrow focus to support the topic, write with an identifiable purpose and for a specific audience. Students provide sufficient, relevant and carefully selected details for support, demonstrate a thorough, balanced explanation of the topic, and include ideas and details that show original perspective and insights. Students use organizational skills to create a structure that fits the type of writing, and include a strong beginning or introduction that draws in the reader. The student learn how to place details appropriately to support the main idea, use effective transitions among all elements while employing a variety of paragraphing strategies, and create an ending that provides a sense of resolution or closure. The format of the course encourages both individual study as well as cooperative learning. Students are encouraged to express their knowledge orally through group discussion and team work.

Students are provided Rosetta Stone, the Encyclopedia Britannica Online and *Merriam Webster's Advanced Learner's Dictionary* as additional resources.

ENGLISH LEVEL 2 1.0 ENG
English Level 2 is designed to reinforce grammar and writing skills for the English language learner. Speaking, listening, reading, and writing skills are emphasized. Students use an approach that integrates reading, writing, and critical thinking to learn key strategies needed to interpret a variety of written and graphic material. This course reinforces the core skills learners need to master basic competencies in English Language Arts. The reading components of this course focus on acquiring and using new vocabulary in relevant contexts, reading fluently, employing strategies to comprehending a variety of texts. Students identify, analyze and apply knowledge of the structures and elements of literature, and recognize and apply knowledge of a variety of literature. Students learn how to identify, analyze and apply knowledge of the purpose, structures, and elements of expository text. Following the critical reading of each selection, students discuss with an instructor the ideas contained in the selection. Each inquiry-based learning discussion promotes comprehension, analysis, and evaluation. The writing components of the course focus on writing narrative, functional, persuasive, expository, literary analysis, and research essays. Students apply prewriting strategies to establish a controlling idea appropriate to the type of writing, use organizational strategies to plan writing, and use time-management strategies, when appropriate, to produce a writing product within a set time period. Students use prewriting to maintain a clear narrow focus to support the topic, write with an identifiable purpose and for a specific audience. Students provide sufficient, relevant and carefully selected details for support, demonstrate a thorough, balanced explanation of the topic, and include ideas and details that show original perspective and insights. Students use organizational skills to create a structure that fits the type of writing, and include a strong beginning or introduction that draws in the reader. The student learn how to place details appropriately to support the main idea, use effective transitions among all elements while employing a variety of paragraphing strategies, and create an ending that provides a sense of resolution or closure.

Students are provided *Rosetta Stone*, the *Encyclopedia Britannica Online* and *Merriam*

Webster's Advanced Learner's Dictionary as additional resources.

COLLEGE-LEVEL EXAMINATION PROGRAM

AMERICAN LITERATURE 0.5 ENG

The **American Literature** course covers material that is usually taught in a survey course at the college level. It deals with prose and poetry written in the United States from colonial times to the present. It is primarily a test of knowledge about literary works — their content, their background, and their authors — but also requires an ability to interpret poetry, fiction and nonfiction prose, as well as a familiarity with the terminology used by literary critics and historians. This course emphasizes fiction and poetry and deals to a lesser degree with the essay, drama, and autobiography.

This course is the chronologically organized and it mimics the survey of American literature offered by many colleges. It assumes that students have read widely and developed an appreciation of American literature, know the basic literary periods, and have a sense of the historical development of American literature.

The course includes essay writings on a common theme in American literature and lists of major American authors are provided. Students are asked to write well-organized essays discussing the way that themes are handled in works by any two authors. Additionally, students write essays in which they analyze poetry and others that analyze prose. In either case, students are expected to write well-organized essays in clear and precise prose. All essays must be written in pencil and paper.

The American Literature course requires students to demonstrate knowledge of particular literary works, including: authors, characters, plots, settings, styles, and themes. They must also demonstrate the ability to understand and interpret: short poems, excerpts from long poems, and excerpts from prose works. Students are expected to know the historical and social settings of specific works. Students must also demonstrate understanding of relations between literary works, relations of specific works to literary traditions and influences on authors. Additionally, students must be familiar with critical terms, verse forms and literary devices.

The subject matter of the American Literature course is drawn from the following chronological periods: the Colonial and Early National Period (Beginnings–1830), the Romantic Period (1830–1870), the Period of Realism and Naturalism (1870–1910), the Modernist Period (1910–1945), and the Contemporary Period (1945–Present).

In addition to their text book, students will be provided with an online *Modern States* account to supplement their learning with extra lessons and practice problems

Upon successful completion of the American Literature course, the International Commerce High School will pay for the student to take the CLEP examination for college credit. Meeting the cut score on a CLEP examination has been approved by the Arizona State Board of Education as a College and Career Readiness Indicator.

ANALYZING AND INTERPRETING LITERATURE 0.5 ENG

The Analyzing and Interpreting Literature course covers material usually taught in a general undergraduate course in literature. Although the course does not require familiarity with specific works, it does assume that test takers have read widely and perceptively in poetry, drama, fiction, and nonfiction. The questions are based on passages supplied in the test. These passages have been selected so that no previous experience with them is required to answer the questions. The passages are taken primarily from American and British literature.

Successful completion of the Analyzing and Interpreting Literature course require students to demonstrate the ability to read prose, poetry, and drama with understanding; the ability to analyze the elements of a literary passage and to respond to nuances of meaning, tone, imagery, and style; the ability to interpret metaphors, to recognize rhetorical and stylistic devices, to perceive relationships between parts and wholes, and to grasp a speaker's or author's attitudes; knowledge of the means by which literary effects are achieved; and familiarity with the basic terminology used to discuss literary texts.

The course emphasizes comprehension, interpretation, and analysis of literary works. A specific knowledge of historical context (authors and movements) is not required, but a broad knowledge of literature gained through reading widely and a familiarity with basic literary terminology is assumed. The following outline indicates the relative emphasis given to the various types of literature and the periods from which the passages are taken.

Genre

35%–45% Poetry
35%–45% Prose (fiction and nonfiction)
15%–30% Drama
National Tradition
40%–50% British and Postcolonial Literature
40%–50% American Literature
3%–10% Works in Translation
Period
3%–7% Classical and pre-Renaissance
20%–30% Renaissance and 17th Century
30%–40% 18th and 19th Centuries 30%–
40% 20th and 21st Centuries

In addition to their textbook, students will be provided with an online *Modern States* account to supplement their learning with extra lessons and practice problems

Upon successful completion of the Analyzing and Interpreting Literature course, the International Commerce High School will pay for the student to take the CLEP examination for college credit. Meeting the cut score on a CLEP examination has been approved by the Arizona State Board of Education as a College and Career Readiness Indicator.

COLLEGE COMPOSITION .50 ENG

The **College Composition** course assesses writing skills taught in most first-year college composition courses. Those skills include analysis, argumentation, synthesis, usage, ability to recognize logical development, and research. Students are expected to apply the principles and conventions used in longer writing projects. Students demonstrate fundamental principles of rhetoric and composition and their ability to apply the principles of standard written English. In addition, the course requires familiarity with research and reference skills. Written essays must develop a position by building an argument in which they synthesize information from two provided sources, which they must cite. Students are required to cite the sources they use in a manner that reflects the recognition of source attribution as an essential skill in college writing courses.
The course examines the **conventions of standard written English** including the proper use of syntax, sentence boundaries, recognition of correct sentences, concord/agreement, diction, modifiers, idiom, active/passive voice, lack of subject in modifying word group, logical comparison, logical agreement and punctuation.

Students learn **revision skills** including essay organization, evaluation of evidence, awareness of audience, tone, and purpose, level of detail, coherence between sentences and paragraphs, sentence variety and structure, main idea, thesis statements, and topic sentences, rhetorical effects and emphasis, use of language, evaluation of author's authority and appeal, evaluation of reasoning, consistency of point of view, transitions, sentence-level errors primarily relating to the conventions of standard written English.

Students demonstrate the ability to **use source materials** by showing a familiarity with elements of the following basic reference and research skills. In addition, this section will cover the following skills: use of reference materials, evaluation of sources, integration of resource material, and documentation of sources (including, but not limited to, MLA, APA, and Chicago manuals of style).

The portion on **rhetorical analysis** measures students' ability to analyze writing. Students demonstrate skills pertaining to critical thinking, style, purpose, audience, and situation: appeals: tone, organization/structure, rhetorical effects, use of language, and evaluation of evidence.

In the Essays written in the course, students exhibit the skills of argumentation, analysis, and synthesis. Essays are based on the students reading, observation, or experience, while other requires students to synthesize and cite two sources that are provided.

In addition to their text book, students will be provided with an online *Modern States* account to supplement their learning with extra lessons and practice problems

Upon successful completion of the College Composition course, the International Commerce High School will pay for the student to take the CLEP examination for college credit. Meeting the cut score on a CLEP examination has been approved by the Arizona State Board of Education as a College and Career Readiness Indicator.

HUMANITIES .50 ELE

The **Humanities** course encompasses general knowledge of literature, art, and music and the other performing arts. It is broad in its coverage, and covers all periods from classical to contemporary and in many different fields: poetry, prose, philosophy, art, architecture, music, dance, theater, and film. Students must demonstrate their understanding of the humanities through recollection of specific information, comprehension and application of concepts, and analysis and interpretation of various works of art.

The Humanities course requires students to demonstrate knowledge of factual information (authors, works, etc.), recognition of techniques such as rhyme scheme, medium, and matters of style, and the ability to identify them as characteristics of certain writers, artists, schools, or periods, and an understanding and interpretation of literary passages and art reproductions that are likely to be unfamiliar to the student.

The subject matter of the Humanities exam is drawn from the following topics: literature, drama, poetry, fiction, nonfiction (including philosophy), visual arts (painting, sculpture, architecture, etc.), and performing arts (music, film, dance, etc.).

The curriculum for this course draws from the entire history of art and culture, and is fairly evenly divided among the following periods: Classical, Medieval and Renaissance, seventeenth and eighteenth centuries, nineteenth century, and twentieth century. Approximately 10% of the course is dedicated to other cultures, such as African, Asian, and Latin American. Students are expected to demonstrate knowledge across disciplines and/or chronological periods, and knowledge of terminology, genre, and style.

In addition to their text book, students will be provided with an online *Modern States* account to supplement their learning with extra lessons and practice problems

Upon successful completion of the Humanities course, the International Commerce High School will pay for the student to take the CLEP examination for college credit. Meeting the cut score on a CLEP examination has been approved by the Arizona State Board of Education as a College and Career Readiness Indicator.

SPANISH LANGUAGE .50 TO 1.0 ELE
The **Spanish Language** course is designed as an equivalent to that of two to three semesters of college Spanish language study. The course requires students to comprehend written and spoken Spanish.

The course subject matter is designed to encourage students' abilities to: listen and respond to short and long narratives, and read comprehensively.

In the **Listening and Rejoinders** section, the course exposes students to short oral exchanges. Students listening comprehension is evaluated through these exchanges.

In the **Listening: Dialogues and Narratives** section, students are expected to listen to and comprehend longer narratives and dialogues and respond to inquiries appropriately.

In the **Reading** sections students will learn the vocabulary and structure of discrete sentences. Reading comprehension is taught through short passages including word recognition, vocabulary and sentence/passage structure. Finally, reading comprehension is taught by reading passages and authentic stimulus materials.

In addition to their text book, students will be provided with an online *Modern States* account to supplement their learning with extra lessons and practice problems

Upon successful completion of Spanish, the International Commerce High School will pay for the student to take the CLEP examination for college credit Meeting the cut score on a CLEP examination has been approved by the Arizona State Board of Education as a College and Career Readiness Indicator.

AMERICAN GOVERNMENT .50 SOC
The **American Government** course covers the scope and emphasis of material that is usually taught in one-semester introductory courses in American government and politics at the college level in the United States. This course goes beyond a general understanding of civics to incorporate political processes and behavior. The course covers topics such as the institutions and policy processes of the federal government, the federal courts and civil liberties, political parties and interest groups, political beliefs and behavior, and the content and history of the Constitution.

This course focuses on the institution and policy processes for the Presidency, Bureaucracy, and Congress. These include: The major formal and informal institutional arrangements and powers, structure, policy processes, and outputs, relationships among these three institutions and links between them and political parties, interest groups, the media, and public opinion.

Federal Courts, Civil Liberties, and Civil Rights, are examined including the structure and processes of the judicial system with emphasis on the role and influence of the Supreme Court, The development of civil rights and civil liberties by judicial interpretation, The Bill of Rights, Incorporation of the Bill of Rights, Equal protection and due process.

Political parties (including their function, organization, mobilization, historical development, and effects on the political process), Interest groups (including the variety of activities they typically undertake and their effects on the political process), and Elections (including the electoral process) are included in this course.

Students will discuss the processes by which citizens learn about **politics**, **political participation** (including voting behavior), **public opinion**, beliefs that citizens hold about their government and its leaders, political culture (the variety of factors that predispose citizens to differ from one another in terms of their political perceptions, values, attitudes, and activities), and the influence of public opinion on political leaders.

Students will examine the **constitutional underpinnings of American democracy** and the development of concepts such as: Federalism (with attention to intergovernmental relations), Separation of powers, Checks and balances, Majority rule, Minority rights, Considerations that influenced the formulation and adoption of the Constitution, and Theories of democracy.

In addition to their text book, students will be provided with an online *Modern States* account to supplement their learning with extra lessons and practice problems

Upon successful completion of the American Government course, the International Commerce High School will pay for the student to take the CLEP examination for college credit. Meeting the cut score on a CLEP examination has been approved by the Arizona State Board of Education as a College and Career Readiness Indicator.

HISTORY OF THE UNITED STATES I: EARLY COLONIZATION TO 1877 .50 SOC

The **History of the United States I: Early Colonization to 1877** course covers material that is usually taught in the first semester of a two-semester course in United States history. The course teaches the period of United States history from early European colonization to the end of Reconstruction, with a major emphasis on the period of 1790–1877.

This course requires students demonstrate one or more of the following abilities: identification and description of historical phenomena, analysis and interpretation of historical phenomena, and/or comparison and contrast of historical phenomena.

The subject matter of the History of the United States I course is both topical and chronological. Chronologically, the course is divided into two parts: 1500 to 1789 and 1790 to 1877. Within those timeframes, topics including political institutions, political developments, and public policy, social developments, economic developments, cultural and intellectual developments, diplomacy and international relations are explored.

The following themes are reflected in this comprehensive introductory survey course:

- The impact of European discovery and colonization upon indigenous societies
- The nature of indigenous societies in North America
- The origins and nature of slavery and resistance
- Immigration and the history of ethnic minorities
- Major movements and individual figures in the history of women and the family
- The development and character of colonial societies
- British relations with the Atlantic colonies of North America
- The changing role of religion in American society
- The content of the Constitution and its amendments, and their interpretation by the Supreme Court
- The development and expansion of participatory democracy
- The growth of and changes in political parties
- The changing role of government in American life
- The intellectual and political expressions of nationalism
- Major movements and individual figures in the history of American literature, art, and popular culture
- Abolitionism and reform movements
- Long term democratic trends (immigration and internal migration)
- The motivations for and character of American expansionism
- The process of economic growth and development
- The causes and impacts of major wars in United States history

In addition to their text book, students will be provided with an online *Modern States* account to supplement their learning with extra lessons and practice problems

Upon successful completion of the History of the United States I: Early Colonization to 1877 course, the International Commerce High School will pay for the student to take the CLEP examination for college credit. Meeting the cut score on a CLEP examination has been approved by the Arizona State Board of Education as a College and Career Readiness Indicator.

HISTORY OF THE UNITED STATES II: 1865 TO THE PRESENT .50 SOC

The **History of the United States II: 1865 to the Present** course covers material that is usually taught in the second semester of what is often a two-semester course in United States history. The course covers the period of United States history from the end of the Civil War to the present, with the majority of the questions being on the twentieth century.

This course requires students demonstrate one or more of the following abilities: identification and description of historical phenomena, analysis and interpretation of historical phenomena, and/or comparison and contrast of historical phenomena.

The subject matter of the History of the United States II course is both topical and chronological. Chronologically, the course is divided into two parts: 1865 to 1914 and 1915 to present day. Within those timeframes, topics including political institutions and public policy, social developments, economic developments, cultural and intellectual developments, and diplomacy and international relations are explored.

The following themes are reflected in this comprehensive introductory survey second semester course:

- The impact of the Civil War and Reconstruction upon the South
- The motivations and character of American expansionism
- The content of constitutional amendments and their interpretations by the Supreme Court
- The changing nature of agricultural life
- The development of American political parties
- The emergence of regulatory and welfare-state legislation
- The intellectual and political expressions of liberalism, conservatism, and other such movements
- Long-term demographic trends
- The process of economic growth and development
- The changing occupational structure, nature of work, and labor organization
- Immigration and the history of racial and ethnic minorities
- Urbanization and industrialization
- The causes and impacts of major wars in American history
- Major movements and individual figures in the history of American arts and letters
- Trends in the history of women and the family

In addition to their text book, students will be provided with an online *Modern States* account to supplement their learning with extra lessons and practice problems

Upon successful completion of the History of the United States II: 1865 to the Present course, the International Commerce High School will pay for the student to take the CLEP examination for college credit. Meeting the cut score on a CLEP examination has been approved by the Arizona State Board of Education as a College and Career Readiness Indicator.

PRINCIPLES OF MACROECONOMICS .50 SOC
The **Principles of Macroeconomics** course covers material that is usually taught in a one-semester undergraduate course. This aspect of economics deals with principles of economics that apply to an economy as a whole, particularly the general price level, output and income, and interrelations among sectors of the economy. The course places particular emphasis on the determinants of aggregate demand and aggregate supply, and on monetary and fiscal policy tools that can be used to achieve particular policy objectives. Within this context, students are expected to understand measurement concepts such as gross domestic product, consumption, investment, unemployment, inflation, inflationary gap and recessionary gap. Students also demonstrate knowledge of the institutional structure of the Federal Reserve Bank and the monetary policy tools it uses to stabilize economic fluctuations and promote long-term economic growth, as well as the tools of fiscal policy and their impacts on income, employment, price level, deficits and interest rates. A basic understanding of foreign exchange markets, balance of payments, effects of currency, and appreciation and depreciation on a country's imports and exports is also expected.

The Principles of Macroeconomics course requires students to demonstrate an understanding of important economic terms and concepts, interpretation and manipulation of economic graphs, interpretation and evaluation of economic data, and application of simple economic models.

