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## COURSE DESCRIPTION

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**Note: Grade levels are suggested by teachers. Students may take any elective at any grade level. Teachers recommend grade levels at which they feel students would be most successful.**

## **AGRICULTURE**

### **Environmental Science**

Unit of Credit 1  
Duration 40 weeks  
Grade level 9-12

This is a full year one-credit course. The course will utilize both indoor and outdoor activities to introduce students to ecosystems, the environment, and human impact on the natural world. Units will include Forest Ecosystems, Water Ecosystems, Soil Science, Population Dynamics, Energy Sources, Natural Resource Management, Outdoor Recreation, and Careers in Environmental Science.

### **Animal Science**

Unit of Credit 1  
Duration 40 weeks  
Grade level 9-12

This is a full year one-credit course. We will be piloting an animal science/veterinary technician curriculum from Cornell University. The topics we will be covering include Animal Handling Safety, Animal Anatomy and Physiology, Animal Diseases and Treatment, Parasitology, Zoonosis, Veterinary Office Management and Exam Techniques.

### **Food Science**

Unit of Credit 1  
Duration 40 weeks  
Grade level 9-12

This course deals with all different aspects of the food science. Food scientists develop new ways to take raw agricultural products and turn them into the food products that consumers want to buy. This class will be an enjoyable way for students to examine aspects of food manufacturing such as: consumer acceptability, economics, nutritional quality, production, and safety. Students will develop a greater understanding of different career opportunities in the food science industry.

### **Plant Science**

Unit of Credit 1  
Duration 40 weeks  
Grade level 9-12

Students will learn about turf grass management for recreational uses, plant structures and functions, plant reproduction, hydroponics, and careers related to plant science. Students will manage the classroom grow cart lab.

**Dairy Science**

Unit of Credit ½  
Duration 20 weeks  
Grade level 9-12

The course will serve to introduce students to dairy production. Topics to be covered include dairy cattle anatomy, breeds, cattle selection, breeding systems, and herd management. Topics will vary based on student interest and prior dairy experience. Leadership skills will also be developed through in-class participation on the Dairy Science Committee.

**Equine Science**

Unit of Credit ½  
Duration 20 weeks  
Grade level 9-12

This course is designed to introduce students to horse care and management. Topics to be covered are horse anatomy, nutrition, horsemanship and riding, breeding programs and horse diseases. Topics will vary based on student interest and prior experience with horses. Leadership skills will also be developed through in-class participation on the Equine Science Committee.

**Pre-Vet**

Unit of Credit 1  
Duration 40 weeks  
Grade level 9-12

The goal of this class is to prepare students for post-secondary education and/or a career in the field of veterinary medicine or biology. Students will explore each animal system and how the veterinary field is evolving. Basic math and science skills are recommended for this class.

**Floral Design**

Unit of Credit ½  
Duration 20 weeks  
Grade level 9-12

Students will gain understanding of the wholesale and retail floral industry through mastering design concepts and floral shop management. Students will become proficient in common designs, cut flower identification, tool use, customer service, and the science behind floral art. Leadership skills will also be developed through in-class participation on the Floral Design Committee.

**Ag Business**

Unit of Credit ½  
Duration 20 weeks  
Grade level 9-12

Topics to be covered include business and financial management issues as they relate to agricultural businesses. Students will be engaged in writing a business plan, credit, loans, record keeping and managing financial and human resources. Leadership skills will also be developed through in-class participation on the Ag Business Committee.

## ART

In art, students learn and experience on individual levels through art involvement. Art offers an individual an opportunity of self-expression and the exploration and discovery of the creative experience in an art-learning atmosphere. The art program designed as follows offers the student a selection of art opportunities in exploring creative potential.

### Studio Art

Unit of Credit 1  
Duration 40 weeks  
Grade level 9-12

An introduction to basic skills and techniques through creative approaches in various art media. The understanding of art appreciation concepts - concentrating on art history involving artist's background in relation to the art project.

Basic materials explored are pencil, charcoal, pastel, tempera, plaster, clay, etc. Creative problem solving experiences are given to discover and learn approaches through art imagery. A sketchbook is required. A student may use this course to fulfill the graduation requirement in Art.

### Studio In Ceramics

Unit of Credit 1  
Duration 40 weeks  
Grade level 10-12  
Prerequisite - Studio Art

Basic introduction to the study of clay as a three dimensional form explored through various methods. Coil, slab, free form and wheel thrown clay techniques will be emphasized in the student's creative development. Kiln firing and loading procedures will be experienced along with discovering proper glazing applications, knowledge of ceramic terminology and historical background will be required. Emphasis will be on craftsmanship in hand-building, continued development of throwing on the wheel, exploring new glaze application, become familiar with known ceramicists, and to improve on the elements of creative and visual design in clay.

### Studio In Graphic Design

Unit of Credit 1  
Duration 40 weeks  
Grade level 10-12  
Prerequisite - Studio Art

A course designed to enhance creative communication skills through graphic imagery. Graphics is the manner of representing or symbolizing a product visually in the public's mind. Design methods will be emphasized and developed among different variations of the graphic communications industry. Area of study will include: publications, design (logo, poster, etc.), package design, illustration, and computer technology.

