

AMES GRADUATION REQUIREMENTS AND COURSE CATALOG

2009/2010 School Year

AMES Counseling Center

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AMES GRADUATION REQUIREMENTS

Students must earn a total of 27.5 Units of Credit

The following credits can be earned through the AMES curriculum. Credits may also be earned through accredited programs including higher education, independent study, Cottonwood High School, Electronic High School, U of U High School University Program or other accredited alternatives. *Discuss outside options with your counselor prior to enrolling in courses. (Note: Not all classes will be offered each year. Please check with the AMES Counseling Center.)*

Please Check AMES Course Catalog for Descriptions of AMES and U of U Courses.

Language Arts **4.0 Credits**

- Language Arts 9-12 (1.0 Credit each)
- AMES Elective Language Art Courses:
 - English as Second Language (1.0 Credit)
 - Creative Writing/Literary Magazine (1.0 Credit)
 - Journalism (1.0 Credit)
 - Introduction to Literature (0.5 Credit)
 - Advanced Academic Writing (0.5 Credit)
 - Modern Cultural Literature (0.5 Credit)
- U of U Writing 1010 (1.0 AMES Credit & 3.0 of U of U Credits)
- U of U Writing 2010 (1.0 AMES Credit & 3.0 of U of U Credits)
- U of U Honors College Humanities (2.0 AMES Credits & 6.0 of U of U Credits)

Mathematics **4.0 Credits**

- Algebra I (1.0 Credit), Geometry (1.0 Credit), Algebra 2 (1.0 Credit), Pre-Calculus (1.0 Credit), AP Calculus (1.0 Credit)
- AMES Elective Math Course:
 - Math Skills for Science (0.5 Credit)
- U of U Introduction to Quantitative Reasoning 1030 (1.0 AMES Credit & 3.0 U of U Credits)
- U of U College Algebra & Trigonometry 1050/1060 (2.0 AMES Credits & 6.0 U of U Credits)
- U of U Introduction to Statistical Inference 1070 (1.0 AMES Credit & 3.0 U of U Credits)
- U of U Calculus I & II 1210 & 1220 (2.67 AMES Credits & 8.0 U of U Credits)

Science **4.0 Credits**

- Earth Systems (1.0 Credit), Honors Biology (1.0 Credit), Honors Chemistry (1.0 Credit), General Physics (1.0 Credit), Physics for Pre-Science Majors-Honor Physics (1.0 Credit)
- AMES Elective Science Courses:
 - Astronomy (0.5 Credit)
 - Geology (1.0 Credit),
 - Science Fair/Research Methods (1.5 Credits)
- U of U General Chemistry I & II 1210 & 1220 (2.67 AMES Credits & 8.0 U of U Credits)
- U of U General Chemistry Lab I & II 1215 & 1225 (0.67 AMES Credit & 2.0 U of U Credits)
- U of U Physics for Scientists and Engineers I & II 2210 & 2220 (2.67 AMES Credits & 8.0 U of U Credits)

Social Studies **3.5 Credits**

- AP Human Geography, AP European History, AP U.S. History (1.0 Credit Each)
- U.S. Government & Citizenship (0.5 Credit)
- AMES Elective Social Studies Course:
 - AP Psychology (1.0 Credit)

Computer Science **1.0 Credit**

- Computer Technology/Introduction to Information Technology (1.0 Credit)
- AMES Elective Computer Science Courses:
 - Introduction to Computer Programming C++ (1.0 Credit)
 - Introduction to Programming/Robotics (0.5 Credit)
 - A+ Computer Certification (1.0 Credit)
 - Multi-Media (1.0 Credit)

<u>Fine Art</u>	1.5 Credits
Art Foundation (1.0 Credit), Multi-Media (1.0 Credit), AP Art History (1.0 Credit), Art Studio (1.0 Credit), Health/Humanities Core (0.5 Credit Health & 0.5 Credit Fine Arts)	
<u>World Language</u>	2.0 Credits
Spanish I, Spanish II, Arabic I, Arabic II, (and other World Languages through CHS such as Mandarin Chinese, Latin, French, and Advanced Spanish courses)	
<u>Applied Technology – Internship/Work-Based Learning</u>	1.0 Credit
Internship Seminar I & II (1.0 Credit)	
<u>Physical Education</u>	1.5 Credits
Individualized Lifetime Sports Activities (up to 1.5 Credits), Aikido (1.0 Credit)	
<u>Health Education</u>	0.5 Credit
Health/Humanities Core (0.5 Credit Health & 0.5 Fine Art Credit)	
<u>Senior Project</u>	1.0 Credit
Senior Project (1.0 Credit)	
<u>Financial Literacy</u>	0.5 Credit
Credits may be earned through accredited programs including higher education, independent study, Cottonwood High School, Electronic High School, U of U High School University Program or other accredited alternatives.	
<u>Elective Credits</u>	3.0 Credits
AMES Electives: Chess Fundamentals (0.5 Credit) General Science: Science through Science Fiction (0.5 Credit) General Science: History & Technology of Animation (0.5 Science or Fine Art Credit)	

Credits can be earned from other AMES curriculum or from accredited programs such as: higher education, independent study, Cottonwood High School, Electronic High School, U of U High School University Program and other accredited alternatives approved by AMES.