The course focuses on seven areas of Macroeconomics. These areas are Basic Economic Concepts, Measurement of Economic Performance, National Income and Price Determination, Financial Sector, Inflation, Unemployment and Stabilization Policies, Economic Growth and Productivity and Open Economy: International Trade and Finance.

In the **Basic Economic Concepts** portion of the course students learn the idea of scarcity (choice and opportunity costs), production possibilities curve, comparative advantage such as specialization and exchange. This course portion also included supply, demand and market equilibrium, and macroeconomic issues like business cycle, unemployment, inflation, and growth.

The **Measurement of Economic Performance** portion teaches national income accounts including circular flow, gross domestic product. Also included are components of gross domestic product and real versus nominal gross domestic product. Inflation measurement and adjustment such as price indices, nominal and real values, costs of inflation and aspects of unemployment including its definition and measurement, types of unemployment, natural rate of unemployment are included in measuring economic performance.

In the **National Income and Price Determination** portion of the course students learn about aggregate demand including the determinants of

aggregate demand, multiplier and crowding-out effects. Students also learn about aggregate supply including the short-run and long-run analyses, sticky versus flexible wages and prices, determinants of aggregate supply. The real output and price level, short and long run, actual versus full-employment output, economic fluctuations of macroeconomic equilibrium is also included.

The **Financial Sector focuses on** money, banking and financial markets including: financial assets like money, stocks, bonds, the time value of money, measures of money supply, banks and creation of money, money demand, money market and loanable funds market. The course also exposes the student to the central bank and control of the money supply including: tools of central bank policy, quantity theory of money, and real versus nominal interest rates.

In the **Inflation, Unemployment and Stabilization Policies** section students learn about fiscal and monetary policies including demand-side effects, supply-side effects, policy mix, government deficits and debt. Students also learn about inflation and unemployment including the types of inflation, demand-pull inflation, cost-push inflation, the Phillips curve: short run versus long run, and role of expectations.

The **Economic Growth and Productivity** section of this course exposes the student to the concepts of investment in human capital, investment in physical capital, research and development, technological progress, and growth policy.

The **Open Economy: International Trade and Finance** portion of this course covers the balance of payments accounts including balance of trade, current account, and capital account. It also includes the foreign exchange market including demand for and supply of foreign exchange, exchange rate determination, currency appreciation and depreciation. Net exports and capital flows and links to financial and goods markets are also included in this portion of the course.

In addition to their text book, students will be provided with an online *Modern States* account to supplement their learning with extra lessons and practice problems

Upon successful completion of the Principles of Macroeconomics course, the International Commerce High School will pay for the student to take the CLEP examination for college credit. Meeting the cut score on a CLEP examination has been approved by the Arizona State Board of Education as a College and Career Readiness Indicator.

PRINCIPLES OF MICROECONOMICS .50 SOC

The **Principles of Microeconomics** course covers material that is usually taught in a one-semester undergraduate course in introductory microeconomics. This aspect of economics deals with the principles of economics that apply to the analysis of the behavior of individual consumers and businesses in the economy. This course requires students to apply analytical techniques to hypothetical as well as real-world situations and to analyze and evaluate economic decisions. Students are expected to demonstrate an understanding of how free markets work and allocate resources efficiently. They should understand how individual consumers make economic decisions to maximize utility, and how individual firms make decisions to maximize profits. Students must be able to identify the characteristics of the different market structures and analyze the behavior of firms in terms of price and output decisions. Students should also be able to evaluate the outcome in each market structure with respect to economic efficiency, identify cases in which private markets fail to allocate resources efficiently, and explain how government intervention fixes or fails to fix the resource allocation problem. It is also important to understand the determination of wages and other input prices in factor markets, and to analyze and evaluate the distribution of income.

The **Principles of Microeconomics** course requires students to demonstrate an understanding of important economic terms and concepts, interpretation and manipulation of economic graphs, interpretation and evaluation of economic data, and how to apply simple economic models.

The subject matter of the **Principles of Microeconomics** course is drawn from basic economic concepts, the nature and functions of product markets, factor markets and market failure and the role of government.

The **Basic Economic Concepts** portion of the course has students learn about scarcity, choice, and opportunity cost. The course also covers the production possibilities curve, comparative advantage, specialization, and trade. Varied economic systems, property rights and the role of incentives, and marginal analysis are included in this section.

The **Nature and Functions of Product Markets** portion is divided into four sections: supply and demand; the theory of consumer choice; production and costs; and firm behavior and market structure. Supply and demand explores market equilibrium, the determinants of supply and demand, price and quantity controls, and elasticity. Consumer surplus, producer surplus, and market efficiency, and tax incidence and deadweight loss are also included in this section. The theory of consumer choice section

explores total utility and marginal utility, utility maximization (equalizing marginal utility per dollar), individual and market demand curves and income and substitution effects. The production and costs section includes production functions for the short and long run, marginal product and diminishing returns, short-run costs, the long-run costs and economies of scale, and cost-minimizing input combination. The firm behavior and market structure section explores various ways of calculating profit, perfect competition, aspects of monopolies, oligopolies, and monopolistic competition.

The **Factor Markets** portion of the course explores derived factor demand, marginal revenue product, labor market and firms' hiring of labor, and the market distribution of income.

The **Market Failure and Role of Government** portion examines externalities such as marginal social benefit and marginal social cost, positive and negative externalities and remedies. Public versus private goods and the provision of public goods are covered in this portion as well and public policy to promote competition.

In addition to their text book, students will be provided with an online *Modern States* account to supplement their learning with extra lessons and practice problems

Upon successful completion of the Principles of Microeconomics course, the International Commerce High School will pay for the student to take the CLEP examination for college credit. Meeting the cut score on a CLEP examination has been approved by the Arizona State Board of Education as a College and Career Readiness Indicator.

WESTERN CIVILIZATION I: ANCIENT NEAR EAST TO 1648 .50 SOC

The Western Civilization I: Ancient Near East to 1648 course covers material that is usually taught in the first semester of a two-semester course in Western Civilization. The course explores the civilizations of Ancient Greece, Rome and the Near East; the Middle Ages; the Renaissance and the Reformation; and early modern Europe. Students are exposed to definitions of a historical terms, historical figures, and relationship between historical factors or events. Students interpret, evaluate or relate the contents of passages, maps, pictures or a cartoon to information and/or analyze and use the data contained in a graph or table. The Western Civilization I: Ancient Near East to1648 course requires students to demonstrate an understanding important factual knowledge of developments in Western Civilization, identify the causes and effects of major events in history, analyzing, interpreting and evaluating textual and graphic historical materials, distinguish the relevant from the irrelevant, and reaching conclusions on the basis of facts.

The subject matter of the Western Civilization I course is divided into following topics.

- **Ancient Near East** including its political evolution and religion, culture and technical developments in and near the Fertile Crescent
- **Ancient Greece and Hellenistic Civilization** including its political evolution to Periclean Athens, Periclean Athens through the Peloponnesian Wars, culture, religion and thought of Ancient Greece, the Hellenistic political structure, and the culture, religion and thought of Hellenistic Greece
- **Ancient Rome** including the political evolution of the Republic and of the Empire (economic and geographical context), Roman thought and culture, early Christianity, the Germanic invasions, and the late Roman empire
- **Medieval History** including Byzantium and Islam, early medieval politics and culture through Charlemagne, feudal and manorial institutions, the medieval Church, medieval thought and culture, rise of the towns and changing economic forms, feudal monarchies and the late medieval church
- **Renaissance and Reformation** including the Renaissance in Italy, the Renaissance outside Italy, the New Monarchies, and Protestantism and Catholicism reformed and reorganized
- **Early Modern Europe from1560 to1648** including the opening of the Atlantic, the Commercial Revolution, dynastic and religious conflicts, and changes in thought and culture

In addition to their text book, students will be provided with an online *Modern States* account to supplement their learning with extra lessons and practice problems

Upon successful completion of Western Civilization I: Ancient Near East to 1648, the International Commerce High School will pay for the student to take the CLEP examination for college credit. Meeting the cut score on a CLEP examination has been approved by the Arizona State Board of Education as a College and Career Readiness Indicator.

WESTERN CIVILIZATION II: 1648 TO THE PRESENT .50 SOC

The Western Civilization II: 1648 to the Present course covers material that is usually taught in the second semester of a two-semester course in Western Civilization. This course explores European history spanning from the from the mid-17th century through the post- World War II period, including political, economic and cultural

developments such as Scientific Thought, the Enlightenment, the French and Industrial Revolutions, and World Wars I and II. Students are exposed to definitions of a historical terms, historical figures, and relationship between historical factors or events. Students interpret, evaluate or relate the contents of passages, maps, pictures or a cartoon to information and/or analyze and use the data contained in a graph or table.

The Western Civilization II: 1648 to the Present course requires students to demonstrate an understanding important factual knowledge of developments in Western Civilization, identify the causes and effects of major events in history, analyzing, interpreting and evaluating textual and graphic historical materials, distinguish the relevant from the irrelevant, and reaching conclusions on the basis of facts.

The subject matter of the Western Civilization II: 1648 to the Present course is divided into the following twelve topics:

- **Absolutism and Constitutionalism, 1648–1715** including the Dutch Republic, the English Revolution, France under Louis XIV, the formation of Austria and Prussia and the "westernization" of Russia.
- **Competition for Empire and Economic Expansion** including the global economy of the 18th century, Europe after Utrecht, 1713–1740, and the demographic change in the 18th century.
- **The Scientific View of the World** including major figures of the scientific revolution, new knowledge of man and society, and political theory.
- **Period of Enlightenment** including enlightenment thought, enlightened despotism, and the partition of Poland.
- **Revolution and Napoleonic Europe** including the Revolution in France, the Revolution and Europe, the French Empire, and the Congress of Vienna
- **The Industrial Revolution** including the agricultural and industrial revolution, the causes of revolution, economic and social impact on the working class and the middle class and the British reform movement.
- **Political and Cultural Developments between 1815 and 1848** including conservatism, liberalism, nationalism, socialism, and the Revolutions of 1830 and 1848.
- **Politics and Diplomacy in the Age of Nationalism between 1850 and 1914** including the unification of Italy and Germany, Austria-Hungary, Russia, and France, Socialism and labor unions and European diplomacy between 1871 and 1900.
- **Economy, Culture and Imperialism between 1850 and 1914** including demography, world economy of the 19th century, technological developments, science, philosophy and the arts, and imperialism in Africa and Asia.
- **World War I and the Russian Revolution** including the causes of World War I, the economic and social impact of the war, the peace settlements, and the Revolution of 1917 and its effects.
- **Europe Between the Wars** including the Great Depression, international politics between1919 and 1939, Stalin's five-year plans and purges, Italy and Germany between the wars and interwar cultural developments.
- **World War II and Contemporary Europe** including the causes and course of World War II, postwar Europe, science, philosophy, the arts and religion and social and political developments.

In addition to their text book, students will be provided with an online *Modern States* account to supplement their learning with extra lessons and practice problems

Upon successful completion of Western Civilization II: 1648 to the Present course, the International Commerce High School will pay for the student to take the CLEP examination for college credit. Meeting the cut score on a CLEP examination has been approved by the Arizona State Board of Education as a College and Career Readiness Indicator.

BIOLOGY .50 SCI

The **Biology** course covers material that is usually taught in a one-year college general biology course. The course covers the broad field of the biological sciences, organized into three major areas of equal weight: molecular and cellular biology, organismal biology, and population biology.

This course focuses on facts, principles, and processes of biology, an understanding the means by which information is collected, how it is interpreted, how one hypothesizes from available information, and how one draws conclusions and makes further predictions, and an understanding that science is a human endeavor with social consequences.

The **molecular and cellular biology** portion covers three areas: the chemical composition of organisms, cells, enzymes, energy transformations, cell division, and the chemical nature of the gene. Within the chemical composition of organisms section, simple chemical reactions and bonds, properties of water, chemical structure of carbohydrates, lipids, proteins, nucleic acids, and the origin of life are explored. Additionally the cell, structure and function of organelles, properties of

cell membranes, and the comparison of prokaryotic and eukaryotic cells are examined. Students learn the enzyme-substrate complex, roles of coenzymes, inorganic cofactors, and the inhibition and regulation of enzymes. The course shows how energy is transformed through glycolysis, respiration, anaerobic pathways and photosynthesis. The process of cell division and the structure of chromosomes and mitosis, meiosis, and cytokinesis in plants and animals are also explored. Additionally, the chemical nature of the gene including: Watson-Crick model of nucleic acids, DNA replication, mutations, transcription, translation, posttranscriptional processing, structural and regulatory genes, transformation, and viruses.

The **organismal biology** portion explores the structure and function in plants with an emphasis on angiosperms, plan reproduction and development, structure and function in animals with emphasis on vertebrates, animal reproduction and development, and the principles of heredity. There is a focus on the structure and function in plants with emphasis on angiosperms, root, stem, leaf, flower, seed, fruit, water and mineral absorption and transport, and food translocation and storage. Plant reproduction and development is explored, including the alternation of generations in ferns, conifers, and flowering plants, gamete formation and fertilization, growth and development: hormonal control, and tropisms and photoperiodicity. Also in this course are the structures and functions in animals with emphasis on vertebrates' major systems, homeostatic mechanisms and hormonal control in homeostasis and reproduction. In addition to animal function, reproduction and development including: gamete formation, fertilization, cleavage, gastrulation, germ layer formation, differentiation of organ systems, experimental analysis of vertebrate development, extraembryonic membranes of vertebrates, formation and function of the mammalian placenta, and blood circulation in the human embryo are included in this course. The principles of heredity: Mendelian inheritance (dominance, segregation, independent assortment), chromosomal basis of inheritance, linkage, including sex-linked, polygenic inheritance, and multiple alleles are also included in this course.

The **population biology** portion explores the principles of ecology, the principles of evolution, principles of behavior and social biology. The principles of ecology section includes: energy flow and productivity in ecosystem, biogeochemical cycles, population growth and regulation, community structure, growth, regulation, habitat, concept of niche, island biogeography, and evolutionary ecology. The principles of evolution section includes: the history of evolutionary concepts, concepts of natural selection, adaptive radiation, major features of plant and animal evolution, concepts of homology and analogy, convergence, extinction, balanced polymorphism, genetic drift, classification of living organisms, and the evolutionary history of humans. Included in the principles of behavior section is: stereotyped, learned social behavior, and societies. Social biology is also explored with an emphasis on human population growth, human intervention in the natural world, and biomedical progress.

In addition to their text book, students will be provided with an online *Modern States* account to supplement their learning with extra lessons and practice problems

Upon successful completion of the Biology course, the International Commerce High School will pay for the student to take the CLEP examination for college credit. Meeting the cut score on a CLEP examination has been approved by the Arizona State Board of Education as a College and Career Readiness Indicator.

CHEMISTRY .50 SCI

The Chemistry course covers material that is usually taught in a one-year college course in general chemistry. Understanding of the structure and states of matter, reaction types, equations and stoichiometry, equilibrium, kinetics, thermodynamics, and descriptive and experimental chemistry is required, as is the ability to interpret and apply this material to new and unfamiliar problems. An online scientific calculator function and a periodic table are available as part of the course.

Scientific Calculator
A scientific (nongraphing) calculator, the TI-30XS MultiView™, is available to students.

Knowledge and Skills Required
Students will demonstrate the following abilities:

Recall: remember specific facts; demonstrate straightforward knowledge of information and familiarity with terminology.
Application: understand concepts and reformulate information into other equivalent terms; apply knowledge to unfamiliar and/or practical situations; use mathematics to solve chemistry problems.
Interpretation: infer and deduce from data available and integrate information to form conclusions; recognize unstated assumptions.

The subject matter of the Chemistry course is drawn from the following topics:

Structure of Matter
Atomic theory and atomic structure

- Evidence for the atomic theory
- Atomic masses; determination by chemical and physical means

- Atomic number and mass number; isotopes and mass spectroscopy
- Electron energy levels: atomic spectra and atomic orbitals
- Periodic relationships, including, for example, atomic radii, ionization energies, electron affinities, and oxidation states
- Nuclear chemistry: nuclear equations, half-lives, and radioactivity; chemical applications

Chemical bonding

- Binding forces
- Types: covalent, ionic, metallic, macromolecular (or network), dispersion, and hydrogen bonding
- Relationships to structure and to properties
- Polarity of bonds and electronegativities
- VSEPR theory and Lewis electron-dot diagrams
- Hybridization of orbitals
- Geometry of molecules, ions, and coordination complexes
- Structural isomerism
- Resonance
- Sigma and pi bonds
- Dipole moments of molecules
- Relation of properties to structure

States of Matter

Gases

- Laws of ideal gases; equations of state for an ideal gas
- The mole concept; Avogadro's number
- Kinetic-molecular theory
- Interpretation of ideal gas laws on the basis of this theory
- Dependence of kinetic energy of molecules on temperature: Boltzmann distribution
- Deviations from ideal gas laws

Liquids and solids

- Liquids and solids from the kineticmolecular viewpoint
- Phase diagrams of one-component systems
- Changes of state and critical phenomena

Solutions

- Types of solutions and factors affecting solubility
- Methods of expressing concentration
- Colligative properties; for example, Raoult's law
- Effect of interionic attraction on colligative properties and solubility

Reaction Types

Acid-base reactions; concepts of Arrhenius, Brønsted-Lowry, and Lewis; amphoterism

Reactions involving coordination complexes

Precipitation reactions

Oxidation-reduction reactions

- Oxidation number
- The role of the electron in oxidation-reduction
- Electrochemistry; electrolytic cells, standard half-cell potentials, prediction of the direction of redox reactions, and the effect of concentration changes

Equations and Stoichiometry

Ionic and molecular species present in chemical systems; net-ionic equations

Stoichiometry: mass and volume relations with emphasis on the mole concept

Balancing of equations, including those for redox reactions

Equilibrium

Concept of dynamic equilibrium of physical and chemical; LeChâtelier's principle; equilibrium constants

Quantitative treatment

- Equilibrium constants for gaseous reactions in terms of both molar concentrations and partial pressure (Kc, Kp)
- Equilibrium constants for reactions in solutions
- Constants for acids and bases; pK; pH
- Solubility product constants and their application to precipitation and the dissolution of slightly soluble compounds
- Constants for complex ions
- Common ion effect; buffers

Kinetics

Concept of rate of reaction

- Order of reaction and rate constant
- Determination of order of reaction and rate constant from experimental data
- Effect of temperature change on rates

Activation energy and the role of catalysts

The relationship between the rate-determining step and reaction mechanism

Thermodynamics

State functions

First law:

- Heat of formation
- Heat of reaction, change in enthalpy, and Hess's law
- Heat capacity; heats of vaporization and fusion

Second law:

- Free energy of formation
- Free energy of reaction
- Dependence of change in free energy on enthalpy and entropy changes

Relationship of change in free energy to equilibrium constants and electrode potentials

Descriptive Chemistry

The accumulation of certain specific facts of chemistry is essential to enable students to:

- comprehend the development of principles and concepts
- demonstrate applications of principles

- relate fact to theory and properties to structure
- develop an understanding of systematic nomenclature that facilitates communication

The following areas are normally included in the course:

- Chemical reactivity and products of chemical reactions
- Relationships in the periodic table: horizontal, vertical, and diagonal
- Chemistry of the main groups and transition elements, including typical examples of each
- Organic chemistry, including such topics as functional groups and isomerism (may be treated as a separate unit or as exemplary material in other areas, such as bonding)

Experimental Chemistry

Some questions are based on laboratory experiments widely performed in general chemistry and ask about the equipment used, observations made, calculations performed, and interpretation of the results. The questions are designed to provide a measure of understanding of the basic tools of chemistry and their applications to simple chemical systems.