The following qualifications will be essential to successfully complete course work: teamwork, work under pressure, organization, interest/desire, and willingness to learn.

### **Studio In Drawing and Painting**

Unit of Credit 1  
Duration 40 weeks  
Grade level 10-12  
Prerequisite - Studio Art

Continuation and advanced study of the basic elements covered in Studio Art (line, color, shape, space, etc.) Students will discover and experiment utilizing basic elements of design in creative problem solving. An introduction to various drawing and painting tools, media, skills, and methods will encompass assigned projects. Areas of concentration will consist of BASICS in drawing and painting involving: still life, figure, portraiture, nature, etc. all, relative to our cultural environment. Artists in the field of visual arts, styles, and resourceful periods in art will be studied along with emphasis in career art. A sketchbook is required. The experience of studying several artists, their techniques, and styles will be required among projects assigned. Styles and periods in art will focus on (expressionism, abstract, contemporary, realism, etc.) Critiques of artwork will be utilized to assist students in learning from each other, share ideas, discuss artwork, gain confidence and knowledge from related works of art. Drawing will involve pencil, pen and ink, pastel, conte crayon and charcoal as a few examples of materials explored. In painting the student will experience – oil, acrylics, tempera, watercolor, and ink washes. Student must stress desire and take responsibility to maintain a 75 average.

### **Studio in Advanced Drawing & Painting**

Unit of Credit 1  
Duration 40 weeks  
Grade Level 10-12  
Prerequisite - Studio Art; Drawing/Painting

This course is designed for the visual arts major – final portfolio preparation will be explored and evaluated in preparation for college entrance. Students will experience advanced study in various drawing and painting (mixed medium) methods, techniques and applications. The advanced study in drawing and painting recommends those students who display a sincere interest in a visual arts career. Self-motivated, works independently and reflects creative content in portfolio achievement. Outside class assignments will also be assigned in preparation for final assessment in portfolio presentation.

### **Digital Photography**

Unit of Credit ½  
Duration 20 weeks  
Grade Level 10-12  
Prerequisite: Studio Art

This course is designed to focus on the use of a digital camera, photo-composition and the graphic computer program, Photoshop. Students will explore subjects from portraiture, landscapes to abstract compositions.

### **Creative Arts**

Unit of Credit 1  
Duration 40 weeks  
Grade Level 9-12

Explores creativity while also learning ways art can be functional in everyday life and that can also be marketable. Students will explore ceramics, jewelry making, creative fashion design, recycled material transformed into crafts, home décor, printmaking and possible sewing.

## ENGLISH

### English 9

Unit of Credit 1  
Duration 40 weeks  
Grade level 9

Ninth grade English focuses on the concept of analysis. Students will review and practice the skills of close reading as needed to analyze various texts. Students will review and utilize key process writing skills to create quality papers and projects. Listening and speaking skills are developed through classroom discussion and oral presentations. In addition, students will also learn vocabulary through the study of Latin and Greek bases. All skills emphasized derive directly from various texts that represent the history of the English language. Through an in-depth study of “allusions,” students interact with and move through stories that directly reflect the change from Old to Middle to Modern English. These areas of learning and skills practiced connect directly to the new Common Core standards and the English Regents that the students will take in their junior year.

### English 10

Unit of Credit 1  
Duration 40 weeks  
Grade level 10

Tenth Grade English emphasizes the study of literature and includes the following major works: Animal Farm, Acceleration, Staying Fat for Sarah Byrnes, and To Kill a Mockingbird. A unit on Science Fiction will be presented and analyzed through thematically organized short stories and the novel, The Giver. Students will also actively engage in the writing process both as a means of critiquing literature and establishing creativity. Participation will be audited through work in pairs, small groups, and classroom discussions. Students will practice listening and critical thinking skills in preparation for the New York State Regents.

### English 10 Honors

Unit of Credit 1  
Duration 40 weeks  
Grade level 10  
Prerequisite – 85% average in English 9

Sophomores enrolled in the Honors class will study verbal and written literary critique through the following major works: A Separate Peace, Hamlet, To Kill a Mockingbird and an Independent Novel Unit. Students will learn the process of independent research by participating in a Multi-Genre Research Project. Students will also actively engage in the writing process both as a means of critiquing literature and establishing creativity. Participation will be audited through classroom discussion and discussion leaders. Students will practice listening and critical thinking skills in preparation for the New York State Regents.

**English 11**

Unit of Credit 1  
Duration 40 weeks  
Grade level 11

Eleventh grade English class will study American Literature. The student will read and interpret various forms of poetry, the novel, the short story, the drama/play, and various types of non-fiction as they pertain to American historical time lines. In addition to literature, there will be a strong emphasis of writing skills through the composing of literary essays, interpretive papers, and a persuasive paper. Testing strategies for the Regents Examination will be practiced.