Cottonwood Electives

The counseling center has a course catalog from Cottonwood that can be reviewed for further information on the courses listed below. This catalog also has additional elective courses that may be taken with the Cottonwood's Administration permission.

Cottonwood Courses Opened to AMES Students:

9th Grade: Concert Band, Introduction to Information Technology

10th Grade: Drivers Education 1st & 2nd Semester, Accounting (full year), Accounting I (semester), Word Processing (semester), Advertising & Promotion (semester), Web Page Design (semester), Fashion Merchandising (semester), Drafting (full year), Graphics (full year), Woodworking (full year), Visual Basic (full year), Introduction to Information Technology (full year), A+ Certification (full year), Network + (semester), Clothing (semester), Foods I (semester) Foods II (semester), Child Development (semester), Housing & Interior Design (semester), Life Management (semester), Debate 1-2 (full year), Debate 3-4 (full year), Theater (full year) Film Studies (semester), Drawing I (semester), Commercial Art (semester), 3D Design (semester), Design (semester), Concert Band (full year), Concert Orchestra (full year), Men's Choir (full year), Music Keyboard (full year), Guitar (semester), Dance 1-2 (full year), Dance 1 (semester), Fitness for Life (semester), Health (semester), Spanish for Native Speakers 1 (full year), Spanish for Native Speakers 2 (full year), Spanish 3 (full year), Spanish CC (full year), Spanish AP (full year)

11th & 12th Grade The above classes and the following classes: Financial Literacy (semester), Auto Mechanics (full year), Drawing 3-4 (full year), Drawing 5-6 (full year), Printmaking (full year), Oil Painting (semester), Watercolor (semester), Medical Terminology (full year), Dance 2 (full year), Dance 3 (full year)

COURSE CATALOG

Not all classes are offered each year, check with counseling center for information.

LANGUAGE ARTS (4 Credits Required)

LANGUAGE ARTS 9

(1.0 Credit)

Prerequisite: None

The ninth grade language arts course connects reading instruction with writing for multiple purposes. The course continues intensive practice and study of informational and literary reading and writing. Students read extensively from a variety of sources, and draft, revise, and edit their own writing.

LANGUAGE ARTS 10

(1.0 Credit)

Prerequisite: Language Arts 9

The tenth grade language arts course continues the intensive practice and study of informational and literary writing. Students refine skills in preparation for reading and writing assessments.

LANGUAGE ARTS 11– COLLEGE PREP

(1.0 Credit)

Prerequisite: Language Arts 10

College prep language arts is a writing intensive course designed to prepare eleventh grade students for college-level writing their senior year. Also, this course is designed to teach students strategies in reading comprehension, writing ability, active listening, effective speaking, and critical viewing across the curriculum.

LANGUAGE ARTS 12

(1.0 Credit)

Prerequisite: Language Arts 11

Language Arts 12 is designed to further develop students' skills in reading, writing, speaking, viewing, and listening. In this class, students will grapple with challenging texts, assignments, and ideas. Additionally, students will "fine tune" writing skills that will prepare twelfth graders for college.

Elective Language Art Courses

ENGLISH AS SECOND LANGUAGE

(1.0 Credit)

10-12Grade

This course is designed to help student that have English as a second language to acclimate to AMES classes through mentoring, tutoring and skill building.

CREATIVE WRITING/LITERARY MAGAZINE

(1.0 Credit)

Prerequisite: 11th or 12th grade and Teacher Recommendation

This course is designed for any student who desires to focus on creative writing and is willing to experiment using a variety of literary genres. Students will explore their own creative voice through writing practice, role playing, discussion of other student writing, and published writings. Writing will be shared with the class in an open forum of discussion about the work and how to craft each piece. This is a class for students who are motivated and highly self disciplined.

JOURNALISM

(1.0 Credit)

Prerequisite: 11th or 12th grade and Teacher Recommendation

Students will learn the skills necessary to produce and publish the school newspaper, the AMES Satellite. These skills include but are not limited to: gathering and writing news, editing copy, proofreading and correcting copy, writing headlines, preparing copy for publication, photo journalism, use of the computer to prepare copy for publication, and soliciting and preparing advertising copy.

INTRODUCTION TO LITERATURE

(0.5) Credit

11th & 12th Grades

This course is an elective course for students interested in exploring exceptional literature in English. The course begins with an exploration into the question “what is genre?” and introduces students to the various forms of fictional literature, including narrative fiction (storytelling), poetry, and drama. Students will become familiar with methods of close reading and rhetorical analysis, and engage in discussion and writing to share their growing knowledge, understanding, and appreciation of literature.