In addition to their text book, students will be provided with an online *Modern States* account to supplement their learning with extra lessons and practice problems

Upon successful completion of the Chemistry course, the International Commerce High School will pay for the student to take the CLEP examination for college credit. Meeting the cut score on a CLEP examination has been approved by the Arizona State Board of Education as a College and Career Readiness Indicator.

NATURAL SCIENCE .50 SCI

The Natural Sciences course covers a wide range of topics frequently taught in introductory courses surveying both biological and physical sciences at the freshman or sophomore level. Such courses generally satisfy distribution or general education requirements in science that usually are not required nor taken by science majors. The Natural Sciences course is intended to test the understanding of scientific concepts that an adult with a liberal arts education should have. It does not stress the retention of factual details; rather, it emphasizes the knowledge and application of the basic principles and concepts of science, the comprehension of scientific information, and the understanding of issues of science in contemporary society.

The primary objective of the course is to give students the opportunity to demonstrate a level of knowledge and understanding expected of college students meeting a distribution or general education requirement in the natural sciences. An institution may grant college credit toward fulfillment of such a requirement for satisfactory scores on the exam. Some may grant specific course credit, on the basis of the total score for a two-semester survey course covering both biological and physical sciences.

Knowledge and Skills Required

The Natural Sciences exam requires students to demonstrate one or more of the following abilities:

Knowledge of fundamental facts, concepts, and principles;

Interpretation and comprehension of information presented in the form of graphs, diagrams, tables, equations, or verbal passages; Qualitative and quantitative application of scientific principles including applications based on material presented in the form of graphs, diagrams, tables, equations, or verbal passages; more emphasis is given to qualitative than quantitative applications.

The subject matter of the Natural Sciences course is drawn from the following topics:

Biological Science

- Origin and evolution of life; classification of organisms
- Cell organization, cell division, chemical nature of the gene, bioenergetics, and biosynthesis
- Structure, function, and development in organisms; patterns of heredity
- Concepts of population biology with emphasis on ecology

Physical Science

- Atomic and nuclear structure and properties, elementary particles, and nuclear reactions
- Chemical elements, compounds and reactions, molecular structure and bonding
- Heat, thermodynamics, and states of matter; classical mechanics; relativity
- Electricity and magnetism, waves, light, and sound
- The universe: galaxies, stars, and the solar system
- The Earth: atmosphere, hydrosphere, structure features, geologic processes, and history

The course includes some questions that are interdisciplinary and cannot be classified in one of the listed categories. Some of the questions cover topics that overlap with those listed previously, drawing on areas such as history and philosophy of science, scientific methods, science applications and technology, and the relationship of science to contemporary problems of society, such as

environmental pollution and depletion of natural resources. Some questions are laboratory oriented.

In addition to their textbook, students will be provided with an online *Modern States* account to supplement their learning with extra lessons and practice problems

Upon successful completion of the Natural Sciences course, the International Commerce High School will pay for the student to take the CLEP examination for college credit. Meeting the cut score on a CLEP examination has been approved by the Arizona State Board of Education as a College and Career Readiness Indicator.

COLLEGE ALGEBRA .50 MAT

College Algebra course covers material that is usually taught in a one-semester college course in algebra. The course includes basic algebraic operations; linear and quadratic equations, inequalities, and graphs; algebraic, exponential, and logarithmic functions; and miscellaneous other topics.

It is assumed that students taking this course are familiar with currently taught algebraic vocabulary, symbols, and notation.

A **scientific** (non-graphing) **calculator** is integrated into the course and is available to students. Students are expected to know how and when to make appropriate use of the calculator. Students are given the skills to demonstrate the ability to solve routine, straightforward problems, and solve non-routine problems requiring an understanding of concepts and the application of skills and concepts.

The subject matter of the College Level Examination Program: College Algebra course includes algebraic operations, equations and inequalities, functions and their properties, and number systems and operations.

The **algebraic operations** sections include: operations with exponents, factoring and expanding polynomials, and operations with algebraic expressions, absolute value, and properties of logarithms.

The **equations and inequalities** sections include: linear equations and inequalities, quadratic equations and inequalities, absolute value equations and inequalities, systems of equations and inequalities, and exponential and logarithmic equations.

The **functions and their properties** sections include: definition and interpretation, representation/modeling (graphical, numerical, symbolic, and verbal representations of functions), domain and range, algebra of functions, graphs and their properties (including intercepts, symmetry, and transformations), inverse functions.

The **number systems and operations** portion includes: real numbers, complex numbers, sequences and series, and factorials and binomial theorem.

In addition to their text book, students will be provided with an online *Modern States* account to supplement their learning with extra lessons and practice problems

Upon successful completion of the College Algebra course, the International Commerce High School will pay for the student to take the CLEP examination for college credit. Meeting the cut score on a CLEP examination has been approved by the Arizona State Board of Education as a College and Career Readiness Indicator.

COLLEGE MATHEMATICS .50 MAT

The **College Mathematics** course covers material generally taught in a college course for non-mathematics majors and majors in fields not requiring knowledge of advanced mathematics. Students demonstrate the following abilities: solving routine, straightforward problems and solving non-routine problems requiring an understanding of concepts and the application of skills and concepts. This course addresses the correct use of the scientific calculator, algebra and functions including: solving equations, linear inequalities, and systems of linear equations by analytic and graphical methods, interpretation, representation, and evaluation of functions: numerical, graphical, symbolic, and descriptive methods, graphs of functions: translations, horizontal and vertical reflections, and symmetry about the x-axis, the y-axis, and the origin, linear and exponential growth, and applications.

A **scientific** (non-graphing) **calculator** is integrated into the course and is available to students. Students are expected to know how and when to make appropriate use of the calculator. Students are expected to demonstrate the ability to solve routine, straightforward problems, and solve non-routine problems requiring an understanding of concepts and the application of skills and concepts.

The **counting and probability** section is divided into counting problems that include the multiplication rule, combinations, and permutations, and probability problems that include: union, intersection, independent events, mutually exclusive events, complementary events, conditional probabilities, and expected value, and applications

Data analysis and statistics examines data interpretation and representation in tables, bar

graphs, line graphs, circle graphs, pie charts, scatterplots, and histograms. This section also explores numerical summaries of data: mean (average), median, mode, and range, standard deviation, normal distribution (conceptual questions only), and applications.
The **financial mathematics** portion includes examining percent problems, percent change, markups, discounts, taxes, profit, and loss, interest: simple, compound, continuous interest, effective interest rate, effective annual yield or annual percentage rate (APR), present value and future value, and how to apply that information.

The **geometry** section includes the properties of triangles and quadrilaterals, perimeter, area, similarity, and the Pythagorean Theorem, parallel and perpendicular lines, properties of circles: circumference, area, central angles, inscribed angles, and sectors, and the practical application of geometry.

Logic and Sets examines the logical operations and various statements: conditional statements, conjunctions, disjunctions, negations, hypotheses, logical conclusions, converses, inverses, counterexamples, contrapositives, logical equivalence. Also included are set relationships, subsets, disjoint sets, equality of sets, and Venn diagrams, operations on sets: union, intersection, and complement, and applications of sets and logic.

The **numbers** section includes properties of numbers and their operations: integers and rational, irrational, and real numbers. Also included in this section are the elementary number theory including factors and divisibility, primes and composites, odd and even integers, and the fundamental theorem of arithmetic. Measurement is also addressed with unit conversion, scientific notation, and numerical precision, absolute value, and practical application of each.

In addition to their text book, students will be provided with an online *Modern States* account to supplement their learning with extra lessons and practice problems

Upon successful completion of the College Mathematics course, the International Commerce High School will pay for the student to take the CLEP examination for college credit. Meeting the cut score on a CLEP examination has been approved by the Arizona State Board of Education as a College and Career Readiness Indicator.

PRECALCULUS .50 MAT
The Precalculus course prepares students for mastery of skills and concepts required for success in a first-semester calculus course. A large portion of the course is devoted to a student's understanding of functions and their properties. The course explores specific properties of the following types of functions: linear, quadratic, absolute value, square root, polynomial, rational, exponential, logarithmic, trigonometric, inverse trigonometric, and piecewise defined. Questions in the course will present these types of functions symbolically, graphically, verbally or in tabular form. A solid understanding of these types of functions is at the core of all precalculus courses, and it is a prerequisite for enrolling in calculus and other college-level mathematics courses.

Graphing Calculator
The use of an online graphing calculator (non-CAS) is encouraged. A graphing calculator, the TI-84 Plus CE, is integrated into course software and available to students. In order to answer some of the questions in the calculator section of the exam, students may be required to use the online graphing calculator in the following ways:
Perform calculations (e.g., exponents, roots, trigonometric values, and logarithms)
Graph functions and analyze the graphs
Find zeros of functions
Find points of intersection of graphs of functions
Find minima/maxima of functions
Find numerical solutions to equations
Generate a table of values for a function

Knowledge and Skills Required
The course will prepare students to demonstrate the following abilities:
Recalling factual knowledge and/or performing routine mathematical manipulation
Solving problems that demonstrate comprehension of mathematical ideas and/or concepts
Solving non-routine problems or problems that require insight, ingenuity, or higher mental processes

The subject matter of the Precalculus course is drawn from the following topics:

Algebraic Expressions, Equations, and Inequalities
Ability to perform operations on algebraic expressions
Ability to solve equations and inequalities, including linear, quadratic, absolute value, polynomial, rational, radical, exponential, logarithmic, and trigonometric
Ability to solve systems of equations, including linear and nonlinear
Functions: Concept, Properties, and Operations
Ability to demonstrate an understanding of the concept of a function, the general properties of functions (e.g., domain and range), function notation, and to perform symbolic operations with functions (e.g., evaluation and inverse functions)
Representations of Functions: Symbolic, Graphical, and Tabular

Ability to recognize and perform operations and transformations on functions presented symbolically, graphically, or in tabular form
Ability to demonstrate an understanding of basic properties of functions and to recognize elementary functions (linear, quadratic, absolute value, square root, polynomial, rational, exponential, logarithmic, trigonometric, inverse trigonometric, and piecewise-defined functions) that are presented symbolically, graphically, or in tabular form

Analytic Geometry

Ability to demonstrate an understanding of the analytic geometry of lines, circles, parabolas, ellipses, and hyperbolas

Trigonometry and its Applications*

Ability to demonstrate an understanding of the basic trigonometric functions and their inverses and to apply the basic trigonometric ratios and identities (in right triangles and on the unit circle)
Ability to apply trigonometry in various problem-solving contexts

Functions as Models

Ability to interpret and construct functions as models and to translate ideas among symbolic, graphical, tabular, and verbal representations of functions

*Note that trigonometry permeates most of the major topics. The actual proportion of exam questions that requires knowledge of either right triangle trigonometry or the properties of the trigonometric functions is approximately 30%–40%.

In addition to their textbook, students will be provided with an online *Modern States* account to supplement their learning with extra lessons and practice problems

Upon successful completion of the Precalculus course, the International Commerce High School will pay for the student to take the CLEP examination for college credit. Meeting the cut score on a CLEP examination has been approved by the Arizona State Board of Education as a College and Career Readiness Indicator.

CALCULUS .50 MAT

The Calculus course prepares students for skills and concepts that are usually taught in a one-semester college course in calculus. The content of the course is approximately 60% limits and differential calculus and 40% integral calculus. Algebraic, trigonometric, exponential, logarithmic, and general functions are included. The course is primarily concerned with an intuitive understanding of calculus and experience with its methods and applications. Knowledge of preparatory mathematics is assumed, including algebra, geometry, trigonometry, and analytic geometry.

Graphing Calculator

A graphing calculator, the TI-84 Plus CE, is integrated into the software and available to students during the course. Students may be required to use the online graphing calculator in the following ways:

- Perform calculations (e.g., exponents, roots, trigonometric values, and logarithms)
- Graph functions and analyze the graphs
- Find zeros of functions
- Find points of intersection of graphs of functions
- Find minima/maxima of functions
- Find numerical solutions to equations
- Generate a table of values for a function

The course require candidates to demonstrate the following abilities:

- Solving routine problems involving the techniques of calculus.
- Solving nonroutine problems involving an understanding of the concepts and applications of calculus.

The subject matter of the Calculus course is drawn from the following topics.

Limits

- Statement of properties, e.g., limit of a constant, sum, product or quotient
- Limit calculations, including limits involving infinity, e.g., $\lim_{x\to 0}\frac{\sin x}{x}=1$, $\lim_{x\to 0}\frac{1}{x}$ is nonexistent, and $\lim_{x\to\infty}\sin x=0$
- Continuity

Differential Calculus

The Derivative

- Definitions of the derivative, e.g., $f'a=\lim_{x\to a}\frac{f(x)-f(a)}{x-a}$ and $f'x=\lim_{h\to 0}\frac{f(x+h)-f(x)}{h}$
- Derivatives of elementary functions
- Derivatives of sums, products and quotients (including tan x and cot x
- Derivative of a composite function (chain rule), e.g., sin(ax+b), aekx, ln(kx)
- Implicit differentiation
- Derivative of the inverse of a function (including arcsin x and arctan x)
- Higher order derivatives
- Corresponding characteristics of graphs of f, f' and f''
- Statement of the Mean Value Theorem; applications and graphical illustrations
- Relation between differentiability and continuity
- Use of L'Hospital's Rule (quotient and indeterminate forms)

Applications of the Derivative

- Slope of a curve at a point
- Tangent lines and linear approximation

- Curve sketching: increasing and decreasing functions; relative and absolute maximum and minimum points; concavity; points of inflection
- Extreme value problems
- Velocity and acceleration of a particle moving along a line
- Average and instantaneous rates of change
- Related rates of change

Integral Calculus

Antiderivatives and Techniques of Integration

- Concept of antiderivatives
- Basic integration formulas
- Integration by substitution (use of identities and change of variable)

Applications of Antiderivatives

- Distance and velocity from acceleration with initial conditions
- Solutions of y'=ky and applications to growth and decay

The Definite Integral

- Definition of the definite integral as the limit of a sequence of Riemann sums and approximations of the definite integral using areas of rectangles
- Properties of the definite integral
- The Fundamental Theorem: $\frac{d}{dx}\int_a^x f(t)dt=f(x)$ and $\int_a^b F'(x)dx= F(b)-F(a)$

Applications of the Definite Integral

- Average value of a function on an interval
- Area, including area between curves
- Other (e.g., accumulated change from a rate of change)

Notes and Reference Information

1. Figures that accompany questions are intended to provide information useful in answering the questions. All figures lie in a plane unless otherwise indicated. The figures are drawn as accurately as possible except when it is stated in a specific question that the figure is not drawn to scale. Straight lines and smooth curves may appear slightly jagged.
2. Unless otherwise specified, all angles are measured in radians, and all numbers used are real numbers.
3. Unless otherwise specified, the domain of any function f is assumed to be the set of all real numbers x for which f(x) is a real number. The range of f is assumed to be the set of all real numbers f(x) where x is in the domain of f.
4. In this test, ln x denotes the natural logarithm of x (that is, the logarithm to the base e).
5. The inverse of a trigonometric function f may be indicated using the inverse function notation f-1 or with the prefix "arc" (e.g., sin-1 x=arcsin x)

In addition to their textbook, students will be provided with an online *Modern States* account to supplement their learning with extra lessons and practice problems

Upon successful completion of the Calculus course, the International Commerce High School will pay for the student to take the CLEP examination for college credit. Meeting the cut score on a CLEP examination has been approved by the Arizona State Board of Education as a College and Career Readiness Indicator.

Additional College Level Examination Program courses include: Financial Accounting, Information Systems, Introductory business Law, Principles of Management, Principles of Marketing, English Literature, French Language, German Language, Human Growth and Development, Introduction to Educational Psychology, Introduction to Psychology, Introduction to Sociology, and Social Science and History.

As a service to adult learners who pass the College Level Examination Program Exams, the International Commerce High School takes responsibility for all expenses related to the American Council on Education College Credit Recommendation transcript through the American Council on Education Registry of Credit Recommendations. These credit recommendations are valuable for student employability and are recognized by the military, community colleges, colleges, and universities nationwide.

CTE /VOCATIONAL EDUCATION AND FINE ARTS

COMPUTER USAGE AND APPLICATIONS **1.0 VOC**

The Computer Usage and Applications course is designed to provide an overview on the use, application, and technological developments of computers in changing work environments. This course focuses on training the student in the basic use of software applications including the computer operating system, word processing, electronic worksheets, database management, presentation graphics, and the Internet. Students are introduced to business and personal computer operations and usage.

This course presents introductory topics in applications and usage of the computer in the home, school and work environments. Key areas of study include computer terminology, operations, hardware, and software. Students read and discuss course material. The students receive hands-on experience with various resource discovery and information retrieval tools. This course includes exploration of computer operations and uses, as well as specific applications for business, educational, and personal use.

*This course may be repeated for credit.

EDUCATION AND CAREER PLAN **0.5 VOC**

The Education and Career Plan course is designed to reinforce reading comprehension, discussion, and writing skills while learning to research postsecondary goals and plans. Students use an approach that integrates reading, writing, and thinking to learn key strategies needed to interpret a variety of written and graphic material.

This capstone course is designed to utilize discussion, research, writing and critical thinking. The format of the course encourages both individual study as well as cooperative learning. Students are encouraged to express their knowledge orally through group discussion and teamwork.