**English 11 Honors**

Unit of Credit 1  
Duration 40 weeks  
Grade Level 11  
Prerequisite– 85% average in English 10

Juniors enrolled in the Honors class will study literature including, but not limited to, the following works: Of Mice and Men, The Glass Castle, and The Help. They will also complete one independent reading book each marking period. Incorporation of film and video clips will enhance learning throughout this course. Students will also learn independent research skills by participating in a “famous person” research project. Extensive practice in reading comprehension, argumentative and textual analysis writing will be completed in preparation for the New York State Regents exam that students will take in June.

**English 12**

Unit of Credit 1  
Duration 40 weeks  
Grade level 12

Twelfth grade English class will study literature for the purpose of critical analysis and discussion. The student will read and interpret various forms of poetry, the novel, the short story, the drama/play, and various types of non-fiction as they pertain to thematic units. Such units may be entitled: Man & Woman, Perception and Perspectives, Heroes & Cowards, and Good vs. Evil. In addition to literature, there will be strong emphasis of writing skills through the composing of literary essays, research papers, critical book reviews, and persuasion pieces. A Senior Museum Project based upon local history will also be presented.

**English 101 – Introduction to College Writing**

Unit of Credit ½  
Duration 20 weeks  
Grade level 12

Instruction and practice in the process of writing, including revision, careful analysis, and the sharing of each other's writing. Assignments may include reflection on experience, exposition, and interpretation of a text. Information literacy, in the form of research and documentation, will be presented. A grade of C or better is required to enroll in a second writing course.

**\*\*Three College Credits are available to students who have met eligibility requirements.**

**English 102 – Academic Writing**

Unit of Credit ½  
Duration 20 weeks  
Grade level 12

A writing course focusing on intensive research, critical reading, and development of argumentation.

**\*\*Three College Credits are available to students who have met eligibility requirements.**

**Written & Spoken Communications**

Unit of Credit 1  
Duration 40 weeks  
Grade level 10-12

The content of this course is to be split into two sections. The first section will focus on written communication strategies. Multiple genre-based activities will unleash the creative writer and editor in participating students. As a cumulative project, a compilation of writing will be created and informally published. The second section of the course will focus on spoken communication. Activities will explore the various forms of oral presentation.

Students will be given the opportunity to “plan and perform” by preparing and delivering various types of speeches. The emphasis of this two-part class is on introducing and reinforcing successful strategies to becoming effective communicators of written and spoken English.

**Creative Writing**

Unit of Credit 1  
Duration 40 weeks  
Grade level 9-12

This class is primarily a workshop for students interested in writing creatively and its many genres from fiction to poetry to song lyrics. Students will work independently and with their peers to create a product ready for publication. Published work will be shared in a café style atmosphere and forwarded on to more formal publications such as the Talent Unlimited Writing Magazine.



## **GENERAL ELECTIVES**

### **Introduction to Nanotechnology**

Unit of Credit 1  
Duration 40 weeks  
Grade Level 9-12

Nanotechnology is the understanding and control of matter at dimensions between approximately 1 and 100 nanometers (smaller than your DNA!), where unique phenomena enable novel applications. Labeled as the next industrial revolution, the number of nanotechnology careers and job possibilities that will be available are expected to grow exponentially! You can be a part of this! The primary objective of this course is to provide a broad foundation of understanding in the field of nanotechnology, so that students are prepared to continually learn about this emerging field. Through a wide array of activities, readings, research, discussions, guest speakers and field trips you will become immersed in the exciting new field. You will be aware of the opportunities that will abound right here in Tech Valley – your own backyard.

## **HEALTH**

### **Health**

Unit of Credit ½  
Duration 40 weeks  
Level 10-12

Health Education is a mandatory course that must be successfully completed in high school in order to graduate. The main object of this course is to help make the students aware of their present and future role in maintaining physical, emotional and social well-being and to develop the skills to do so throughout life. This course concentrates on:

1. Health & Wellness
2. Fitness /Nutrition
3. Mental Health/Stress
4. Communication
5. Diseases
6. Tobacco, Alcohol & Drugs
7. Family Relationships & Sexuality

## **MATH**

### **Algebra**

Unit of Credit 1  
Duration 40 weeks  
Grade level 9

This is a one year course preparing students for the Common Core Algebra Regents exam. This course will concentrate on 10 areas of mathematics based on the Common Core Math Standards for high school Algebra 1. The ten areas are: quantities, seeing structure in expressions, creating equations, reasoning with equations and inequalities, the real number system, interpreting functions, building functions, linear, quadratic and exponential models, interpreting categorical data and quantitative data, arithmetic with polynomials and rational expressions. Students must pass the Common Core Algebra Regents exam with a 65% to earn a NYS Regents diploma.

### **Algebra A**

Unit of Credit 1  
Duration 40 weeks  
Grade level 9

This course is designed for the students who need more time to complete all of the topics in the Common Core Algebra I Curriculum. These students will be covering all the topics over a two-year period. Topics covered in this course include: the real number system, solving linear equations, solving linear inequalities, equations and graphs of linear functions, systems of linear functions, graphing linear inequalities and modeling linear functions. A teacher-generated final will be given at the conclusion of this course. This course will be followed by Algebra B.