ADVANCED ACADEMIC WRITING

(0.5) Credit

9-12 Grades

This course is designed to supplement AP course curriculum by focusing on the development of college level writing skills and techniques. Students will learn writing strategies that will prepare them for AP tests and college-level courses.

MODERN CULTURAL LITERATURE

(0.5) Credit

9-12 Grades

This course examines social science theory, media, and philosophy through the medium of modern culture. Students will be introduced to a number of theorists and assess how their ideas apply to today’s world. The class focuses on developing analytical and rhetorical skills, application of theory to practice and discussion.

University of Utah LANGUAGE ART Courses can be used for Graduation Requirements

WRITING 1010

Introduction to Academic Writing

(1.0 Credits, 3.0 University of Utah Credits)

Prerequisite: Language Arts 11 and Teacher Recommendation.

Students will discover ideas about issues that are significant to them and their community and learn to communicate those ideas in clear, logical, well-reasoned writing. Writing assignments will develop from the interrelationship between reading and writing and will emphasize the process of inquiry necessary to think, read, and write critically.

WRITING 2010

Writing for Academic and Public Discourses

(1.0 Credits, 3.0 University of Utah Credits)

Prerequisite: Minimum grade of C- in WRITING 1010

Students will be introduced to the strategies, tools and resources necessary to become successful communicators in a range of scholarly and professional contexts. Specifically, students will practice analytic and persuasive writing in a number of genres common to both academic and public discourses, while gaining expertise in library and internet research.

HONORS COLLEGE HUMANITIES

(2.0 AMES Credit, 6.0 U of U Credit)

12 Grade

Prerequisite: Teacher recommendation & other pre-requisites determined by University of Utah and U of U faculty.

Description: What is race? How does it effect you? Is race something we just make up, or is there a real difference between people of different races? Do white people have a race? What are the ideas and theories that have influenced popular perceptions about race and justified racist laws and policies? This class will look at some of the "scientific" theories and popular beliefs about race and how they have been used in the past as well as how they play out today. Students will carry out community-based research projects that examine an aspect of race in contemporary America.

MATHEMATICS

(4 Credits Required)

ALGEBRA I

(1.0 Credit)

Prerequisite: Pre-Algebra or Teacher Recommendation

In this course students represent, analyze, and explore real number patterns including square roots from tables, graphs, verbal rules, and equations. Emphasis is on linear relationships and their applications. Students learn concepts through concrete models. *A graphing calculator is recommended.*

GEOMETRY

(1.0 Credit)

Prerequisite: Algebra I or Teacher Recommendation

Students will explore geometry through logical processes, technology, constructions, manipulatives, and algebraic connections. Topics of investigation include points, angles, lines, plane and solid shapes, congruence, similarity, graphing, right triangle, and trigonometric ratios. *A graphing calculator is recommended.*

ALGEBRA 2

(1.0 Credit)

Prerequisite: Geometry or Teacher Recommendation

The study of functions is the primary focus of this class, including: quadratic, polynomial, radical, trigonometric, and probability functions. Complex numbers are introduced. In addition to algebraic methods for solving equations, students use technology to solve equations numerically and graphically. *A graphing calculator is required.*

PRE-CALCULUS

(1.0 Credit)

Prerequisites: Algebra II or Teacher Recommendation

This course extends the study of functions to include exponential, logarithmic, rational, and advanced trigonometric ones. Students study vectors, polar coordinates, complex number theory, and also arithmetic and geometric series. *A graphing calculator is required.*

AP CALCULUS

(1.0 Credit)

Prerequisite: Pre-Calculus

AP CALCULUS AB

(1.0 Credit)

Prerequisite: Precalculus, Math 1050/1060, or Teacher Recommendation

Course Fee: \$10.00 (Study Guide)

This course will prepare students for the AP Calculus AB Test. This calculus course includes topics typically taught in a first semester college calculus course: Functions, graph, and limits; Derivatives and applications of derivatives; Integrals and applications of integrals.

A graphing calculator is required.

MATH SKILLS FOR SCIENCE - ELECTIVE

(0.5 Credit)

Prerequisite: Teacher Recommendation

This half-year *elective* course is for students who would like to improve their math skills and their analytical problem solving abilities. The mathematical methods that are taught in Algebra 1 and Geometry will be reviewed and reinforced through doing lots of hand-on scientific experiments. Students will look for patterns in how the world around them behaves. Using those patterns they will create and analyze numerical models in order to predict the outcome of experiments. Students will then perform those experiments and see how well their mathematical predictions matched the experimental results. Math skills covered in this class include: interpreting tables and graphs, analyzing geometric figures, manipulating numbers, solving linear, quadratic, radical, and other equations, translating word problems into equations, and general mathematical problem solving skills. *A graphing calculator is required.*