FINE ARTS **1.0 ART**

Fine Arts is a survey course designed to introduce students to the various aspects of the fine arts. Students use an approach that integrates reading, writing, and thinking to learn key strategies needed to interpret a variety of written and graphic material. This course introduces the core skills learners need to master basic competencies in fine arts. The format of the course encourages both individual study as well as cooperative learning. Students are encouraged to express their knowledge orally through group discussions and teamwork.

Several content areas are included in this course: painting and sculpture, architecture, literature and drama, music and dance, and film and photography. This course covers both the old and new in the fine arts and their connections to American culture.

ELECTIVES

ACT WORKKEYS NATIONAL CAREER READINESS: APPLIED MATH* 0.5 ELE
The ACT WorkKeys: Applied Math course is aligned with the updated WorkKeys National Career Readiness Certificate assessments. Applied Math: Builds the ability to apply mathematical principles to problems encountered in the workplace. In this course students learn how to use addition and subtraction positive and negative numbers in the workplace, multiply and divide in the workplace, using fractions and converting units in the workplace. Students learn how to use fractions and decimals, multiply mixed and whole numbers, use rates, ratios and proportions, and how to calculate averages in the workplace. This course shows students how to deal with fractions with unlike denominators, how to calculate percentages, convert percentages and units, and find geometric measurements. Students will also calculate rates, percentage change, convert units, complete geometric calculations and find mistakes and deal using percentages. This course exposes students to advanced ratios, rates and proportions, complex geometric measurements, convert units of measurement, apply mathematical reasoning, and understand basic statistical concepts.

* Supports the National Career Readiness Certificate. The benchmarks for the ACT WorkKeys were approved by the Arizona State Board of Education as a College and Career Readiness Indicator.

ACT WORKKEYS NATIONAL CAREER READINESS: WORKPLACE DOCUMENTS* 0.5 ELE
The ACT WorkKeys: Workplace Documents course is aligned with the updated WorkKeys National Career Readiness Certificate assessments. Workplace Documents course builds the ability to understand and apply written information presented in the workplace. In this course, students learn how to read emails, memos, and workplace policies; find the main idea in a text; and identify key details; and how to follow instructions. This course teaches, identifying the main idea and key details in workplace documents and how to learn new vocabulary from context. Further, this course teaches students to use documents to make decisions; about acronyms, jargon, and technical terms in the workplace, and how to read contracts and legal documents. Additionally, understanding the reasoning and principles behind a text, inferring details and reading between the lines and addressing unfamiliar jargon and technical terms in the workplace is included in this course. The student will also be exposed to defining jargon and other difficult words, inferring the principles behind a policy or regulation, and drawing conclusions and making decisions from incomplete information.

*Supports the National CareerReadiness Certificate. The benchmarks for the ACT WorkKeys were approved by the Arizona State Board of Education as a College and Career Readiness Indicator.

ACT WORKKEYS NATIONAL CAREER READINESS: GRAPHIC LITERACY* 0.5 ELE
The ACT WorkKeys: Graphic Literacy course is aligned with the updated WorkKeys National Career Readiness Certificate assessments. Graphic Literacy: Builds the ability to find, analyze, and apply information presented in workplace graphics. In this course students will find information in tables, read simple charts and graphs, read and use forms, read simple gauges and diagrams, and how to read simple flowcharts. This course teaches understanding tables, interpreting charts and graphs, understanding dashboards, and identifying trends. Students also understand how to use and read scatter plots, combination charts and graphs with a secondary y-axis, read complex diagrams, choose effective and accurate graphics, and make real-world decisions with graphics. Students interpret graphs with a secondary y-axis, use uncommon charts and graphs, make real-world decisions with graphics, and interpret and compare trends. This course helps students know how to make decisions with complex maps and diagrams, analyze financial data in graphs, interpret trends and make predictions based on information given in the workplace.

*Supports the National CareerReadiness Certificate. The benchmarks for the ACT WorkKeys were approved by the Arizona State Board of Education as a College and Career Readiness Indicator.

ACT WORKKEYS: APPLIED TECHNOLOGY PROBLEM-SOLVING STRATEGIES 0.5 ELE
WorkKeys-Aligned Courses prepare individuals to take the other WorkKeys assessments and take their professional development even further. Students explore different problem-solving methods including compartmentalizing, common concepts, and other problem-solving models.

ACT WORKKEYS: APPLIED TECHNOLOGY ELECTRICITY 0.5 ELE
WorkKeys-Aligned Courses prepare individuals to take the other WorkKeys assessments and take their professional development even further. In Level 3, students explore concepts of voltage and current, resistors, circuits and switches, capacitors, inductors, series and parallel circuits, circuit breakers, multimeters, and troubleshooting exercises. In Level 4, students explore concepts of magnets and electricity, alternating and three-

phase current, transformers, motors and generators, Ohm's Law, grounding and GFCIs, lighting types, relays and solenoids, and troubleshooting exercises. In Level 5 students explore concepts of digital circuits, printers, photocopying, computers, information storage devices, and troubleshooting exercises. In Level 6, students explore concepts of thermocouples and thermostats, analog/digital converters, electronic scales, light sensors and emitters, solar cells, and troubleshooting exercises.

ACT WORKKEYS: APPLIED TECHNOLOGY FLUID DYNAMICS 0.5 ELE
WorkKeys-Aligned Courses prepare individuals to take the other WorkKeys assessments and take their professional development even further. In Level 3, students explore concepts of pressure and flow, flotation, pipes and valves, pumps, and troubleshooting exercises. In Level 4, students explore concepts of gases and pressure, vacuum, compression heating, and troubleshooting exercises. In Level 5 students explore concepts of piping problems, flow measurement devices, mixing and turbulence, and troubleshooting exercises. In Level 6, students explore concepts of hydraulic cylinders, piping systems, and troubleshooting exercises.

ACT WORKKEYS: APPLIED TECHNOLOGY MECHANICS 0.5 ELE
WorkKeys-Aligned Courses prepare individuals to take the other WorkKeys assessments and take their professional development even further. In Level 3, students explore concepts of force and pressure, friction and inertia, planes and levers, torque and gears, wheels and pulleys, springs and stored energy, and troubleshooting exercises. In Level 4, students explore concepts of screws, acceleration, rotation, center of gravity, and troubleshooting exercises. In Level 5 students explore concepts of bearings, lubrication, conveyors, sound and vibration, and troubleshooting exercises. In Level 6, students explore concepts of gas engines, alternative power, hybrid engines, and troubleshooting exercises.

ACT WORKKEYS: APPLIED TECHNOLOGY THERMODYNAMICS 0.5 ELE
WorkKeys-Aligned Courses prepare individuals to take the other WorkKeys assessments and take their professional development even further. In Level 3, students explore concepts of temperature and heat, conduction, thermal expansion, convection, radiation, and troubleshooting exercises. In Level 4, students explore concepts of melting and freezing, evaporation and condensation, boiling, refrigeration, and troubleshooting exercises. In Level 5 students explore concepts heat exchangers, ovens and furnaces, boilers, and troubleshooting exercises. In Level 6, students explore concepts of cooling towers, solar heating Systems, and troubleshooting exercises.

ACT WORKKEYS: APPLIED TECHNOLOGY BUSINESS WRITING 0.5 ELE
WorkKeys-Aligned Courses prepare individuals to take the other WorkKeys assessments and take their professional development even further. In Level 1, students explore concepts of sentence structure, nouns, verbs, punctuation, spelling, developing ideas, organizing ideas, writing exercises, and practice problems. In Level 2, students explore concepts of sentence structure, describing words, punctuation and spelling, organization, proofreading, writing practice, developing ideas, writing strategy and outlining, writing exercises, and practice problems. In Level 3, students explore concepts of sentence structure, nouns and verbs, punctuation, organization, developing ideas, organizing ideas, writing exercises, and practice problems. In Level 4, students explore concepts of grammar and punctuation, vocabulary, organization, developing ideas, organizing ideas, writing style, writing exercises, and practice problems. In Level 5, students explore concepts of sentence structure, parts of speech: building blocks, parts of speech: describing words, punctuation and capitalization, organization, proofreading, persuasive writing I, persuasive writing II, writing exercises, and practice problems.

ACT WORKKEYS: APPLIED TECHNOLOGY WORKPLACE OBSERVATION 0.5 ELE
WorkKeys-Aligned Courses prepare individuals to take the other WorkKeys assessments and take their professional development even further. In Level 1, students explore concepts of •preparing to observe, recognizing main ideas, memory and visualization, and procedure steps. In Level 2, students explore concepts of paying attention to details, memory skills, sequencing skills, conditions in procedures, and workplace observation exercises. In Level 3, students explore concepts of interpreting what you observe, details and differences, multiple conditions, memory skills, and workplace observation exercises. In Level 4, students explore concepts underlying principles, cause-effect relationships, complex procedures, drawing conclusions, and workplace observation exercises. In Level 5, students explore concepts of details, differences and distractions, evaluating processes, predicting outcomes, and workplace observation exercises.

ACT WORKKEYS: ESSENTIAL SKILLS WORKING IN TEAMS 0.5 ELE
WorkKeys-Aligned Courses prepare individuals to take the other WorkKeys assessments and take their professional development even further.

Developing technical skills is crucial for on-the-job success, but the ACT curriculum goes further by addressing life and employability skills and tools. It's all part of the dedication to help develop a person holistically, not just technically. In Teamwork Part 1, students explore concepts of introduction to teamwork 1, team membership, team mission and goals, building team relationships, participating in team meetings, effective communication 1, and teamwork exercises. In Teamwork Part 2, students explore concepts of effective communication 2, team types, problem solving/decision making, managing team conflict, and teamwork exercises.

ACT WORKKEYS: ESSENTIAL SKILLS INTERPERSONAL AND BUSINESS COMMUNICATIONS 0.5 ELE
WorkKeys-Aligned Courses prepare individuals to take the other WorkKeys assessments and take their professional development even further. Developing technical skills is crucial for on-the-job success, but the ACT curriculum goes further by addressing life and employability skills and tools. It's all part of the dedication to help develop a person holistically, not just technically. In Business, students explore concepts of effective business communications, email and phone communications, participating in meetings, internet and social media, problem solving and negotiation, making effective presentations and communicating across cultures. In Interpersonal, students explore concepts of the communication process, presenting yourself to others, active listening, nonverbal communication, communication barriers, and handling conflict.

ACT WORKKEYS: ESSENTIAL SKILLS WORK DISCIPLINE 0.5 ELE
WorkKeys-Aligned Courses prepare individuals to take the other WorkKeys assessments and take their professional development even further. Developing technical skills is crucial for on-the-job success, but the ACT curriculum goes further by addressing life and employability skills and tools. It's all part of the dedication to help develop a person holistically, not just technically. In Time Management, students explore concepts of introduction to time management, organizing and planning, setting and managing priorities, overcoming procrastination, managing tasks and projects. In Self-Management, students explore concepts of introduction to self-management, setting and achieving goals, balancing work and personal responsibilities, managing emotions and behavior, and coping with stress and change. In Employer Expectations, students explore concepts of behavioral expectations, personal presentation, following rules and procedures, fitting in at work, behaving ethically, and counterproductive work behaviors. In Job Performance Factors, students explore concepts of attitude and job performance, being responsible and dependable, initiative and perseverance, flexibility and adaptability, and learning and skill development.

ACT WORKKEYS: ESSENTIAL SKILLS CUSTOMER SERVICE 0.5 ELE
WorkKeys-Aligned Courses prepare individuals to take the other WorkKeys assessments and take their professional development even further. Developing technical skills is crucial for on-the-job success, but the ACT curriculum goes further by addressing life and employability skills and tools. It's all part of the dedication to help develop a person holistically, not just technically. In Customer Service, students explore concepts of customer service basics, serving customers in person, serving customers by phone, serving customers online, handling and resolving complaints, dealing with difficult customers, and service excellence.

ACT WORKKEYS: ESSENTIAL SKILLS PROBLEM SOLVING AND CRITICAL THINKING 0.5 ELE WorkKeys-Aligned Courses prepare individuals to take the other WorkKeys assessments and take their professional development even further. Developing technical skills is crucial for on-the-job success, but the ACT curriculum goes further by addressing life and employability skills and tools. It's all part of the dedication to help develop a person holistically, not just technically. In Problem Solving and Critical Thinking, students explore concepts of what is problem solving, thinking critically, problem-solving strategies, the problem-solving process, and negotiating to solve problems.

ACT WORKKEYS: ESSENTIAL SKILLS FINANCIAL AWARENESS 0.5 ELE
WorkKeys-Aligned Courses prepare individuals to take the other WorkKeys assessments and take their professional development even further. Developing technical skills is crucial for on-the-job success, but the ACT curriculum goes further by addressing life and employability skills and tools. It's all part of the dedication to help develop a person holistically, not just technically. In Checking and Savings Accounts, students explore concepts of introduction to checking and savings accounts, checking account basics, managing a checking account, managing a savings account, and online banking. In Budgeting, students explore concepts of introduction to budgeting, calculating household income, creating a budget, managing your budget, and spending and saving. In Credit Cards and Loans, students explore concepts of introduction to credit cards and loans, credit basics, understanding credit cards, understanding loans, managing your credit, and repairing your credit. In Insurance, students explore concepts of introduction to insurance, automobile insurance, homeowner's and renter's insurance, health insurance, and life insurance. In Financial Planning and Investing,

students explore concepts of introduction to financial planning, creating a financial plan, understanding savings accounts, investing basics, understanding investments, and saving and investing for retirement.

AMERICAN HEART ASSOCIATION BASIC LIFE SUPPORT 0.5 ELE

This course teaches adult and child Cardiopulmonary Resuscitation (CPR) and Automated External Defibrillators (AED) use, infant CPR, and how to relieve choking in adults, children, and infants. This course teaches skills with the American Heart Association's research-proven practice-while-watching technique, which allows instructors to observe the students, provide feedback, and guide the students' learning. The first aid component of this course teaches students critical skills to respond to and manage an emergency in the first few minutes until emergency medical services arrive. Students learn duties and responsibilities of first aid rescuers; first aid actions for medical emergencies, including severe choking, heart attack, and stroke; and skills for handling injury and environmental emergencies, including external bleeding, broken bones and sprains, and bites and stings.

READING REVIEW 1.0 ELE

Reading Review is designed to introduce and enhance students' abilities to read and comprehend the following types of materials: fiction, nonfiction, poetry, drama, and visual aids. Students use an approach that integrates reading, writing, and critical thinking to learn key strategies needed to interpret a variety of written and graphic material. This course introduces the core skills learners need to master basic competencies in reading.

The reading components of this course focus on acquiring and using new vocabulary in relevant contexts, reading fluently, and employing strategies for comprehending a variety of texts. Students identify, analyze and apply knowledge of the structures and elements of literature, and recognize and apply knowledge of the historical and cultural aspects of a variety of literature. Students learn how to identify, analyze and apply knowledge of the purpose, structures, and elements of expository text. Following the critical reading of each selection, students discuss with an instructor the ideas contained in the selection. Each inquiry-based learning discussion promotes comprehension, literary analysis, and evaluation.

SCIENCE REVIEW 1.0 ELE

Science Review is a survey course that introduces students to the theories, important figures, and key advancements in life science, earth and space science, chemistry, and physics. Students use an approach that integrates reading, writing, and thinking to learn key strategies needed to interpret a variety of written and graphic material. This course introduces the core skills learners need to master basic competencies in these areas of science. The format of the course encourages both individual study, as well as cooperative learning. Students are encouraged to express their knowledge orally through group discussion and teamwork.

Science is a dynamic process of gathering and evaluating information, looking for patterns, and then devising and testing possible explanations. Active engagement in scientific investigation leads students to think critically and to develop reasoning skills that allow them to become independent, lifelong learners. Science methods and thought processes have application well beyond the bounds of science and support learning goals in all subject areas.

Students understand the role of the cell and cellular processes and the organization of living systems, and the role of energy within those systems. Students understand the basic principles of heredity and the molecular basis of heredity and the resulting genetic diversity. Students analyze the interactions between the Earth's structures, atmosphere, and geochemical cycles. Students understand the relationships between the Earth's land masses, oceans, and atmosphere, as well as analyze the factors used to explain the origin and evolution of the universe. Students gain an understanding of the physical, chemical, and atomic properties of matter, and the interaction of energy and matter. Students analyze relationships between force and motion, and gain an understanding of the ways that energy is conserved, stored, and transferred.

SOCIAL STUDIES REVIEW 1.0 ELE

Social Studies Review is a survey course introducing students to the theories, important figures, and key advancements in themes in United States history, world history, economics, civics and government, and geography. Students use an approach that integrates reading, writing, and thinking to learn key strategies needed to interpret a variety of written and graphic material. This course introduces the core skills learners need to master basic competencies in these areas of social studies. The format of the course encourages both individual study, as well as cooperative learning. Students are encouraged to express their knowledge orally through group discussion and teamwork.

Historical research is a process in which students examine topics or questions related to historical studies and current issues. By using primary and secondary sources effectively, students obtain accurate and relevant information. An

understanding of chronological order is applied to the analysis of the interrelatedness of events. Students learn about the early civilizations, exploration and colonization, and the revolution and birth of a new nation in United States history. Students also learn about the westward expansion, the Civil War and Reconstruction, the emergence of the modern United States and World War I, the Great Depression and World War II, Postwar United States, and Contemporary United States. Students develop an understanding regarding the following topics in world history: early civilization, a world in transition, the renaissance and reformation, encounters and exchange, the Age of Revolution, the Age of Imperialism, a World at War and the contemporary world. Students analyze the foundations of economics including macroeconomics, microeconomics, and global economics. Students describe the foundations, structure, and functions of government, the rights, responsibilities and roles of citizenship, and government systems of the world. Students learn how to describe the world in spatial terms, as well as define places and regions, physical and human systems, and environmental and societal interactions in terms of geographic applications.

WORKPLACE ESSENTIAL SKILLS: EMPLOYMENT 1.0 ELE

Workplace Essential Skills: Employment is designed to enable adult learners to become better informed and more highly skilled for the changing world of work. Students use an approach that integrates basic skills, problem solving, and decision making to learn key strategies needed to interpret a variety of written and graphic material. Additionally, interdisciplinary connections are incorporated for practice in real-world employment skills.