### **Algebra B**

Unit of Credit 1  
Duration 40 weeks  
Grade level 10

This course is made up of the second half of the Common Core Algebra I Curriculum. Topics covered in this course include: exponential functions, polynomial operations, operations with radicals, factoring polynomials, rational functions, quadratic functions and graphs, solving quadratic functions, and special functions. At the completion of this course students will complete the Common Core Algebra I Curriculum. Students must pass the Common Core Algebra Regents exam with a 65% to earn a NYS Regents diploma.

## **Geometry**

Unit of Credit 1  
Duration 40 weeks  
Grade level 10

Geometry is designed to be the second unit of study for the three unit New York State high school Mathematics Curriculum. Students will challenge the New York State Geometry Regents exam given in June.

The topics of study include:

- Formal and Informal proofs
- Transformational Geometry (on and off the coordinate grid, applications, rules)
- Relationship between parallel lines and Angles
- Simplify radicals
- Factor Quadratics
- Relating Loci to the coordinate Plane (equations of lines, systems of inequalities, Loci)
- Congruency (applications and proofs)
- Similarity of triangles (applications and proofs)
- Quadrilaterals (properties, applications and proofs)
- Right Triangle Trigonometry (applications, including Law of Sines)
- Geometry of a circle (properties of chords, secants, tangents and angles, equation of a circle and graphing)
- Geometry of 3D Figures (volume applications, slicing 3D shapes)
- Geometric Constructions

## **Introduction to Geometry**

Unit of Credit 1  
Duration 40 weeks  
Grade level 10 -11

This course is designed for the student that needs to review Algebra 1 concepts in order to retake the Algebra 1 Regents and/or learn basic geometry concepts. Semester 1 focus is Linear and nonlinear functions. Semester 2 focus is (non-proof oriented) applied geometry which includes topics on congruence, similarity, coordinate geometry, and 3D measurement and modeling.

Topics of study include:

- linear functions (equations, graphing, properties, applications)
- nonlinear functions (equations, graphing, properties, applications)
- systems of equations (graphs, solving, writing equations)
- inequalities (write inequalities, solve, graph)
- Systems of inequalities (graph)
- Statistics (boxplots, histograms, residuals)
- area and perimeter (equations, applications)
- volume (formulas, applications)
- right triangle trigonometry
- Triangle congruency (applications)
- Triangle similarity (applications)
- Volume
- Surface Area
- Properties of Quadrilaterals
- Geometry of a circle (use equation to graph)

## **Introduction to Algebra II**

Unit of Credit 1  
Duration 40 weeks  
Grade Level 10 –12

This course is designed as an introduction to Algebra II topics. The topics covered in this course include Linear Functions, Quadratic Functions, Exponential Functions, Rational Functions, Circular Functions, Radicals, Quadratic Formula and Complex Numbers. A teacher-generated final will be given at the conclusion of this course.

## **Algebra II**

Unit of Credit 1  
Duration 40 weeks  
Grade Level 11-12

This is a one year course designed to prepare students for the Common Core Algebra II Regents. This course will cover the following topics Linear Functions, Quadratic Functions, Exponential Functions, Logarithmic Functions, Polynomial Functions, Rational Functions, Circular Functions, Sequences, Series, Transformations of Functions, Radicals, Quadratic Formula, Complex Numbers, Probability and Statistics.

## **Pre-Calculus (Trigonometry) - MAT 125**

Unit of Credit  $\frac{1}{2}$   
Duration 20 weeks  
Grade level 11 –12  
Prerequisite – 75% on Algebra II Regents

A preparation for calculus through an extensive study of the theory of trigonometric functions and the algebra needed to be successful in Calculus. Trigonometric topics include radian measure of angles, trigonometric and inverse trigonometric functions, and trigonometric identities. Highly recommended for students pursuing degrees in mathematics and/or the sciences. Students must score a 75% or above on the Common Core Algebra 2 Regents exam to take this class for college credit.

Upon successful completion of this course, student will be able to:

1. convert between degrees and radians;
2. define and evaluate the six trigonometric functions in any quadrant; including exact values for special angles;
3. articulate characteristics of the six trigonometric functions, including domain, range, and symmetry;
4. graph the six trigonometric functions;
5. graph harmonic functions;
6. write models/equations for harmonic functions;
7. define and evaluate inverse functions for cosine, sine and tangent, including exact values for special ratios;
8. prove trigonometric identities; and
9. Solve trigonometric equations for both exact and approximate solutions.

**\*\* Three College Credits are available to students who have met eligibility requirements.**

## Calculus – MAT 131

Unit of Credit  $\frac{1}{2}$   
Duration 20 weeks  
Grade level 11 & 12  
Prerequisite – MAT 125

A differential calculus course from a numeric, graphic and algebraic perspective including functions, graphing, rates of change, limits, derivatives and antiderivatives of algebraic and trigonometric functions, maxima and minima, analytic geometry as needed and the definite integral.