University of Utah **MATH** Courses can be used for Graduation Requirements

MATH 1030

INTRODUCTION TO QUANTITATIVE REASONING

(1.0 Credits, 3.0 University of Utah Credits)

Prerequisites: Algebra 2 or Teacher Recommendation

This course is for students who don't necessarily plan on careers in science or engineering but who want to fulfill the University of Utah's general education math requirement. This course focuses on the use of mathematics to examine and describe change and growth in the real world. Students will examine the reasoning behind basic mathematical concepts, explore problems from different perspectives, and look for connections between the course material and other disciplines. The mathematics covered includes topics from financial mathematics, linear and exponential growth geometric measurements and scaling. *A scientific calculator is required.*

MATH 1050/1060**COLLEGE ALGEBRA & TRIGONOMETRY****(2.0 Credits, 6.0 University of Utah Credits)****Prerequisites: Teacher Recommendation**

Topics of 1050 include: Review of intermediate algebra, functions, lines, slope, polynomials and rational functions, exponential and logarithmic functions, systems of linear equations & inequalities, matrices and determinants, inductions, sequences, binomial theorem. Topics of math 1060 include: Trigonometric functions, analytic trigonometry, oblique triangles, vectors, the complex plane, and selected topics in analytical geometry.

MATH 1070**INTRODUCTION TO STATISTICAL INFERENCE****(1.0 Credits, 3.0 University of Utah Credits)****Prerequisites:** Math ACT Score of 23 or grade of C or better in Math 1010.

Course fulfills Quantitative Reasoning (Statistics/Logic).

The important topics used in making inferences from data will be presented and illustrated. As well as material on descriptive statistics, estimation of the mean, or of the proportion, in one or two populations, simple linear regression, and one-way analysis of variance are covered.

MATH 1210 & 1220**CALCULUS I & II****(2.67 Credits, 8 University of Utah Credits)****Prerequisites: Pre-Calculus and Teacher Recommendation**

The first semester covers functions and their graphs, differentiation of polynomial, rational and trigonometric functions, velocity and acceleration, geometric applications of the derivative, minimization and maximization problems, the indefinite integral, and an introduction to differential equations. It also covers the definite integral and the Fundamental Theorem of Calculus.

The second semester covers geometric applications of the integral, logarithmic, and exponential functions, techniques of integration, conic sections, improper integrals, numerical approximation techniques, infinite series and power series expansions, and continues differential equations.

SCIENCE

(4 Credits Required)

EARTH SYSTEMS

(1.0 Credit)

Prerequisite: None

Topics covered include the development of the universe and solar system, the evolution of Earth's environment and how this affects living systems, and the uniqueness of life on earth, the movement of Earth's plates caused by gravity, density, and convection, and the impact this has on other systems, water cycles in the hydrosphere and the affect on other spheres, Earth's atmosphere and its interaction with the lithosphere, hydrosphere, and biosphere, and the source and distribution of energy on Earth and its effects on Earth systems.

HONORS BIOLOGY

(1.0 Credit)

Prerequisites: None

Honors Biology is a two-semester course with an emphasis throughout on developing writing skills in the sciences. Built into the course is a laboratory component for most topics covered and culminates with a fetal pig dissection. This hand-on experience is designed to give the students a kinetic and visual learning opportunity to coincide with the lecture (auditory) portion of instruction. Topics covered include but are not limited to the following: ecology and environmental science, chemistry of living cells, cells, genetics, evolution, classification/taxonomy, biological diversity and organs and organ systems.

HONORS CHEMISTRY

(1.0 Credit)

Prerequisites: Elementary Algebra

This course includes the topics of atoms, energy, chemical bonds, chemical reactions, and solutions. Students develop an understanding of chemical concepts and determine the relevance of chemistry in their lives.

GENERAL PHYSICS

(1.0 Credit)

Pre-requisite or co-requisite: Algebra 2 (student should be taking Algebra 2 or a higher level math class while also taking this physics class.)

This course is physics for students who don't necessarily plan on careers in science or engineering but who still want to understand the natural laws that govern the world around us. Topics include: motion, energy, momentum, electricity, sound, light, magnetism, and other physical phenomenon. Students will become skilled at making observations, measurements, and most importantly, making predictions of how the world around them behaves.

The difference between this physics class and the alternative one (Physics for Pre-Science Majors) is that this class does not require quite as much math. It deals more with general physics principles and less with quantitative problem solving.

PHYSICS FOR PRE-SCIENCE MAJORS – HONOR PHYSICS

(1.0 Credit)

Prerequisites or co-requisite: Pre-calculus (student should be taking Pre-Calculus or a higher level math class while also taking this physics class)

This course is physics for students who think they might go on to careers in science or engineering, even if they aren't yet sure of that choice. Topics include: motion, energy, momentum, electricity, sound, light, magnetism, and other physical phenomenon. Students will become skilled at making observations, measurements, and most importantly, making predictions of how the world around them behaves.