Students write, evaluate, and revise a career plan consistent with occupational interest, aptitudes and abilities. Students will evaluate goals and career options and adjust their career plans accordingly, increase academic and occupational skills to become more marketable, and evaluate career plans on a continuous basis to determine appropriate educational strategies. Students demonstrate job acquisition skills by completing resume and job applications, and by demonstrating interviewing techniques. Students develop and exhibit work ethics and behaviors essential for success in all areas of life as well as demonstrate marketable occupational skills for an entry-level job based on career interests. Students learn and develop interviewing skills such as responding effectively to questions, using language that conveys maturity, sensitivity and respect, dressing appropriately, and using appropriate body language. Students generate alternatives, consider risks, and evaluate and choose solutions when assessing risks and risk factors in a designated scenario. Students demonstrate the ability to adapt new information to changing situations and requirements.

The format of the course encourages both individual study as well as cooperative learning. Students are encouraged to express their knowledge orally through group discussion and teamwork.

WORKPLACE ESSENTIAL SKILLS: COMMUNICATION AND WRITING 1.0 ELE

Workplace Essential Skills: Communication and Writing is designed to enable adult learners to become better informed and more highly skilled for the changing world of work. Students use an approach that integrates basic skills, problem solving, and decision making to learn key strategies needed to interpret a variety of written and graphic material. Additionally, interdisciplinary connections are incorporated for practice in real-world reading and written communication skills

Students learn how to participate in conversation, discussion and group presentations using verbal and nonverbal communication with appropriate style and tone for audience and occasion while at work. Students respond to co-workers' and supervisors' verbal and nonverbal messages in ways that demonstrate understanding and communicate a clear message and respond to listener feedback. Students demonstrate an ability to work with others from diverse backgrounds, including identifying individual interests, aptitudes and skills, and teach others new skills. Students develop an understanding of work and communication with diverse clients, customers, and community to satisfy their expectations. Students learn how to write formal communications that have a definite audience and clear purpose that contains no gaps, omissions, or assumptions which impede comprehension. Students be able to analyze inferences from charts, tables, and graphs that summarize data, and use appropriate technology to display and analyze workplace data. Students learn how to write formal communication in an appropriate format for a specific audience and purpose, whether it be a personal or business letter, message, memo, manual directions, or applications.

The format of the course encourages both individual study as well as cooperative learning. Students are encouraged to express their knowledge orally through group discussion and teamwork.

WORKPLACE ESSENTIAL SKILLS: READING 1.0 ELE

Workplace Essential Skills: Reading is designed to enable adult learners to become better informed and more highly skilled for the changing world of

work. Students use an approach that integrates basic skills, problem solving, and decision making to learn key strategies needed to interpret a variety of written and graphic material. Additionally, interdisciplinary connections are incorporated for practice in real-world reading, written communication, math, and technology skills.

Students learn how to summarize information from reading material, clearly and succinctly articulating its major points and proposals. Students research and synthesize information and develop a writing document to convey that information which is appropriate to the audience. Students analyze inferences from charts, tables and graphs to summarize data, use appropriate technology to display and analyze workplace data, and evaluate data for interpretation and prediction. Students conduct a comprehensive workplace needs assessment, communicate their findings to employers, and develop and defend a set of proposed solutions to address the needs. Students learn to judge the accuracy, appropriateness, style and plausibility of reports, proposals, and theories at work, as well as determine any audience needs and interests.

The format of the course encourages both individual study as well as cooperative learning. Students are encouraged to express their knowledge orally through group discussion and teamwork.

WORKPLACE ESSENTIAL SKILLS: MATHEMATICS 1.0 ELE

Workplace Essential Skills: Mathematics is designed to enable adult learners to become better informed and more highly skilled for the changing world of work. Students use an approach that integrates basic skills, problem solving, and decision making to learn key strategies needed to interpret a variety of written and graphic material. Additionally, interdisciplinary connections are incorporated for practice in real-world math, and technology skills.

Students increase number sense, ways of representing numbers, and the relationships among numbers and different number systems, as well as apply numerical operations and their relationship to one another. Students select and use appropriate computation techniques to solve mathematical problems using decimals, fractions, and percents and determine the accuracy of the results. Students develop a plan to solve complex problems by gathering, selecting and analyzing data, including determining the history and politics of the situation at work. Students improve skills in solving area and perimeter computation problems. Students apply appropriate units of measure, measurement techniques, and formulas to determine measurements. Students learn how to analyze the attributes of two- and three-dimensional figures and develop mathematical arguments about their relationships. Students understand and apply data collection, organization, and representation to analyze and sort data. Students construct projections and trends from raw data, charts, tables, and graphs that summarize data from real-world situations.

The format of the course encourages both individual study as well as cooperative learning. Students are encouraged to express their knowledge orally through group discussion and teamwork.

WORLD LANGUAGES 1-5 ELE

The Rosetta Stone Language program is a 5-level program that considers linguistic complexity for all levels of language learners. The program creates a full immersion environment using visual scaffolds, audio of native speakers, and interactive instruction. Each level contains 4 units, and each unit is structured with a core lesson, practice activities, and reviews. Students learn new language content in the core lesson, which is followed by a sequence of listening, speaking, vocabulary, pronunciation, grammar, reading, and writing practice activities to develop the skill. Rosetta Stone's speech recognition software assists students in pronunciation of syllables, words, and sentences by evaluating student speech patterns and providing immediate feedback. Writing includes practice using the alphabet and listening to a native speaker and typing the word, phrase, or sentence. In the end-of-unit Milestone activity, students practice key skills learned in the unit in an interactive simulated conversation based on a real-life scenario. The Teacher's Guide (TG) provides interactive and multisensory lessons for the classroom to reinforce the software content. For example, students practice discussing, role-playing, journaling, and writing reports based on research. In addition, the Student Workbook (WB) includes writing practice for each lesson.

Rosetta Stone is a leveled program that differentiates its contents into 5 language levels. Level 1 builds a foundation of basic vocabulary and fundamental language structure. Students master basic conversational skills, including greetings and introductions, and simple questions and answers. Level 2 builds upon the language acquired in level 1 while students learn how to navigate within their surroundings. For example, students give and ask for directions, use transportation, tell time, dine out, and interact socially. Level 3 builds upon the language learned in levels 1 and 2 and connects it to the world. Students learn to share ideas and opinions, express feelings, talk about everyday life, current events, interests, and work. Level 4 deepens the students' understanding of language as it builds upon what was achieved in levels 1-3.

Students develop conversational skills to navigate the workplace, care for their health, arrange repairs, arrange moving abroad, and much more. In level 5, students develop a command of the world language and refine the communication skills acquired in levels 1-4. Students develop complex communication skills like handling emergency situations or discussing the government. Each level is developmentally and linguistically appropriate for the targeted proficiency level. As students move through the levels, they build upon previous vocabulary and language structures while adapting new material to more complex situations. Rosetta Stone includes one review per lesson that brings back material from the core lesson in a variety of interaction types (reading, listening, and speaking). Adaptive Recall tracks learner progress and success on completed reviews, and determines when it would be best for them to repeat that activity.

Available languages are: Arabic, Chinese (Mandarin), Dutch, English (British), English (American), Filipino (Tagalog), French, German, Greek, Hebrew, Hindi, Irish, Italian, Japanese, Korean, Navajo, Persian (Farsi), Polish, Portuguese (Brazil), Russian, Spanish (Latin America), Spanish (Spain), Swedish, Turkish, and Vietnamese.

WRITING REVIEW **1.0 ELE**

Writing Review is designed to facilitate the review and application of grammar and writing skills. Students use an approach that integrates reading, writing, and critical thinking to learn key strategies needed to interpret a variety of written and graphic material. This course introduces the core skills learners need to master basic competencies in writing.

The writing components of the course focus on prewriting and drafting parts of the writing process. Prewriting includes using strategies to generate, plan, and organize ideas for specific purposes. Students develop skills to generate ideas through a variety of activities, and determine the purpose and audience of an intended writing piece. Students also learn strategies to establish a controlling idea appropriate to the type of writing, use organizational strategies to plan writing, and use time-management strategies, when appropriate, to produce a writing product within a set period. Students use prewriting to maintain a clear, narrow focus to support the topic, write with an identifiable purpose and for a specific audience. Students provide sufficient, relevant and carefully selected details for support, demonstrate a thorough, balanced explanation of the topic, and include ideas and details that show original perspective and insights. Drafting incorporates prewriting activities to create a first draft containing necessary elements for a specific purpose. Students learn how to use a prewriting plan to develop the main idea with supporting details and sequence ideas into a cohesive and meaningful order. Students use organizational skills to create a structure that fits the type of writing, and include a strong beginning or introduction that draws in the reader. Students learn how to place details appropriately to support the main idea, use effective transitions among all elements while employing a variety of paragraphing strategies, and create an ending that provides a sense of resolution or closure. The writing process is applied to personal narratives, expository essays, functional writing, persuasive essays, literary response, and research applications.

ADULT SECONDARY EDUCATION
LANGUAGE ARTS

READING

Effective Reading Strategies teaches students to locate the main idea topic sentences and supporting details in a passage of text. Students also learn to identify the main idea and supporting details in a variety of sources and how to draw conclusions using supporting details. Students locate the main idea and supporting details in text, and learn to discriminate between relevant and irrelevant details. Students also compare multiple authors to make judgments about the validity of the various perspectives. Students identify main ideas, topic sentences, and supporting details in a variety of sources and use graphic organizers. Finally, students use paraphrasing and summarizing to check their understandings of a variety of sources. Students are introduced to inferences, and students learn how to use inference when reading and viewing a variety of print and non-print sources.

Methods for Reading examines the use of text features to find, review, and organize information. It also discusses how to use reading and study strategies, including variable reading styles, skimming and scanning, and graphic organizers. Students examine strategies for reading nonfiction, including the distinction between fact and opinion and effective modes of reasoning. It also evaluates the use of language, including connotation, denotation, irony, and jargon. Students discuss methods for analyzing and evaluating fiction, drama, and poetry. Students also examine how to apply different techniques for reading from a variety of sources.

Characteristics of Literature examines the basic structure of plot in narrative: conflict rising action climax and resolution. Students learn how to identify similes, metaphors, personification, alliteration, and onomatopoeia within the context of a poem. Students will identify and describe various literary elements, plot stages, and plot structures in fiction. They also learn to analyze the development of plot to determine how internal and external conflicts are addressed and resolved. Students analyze and understand theme and symbolism in narrative using main idea supporting details and summary. Students will be exposed to stated themes, implied themes, universal themes, and archetypes in literary texts, making references to the text. Students also compare how theme is treated across genres.

Understanding and Responding to Literature Students learn the differences between first-person and reasons why authors choose certain points of view, and they examine the impact of those choices on the reader and the story. Students analyze a text to identify audience and purpose. Students also learn to make decisions about form, supporting details, language, and word choice to communicate effectively with a variety of audiences for multiple purposes. Students then analyze the context of literary texts to determine the customs and concerns of the culture that they represent. Students also compare the cultural contexts of literary texts. Students discuss various strategies for reading literature critically. Students are introduced to the basics of critical reviews. Finally, students are taken through the process of writing a literary analysis.

Types of Literature First, students explore the characteristics of short stories. Students learn how to write effective short stories. Finally, students compare the way in which authors portray characters, setting, and theme in short stories. Students then identify different components and types of autobiographies. They also describe the process for writing effective autobiographies. Finally, students analyze autobiographical passages for topics, details, perspective, purpose, and author's insight. Students will analyze the author's tone and style in a reflective essay. They analyze the author's purpose in a persuasive essay. Students also analyze persuasion, word connotation, and content in a seminal historical document.

Early American Literature Students are instructed to find the main idea and then evaluate the use of symbolism found in the *Iroquois Constitution*, as translated by Arthur C. Parker. Students explore the main idea, use of persuasive elements, and word choice in the following political texts: "The Declaration of Independence" by Thomas Jefferson and *The Crisis* by Thomas Paine. Next, students find the main idea in Benjamin Franklin's *The Autobiography* and *Poor Richard's Almanack*. It also discusses the elements of autobiography and analyzes the use of aphorisms in these texts.

American Renaissance Literature Students identify the main idea in selections of poetry by Henry Wadsworth Longfellow and Oliver Wendell Holmes. They also discuss meter and the use of mood in these poetry selections. Students then identify the main idea and elements of Gothic literature in "The Fall of the House of Usher" by Edgar Allan Poe. Next, students find the main idea in "The Raven" by Edgar Allan Poe. It also evaluates the use of the first-person speaker in this poem. Students identify the main idea found in a selection from Herman Melville's *Moby Dick*. They also analyze the use of symbolism and theme in this work. Students identify and discuss the main idea and the author's style found in selections from *Walden* and "Civil Disobedience" by Henry David Thoreau. Lastly, students locate the main idea in selections of poetry by Walt Whitman and examine theme and style within these poetry selections.

Civil War and Frontier Literature Students identify the main idea and analyze literary elements in "An Episode of War" by Stephen Crane and identify the main idea, author's purpose, and historical

influences found in *My Bondage and My Freedom* by Frederick Douglass. Next, students find the main idea in Abraham Lincoln's “The Gettysburg Address” and in a letter written by Robert E. Lee. It also analyzes the use of diction found in these texts. Students also focus on the main idea in "The Notorious Jumping Frog of Calaveras County" by Mark Twain and analyze techniques for humor in social commentary. The concept of main idea is further explored in "The Story of an Hour" by Kate Chopin. It also analyzes the use of irony and philosophical argument in this work.

Literatures of the Modern Age Students find the main idea, analyze thematic elements, and examine symbolic allegory in "The Turtle," a selection from *The Grapes of Wrath* by John Steinbeck. Students locate the main idea, discuss the author's style, and identify with characters found "In Another Country" by Ernest Hemingway. Students identify the main idea and analyze the use of archetypes in "A Worn Path" by Eudora Welty. Students find the main idea, analyze pastoral elements, and understand the use of blank verse in selections of poetry by Robert Frost.

Contemporary Literature Students continue to identify the main idea and elements of plot in Bernard Malamud's "The First Seven Years." They also explore how summary is used effectively in selections from this text. In addition to identifying the main idea in "The Rockpile" by James Baldwin, students also analyze the use of setting and symbolism in this text. Next, students recognize the main idea and rhetorical devices used in the following political texts: John F. Kennedy's “Inaugural Address” and Martin Luther King, Jr.'s "Letter from Birmingham City Jail." Finally, main idea, use of dialect and characterization analysis is presented to the student in "Everyday Use" by Alice Walker.

LANGUAGE

Vocabulary, Spelling, and Capitalization Students use the proper rules of capitalization for sentences, quotations, parts of speech, and titles. Students are exposed to the correct use of capital letters, including their use with quotations, lines of poetry, and titles of individuals and works. Students explain how to rely on context, including connotation and denotation, to determine meaning of words and phrases. They also explain how to recognize relationships among words, including synonyms, antonyms, and analogies. Students use resource materials to help determine vocabulary meaning and usage. They also cover the use of prefixes, roots, suffixes, and etymologies to aid in vocabulary comprehension.

Commas, Semicolons, and Colons Students identify and use commas, semicolons, and colons. Additionally, students use commas in a number of different ways including with words, phrases, clauses, and essential and nonessential expressions. Students also examine how commas are used in text to clarify meaning. Students also learn the correct use of semicolons and colons.

Mechanics Students use dashes, parentheses, and hyphens effectively in text. Students also use apostrophes with the possessive form of nouns and pronouns and how to use apostrophes with contractions and in certain other cases. Students learn how to correctly use quotation marks, underlining, dashes, parentheses, brackets, and hyphens.

Nouns and Pronouns Students identify and describe the various types of nouns and pronouns. They also examine how these word parts are used in sentences. Students are exposed to the use of pronouns in the nominative, objective, and possessive cases. They also discuss the correct use of who vs. whom and the use of pronouns in elliptical clauses. Students learn about agreement between verbs and singular, plural, and compound subjects and agreement between antecedents and personal, indefinite, and reflexive pronouns.

WRITING

Writing Effective Sentences Students will recognize complete sentences or independent clauses and subordinate or dependent clauses. Students recognize the subordinating conjunctions that indicate subordinating clauses. Students learn how to identify the four functions of sentences--declarative, interrogative, imperative, and exclamatory--and the four types of sentence structure: simple, complex, compound, and compound-complex. Students will learn to recognize and correct sentence fragments, run-on sentences, misplaced modifiers, and dangling modifiers and how to identify and correct faulty parallelism and coordination.

The Writing Process Students distinguish among three types of outlines for term papers: topic, sentence, and paragraph outlines. Students describe how to use different prewriting strategies, determine audience and purpose, and apply a prewriting strategy to a response-to-literature essay. Students identify and describe different components of drafts and use an organizational strategy to organize ideas. They also learn to use elaboration methods to form effective paragraphs. Students learn the basic steps for revising, editing, and proofreading their drafts. Students practice editing a paragraph and learn five common proofreading symbols. Students revise a draft by organizing the content and edit passages of text for sentence construction, word choice, and spelling. Next, students identify the basic proofreading symbols. Students explore different methods for publishing and presenting written products. Students learn the ways a computer can be used to design and share their work. They also learn the basics of creating multimedia presentations

Writing for Different Purposes Students learn the effective use of sentence combining and sentence variety to achieve unity and coherence in

composition, including a discussion on the use of formal and informal English. Students learn how to write an effective comparison-and-contrast essay. It includes a discussion on organizational structure and how to write a well-crafted autobiographical piece. Students examine the use of strategies when writing a response to literature. This examination includes discussions involving theme, literary allusion, character, setting, and sound devices.
Project: Comparing Themes Students compare and contrast the poems “Mowing” by Robert Frost, “The Old Stoic” by Emily Brontë, and “Song of Myself” by Walt Whitman with associated images, and then write their own poems or create their own images.
Research and Persuasion Students explain the process of writing and presenting research papers. Students also evaluate information found in research by identifying components that make up effective research reports. Next, students focus on writing persuasive essays including a discussion of faulty logic and circular reasoning.
Project: Public Issues Considering the environmental impact of oil drilling versus economic development, students summarize articles and a video of the U.S. House Committee debate, and write a persuasive essay, a newspaper editorial, or a letter to a state representative.

Students will complete an inquiry-based learning discussion on “The Iroquois Constitution”, “The Crisis” by Thomas Paine, “The Raven” and “The Fall of the House of Usher” by Edgar Allen Poe, “The Gettysburg Address” by Abraham Lincoln, “The Story of an Hour” by Kate Chopin, “Shooting an Elephant” by George Orwell, “Mending Wall” by Robert Frost, “Everyday Use” by Alice Walker, and “Dover Beach” by Matthew Arnold.