Upon successful completion of this course, student will be able to:

1. Determine the limit of a function graphically, numerically and analytically;
2. Determine if a function is continuous;
3. Find the derivative of a function analytically using formal definition or algebraic 'shortcut' rules (including sum, product, quotient and chain rules);
4. Approximate derivatives by sketching the derivative of a function given its graph or using numerical methods given the function rule;
5. Interpret the units and practical meaning of the first and second derivative in applied problems;
6. Find the equation of the tangent line to a curve at a given point;
7. Interpret what the values of the first and second derivative allow us to conclude about the increasing/decreasing, concave up/down, relative maximum/minimum characteristics of a function;
8. Sketch a potential graph of a function given information about the values of the first and/or second derivative values;
9. Find the area under a curve using the Riemann Sum definition of the integral; and
10. Use the Fundamental Theorem of Calculus to find the value of definite integrals involving basic functions.

**\*\* Four College Credits are available to students who have met eligibility requirements.**

## Intro to Statistics/Probability – MAT 127

Unit of Credit  $\frac{1}{2}$   
Duration 20 weeks  
Grade Level 11-12  
Prerequisite – 75% on Algebra II Regents

This course includes recognizing the uses and abuses of everyday statistics and the quality and reliability of data. Emphasis is on interpretation of numerical and graphical representations of existing and collected data. Topics include: variability, sampling and elementary design of experiments, elementary distributions, correlation and regression, elementary probability, Central Limit Theorem, elementary inference from samples and statistical significance.

Upon successful completion of this course, student will be able to:

1. construct appropriate statistical graphs and numerical statistics;
2. interpret statistical graphs and numerical statistics;
3. describe and distinguish observational studies and experiments;
4. identify and demonstrate the correct use of different sampling methods;
5. apply basic probability rules;
6. demonstrate the ability to perform normal and uniform distribution calculations including finding areas and percentiles;
7. construct sampling distributions for sample means and proportions;
8. construct confidence intervals and perform tests of significance for population means and proportions, including calculating p-values;
9. interpret confidence intervals and significance tests for population means and proportions;
10. explain the meaning of correlation and perform linear regression analysis; and
11. recognize the limitations of statistical methods.

**\*\*Four College Credits are available to students who have met eligibility requirements.**

## **Pre-Calculus**

Unit of Credit  $\frac{1}{2}$   
Duration 20 weeks  
Grade Level 11-12

A preparation for calculus through an extensive study of the theory of trigonometric functions and the algebra needed to be successful in Calculus. Highly recommended for students pursuing degrees in mathematics and/or the sciences.

## **Survey of Math**

Unit of Credit 1  
Duration 40 weeks  
Grade Level 10-12

This course is designed for the student preparing to enter a 2 year or 4 year college as a non-math/science major or a student preparing to enter the military. The curriculum is designed to prepare students for college placement tests in math and also the military ASVAB test.

Topics of study include:

- proportionality
- linear functions (equations, graphing, properties, applications)
- nonlinear functions (equations, graphing, properties, applications)
- inequalities (write equations, solve, graph)
- area and perimeter (equations, applications)
- volume (formulas, applications)
- right triangle trigonometry
- systems of equations (graphs, solving, writing equations)
- Systems of inequalities (graph)
- rational numbers (properties, operations, applications)

## MUSIC

### Senior Band

Unit of Credit ½  
Duration 40 weeks  
Grade level 9–12

The Senior Band is designed to develop an understanding of music through performance while also fostering students' knowledge, appreciation, and musical skills. Repertoire is varied, with both standard literature and more popular music being studied and performed. An emphasis is placed on good tone quality/production, breath control and support, intonation, balance, dynamics, rhythmic facility, technical facility, phrasing musicianship, knowledge of terminology, and sight-reading. Students learn to work together as an ensemble toward common musical goals. Senior Band meets every other day for an ensemble rehearsal. Along with performance in the ensemble, students have weekly group instructional lessons on a rotating-period basis. Students participating in Senior Band should be able to play at least a Level 3 NYSSMA (New York State School Music Association) solo. Students transferring into the school must be able to demonstrate proficiency on their instrument before being admitted to the course. Seating auditions may be required at the discretion of the director. Periodic performance assessments and written quizzes will be given. Course credit is based upon rehearsal participation including time spent practicing band music, lesson material, skill development, and lesson attendance.

### Senior Chorus

Unit of Credit ½  
Duration 40 weeks  
Grade level 9–12

Senior Chorus is a full year vocal ensemble which rehearses every other day. Its purpose is for students to become well-rounded singers through performance of various forms of choral music. Functional music reading, singing technique, performance, and an overview of music comprise the course. Credit is based upon three mandatory performances a year, quizzes, behavior, and in-class participation. Membership is a prerequisite for participation in the All-County Festival, Area All-State, and NYSSMA.

### Chamber Groups

Unit of Credit ½  
Duration 40 weeks  
Grade level 9-12

This course will be open to any student in grades 9-12 who plays a band instrument, piano, bass, or guitar. Small groups, including woodwind and brass ensembles, jazz combos, and rock bands will be formed by participating students. Band and chorus students may sign up for Chamber Groups in addition to their current ensemble. This course may include performances at school concerts or assemblies. Chamber Groups will meet every other day for a full year.