The difference between this physics class and the alternative one (General Physics) is that this class uses more math and students will solve more sophisticated problems. Students who are considering maybe majoring in science or engineering when they go to college are strongly encouraged to take this class instead of the alternative one.

Elective Science Courses

ASTRONOMY

(0.5 Credit)

10-12 Grades

Prerequisites: Earth Science and Teacher Recommendation

In this course, students will gain an understanding of this interesting and complex universe in which they live. Topics will include constellations, the properties of stars, the moon, the solar system, galaxies, black holes, and modern research in cosmology.

GEOLOGY

(1.0 Credit)

10-12 Grades

Prerequisites: None

The Earth is an astronomical object, which also happens to be our home. It is the product of a long series of events, which resulted in a structurally complex body hosting numerous dynamic processes such as volcanism, tectonics, sedimentation and weather. The specific dynamic nature of our planet has produced an environment, which promoted the development of life and was subsequently modified by life into the extremely habitable state in which it currently exists. The purpose of this class is to investigate the processes that produced our home world and which currently act to nurture us but which can threaten us as well. By understanding the systems and processes, which are vital to the maintenance of a habitable world, the students learn the importance of being responsible stewards of the environment.

SCIENCE FAIR/RESEARCH METHODS

(1-1.5 Credit)

10-12 Grades (*9th Grade with previous science fair experience and teacher recommendation)

Prerequisites: Application required, available from instructor

Students will experience science as a process while working on a research or engineering project of their choice. Student interest and class projects will define laboratory and classroom curriculum. Workshops, lectures and laboratory tours, hosted by University of Utah scientists, will be part of the learning experience. Reading, writing and analytical skills important to high school and collegiate success will be an integral part of each project. Outstanding final projects/reports will be used in local and national research competitions as well as college scholarship applications. **Individual projects and teams of two only.*

University of Utah **SCIENCE** Courses can be used for Graduation Requirements

CHEMISTRY 1210 & 1220

GENERAL CHEMISTRY I & II

(2.67 Credits, 8.0 University of Utah Credits)

Prerequisite: Intermediate Algebra and Teacher Recommendation.

Co-requisites: CHEM 1215 & 1225.

Three lectures, two discussions per week. Fundamentals of chemistry are covered emphasizing descriptive and modern applied chemistry for science and engineering majors. Topics include atomic theory, molecular bonding, and reaction chemistry.

CHEMISTRY 1215 & 1225

GENERAL CHEMISTRY LAB I & II

(0.67 Credits, 2.0 University of Utah Credits)

Co-requisites: CHEM 1210 & 1220

Three-hour lab once a week associated with CHEM 1210 & 1220.

PHYSICS 2210 & 2220

PHYSICS for SCIENTISTS and ENGINEERS I & II

(2.67 Credits, 8.0 University of Utah Credits)

Prerequisite: Calculus and Teacher Recommendation.

The first semester is designed to give students a thorough understanding of the basic physical laws and their consequences. Classic mechanics will be introduced, including methods of energy, momentum, angular momentum, and Newtonian gravity. Applications will include mechanical oscillations, sound, and wave motion.

The second semester continues with electrostatics, electric fields, and potential, magnetic fields and Faraday's law, current flow, resistance, capacitance and inductance, electric circuits and electromagnetic oscillations, electromagnetic waves, geometric and physical optics.

SOCIAL STUDIES

(3.5 Credits Required)

AP HUMAN GEOGRAPHY

(1.0 Credit)

Prerequisite: None

The purpose of the AP Human geography course is to introduce students to the study of patterns and processes that have shaped human understanding and use of the Earth. Students will use spatial concepts and landscape analysis to examine human social organization and its environmental consequences. They will also learn about the methods and tools geographers use in their science and practice.

AP EUROPEAN HISTORY

(1.0 Credit)

Prerequisite: None

The study of European history since 1450 introduces students to cultural, economic, political, and social developments that played a fundamental role in shaping the world in which they live. Without this knowledge, we would lack the context for understanding the development of contemporary institutions, the role of continuity and change in present-day society and politics, and the evolution of current forms of artistic expression and intellectual discourse. The course begins with the Renaissance and goes up to the present day. All areas of history are covered, including social, political, economic, intellectual, cultural, and art history. In addition to providing a basic narrative of events and movements, the goal in this course is to develop (a) an understanding of principals themes in modern European History, (b) an ability to analyze historical evidence and historical interpretation, and (c) an ability to express historical understanding in writing.

AP U.S. HISTORY

(1.0 Credit)

Prerequisite: None

This course has a rigorous college-level curriculum offered to juniors. It is a college freshman-level class with the objective of preparing students to take the AP test in the spring. The AP test is not required to receive high school credit for the class, but is strongly recommended on account of the opportunity for up to 8 college credit hours. The course focuses on U.S. history in a chronological fashion starting with pre-colonial times and ending with the present day.