ADULT SECONDARY EDUCATION MATHEMATICS

QUANTITATIVE PROBLEM SOLVING

Decimals: Operations and Applications Student add and subtract decimals to find an exact answer, discusses aligning decimal points, annexing zeros, and regrouping, reviews the Properties of Addition and shows how to use them when mentally adding decimals. Students multiply decimals by treating the factors as whole numbers and how to determine the placement of the decimal point in the product. They also review the Properties of Multiplication and apply them to mental multiplication. Students learn how to divide decimals by multiplying the divisor and the dividend by a power of 10 to make the divisor a whole number and when to annex zeros in the dividend and where to place the decimal point in the quotient.

Integers: Operations and Applications Students use number lines to discuss integers, opposites, and absolute value. They also look at how to compare two integers using less than, equal to, or greater than. A real-world example involves ordering integers. Students use movement on a number line to add integers; this leads to rules for adding integers with the same or different signs through movement on a number line. Students learn to think of multiplication as repeated addition. They use number lines to show patterns, which results in the rules for multiplying and dividing integers. A real-world example involves dividing integers. Students explore applications of integers in profit and loss situations. They use real-world examples to show how to find profit and loss. It explains how to draw and interpret a graph displaying profits and losses for a business.

Fractions: Operations and Applications Students learn the concept of the LCM, as well as GCF, and prime factorization through the use of a factor tree. Students demonstrate equivalent fractions. They discuss how to write equivalent fractions by multiplying or dividing the numerator and denominator by the same number and how to use the GCF to simplify a fraction. Students learn how to find the least common multiple (LCM) using prime factorization and how to use a number line to compare fractions. Students demonstrate how to write fractions as decimals and how to write terminating or repeating decimals as fractions. Students focus on adding and subtracting fractions with like and unlike denominators and adding and subtracting mixed numbers. Finally, students multiply fractions and mixed numbers and divide fractions by multiplying by the reciprocal of the divisor.

Introduction to Exponents Students will learn how to use exponents to show repeated multiplication and explain how the order of operations includes exponents. Students define zero and negative exponents and presents how to simplify these types of powers. They also discuss how to simplify and evaluate exponential expressions with zero and negative exponents. Students learn scientific notation and review how to write a number in scientific or standard notation and learn how to multiply numbers in scientific notation and use scientific notation to order numbers.

Properties of Exponents Students learn how to multiply powers with the same base and in scientific notation. Students simplify a product raised to a power and how to simplify a power raised to a power. Students learn how to divide powers with the same base and how to raise a quotient to a power and demonstrate how to simplify an exponential expression that contains quotients raised to powers. Students learn how to simplify expressions with rational exponents and how to write expressions in radical form and exponential form.

Roots Students learn how find square roots and use a real-world situation to show estimating a square root and distinguish between rational and irrational numbers. Students learn how to find all real roots and how to simplify radical expressions. Students learn how to multiply and divide radical expressions and how to rationalize the denominator. Students then discuss how to add and subtract radical expressions and show how to multiply and divide binomial radical expressions. It also explains how to rationalize a denominator that is a binomial radical.

Ratios, Rates, and Proportions The concept of a ratio is introduced to the student. They use a real-world example to show three ways to write ratios and explain how to find equivalent ratios and how to compare ratios. They compare ratios to a real-world problem. Students learn unit rates and explain how to calculate a unit rate and learn how to find the total cost using a unit rate and use a real-world example to teach comparing two items by looking at the unit cost of each item. Students learn the concept of a proportion. Students learn how to write ratios in simplest form, the Cross-Products Property, and explain how to use cross products to determine if two ratios are equal. Students learn how to use unit rates to solve proportions and how to solve proportions using mental math and cross products. Students use a real-world example that uses proportions to make a prediction. Students learn about similar polygons and explain how to use proportions to find the missing lengths in similar figures and, using indirect measurement, obtain real-world distances that are difficult to measure directly.

Percents Students learn how to find a percent of a number by first writing the percent as a decimal. It also demonstrates how to use mental math to find the percent of a number and how to estimate a percent using compatible numbers. Students learn how to use proportions to solve percent problems. They demonstrate using proportions to find a

percent, a part, or the whole. It applies using proportions to solve real-world examples involving percents. Students focus on writing and solving percent equations. Students learn how to find a percent of increase or decrease, and how to find markups, discounts, and selling prices.

Perimeter, Circumference, and Area Students are introduced to parallelograms and the height and base of a parallelogram. Students learn how to calculate the area and perimeter of a parallelogram and use a real-world example to relate perimeter and area. Students learn how to find the perimeter and the area of a triangle, define the height and base of a triangle, and presents the formula to calculate the area of a triangle. A student learn the base and height of a trapezoid using the formula to find a trapezoid's area and presents a real-world example of estimating such an area including multiple ways to find the area of any figure. Students learn about *pi* and presents formulas to determine the circumference and area of a circle. Students learn how to substitute a value for a variable in a formula. The formula for the perimeter of a rectangle is presented. Students learn the Pythagorean theorem and apply it and its converse to real-world problem solving. It also presents the terms conditional, hypothesis, and conclusion.

Surface Area and Volume Students learn how to find the surface areas and volumes of prisms and cylinders, and how to find the surface areas of pyramids, cones, and spheres.

Measurement Students learn how to choose the most appropriate metric unit for a situation and how to convert from one metric unit to another. Students learn how to choose the most appropriate customary unit of measure for a situation and how to convert from one customary unit to another.

Data Displays Students learn how to display data using bar graphs and line graphs and how to interpret these graphs and with how to select the most appropriate graph to display a set of data. Students learn how to construct a circle graph from a set of data from the real-world and explore different ways to display data. Frequency tables, line plots, and histograms are all addressed. Students learn how to make a box-and-whisker plot. It also describes how to analyze data in a box-and-whisker plot. Students also learn how to analyze and interpret data using scatter plots, mean, median, mode, range, and stem-and-leaf plots and how to decide which measure of central tendency best describes a set of real-world data.

Statistics and Probability Students learn the measures of central tendency. Mean, median, mode, and range are presented and students demonstrate how to choose the best measure of central tendency for a given situation. Students learn how to find the theoretical probability of an event when all possible outcomes are equally likely, its complement, and its odds, and how to find the experimental probability of an event based on collected data. Students learn how to distinguish between independent and dependent events and discuss the rules about the probability of two events in each case. Students learn how to use a tree diagram and the multiplication counting principle, and finding permutations. Students learn how to find combinations and introduces combination notation. It also teaches how to use permutations and combinations in probability.

ALGEBRAIC PROBLEM SOLVING

Expressions Students learn how to write and evaluate expressions, including applying the order of operations. Students learn how to write an algebraic expression with variables. Also, they learn how to write an equation using variables and include writing an equation for data in a table. Students learn how to use the order of operations to evaluate and simplify an expression, and discuss evaluating and simplifying expressions that include grouping symbols and exponents. Students learn how to simplify an expression by using the Distributive Property, by using the Multiplication Property of –1, and by combining like terms.

Solving Linear Equations Students learn about the Subtraction Property of Equality and demonstrate how to draw a diagram that can help in writing an equation to solve a word problem. Students learn how to use addition to solve subtraction equations and are introduced to the Addition Property of Equality. Students use a real-world example that demonstrates how to transform the words in a problem into an equation. Students learn how to write and evaluate expressions with two operations by using number sense to solve two-step equations and a real-world example that demonstrates how to set up and solve a two-step equation. Students learn how to solve two-step equations using the properties of equality. They use real-world examples to show how to translate words into a mathematical function. Using deductive reasoning to justify steps when solving is also included. Students combine like terms and using the Distributive Property to solve multi-step equations. It also shows solving equations that have grouping symbols, fractions, or decimals. It concludes by summarizing the five steps for solving. Students learn use addition or subtraction to get the variable on one side of an equation and learn some equations are always true or never true.

Slope and The Coordinate Plane Students learn how to name points, identify quadrants, and graph coordinates and how to find the rate of change (or slope) given a table or graph. Students learn the slope of horizontal and vertical lines.

Graphing Linear Equations and Functions Students learn the slope-intercept form, including how to write the slope-intercept form from a graph of a linear function and how to graph equations stated in slope-intercept form, and how to interpret linear graphs. Students learn the standard form of a linear equation and demonstrate how to find intercepts, given an equation in standard form, and

how to graph lines using intercepts. Students learn how to transform an equation into standard form. Students learn the point-slope form, including how to graph and how to write equations in point-slope form and how to model a table of data, if linear, with a linear equation. Students learn that lines are parallel if they have the same slope and different y-intercepts and that lines are perpendicular if the product of their slopes is –1 and that equations of lines are determined to be parallel, perpendicular, or neither. Lesson 5 analyzes graphs based solely on the shape of the graph and shows how to label, sketch, and interpret such graphs.

Systems of Linear Equations Students learn systems of linear equations and how to solve them by graphing. Students learn how to tell from the graphs whether there is one solution, no solution, or infinitely many solutions. Students explain substitution and elimination of a variable as additional ways to solve a system of equations and apply the different methods (graphing, substitution, or elimination) to solve word problems.

Solving and Graphing Linear Inequalities Students learn how to graph the solutions of an inequality on a number line, and how to write an inequality for a graph and a real-world situation. Students learn how to use addition or subtraction to solve an inequality, and explain how to check the solution by first checking the computations and then checking the direction of the inequality symbol. Students learn how to use multiplication and division to solve an inequality. An emphasis is on the direction of the inequality symbol must be reserved when multiplying or dividing by a negative number. Students model how to solve multiple-step inequalities when variables appear on one side or both sides of an inequality and how to use the Distributive Property and to combine like terms to simplify.

Operations on Polynomials Students learn about polynomials, explained in terms of monomial, degree, polynomial, binomial, trinomial, and standard form. Students learn how to classify polynomials using the degree and number of terms, as well as how to add or subtract polynomials. Students learn the multiplying of polynomials by focusing on how to multiply a polynomial by a monomial and how to find the GCF of a polynomial and how to use the GCF to factor a polynomial completely. Students learn how to model to present the multiplication of two binomials. They apply FOIL when multiplying two binomials and use the vertical or horizontal method to multiply a trinomial and a binomial. Students learn that FOIL or a rule can be used to square a binomial. The result is a special pattern and that the product of the sum and difference of the same two terms results in the difference of their squares.

Factoring Polynomials Students learn how to factor trinomials of the type $x^2 + bx + c$, including those with a negative constant and/or middle term. Students learn how to factor trinomials with two variables. Students learn how to recognize a perfect-square trinomial and factor it quickly and use factoring to solve the difference of two squares. Students learn the Distributive Property to factor four-term polynomials by looking for two groups of terms with the same factor and then apply this same technique to trinomials of the type $ax^2 + bx + c$ as another available factoring method.

Quadratic Equations and Functions Students learn the standard form of quadratic functions and demonstrates how to graph quadratic functions of the type $y = ax^2$ and $y = ax^2 + c$. They define terms such as parabola, learn how to identify a vertex, and compares parabola widths. Students learn graphing of quadratic functions, $y= ax^2 + bx + c$. They learn formulas for the axis of symmetry and x-coordinate of the vertex and how to use this information when graphing and graphing quadratic inequalities.

Solving Quadratic Equations Students learn how to solve a quadratic equation by graphing the related function and finding the x-intercepts, and use roots to solve certain quadratic equations and a real-world problem. Students learn the zero-product property, and how to use this property to solve quadratic equations if the expression can be factored. Students review adding or subtracting terms to write the expression in standard form before factoring. Students model how to complete the square of a quadratic expression using algebra tiles. It teaches how to find a value that completes the square and applies the method of completing the square to any quadratic equation. Students learn how the quadratic formula is derived and applies it to solving any quadratic equation. Students learn how to use the discriminant to determine the number of solutions for a quadratic equation, and how to choose between linear, exponential, or quadratic functions to model data and apply this to a real-world example.

Rational Expressions Students learn how to simplify a rational expression by factoring the numerator and denominator, and then eliminating common factors. They also learn how to recognize opposite factors and how to simplify a rational expression containing them. Students learn how to multiply and divide rational expressions, and how to use factoring to divide out the common factors before multiplying. Students learn how to multiply a rational expression by a polynomial and how to divide a rational expression by a polynomial. Students learn how to add and subtract rational expressions with like denominators and how to add and subtract with unlike denominators by finding the least common denominator (LCD).

ADULT SECONDARY EDUCATION
SCIENCE

LIFE SCIENCE

Cellular Structure and Function Students learn about the different types of molecules found in a cell. In addition, students learn how cells were discovered and how the discoveries relate to cell theory. Students learn about the cell membrane structure, the functions of molecules found in the membrane, and the environment inside the cell membrane, the features of prokaryotic and eukaryotic cells, and the various levels of organization in a multicellular organism. Students learn about energy organelles, such as chloroplasts and mitochondria, and the structures and functions of the endomembrane system.

Life Functions and Energy Intake Students learn about the four cycles of life and what occurs during each cycle and discover the importance of enzymes in living organisms. They learn about activation energy and its importance in chemical reactions. Students learn how energy is used in cells and how food is a source for some of this energy and show how ADP is used to make ATP. Students learn about cellular respiration and the major chemical reactions it involves. Students learn about fermentation including the products of lactic acid and ethyl alcohol fermentation and how cellular respiration is controlled in the body. Students learn the structure of leafs and their function in photosynthesis.

Cell Cycle and Cellular Reproduction Students learn about the cell cycle and the stages of mitosis in detail and how eukaryotic and prokaryotic forms of cellular reproduction are compared. Students identify the phases of meiosis and compare the processes of meiosis and mitosis.

Genetics Students learn about early research in heredity and about the laws of segregation and independent assortment and use Punnett squares. They learn how alleles are expressed in living things and how an organism's sex is determined. Students learn how sex-linked traits are inherited and show how a pedigree is used to trace traits in a family.

Molecular Basis of Heredity Students learn about the discovery of DNA and describe the base pairing of nucleic acids. Students learn about the experiments of Hershey and Chase and discuss the process of DNA replication.

Evolution and Natural Selection Students learn about biological evolution. Theories of descent with modification, natural selection, and modern synthesis are explored. Students explain the different types of evidence found to support the theory of evolution. The fossil record, geographic distribution, continental drift, homologous structures, and molecular biology are discussed. Students learn about artificial and natural selection and summarize Darwin's four main ideas of natural selection.

Species Formation and Survival Students learn the concepts of biological and ecological species and describe how a species is impacted by reproductive isolation. Students learn the various conditions that affect species survival. Mass extinctions, co-adaptation, and instantaneous speciation are covered and how the genetic health of a species can lead to loss.

Ecology Students learn different levels of ecological organization. They learn about populations and how to measure population density. Communities and the relationship between species in a community are also examined. Students learn about population growth and factors that affect it. They distinguish the three population distribution patterns. Students learn about the flow of energy from the sun through different organisms in an ecosystem. They explore the feeding relationships in ecosystems using food chains and food webs and describe energy transfer using energy pyramids. Students learn the negative impacts that people can have on ecosystems including population growth, air pollution, green house effect, and introduced species.

Human Body and Health I Students learn the various systems in the human body. The skin and its features are also examined. Students learn the five major functions of the skeletal system and how bones, joints, and muscles work together to produce movement. Students learn how food is digested and how glycogen is used in the body. Students learn process of breathing, describing how oxygen and carbon dioxide are exchanged in the lungs. Respiratory diseases are also presented. Students learn about the parts of the circulatory system and describe how blood flows to, through, and out of the heart including the types of blood cells and their functions, and covers the main causes of cardiovascular disease.

Human Body and Health II Students learn the structure of the nervous system and the function of each of its parts and explore the anatomy and functions of the endocrine and excretory systems. Students learn about the body's defense mechanisms. Students learn about the structure of the male and female reproductive systems, how sperm and eggs travel through the reproductive system, and how humans develop.

PHYSICAL SCIENCE

Matter Students learn the differences between elements, compounds and mixtures. Additionally, students learn the symbols for elements and how to classify mixtures. Students learn about physical properties, explain how they are used to classify substances, and how to recognize a physical change. Students learn about chemical properties and how to recognize the difference between a chemical change and a physical change. Students learn about various phase changes and how to

recognize the relationship between temperature and kinetic energy in these changes.

Energy and Chemical Reactions Students learn about the transfer of energy during chemical reactions and that energy is conserved in chemical reactions, which are classified as endothermic or exothermic. Students learn about the relationship between work and energy and the two general energy types, kinetic and potential. Students are introduced to the various forms of energy, including mechanical, chemical, electrical, electromagnetic, and nuclear. Students learn about the relationship between energy and mass and how, according to the law of conservation of energy, energy can be converted from one form to another. Students solve equations that show the conservation of mechanical energy. Students learn about the three major types of heat transfer: conduction, convection, and radiation. They discuss renewable and nonrenewable energy resources and suggest ways that resources can be conserved. Students learn how to balance chemical equations and how to convert back and forth between moles and mass.

Solutions Students learn how properties of solutions differ from their components. The Students learn how substances dissolve in water and how rates of dissolving are affected by various factors. Students learn about the three types of solutions and how to compare solution concentration by volume, mass, and molarity. Students learn how to categorize substances as acids or bases and relate this to pH and about neutralization reactions.

Forces and Motion Students identify the SI units for measuring speed, how to combine velocities, interpret distance-time graphs, and calculate the speed of objects using slope. Students learn the changes in motion that produce positive and negative acceleration, and explain the difference between constant and instantaneous acceleration. Students calculate and graph acceleration using speed, time, and distance. Students learn about examples of forces, including gravitation and four different types of friction. Students identify the SI units that are used to measure force and discover how these forces affect the motion of objects.

Newton's Laws Students learn about Isaac Newton's first and second laws of motion and identify and distinguish between the concepts of mass, weight, and inertia, and use the second law to calculate acceleration, force, and mass values. Students learn about Newton's third law of motion, including the relationship between action and reaction forces and how to calculate momentum. Students learn about electromagnetic, nuclear, gravitational, and centripetal forces, Newton's law of universal gravitation and how gravitational and centripetal forces affect the orbits of the moon and artificial satellites.

Work, Power, and Machines Students learn the relationships between force, work, and power and how to calculate work and power in SI units. Students learn about machines and describe how they make work easier, the relationship between the work input and the work output of a machine. Students learn how to calculate mechanical advantage and compare actual to ideal mechanical advantage and calculate efficiency and discover why the efficiency of a machine is less than 100%. Students learn about the simple machines: lever, wheel and axle, inclined plane, wedge and screw, and pulleys. Compound machines are also covered.