### **History of Rock N' Roll**

Unit of Credit ½  
Duration 40 weeks  
Grade level 9-12

This course is an exploration of the evolution of rock n' roll music, from its roots in the early to mid-20<sup>th</sup> Century to the many different styles and subgenres we hear in music today. Through listening, analysis, discussion, video, and projects, students will learn about the development of rock and styles, the contributions of important musicians, and the musical techniques and ideas involved in the creation and performance of rock music. Students will make connections between music, history, and social change, and will come to understand the influence rock n'roll has had on the culture of America and the world.

### **American Broadway**

Unit of Credit ½  
Duration 40 weeks  
Grade level 9-12

Give My Regards to "*American Broadway*." Let's explore the chronological history of musical theater through the work of Andrew Lloyd Webber, Stephen Sondheim, Julie Andrews, Marvin Hamlisch and more. We will discover the making of a musical, the songs, story lines, lyrics, and staging. Some of the shows we view are "Oklahoma", "Kiss Me Kate", "Annie Get Your Gun", "My Fair Lady", "Les Miserables", "The Phantom of the Opera" and many more..

### **Percussion Ensemble**

Unit of Credit 1/2  
Duration 40 weeks  
Grade level 9-12

Percussion instruments include drums, cymbals, xylophones, and any other instrument that produces sound by being struck with a stick, mallet, or hands. Percussion Ensemble is open to all high school students regardless of musical background or experience. The ability to read music notation is helpful but not required. Students will learn or review the basics of rhythm and reading rhythmic notation. They will learn basic techniques on a variety of traditional, non-traditional, and multicultural percussion instruments. They will learn how to make music as a group as well as create their own musical compositions. Performance on a school concert will be required of all percussion ensemble students. Purchase of some materials (for example, drumsticks and a practice pad) may also be required.

# **PHYSICAL EDUCATION**

## **General Philosophy**

It is our belief that each student at Argyle Central School should progress in Physical Education guided by his/her own goals and objectives. We would like each student to see physical education as a means by which an improvement in general human relation can be achieved. We would also like to see each student gain a better appreciation for life through physical activity.

## **Participation and Attendance**

Regular class attendance is mandatory unless a medical excuse from a physician specifically states that a student cannot participate in that activity or in any required part of the physical education program. Students temporarily excused from one activity must be in attendance at their P.E. class and must be responsible for the work covered.

\*Successful completion of physical education earns two credit required for graduation (½ credit per year for each year of P.E. taken.) Illegal absences will be dealt with in accordance with current school policy. Students are responsible to the instructor for that activity missed.

## **Uniforms**

The teachers will discuss this with students at the beginning of the school year. Regulations and class procedures will also be covered.

## **Grading**

The following areas will have an effect on the grades a student receives: effort, attitude, participation, degree of improvement, knowledge, achievement, and respect for self and for others. These objective areas are transferred into numeric grades to comply with current school policy. Also included is the New York State Physical Fitness Examination. This exam is given twice a year showing physical progress from one year to the next.

## **Grade 9-12 Physical Education Program**

Fall - Ten Weeks – Outdoors  
Weeks 1-10

Orientation/Locker assignments  
Field Hockey  
Football  
Soccer  
Team Handball  
Innovative Games/Project Adventure  
Volleyball  
Fitness Walking  
Fitness Test

Winter - Twenty Weeks - Indoors

Weeks 1-20

Basketball  
Weight training/Aerobics  
Indoor co-ed soccer  
Co-ed volleyball  
Whiffleball  
Change of pace games  
Self Defense  
Bowling  
Combative Games  
Badminton  
Team Handball  
Snowshoeing

Spring - Nine Weeks - Outdoors

Floor Hockey  
Fitness Walking  
Tennis  
Golf  
Hiking/Outdoor Education  
Conditioning circuits/wellness  
Track & Field  
Lacrosse  
Tennis baseball  
Softball  
Fitness Test

The physical education program is in compliance with Federal and State regulations and meets with all Title IX requirements.

Co-ed activities are encouraged at Argyle and all activities on a class or interscholastic basis are monitored by a certified coach or instructor.

\*Some activities in the Fall and Spring are interchanged due to weather, size of class and/or availability of equipment.

## SCIENCE

### Earth Science

Unit of Credit 1  
Duration 40 weeks  
Grade level 10

Earth Science is an elective Regent's Science course. Earth Science meets everyday for class and every other day for laboratory. The Regent's Exam is the final and thirty hours of satisfactorily completed lab exercises are mandatory.

Earth Science is an updated, comprehensive study of all areas of Earth Science: geology, oceanography, astronomy, atmospheric science, Earth history, and plate tectonics.

Earth Science plays a unique and essential role in today's rapidly changing world. A knowledge of Earth Science is important because most human activities are related to interaction with Planet Earth. Basic knowledge about the Earth is key to the development of an informed citizenry.