AMERICAN GOVERNMENT and LAW

UNITED STATES GOVERNMENT AND CITIZENSHIP

(0.5 Credit)

11th & 12th Grade

Prerequisites: None

American Government and Law is a seminar-style course that focuses on the elements of democracy, the structure of government, and the role of the individual as an active participant in our democracy. Upon completion of the class, students should feel they have an understanding of the origin and structure of American democracy, the organization of government and how, as an individual, they can make a difference as an American citizen.

Elective SOCIAL STUDIES Courses

AP PSYCHOLOGY

(1.0 Credit)

Prerequisites: None

Topics covered in this course include: History and approaches, research methods, biological bases of behavior, sensation and perception, states of consciousness, learning, cognition, motivation and emotion, developmental, personality, testing and individual differences, abnormal psychology, treatment of psychological disorders, social psychology. The course also includes a research project.

COMPUTER SCIENCE (1 Credit Required)

COMPUTER TECHNOLOGY/INTRODUCTION TO INFORMATION TECHNOLOGY

(1.0 Credit)

Prerequisite: None

Students will first understand the computer hardware functionality and the computer operating system (Windows XP). Software applications (Word, Power Point, and Excel) will also be explored. These applications will be very useful tools in many of the other classes offered at AMES. This class will also give students an opportunity to do research about technological topics, work in a team environment, write technical reports and give oral presentations.

Elective Computer Science Courses

INTRODUCTION TO COMPUTER PROGRAMMING C++

(1.0 Credit)

Prerequisite: Computer Technology

Computer programming (C++) will provide students an opportunity to develop a skill that will help them better understand computer functionality and how industry develops useful applications. Students will learn and understand the principles of software development. Students will use such concepts as flowcharting, code supportability, and object oriented code design. The development environment used in class will be Microsoft Visual C++ 6.0. Students will learn how to develop applications within the Visual C++ 6.0 IDE.

INTRODUCTION TO PROGRAMMING/ROBOTICS

(0.5 Credits)

10-12th Grades

Prerequisites: Computer Technology

Students will be introduced to programming concepts and design logic. The programming language will be C. Students will learn about Top/Down design methods, variables, loops, and arrays. The students will also apply their knowledge by learning how to control Lego Mindstorm robotics. Students will learn how to and the value of working with in a development team as they prepare for competition.

A+ COMPUTER CERTIFICATION

(1.0 Credits)

Prerequisites: None

This is the A+ computer hardware & operating system certification course. This course will be an independent study online class. The course will require all students to have a computer and internet access from home. The course work will be done from home and will be verified by the teacher on a regular basis. All students must have taken computer technology. The course will cover topics relating to computer hardware devices and operating system specifics. This will prepare students to take the industry standard A+ certification test.

MULTI-MEDIA

(1.0 Credits)

Prerequisites: Computer Technology

With the latest in computer hardware and software students learn how to create multimedia projects. This includes cartooning, animation, and web design. Video editing and audio software are also taught. Students who are interest in pursuing a job in video game design should take this class.

FINE ART

(1.5 Credits Required)

ART EXPLORATION

(1.0 Credit)

Prerequisites: None

Different mediums are used as a vehicle to explore student's talents. Grades will be earned by demonstrating learning through problem solving and completion of required steps involved in the creative process. This will encourage growth by examining the parts of work to better understand the whole. Art is an individual pursuit. As a result, each student's art will look different, our journey from A to B will be different, and finally the message conveyed will be different.

MULTI-MEDIA

(1.0 Credit)

Prerequisites: None

Multi-Media class provides students a hands-on experience that builds knowledge and skills related to modern computer technology. Students not only see how computer Multi-Media operates within the classroom, but how it applies in real world demands. This lab incorporates multi-media activities that allow the student an opportunity to use industry standard media creation tools and explore individual creativity. Students will first understand the computer hardware functionality and the computer operating system (Windows XP). Software applications (DreamWeaver, Flash, and Fireworks) will be explored.

AP ART HISTORY

(1.0 Credit)

Prerequisites: None

AP Art History is a chronological survey of architecture, painting, sculpture, and photography of the western tradition and selected works from a variety of cultures from beyond the European tradition. The sequential presentation of the artwork studied in this course begins in the prehistoric period and ends with post-modern. Emphasis is placed on the study of the development of styles within cultures, epochs, and artist careers. Strategies of comparative analysis of works of art are also introduced and practiced in class discussions, written assignments, and tests. Formal analysis using elements of art, principles of design and composition, and various strategies and models presented in class specifically referenced to each art form, are introduced and developed throughout the year. Students are made aware of the context of works of art within their respective cultures and periods to give a deeper understanding of each work's possible meaning and significance. *There is a required student workbook purchase with a cost of \$20.00.*

ART STUDIO

(1.0 Credit)

Prerequisite: None

Art Studio is designed to build on the foundations of art while allowing students to explore the depths of creative potential. Students will have the opportunity to work with oil paints, pastels, charcoals, graphite, pen and ink, and clay. Students will learn how to build and stretch their own canvases that will facilitate their understanding of how to create a fully workable studio environment. Course objectives include: Creative and systematic exploration of formal and conceptual issues, emphasis on making art as an ongoing process that involves the student in informed, critical decision-making, development of technical skills, familiarization with functions of visual elements, encourage students to become independent thinkers who will contribute inventively and critically to their culture through the making of art.