Waves Students classify types of mechanical waves and learn how they are produced including transverse, longitudinal, and surface waves. Students learn about the frequency, period, and wavelength of different types of mechanical waves. They then solve equations relating these properties to wave speed and learn how to measure the amplitude of a wave. Students learn about the characteristics of electromagnetic waves and some of the properties of light and make calculations to determine wavelength and frequency.

EARTH AND SPACE SCIENCE

Earth's Energy Resources Students learn the variety of available energy and mineral resources and discuss energy sources that can be used as an alternative to fossil fuels. Other nonrenewable resources also are introduced.

Natural Hazards Students learn how weather patterns can form events like tornadoes, hurricanes, and thunderstorms. They also learn the causes and effects of earthquakes and provides an overview of aftershocks and foreshocks.

The Earth's Atmosphere and Climate Change Students learn about the composition and physical properties of Earth's layers and explain how they affect seismic waves. Students explore the idea of the greenhouse effect and how it contributes to global warming, and students learn about other consequences associated with the greenhouse effect.

Weathering and Winds Students learn about the impact of wave processes on the shoreline and how shorelines can be protected. Students also learn the different forces of weathering, their effects, and their role in the rock cycle. Students learn about wind patterns, including El Niño and La Niña events in the United States and around the world. Finally, they learn about the ultimate energy source for wind and how the Coriolis Effect influences freely moving objects.

Earth's Forces Students learn about continental drift and the theories behind this idea and how the theory of plate tectonics accounts for the many land and oceanic features on Earth such as mountains and trenches. Students explore the relationship between plate tectonics and volcanoes including various types of volcanoes and the events leading up to eruptions. Students learn how forces within Earth's crust are used to create mountains and

identify the different types of mountains created in relation to the location of plate boundaries.
Geologic Time Students learn the various methods scientists use to determine the age of rocks and Earth itself and methods used by scientists to gather and study fossils so they can better understand the history of life on Earth. Students learn how scientists use specific types of radiation to determine the relative age of rocks.
Oceans Students learn about salinity and the factors that affect the density of ocean water. Students learn about marine life, the differences between plankton and nekton organisms, and the areas in the oceans where life flourishes. Students learn that the ocean is in constant motion and affects not only ocean temperatures but also the climates on Earth.
Our Solar System Students learn how the sun and moon interact with Earth and affect how we can view, or see, those bodies. They discuss how the solar system was formed and about the different planet types. Students learn some of the other objects found in our solar system, both inner and outer and have an overview of the sun and the ability of its inner workings to provide the solar system with light and heat.
Beyond Our Solar System Students learn the different properties scientists use to classify stars. They discuss the life cycle of stars and describe the various ways stars can die. Students explore different galaxy structures, and learn about evidence that supports the big bang theory.

Students complete an inquiry-based learning discussion on “Odyssey” by Aldo Leopold, “Laws of Force and Motion” by Isaac Newton, and “The World’s Biggest Membrane” By Lewis Thomas,

ADULT SECONDARY EDUCATION
SOCIAL STUDIES

CIVICS AND GOVERNMENT

Principles of Government Students learn about government, the powers it holds, and the purpose it holds in the United States and other countries. Students learn about the ways governments are classified and the distribution of government within a state and among the branches and the foundations of democracy and its connection to the free enterprise system.

The Constitution Students learn about the major compromises the delegates agreed to make and their effects in the U.S. Constitution, and the arguments for and against ratifying the Constitution. Students learn about the important elements of the Constitution, including the six basic principles. Students also learn about the formal amendment process and how it reflects the principles of federalism and popular sovereignty.

Federalism Students learn about federalism and identifies powers delegated to and denied to the national government, as well as powers reserved for and denied to the states. They discuss the responsibilities that the Constitution places on the national government that are intended to benefit the states.

Political Parties and Interest Groups Students learn about the functions of political parties and why the United States has a two-party system. Students learn about interest groups and why people see them as both good and bad for American politics and are able to identify the methods used to influence public opinion and policy. Students learn about the administration of elections in the United States helps make democracy work.

Congress Students learn how seats in the House of Representatives are won and describes the term of a representative. They then learn how senators are elected and the differences between a senator's term and a representative's term. Students learn about what happens to a bill that moves from a House committee to the House floor and the final step in the passage of a House bill and compares the Senate's rules for debate with those of the House and examines the role of conference committees.

The Presidency Students learn about the president's many roles and the constitutional qualifications to become president, how a president is elected from primaries to the national convention and the role of the Electoral College.

The Presidency at Work Students learn how the views of various presidents have shaped the power of the office. They examine how the president executes the law, how members of the cabinet are chosen and the role of the cabinet in the president's decisions, the powers that the president has in the role of commander in chief, and president's legislative and judicial powers.

Foreign Policy and National Defense Students learn about the nation's foreign policy and the actions it takes in dealing with other countries and the functions, components, and organization of the Department of Defense and the other military departments.

The Federal Court System Students learn why the Constitution created a national judiciary and describes its structure. They also learn the jurisdiction of the Supreme Court and how cases get to the Supreme Court.

Civil Liberties and Civil Rights Students learn about the actions of Americans that led to the Bill of Rights and the guarantee of those individual rights. Students learn about Supreme Court rulings on religion and education, as well as other Establishment Clause cases, and examine the history of discrimination in the United States. Students learn about the importance of the Equal Protection Clause and the history of segregation in America, and the history of civil rights legislation from the Reconstruction period to today.

US HISTORY

The American Revolution Students learn about the colonial political heritage and explain the relationship between the colonists and the British and the events that led to the Declaration of Independence and the American Revolution. Students learn about the conflicts among colonists and the resulting divisions within the colonies, the influence Thomas Paine had on the decision to separate from Britain and the eventual drafting of the Declaration of Independence.

The Constitution Students learn about the models for early state governments and the creation of the Articles of Confederation, the growing tensions with Great Britain and Spain and why the Articles proved to be weak and unworkable. Students learn about the struggle among convention delegates to get the Constitution ratified and explain the philosophies of the Federalists and Antifederalists, the compromises that were agreed to, and the final list of basic principles.

A New Nation Students learn about the War of 1812, including the call for war by the War Hawks, the major battles, as well as the war’s aftermath and impact on the nation. Students learn about how nationalism affected both domestic policies and foreign affairs. In addition, it discusses how the nation compromised over slavery.

A Changing Nation Students learn about the antislavery movement in the North. It describes the lives of enslaved and free African Americans, the abolition movement, and the opposition to abolition, the development of the women’s movement. The lesson describes the limits women faced in the early1800s, the leaders of the women’s movement, and the impact of the Seneca Falls Convention. Students learn about America’s westward

expansion in the mid-1800s, settlement of the Spanish borderlands, the concept of Manifest Destiny, and the challenges of migrating to the West.

The Union in Crisis Students learn the economies, societies, and political views of the North and the South, the role of the Free-Soil Party, the issue of territory, and how Congress tried to settle that issue. Students learn about the continuing debates about slavery, the Fugitive Slave Act, the Kansas-Nebraska Act, and the cause of fighting in Kansas. Students learn about the deepening sectional distrust that affected the nation's politics, the positions of Abraham Lincoln and Stephen Douglas on the issue of slavery, and the effect of John Brown's raid on the slavery debate. Students learn about the candidates and election of 1860, the reason for secession of the southern states from the union, and the events that led to the outbreak of the Civil War.

The Civil War Students learn about the resources and strategies of the North and South. Students also learn the outcomes and effects of the early battles of the Civil War, Lincoln's motivation in issuing the Emancipation Proclamation and what it achieved. Students also learn about the roles African Americans played in the Civil War. Students learn about the final events of the Civil War, the reasons why the North won the war and the impact the war had on both the North and South.

Reconstruction Students learn why a reconstruction plan was needed for the South after the Civil War and compares the plans of Lincoln, Johnson, and Congress and how the Republicans gained control of the South during Reconstruction. It also explains how freedmen adjusted to their new lives, the increase of racial violence and the government's response. Students learn about the reasons Reconstruction ended and the lasting effects of Reconstruction.

Segregation and Discrimination Students learn about the segregation of African Americans and efforts to limit immigration and compare the situations of Mexican Americans and of women to those of other groups. Students learn about the changing roles of women in education, the workforce, and society, as well as passage of the Nineteenth Amendment and attitudes toward minorities and how various groups organized to gain rights.

An Emerging World Power Students learn the causes of imperialism and examines the first steps the United States took toward global power and the key events that led to the annexation of Hawaii. Students learn about what happened to Cuba and Puerto Rico after the Spanish-American War and Theodore Roosevelt's "big stick" diplomacy and contrast that with Woodrow Wilson's "moral diplomacy" and the policies of his predecessors.

World War I Students learn about the events that led to the start of World War I, the impact new military technology had on the war, and the role President Woodrow Wilson played in trying to keep the United States out of the war and why American involvement in World War I was critical to Allied victory and how opposition to President Wilson's ideas for peace—the Fourteen Points—led to U.S. nonparticipation in the League of Nations.

Boom Times to Hard Times Students learn about the social, economic, and political events of the 1920s, the impact of Henry Ford's Model T on American industry, and the presidencies of Warren Harding and Calvin Coolidge. Students learn the impact the Great Depression had on city dwellers, farmers, and minorities and the causes and impact of the Dust Bowl. Students learn about the impact of the New Deal on women and minorities. It discusses the importance of Eleanor Roosevelt's ideas on equality and examines FDR's influence on the role of the federal government.

Entering the War Students learn about the shift to totalitarian states during the 1930s; describes leaders Joseph Stalin, Benito Mussolini, and Adolf Hitler; and discusses the reaction by the League of Nations and the events leading up to American involvement in World War II.

World War II Students learn about the Allies' "Europe First" strategy and explains why the battles of Stalingrad and Midway were major turning points of the war, and how the Allies put increasing pressure on the Axis in North Africa and Europe. Students learn about how World War II increased opportunities for many minorities the effects of the war on civil liberties for Japanese Americans, and how the need to support the war effort changed American lives. Students learn about the D-Day invasion of France, the Allies' final victory in Europe, and the reasons for the use of the atomic bomb against Japan. Students learn the roots and progress of Hitler's campaign against the Jews and his also explores the Nazis' "final solution" and the nature of the Nazi death camps. Finally, students examine how the United States responded to the Holocaust.

The Cold War Students learn the reasons why the wartime alliance between the United States and Soviet Union unraveled, President Truman's response to Soviet domination of Eastern Europe and the causes and effects of Stalin's blockade of Berlin. Students learn about the efforts of the U.S. government to fight communism at home and explain how domestic spy cases increased fears of communist influence and how this led to the rise and fall of Senator Joseph McCarthy and McCarthyism. Students learn about the U.S. economy after World War II, the 1950s-economic boom, the rise of the suburbs, and changes in education and the accomplishments of Presidents Harry Truman and Dwight Eisenhower.

The Civil Rights Movement Students learn about the beginnings of the civil rights movement in the 1940s and 1950s including the efforts to end segregation, the impact of *Brown v. Board of Education*, school desegregation in Little Rock, and

the Montgomery bus boycott. Students learn how the civil rights movement gained ground in the 1960s, the sit-ins, freedom rides, protests in Birmingham, the March on Washington, as well as the provisions and impact of the Civil Rights Act of 1964. Students learn about key elements of the 1960s' civil rights movement, including voting rights, Freedom Summer, the march on Selma, and urban violence and the new black leaders, the King assassination, and affirmative action. Students learn about Lyndon Johnson's domestic policies as president, including the Great Society and the effects of landmark Supreme Court cases.

The Vietnam Era Forward Students learn how the United States helped France fight the Vietnamese and identifies ways in which the United States opposed communism in Southeast Asia and why the United States increased its involvement in Vietnam. Students learn about Richard Nixon's foreign policy and describe his attitude toward "big" government, how he expanded his base of support and the Watergate scandal and its consequences. Students learn about the ways President Reagan challenged communism, its collapse in Europe and the Soviet Union, and it describes other foreign policy issues of the 1980s. Students learn how the United States remains engaged with regions throughout the world politically, militarily, and economically and how drought in the United States can lead to a worldwide food crisis.

ECONOMICS

Economic Systems Students learn why scarcity and choice are basic problems of economics, and that land, labor, and capital are the three factors of production. Students learn why every decision involves trade-offs, the concept of opportunity cost, and how people make decisions by thinking at the margin. Students learn why markets exist, the self-regulating nature of the marketplace, and the advantages of a free market economy.

Supply and Demand Students learn the law of demand and examines how the substitution effect and the income effect influence decisions, the law of supply and the relationship between elasticity of supply and time. Students learn about how determinants such as input costs and government regulation can influence the supply of a good and about supply and demand in the context of the global economy.

Prices and Wages Students learn about the role of prices in a free market, noting the advantages of a price-based system and how a price-based system leads to a wider choice of goods and a more efficient allocation of resources. Students learn how the size of the labor force and the amount of wages earned can be modeled with a supply-demand graph, and how factors like legislation and skill levels affect wages earned.

Market Structures Students learn how perfect competition can exist in a market with many buyers and sellers and how barriers to easily entering or exiting a given market create imperfect competition. Students learn about both natural and government-created monopolies, and how a firm with a monopoly sets prices and output to maximize profits. Students learn how firms use market power and how the government regulates or bans certain market practices to protect competition, deregulation and its effects on several industries. Students learn how the government provides public goods, the costs and benefits, market failures, and externalities associated with providing public goods.

Banking and Investing Students learn differences between state and federally chartered banks, the gold standard and how it affects the amount of paper money issued, and it describes how government reforms have changed banking from the early 1800s to today. Students learn about the process of money creation and how the Federal Reserve uses reserve requirements, the discount rate, and open market operations to implement U.S. monetary policy. Students learn about how banks make a profit. It also examines the effects of technology and electronic banking on consumers' bank transactions. Students learn about how investing contributes to the free enterprise system and how the financial system brings together savers and borrowers and identify trade-offs among risk, liquidity, and return.

Gross Domestic Product and Growth Students learn about how gross domestic product (GDP) is calculated, the difference between nominal and real GDP, and the factors that influence GDP. Students learn about how economic growth is measured and the causes and impact of technological progress, and the impact of population growth, government, and foreign trade on economic growth.

Economic Challenges Students learn how employment is measured and why full employment does not mean that every worker is employed, and frictional, seasonal, structural, and cyclical unemployment. Students learn about the effects of rising prices, the use of price indexes to compare changes in prices over time, and the causes and effects of inflation.

Taxes and Trade Students learn about the process of paying individual income taxes and the basic characteristics of corporate income taxes and the purpose of Social Security, Medicare, and unemployment taxes. Students examine the geographic locations of natural and human resources and the significance of these locations. The concepts of absolute and comparative advantage are used to explain why and how countries trade. Students learn about various types of trade barriers and examine the effects of trade barriers as well as free trade and the benefits and costs of participation in international trade agreements.

GEOGRAPHY

Exploring Geography Students learn about the tools used by geographers and identify and explain

the five themes of geography: location, place, region, movement, and human-environment interaction. Students learn about human geography and focuses on population topics and cultural topics, the differences in population density around the world, and some of the elements of culture and how cultures change. Students learn about the natural resources on which people depend for their survival, renewable and nonrenewable resources, and how resources are distributed and used to produce energy.

The United States Students learn how natural resources have helped the economic success of the United States, and the roles that technology, transportation, and government have played in U.S. economic development. Students learn about the growth of metropolitan areas in the United States. It explains the ways that transportation and immigration have affected patterns of settlement. Students learn about the Northeast region of the United States, how the physical geography and resources of the region have affected its economic development, and how the Northeast became an early leader of industry. Students learn about the South region of the United States, how the economic development of the region is connected to its climate and its natural resources, and how regional changes have led to the growth of cities. Students learn about the Midwest region of the United States, how the region became the nation's agricultural center, and how the natural resources and waterways of the region benefited manufacturing and transportation. Students learn about the largest region of the nation the West region of the United States, and how the varied natural landscape, climate, and natural resources of the region have influenced the economy.

Canada, Mexico, and Brazil Students learn about the regions of Canada, its climate, geography, resources, settlement patterns, and economies. Also learned, are how location and climate have affected the northern territories. Students learn about the physical geography and climate of Mexico, including the mountain ranges that frame Mexico's central plateau, and the peninsulas of the country's coastal plains. Students learn about the land and regions of Brazil, examines the effect of climate on the coastal regions and its impact on the population, the geography of the interior and the complex ecosystem of the Amazon River basin.

Europe and Eurasia Students learn about the geography and economic history of England, the physical characteristics of the nation and describes England's natural resources, and how the Industrial Revolution made England a leader in world trade. Students learn about the geography and resources of France, the ways in which the resources of each region contribute to the overall economy, the culture of France and the modern economic and social challenges it faces. Students learn about the history of Germany, its struggles for unification as well as its history in World War II, the varied physical regions and resources of Germany, and its economic challenges. Students learn about the history, geography, and culture of Spain and Portugal, the change in political conditions and economic activities of the nations, and the different cultural regions within the countries. Students learn about the people, environment, and history of Italy, how the climate has affected settlement patterns and the expanding economy, the three large regions of the country and their contribution to Italy. Students learn about the geography and ecosystems of Russia, including the plains region and the Ural Mountains, Siberia, the largest and most remote region in Russia, and the harsh climate and natural resources of that region.

Egypt and India Students learn about the geography, history, and settlement patterns in Egypt, the role of the Nile River in the development of ancient Egypt and its importance in modern Egypt, and the challenges the country faces today. Students learn about the roles of religion and of village life in Indian culture, how India is attempting to build its economy and address population density in cities, and the steps taken to fight extreme poverty in India.

China, Japan, and the Koreas Students learn about the ethnic diversity of China's large population, the steps taken in recent years to limit population growth, and the common cultural background that a majority of Chinese people share. Students learn about the geography and culture of Japan, the effect of Japan's location on the Ring of Fire as well as its varied climates, the homogenous nature of the Japanese people and the culture that has developed. Students learn about the economy and history of North and South Korea, how Korea was divided after World War II the factors that led to the Korean War, and the differences in the two nations today.

Australia and Antarctica Students learn about the geography, resources, and history of Australia, the earliest people and their relation to the first European immigrants, and the effect of the country's climate on settlement and the environment. Students learn about the climate and icy terrain of Antarctica, the relationship between location and climate as well as the purpose of human presence on the continent.

Students will complete inquiry-based learning discussions on "The Federalist #10" by James Madison, "The Constitution of the United States of America", "The Second Inaugural Address" by Abraham Lincoln, "Letter From a Birmingham Jail", by Martin Luther King Jr., and Arizona History.