### Living Environment

Unit of Credit 1  
Duration 40 weeks  
Grade level 9

**\* Living Environment is a mandatory Regent's Science course.**

This course in Regents Biology is designed to provide broad general understanding of the fundamental principles of biology and to provide an extension of understanding in selected areas. The course consists of a basic core of seven units: The study of life; maintenance in animals; maintenance in plants; reproduction and development; transmission of traits (genetics); evolution and diversity; plants and animals in their environment. Approximately two-thirds of total classroom time is spent on the core areas with the remaining one-third of the time used to develop three or more of the extended areas. The extended areas are: biochemistry; human physiology; modern genetics; reproduction and development; modern evolutionary theory; ecology. Laboratory exercises representing about 30 full time laboratory periods are required as well as a satisfactory report on each laboratory exercise. The regents examination is the final in all regents courses. This examination is based on both the core areas and the extended areas.

## **Chemistry**

Unit of Credit 1  
Duration 40 weeks  
Grade level 10 -12

This course of study presents a modern view of chemistry suitable for pupils with a wide range of skills and abilities. The topics, which are covered, provide the unifying principles of chemistry together with their related facts. The principles, which are included, are basic to man's understanding of his environment. The following topics are studied in this course: matter and energy; atomic structure; bonding; the periodic table; the mathematics of chemistry; kinetics and equilibrium; acid-based theories; redox and electrochemistry; organic chemistry. In addition, the completion of a minimum of thirty laboratories is required of each student. The laboratory work is designed to encourage students to search for relationships.

## **Physics**

Unit of Credit 1  
Duration 40 weeks  
Grade level 10 -12

This course presents a modern view of physics with a major emphasis placed on fundamental concepts underlying the basic science. Basic concepts such as conservation of energy, momentum, and charge, vectors and scalars, and fields are used to connect the major topics of the course. The topics of this course include mechanics, energy, electricity, magnetism, waves and modern physics. The objectives of this course extend beyond a minimal comprehension of the facts and into a willingness to learn and explore; a willingness to change beliefs and opinions as new facts present themselves. The course attempts to use many of the concepts in real world applications. In particular many of the theories are applied at regular intervals as part of the laboratory portion of the class, and also at The Great Escape as a culminating experience for the course. In short, major scientific advances in the recent past have created a need for skilled technicians, scientists, and engineers as well educated public. This course is the first step in that direction.

## **Physics 111** & **Physics 112**

Unit of Credit ½  
Unit of Credit ½  
Duration 20 weeks/20 weeks  
Grade level 11/12  
Prerequisite – 85% average in  
Science & Regents Level Physics

A general non-calculus based course in physics. First semester includes measurement, straight line and vector kinematics, dynamics, statics, rotational motion, work and energy, momentum, heat and temperature, simple harmonic motion, wave motion and sound. Second semester includes light, geometric and physical optics, electrostatics, current electricity, magnetism and electromagnetic induction, atomic and nuclear physics.

**\*Four College credits are available.**

## **Forensics Science**

Unit of Credit 1  
Duration 40 weeks  
Grade level 9 -12

Forensics science is offered as a full-year elective science course, which will serve as a third year science for graduation requirements. The course will focus on the main branches of forensics: anthropology, document examination, entomology, fingerprinting, odontology, pathology, photography, psychiatry, psychology, serology and toxicology. Students will learn the history of forensics, study true famous and “made-up” cases and participate in the solving of crimes using the various forensic techniques available. Students will participate in at least one field trip during the year. Class evaluation will be based upon quizzes, homework, participation in crime scene investigations, laboratory work and year-end project (involving the design of a fictitious crime scene). This is not meant to be an “easy” course and will involve scientific work, which will enable the student to “see” what actually occurs during real-life CSI.

## **Astronomy**

Unit of Credit 1  
Duration 40 weeks  
Grade 9-12

This course is a comprehensive look at the objects that exist and phenomenon that happen beyond Earth’s atmosphere. Areas of study include:

- History of Astronomy
- Our Solar System
- Stars and Stellar Evolution
- Galaxies and Cosmology

\* Evening observation classes will also be offered to all students interested in viewing the cosmos.

## **SECOND LANGUAGE**

### **Spanish I**

Unit of Credit 1  
Duration 40 weeks  
Grade level 9

This course is a diploma requirement and students who have not passed Spanish 7 and Spanish 8 **MUST TAKE SPANISH I and PASS this course IN ORDER TO GRADUATE.**

The emphasis is on communication and developing listening and speaking skills at an elementary level. This course is designed to provide active participation in developing vocabulary on the following topics as outlined by New York State Curriculum: personal identification; house and home; family life; education; community and neighborhood; meal taking/food and drink; shopping; health and welfare; physical environment; earning a living; leisure; public services and travel.

The speaking tasks for each topic require the student to socialize, ask for and provide information, express personal feelings and persuade others to adopt a course of action. In addition, the students must be able to understand the gist of short authentic documents in Spanish. Finally, students are required to write short communicative notes in Spanish.

### **Spanish II**

Unit of Credit 1  
Duration 40 weeks  
Grade level 9

In this intermediate level course, students further develop the four key skills: listening, reading, writing, and speaking. The focus is on increased knowledge of verbs and verbs and communicating in the past, present and future tenses.