HEALTH/HUMANITIES CORE

(0.5 Credit Health & 0.5 Credit Fine Arts)

Prerequisites: None

Health

This course is designed to enhance knowledge, skills and the understanding necessary for students to make daily healthy choices to foster life-long healthy behaviors and attitudes. Students will explore the curriculum through a variety of instructional methods including guest speakers. Content areas include: healthy choices, human development and relationships, personality and self-esteem, stress management, mental disorders/suicide, nutrition and fitness, disease prevention and sexually transmitted diseases to include AIDS, substance (tobacco/alcohol/drugs) abuse prevention, safety and injury/violence prevention and consumer/community health.

Humanities

The humanities are the stories, ideas, words and artifacts that help us make sense of the world. By studying the humanities we are introduced to new people, places and ideas. Humanities is an interdisciplinary field of study including aspects of history, anthropology, archeology, literature, linguistics, philosophy, ethics, politics and the arts. This course is designed to give students an introductory overview of the Humanities. Students will be given the opportunity to explore selected topics of special or unusual interest in the field.

Humanities are an interdisciplinary survey of intellectual and artistic achievements of several non-West cultures, such as Asian, African, South American, Native American and Islamic cultures. The course will survey selected works of literature, philosophy, visual art, music and other performing arts from each culture.

WORLD LANGUAGE

(2 Credits Required)

SPANISH I **(1.0 Credit)**

Prerequisite: None

The goal of Spanish I is to build the fundamentals of understanding and speaking Spanish and help develop the capacity to use the Spanish language in a meaningful and functional way. The course emphasizes communication skills, foundations of language learning, and understanding of cultures in the Spanish-speaking world. This course introduces grammar concepts with a heavy emphasis on vocabulary-building along with cultural learning from the diverse world of Spanish-speakers, working towards a beginner's level of proficiency. Students will become familiar with such vocabulary as greetings, likes/dislikes, sports, opposites, family, body parts, clothing, food, weather, telling time, days, months, seasons, colors, numbers, shapes, professions, school nouns, places, and feelings.

SPANISH II **(1.0 Credit)**

Prerequisite: Spanish I

The goal of Spanish II is to continue to build the fundamentals of understanding and speaking Spanish developing a greater capacity to use the Spanish language in a meaningful and functional way. The course emphasizes proficient communication skills, foundations of language learning, and understanding of cultures in the Spanish-speaking world. This course continues the introduction of grammar concepts with a special focus on all the verb tenses (except the subjunctive) along with cultural learning from the diverse world of Spanish-speakers, working towards an intermediate level of proficiency. Students will review and extend their ability with such vocabulary as greetings, likes/dislikes, sports, opposites, family, body parts, clothing, food, weather, telling time, days, months, seasons, colors, numbers, shapes, professions, school nouns, places, and feelings.

ARABIC I **(1.0 Credit)**

Prerequisites: None

This course is designed for students who have little or no Arabic language background. The course focuses on situational dialogue, contextual writing, and related cultural projects. The goal is to offer students instructions in practical and survival Arabic language skills. The course is enriched with various cultural topics, projects, exposures, and direct experiences such as guest speakers, university students as tutors, cultural activities with the local Arabic community.

ARABIC II **(1.0 Credit)**

Prerequisites: Arabic II

This course will advance the students language and writing skills learned in Arabic I.

APPLIED TECHNOLOGY INTERNSHIP/WORK-BASED LEARNING (1 Credit Required)

INTERNSHIP SEMINAR I & II (1.0 Credit)

Prerequisites: 11th or 12 grade only

Internship, through Community Connected Learning (CCL), is an effort to make lifelong career development more meaningful and natural by linking the school site with the community. In cooperation with AMES, parents, business/industry, and the community, the student will experience: 1) real-world connections to academic and applied courses taught at AMES and future college setting; 2) preparation for educational advancement (college, etc.); 3) preparation for the professional world; and 4) development of life skills needed for success at work, home, and in the community.

PHYSICAL EDUCATION (1.5 Credits Required)

INDIVIDUALIZED LIFETIME SPORTS ACTIVITIES

The Utah State Office of education that we offer the following approaches for students to complete the required 1.5 Physical Education credits.

1. Electronic High School: AMES students may enroll in the “Fit for Life” class and earn .5 Credits
2. Lifetime Sports Activities: AMES students can select one or more skills that they see themselves developing and pursuing beyond school. Examples of these include dance, biking, swimming, running/jogging, aerobics, and hiking.