ADULT SECONDARY EDUCATION
WORKPLACE ESSENTIAL SKILLS

R7-2-302.(4) Local school district governing boards or charter schools may grant to career and technical education and vocational education program completers a maximum of 5 1/2 credits to be used toward the Board English, mathematics, science, and economics credit requirements for graduation, subject to the following restrictions:

a. The Board has approved the career and technical education and vocational education program for equivalent credit to be used toward the Board English, mathematics, science, and economics credit requirements for graduation.
b. A credit or partial credit may apply toward more than one subject area but shall count only as one credit or partial credit toward satisfying the 22 requiredcredits.
c. A student who satisfies any part of the Board English, mathematics, science, and economics requirements through the completion of a career and technical education and vocational education program shall still be required to earn 22 total credits to meet the graduation requirements prescribed in this Section.

ACT WorkKeys: Applied Math*
The ACT WorkKeys: Applied Math course is aligned with the updated WorkKeys National Career Readiness Certificate assessments. Applied Math: Builds the ability to apply mathematical principles to problems encountered in the workplace. In this course students learn how to use addition and subtraction positive and negative numbers in the workplace, multiply and divide in the workplace, using fractions and converting units in the workplace. Students learn how to use fractions and decimals, multiply mixed and whole numbers, use rates, ratios and proportions, and how to calculate averages in the workplace. This course shows student how to deal with fractions with unlike denominators, how to calculate percentages, convert percentages and units, and find geometric measurements. Students will also calculate rates, percentage change, convert units, complete geometric calculations and find mistakes and deal using percentages. This course exposes student to advanced ratios, rates and proportions, complex geometric measurements, convert units of measurement, apply mathematical reasoning, and understand basic statistical concepts

*Supports the National CareerReadiness Certificate. The benchmarks for the ACT WorkKeys were approved by the Arizona State Board of Education as a College and Career Readiness Indicator.

ACT WorkKeys: Workplace Documents*
The ACT WorkKeys: Workplace Documents course is aligned with the updated WorkKeys National Career Readiness Certificate assessments. Workplace Documents course builds the ability to understand and apply written information presented in the workplace. In this course, students learn how to read emails, memos, and workplace policies; find the main idea in a text; and identify key details; and how to follow instructions. This course teaches, identifying the main idea and key details in workplace documents and how to learn new vocabulary from context. Further, this course teaches students to use documents to make decisions; about acronyms, jargon, and technical terms in the workplace, and how to read contracts and legal documents. Additionally, understanding the reasoning and principles behind a text, inferring details and reading between the lines and addressing unfamiliar jargon and technical terms in the workplace is included in this course. The student will also be exposed to defining jargon and other difficult words, inferring the principles behind a policy or regulation, and drawing conclusions and making decisions from incomplete information.

*Supports the National CareerReadiness Certificate. The benchmarks for the ACT WorkKeys were approved by the Arizona State Board of Education as a College and Career Readiness Indicator.

ACT WorkKeys: Graphic Literacy*
The ACT WorkKeys: Graphic Literacy course is aligned with the updated WorkKeys National Career Readiness Certificate assessments. Graphic Literacy: Builds the ability to find, analyze, and apply information presented in workplace graphics. In this course students will find information in tables, read simple charts and graphs, read and use forms, read simple gauges and diagrams, and how to read simple flowcharts. This course teaches understanding tables, interpreting charts and graphs, understanding dashboards, and identifying trends. Students also understand how to use and read scatter plots, combination charts and graphs with a secondary y-axis, read complex diagrams, choose effective and accurate graphics, and make real-world decisions with graphics. Students interpret graphs with a secondary y-axis, use uncommon charts and graphs, make real-world decisions with graphics, and interpret and compare trends. This course helps students know how to make decisions with complex maps and diagrams, analyze financial data in graphs, interpret trends and make predictions based on information given in the workplace.

*Supports the National CareerReadiness Certificate. The benchmarks for the ACT WorkKeys were approved by the Arizona State Board of Education as a College and Career Readiness Indicator.

ACT WORKKEYS: APPLIED TECHNOLOGY PROBLEM-SOLVING STRATEGIES 0.5 ELE
WorkKeys-Aligned Courses prepare individuals to take the other WorkKeys assessments and take their professional development even further. Students explore different problem-solving methods including compartmentalizing, common concepts, and other problem-solving models.

ACT WORKKEYS: APPLIED TECHNOLOGY ELECTRICITY 0.5 ELE
WorkKeys-Aligned Courses prepare individuals to take the other WorkKeys assessments and take their professional development even further. In Level 3, students explore concepts of voltage and current, resistors, circuits and switches, capacitors, inductors, series and parallel circuits, circuit breakers, multimeters, and troubleshooting exercises. In Level 4, students explore concepts of magnets and electricity, alternating and three-phase current, transformers, motors and generators, Ohm's Law, grounding and GFCIs, lighting types, relays and solenoids, and troubleshooting exercises. In Level 5 students explore concepts of digital circuits, printers, photocopying, computers, information storage devices, and troubleshooting exercises. In Level 6, students explore concepts of thermocouples and thermostats, analog/digital converters, electronic scales, light sensors and emitters, solar cells, and troubleshooting exercises.

ACT WORKKEYS: APPLIED TECHNOLOGY FLUID DYNAMICS 0.5 ELE
WorkKeys-Aligned Courses prepare individuals to take the other WorkKeys assessments and take their professional development even further. In Level 3, students explore concepts of pressure and flow, flotation, pipes and valves, pumps, and troubleshooting exercises. In Level 4, students explore concepts of gases and pressure, vacuum, compression heating, and troubleshooting exercises. In Level 5 students explore concepts of piping problems, flow measurement devices, mixing and turbulence, and troubleshooting exercises. In Level 6, students explore concepts of hydraulic cylinders, piping systems, and troubleshooting exercises.

ACT WORKKEYS: APPLIED TECHNOLOGY MECHANICS 0.5 ELE
WorkKeys-Aligned Courses prepare individuals to take the other WorkKeys assessments and take their professional development even further. In Level 3, students explore concepts of force and pressure, friction and inertia, planes and levers, torque and gears, wheels and pulleys, springs and stored energy, and troubleshooting exercises. In Level 4, students explore concepts of screws, acceleration, rotation, center of gravity, and troubleshooting exercises. In Level 5 students explore concepts of bearings, lubrication, conveyors, sound and vibration, and troubleshooting exercises. In Level 6, students explore concepts of gas engines, alternative power, hybrid engines, and troubleshooting exercises.

ACT WORKKEYS: APPLIED TECHNOLOGY THERMODYNAMICS 0.5 ELE
WorkKeys-Aligned Courses prepare individuals to take the other WorkKeys assessments and take their professional development even further. In Level 3, students explore concepts of temperature and heat, conduction, thermal expansion, convection, radiation, and troubleshooting exercises. In Level 4, students explore concepts of melting and freezing, evaporation and condensation, boiling, refrigeration, and troubleshooting exercises. In Level 5 students explore concepts heat exchangers, ovens and furnaces, boilers, and troubleshooting exercises. In Level 6, students explore concepts of cooling towers, solar heating Systems, and troubleshooting exercises.

ACT WORKKEYS: APPLIED TECHNOLOGY BUSINESS WRITING 0.5 ELE
WorkKeys-Aligned Courses prepare individuals to take the other WorkKeys assessments and take their professional development even further. In Level 1, students explore concepts of sentence structure, nouns, verbs, punctuation, spelling, developing ideas, organizing ideas, writing exercises, and practice problems. In Level 2, students explore concepts of sentence structure, describing words, punctuation and spelling, organization, proofreading, writing practice, developing ideas, writing strategy and outlining, writing exercises, and practice problems. In Level 3, students explore concepts of sentence structure, nouns and verbs, punctuation, organization, developing ideas, organizing ideas, writing exercises, and practice problems. In Level 4, students explore concepts of grammar and punctuation, vocabulary, organization, developing ideas, organizing ideas, writing style, writing exercises, and practice problems. In Level 5, students explore concepts of sentence structure, parts of speech: building blocks, parts of speech: describing words, punctuation and capitalization, organization, proofreading, persuasive writing I, persuasive writing II, writing exercises, and practice problems.

ACT WORKKEYS: APPLIED TECHNOLOGY WORKPLACE OBSERVATION 0.5 ELE
WorkKeys-Aligned Courses prepare individuals to

take the other WorkKeys assessments and take their professional development even further. In Level 1, students explore concepts of •preparing to observe, recognizing main ideas, memory and visualization, and procedure steps. In Level 2, students explore concepts of paying attention to details, memory skills, sequencing skills, conditions in procedures, and workplace observation exercises. In Level 3, students explore concepts of interpreting what you observe, details and differences, multiple conditions, memory skills, and workplace observation exercises. In Level 4, students explore concepts underlying principles, cause-effect relationships, complex procedures, drawing conclusions, and workplace observation exercises. In Level 5, students explore concepts of details, differences and distractions, evaluating processes, predicting outcomes, and workplace observation exercises.

ACT WORKKEYS: ESSENTIAL SKILLS WORKING IN TEAMS 0.5 ELE
WorkKeys-Aligned Courses prepare individuals to take the other WorkKeys assessments and take their professional development even further. Developing technical skills is crucial for on-the-job success, but the ACT curriculum goes further by addressing life and employability skills and tools. It's all part of the dedication to help develop a person holistically, not just technically. In Teamwork Part 1, students explore concepts of introduction to teamwork 1, team membership, team mission and goals, building team relationships, participating in team meetings, effective communication 1, and teamwork exercises. In Teamwork Part 2, students explore concepts of effective communication 2, team types, problem solving/decision making, managing team conflict, and teamwork exercises.

ACT WORKKEYS: ESSENTIAL SKILLS INTERPERSONAL AND BUSINESS COMMUNICATIONS 0.5 ELE
WorkKeys-Aligned Courses prepare individuals to take the other WorkKeys assessments and take their professional development even further. Developing technical skills is crucial for on-the-job success, but the ACT curriculum goes further by addressing life and employability skills and tools. It's all part of the dedication to help develop a person holistically, not just technically. In Business, students explore concepts of effective business communications, email and phone communications, participating in meetings, internet and social media, problem solving and negotiation, making effective presentations and communicating across cultures. In Interpersonal, students explore concepts of the communication process, presenting yourself to others, active listening, nonverbal communication, communication barriers, and handling conflict.

ACT WORKKEYS: ESSENTIAL SKILLS WORK DISCIPLINE 0.5 ELE
WorkKeys-Aligned Courses prepare individuals to take the other WorkKeys assessments and take their professional development even further. Developing technical skills is crucial for on-the-job success, but the ACT curriculum goes further by addressing life and employability skills and tools. It's all part of the dedication to help develop a person holistically, not just technically. In Time Management, students explore concepts of introduction to time management, organizing and planning, setting and managing priorities, overcoming procrastination, managing tasks and projects. In Self-Management, students explore concepts of introduction to self-management, setting and achieving goals, balancing work and personal responsibilities, managing emotions and behavior, and coping with stress and change. In Employer Expectations, students explore concepts of behavioral expectations, personal presentation, following rules and procedures, fitting in at work, behaving ethically, and counterproductive work behaviors. In Job Performance Factors, students explore concepts of attitude and job performance, being responsible and dependable, initiative and perseverance, flexibility and adaptability, and learning and skill development.

ACT WORKKEYS: ESSENTIAL SKILLS CUSTOMER SERVICE 0.5 ELE
WorkKeys-Aligned Courses prepare individuals to take the other WorkKeys assessments and take their professional development even further. Developing technical skills is crucial for on-the-job success, but the ACT curriculum goes further by addressing life and employability skills and tools. It's all part of the dedication to help develop a person holistically, not just technically. In Customer Service, students explore concepts of customer service basics, serving customers in person, serving customers by phone, serving customers online, handling and resolving complaints, dealing with difficult customers, and service excellence.

ACT WORKKEYS: ESSENTIAL SKILLS PROBLEM SOLVING AND CRITICAL THINKING 0.5 ELE WorkKeys-Aligned Courses prepare individuals to take the other WorkKeys assessments and take their professional development even further. Developing technical skills is crucial for on-the-job success, but the ACT curriculum goes further by addressing life and employability skills and tools. It's all part of the dedication to help develop a person holistically, not just technically. In Problem Solving and Critical Thinking, students explore concepts of what is problem solving, thinking critically, problem-solving strategies, the problem-solving process, and negotiating to solve problems.

ACT WORKKEYS: ESSENTIAL SKILLS FINANCIAL AWARENESS 0.5 ELE

WorkKeys-Aligned Courses prepare individuals to take the other WorkKeys assessments and take their professional development even further. Developing technical skills is crucial for on-the-job success, but the ACT curriculum goes further by addressing life and employability skills and tools. It's all part of the dedication to help develop a person holistically, not just technically. In Checking and Savings Accounts, students explore concepts of introduction to checking and savings accounts, checking account basics, managing a checking account, managing a savings account, and online banking. In Budgeting, students explore concepts of introduction to budgeting, calculating household, income, creating a budget, managing your budget, and spending and saving. In Credit Cards and Loans, students explore concepts of introduction to credit cards and loans, credit basics, understanding credit cards, understanding loans, managing your credit, and repairing your credit. In Insurance, students explore concepts of introduction to insurance, automobile insurance, homeowner's and renter's insurance, health insurance, and life insurance. In Financial Planning and Investing, students explore concepts of introduction to financial planning, creating a financial plan, understanding savings accounts, investing basics, understanding investments, and saving and investing for retirement.

WORKPLACE ESSENTIAL SKILLS: EMPLOYMENT

Workplace Essential Skills: Employment is designed to enable adult learners to become better informed and more highly skilled for the changing world of work. Students use an approach that integrates basic skills, problem solving, and decision making to learn key strategies needed to interpret a variety of written and graphic material. Additionally, interdisciplinary connections are incorporated for practice in real-world employment skills.

Students write, evaluate, and revise a career plan consistent with occupational interest, aptitudes and abilities. Students will evaluate goals and career options and adjust their career plans accordingly, increase academic and occupational skills to become more marketable, and evaluate career plans on a continuous basis to determine appropriate educational strategies. Students demonstrate job acquisition skills by completing resume and job applications, and by demonstrating interviewing techniques. Students develop and exhibit work ethics and behaviors essential for success in all areas of life as well as demonstrate marketable occupational skills for an entry-level job based on career interests. Students learn and develop interviewing skills such as responding effectively to questions, using language that conveys maturity, sensitivity and respect, dressing appropriately, and using appropriate body language. Students generate alternatives, consider risks, and evaluate and choose solutions when assessing risks and risk factors in a designated scenario. Students demonstrate the ability to adapt new information to changing situations and requirements.

The format of the course encourages both individual study as well as cooperative learning. Students are encouraged to express their knowledge orally through group discussion and teamwork.

WORKPLACE ESSENTIAL SKILLS: COMMUNICATION AND WRITING

Workplace Essential Skills: Communication and Writing is designed to enable adult learners to become better informed and more highly skilled for the changing world of work. Students use an approach that integrates basic skills, problem solving, and decision making to learn key strategies needed to interpret a variety of written and graphic material. Additionally, interdisciplinary connections are incorporated for practice in real-world reading and written communication skills

Students learn how to participate in conversation, discussion and group presentations using verbal and nonverbal communication with appropriate style and tone for audience and occasion while at work. Students respond to co-workers' and supervisors' verbal and nonverbal messages in ways that demonstrate understanding and communicate a clear message and respond to listener feedback. Students demonstrate an ability to work with others from diverse backgrounds, including identifying individual interests, aptitudes and skills, and teach others new skills. Students develop an understanding of work and communication with diverse clients, customers, and community to satisfy their expectations. Students learn how to write formal communications that have a definite audience and clear purpose that contains no gaps, omissions, or assumptions which impede comprehension. Students be able to analyze inferences from charts, tables, and graphs that summarize data, and use appropriate technology to display and analyze workplace data. Students learn how to write formal communication in an appropriate format for a specific audience and purpose, whether it be a personal or business letter, message, memo, manual directions, or applications.

The format of the course encourages both individual study as well as cooperative learning. Students are encouraged to express their knowledge orally through group discussion and teamwork.

WORKPLACE ESSENTIAL SKILLS: READING
Workplace Essential Skills: Reading is designed to enable adult learners to become better informed and more highly skilled for the changing world of work. Students use an approach that integrates basic skills, problem solving, and decision making to learn key strategies needed to interpret a variety of written and graphic material. Additionally, interdisciplinary connections are incorporated for practice in real-world reading, written communication, math, and technology skills.

Students learn how to summarize information from reading material, clearly and succinctly articulating its major points and proposals. Students research and synthesize information and develop a writing document to convey that information which is appropriate to the audience. Students analyze inferences from charts, tables and graphs to summarize data, use appropriate technology to display and analyze workplace data, and evaluate data for interpretation and prediction. Students conduct a comprehensive workplace needs assessment, communicate their findings to employers, and develop and defend a set of proposed solutions to address the needs. Students learn to judge the accuracy, appropriateness, style and plausibility of reports, proposals, and theories at work, as well as determine any audience needs and interests.

The format of the course encourages both individual study as well as cooperative learning. Students are encouraged to express their knowledge orally through group discussion and teamwork.

WORKPLACE ESSENTIAL SKILLS: MATHEMATICS
Workplace Essential Skills: Mathematics is designed to enable adult learners to become better informed and more highly skilled for the changing world of work. Students use an approach that integrates basic skills, problem solving, and decision making to learn key strategies needed to interpret a variety of written and graphic material. Additionally, interdisciplinary connections are incorporated for practice in real-world math, and technology skills.

Students increase number sense, ways of representing numbers, and the relationships among numbers and different number systems, as well as apply numerical operations and their relationship to one another. Students select and use appropriate computation techniques to solve mathematical problems using decimals, fractions, and percents and determine the accuracy of the results. Students develop a plan to solve complex problems by gathering, selecting and analyzing data, including determining the history and politics of the situation at work. Students improve skills in solving area and perimeter computation problems. Students apply appropriate units of measure, measurement techniques, and formulas to determine measurements. Students learn how to analyze the attributes of two- and three-dimensional figures and develop mathematical arguments about their relationships. Students understand and apply data collection, organization, and representation to analyze and sort data. Students construct projections and trends from raw data, charts, tables, and graphs that summarize data from real-world situations.

The format of the course encourages both individual study as well as cooperative learning. Students are encouraged to express their knowledge orally through group discussion and teamwork.