Student need to list the hours in which they participate and submit them with a verifiable signature by an adult or parent/guardian at the end of the term. They must also have a least two consultations with a certified coach/sport expert either from the community or from the AMES staff. Please see the counseling center for those teacher qualified as advisors.

3. Participation Skills/Skills Development: In order to earn physical education credit for his content area, students must also conduct an independent contract in earning P.E. credit. In addition to submitting hours as described above and having an adult verify the hours, students must periodically meet with AMES advisor.

To align with state core curriculum, students must participating team sports and/or physical activity that require certain athletic and team skills. Examples of these include tennis, club sports (e.g. baseball, soccer, lacrosse, ice hockey and football), gymnastics and martial arts.

4. Cottonwood High School: AMES students may enroll and successfully complete a Cottonwood physical education class for credit.

5. **AIKIDO**
(1.0 Credit)

Prerequisites: None

Aikido is a Japanese self-defense system founded by Morie Ushiba following World War II. Techniques are based on sword and staff. Aikido movements are often called “grappling” and it is more similar to wrestling than other styles of karate. Punches and kicks and other offensive movements are not taught. Students are taught basic strikes so they can practice defense strategies against them. This course is a beginning Aikido class. Students are expected to learn basic vocabulary and terminology used in Aikido. Students also learn basic Aikido exercises called “aikitaiso”. *Gi purchase or rental is required.*

HEALTH EDUCATION **(0.5 Credits Required)**

HEALTH/HUMANITIES CORE **(0.5 Credit Health & 0.5 Credit Fine Arts)**

Prerequisites: None

Health

This course is designed to enhance knowledge, skills and the understanding necessary for students to make daily healthy choices to foster life-long healthy behaviors and attitudes. Students will explore the curriculum through a variety of instructional methods including guest speakers. Content areas include: healthy choices, human development and relationships, personality and self-esteem, stress management, mental disorders/suicide, nutrition and fitness, disease prevention and sexually transmitted diseases to include AIDS, substance (tobacco/alcohol/drugs) abuse prevention, safety and injury/violence prevention and consumer/community health.

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SENIOR PROJECT **(1 Credit Required)**

SENIOR PROJECT

Grade 12 only

(1.0 Credit)

Prerequisites: None

Senior Project is an individualized project course, designed to prepare each student for a life of learning after AMES. A requirement for graduation, Senior Project provides the graduating student a threefold opportunity: 1) to reflect on college preparedness and focus college or post-high school aspirations, 2) to prepare a digital and hard copy portfolio that represents the student’s growth while at AMES, and 3) to conduct research and prepare a final senior project.

FINANCIAL LITERACY (0.5 Credits Required)

Credit may be earned through accredited programs including higher education, independent study, Cottonwood High School, electronic high school, U of U High School University Program, or other accredited alternatives.

DIRECTED STUDIES

Directed studies are a class designed to support students receiving services under an Individual Education Plan (IEP). Students are expected to develop their study and organizational skills and receive one-on-one or small group assistance for regular education classes.

ELECTIVE CREDITS (3.0 Credits Required)

CHESS FUNDAMENTALS (0.5 Credits)

Prerequisites: None

Chess Fundamentals is an elective course for beginning chess players. No experience with chess is necessary. Students will learn the rules of play, basic chess strategy, and algebraic notations, as well as good sporting behavior.

Additionally, chess develops skills in concentration, visualization, and memory, and rewards careful decision making. There is much research to support chess in schools as a means to develop intellect and academic skills.

SCIENCE THROUGH SCIENCE FICTION (General Science) (0.5 Credits)

Prerequisites: None

Science Fiction, as a film genre, has often been associated with pure fantasy but in fact, it often has some basis in science facts. While many films are overt and careful in their expression of science facts, others are subtle. To some extent, most contain inaccuracies. The primary purpose of this class is to help students to recognize and understand the tools of the filmmaker, and to reasonably discriminate between fact and artistic license. Often both science and pseudoscience are combined, in order to create an interesting situation, in which other issues of ethics and human nature can be investigated.

HISTORY & TECHNOLOGY OF ANIMATION (General Science)

(0.5 Credit Science or 0.5 Credit Fine Art)

Prerequisites: None

This course is a survey of the history and technology of animation with discussion of the technological, artistic, historical and socio-political implications within animated film. The student will be exposed to the basic principles of animation production and theory. This will include the evaluation and critique of varieties and history of animation as a medium for storytelling and information. Social, technological, political, historical and artistic evaluations of animations will be the central activity in class the focus of written film critiques. This is a one semester class which earns either an elective science or fine arts credit.

OR

Credits can be earned from other AMES curriculum. Credit may also be earned through accredited programs including higher education, independent study, Cottonwood High School, electronic high school, U of U High School University Program, or other accredited alternatives.

A copy of Cottonwood High School's Course Catalog is available for review in the AMES Counseling Center