The emphasis continues to be on communication. Students learn to express themselves, to understand native speakers begin to read more in depth authentic documents.

Topics include personal identification; house & home; public services; family life; community/neighborhood; physical environment; meal taking/food and drink; health & welfare; earning a living; leisure; shopping; travel; and current events.

### **Spanish III**

Unit of Credit 1  
Duration 40 weeks  
Grade level 10–12

At this level, students will:

- be introduced to authentic Spanish literature
- gain a deeper appreciation of the Spanish language
- develop a wider understanding of Hispanic culture
- gain recognition of English words originating from Spanish
- develop more speaking fluency

In accordance with the National Standards, in order to be successful in this course, students will demonstrate the ability to communicate using listening, speaking, reading and writing skills for the purposes of socializing, providing and acquiring information, expressing personal feelings and opinions, and getting others to adopt a course of action.

### **Spanish IV**

Unit of Credit 1  
Duration 40 weeks  
Grade level 10–12

This course is designed to give students a deeper understanding and greater appreciation of the Hispanic culture and language. Students will continue to develop their speaking, listening, reading and writing skills. The communication and reading skills learned at this level will lead students to a lifelong use of the language in preparation for college, work, or travel.

### **\*Spanish 201**

Unit of Credit ½  
Duration 20 weeks  
Grade level 11-12  
Prerequisite – 85% average in Spanish III & Final Exam

This course is designed as a comprehensive review of the principals of grammar, vocabulary, and history that has shaped the culture of Latin America and Spain. Exposure to history, the Latino experience in the United States, geography and current events will allow the student to develop a basic knowledge of the culture. Emphasis will be placed on communicative expression through class discussions, student presentations and group work.

**\*Three College Credits are available**

### **\*Spanish 202**

Unit of Credit ½  
Duration 20 weeks  
Grade level 11-12  
Prerequisite – Spanish 201

As continuation of Spanish 201, this course allows the student to work on refining their communicative skills and cultural knowledge. Emphasis is on the mastery of conceptual uses in grammar, such as the indicative vs. subjunctive mood and a wider vocabulary.

**\*Three College Credits are available**



**Each One Teach One**

Unit of Credit ½  
Duration 20 weeks  
Grade Level 9-12

Each One Teach One is seeking enthusiastic “student teachers” to strengthen literacy skills, build relationships, and foster the joy of learning among elementary students while reinforcing their own Spanish skills. Through the process of developing lesson plans and creating realia and materials to deliver the lesson, participants will teach Spanish to elementary level students, while setting a positive example for their younger counterparts. Each One Teach One students will develop real world skills: punctuality, reliability, preparation, self-assessment, collaboration and effective communication. This is a class open to students in grades 9 -12, and will meet daily

## **SOCIAL STUDIES**

### **Global Studies 9**

Unit of Credit 1  
Duration 40 weeks  
Grade level 9

This is a one year course that provides the opportunity to study other nations and their cultures up to the year 1750 in order to develop a global perspective.

All Students are required to pass a final exam, made up of the following standards, themes and concepts, at the end of the 9th grade.

#### **N.Y. State Standards**

1. U.S. History
2. World History
3. Geography
4. Economics
5. Civics, Citizenship, Government

#### **Themes and Concepts**

- a.) Individual Development and Cultural Identity
- b.) Development, Movement, and Interaction of Cultures
- c.) Time, Continuity and Change
- d.) Geography, Humans, and the Environment
- e.) Development and Transformation of Social Structures
- f.) Power, Authority, and Governance
- g.) Civic Ideals and Practices
- h.) Creation, Expansion, and Interaction of Economic Systems
- i.) Science, Technology and Innovation
- j.) Global Connections and Exchange

### **Global Studies 10**

Unit of Credit 1  
Duration 40 weeks  
Grade level 10

This is a one year course that provides the opportunity to study other nations and their cultures beginning in the year 1750 to the present, in order to develop a global perspective.

All Students are required to pass a regents exam, made up of the following standards, themes and concepts, at the end of the 10th grade.

#### **N.Y. State Standards**

1. U.S. History
2. World History
3. Geography
4. Economics
5. Civics, Citizenship, Government

#### **Themes and Concepts**

- a.) Individual Development and Cultural Identity
- b.) Development, Movement, and Interaction of Cultures
- c.) Time, Continuity and Change
- d.) Geography, Humans, and the Environment
- e.) Development and Transformation of Social Structures
- f.) Power, Authority, and Governance
- g.) Civic Ideals and Practices
- h.) Creation, Expansion, and Interaction of Economic Systems
- i.) Science, Technology and Innovation
- j.) Global Connections and Exchange

## **Social Studies 11**

Unit of Credit 1  
Duration 40 weeks  
Grade level 11  
Prer. Gl St. 10

This Regents course will cover American History since the Civil War with an emphasis on the development of American Government. The basic textbook is supplemented by paperbacks, pamphlets, novels and periodicals such as Newsweek magazine. The Regents Examination will be the final exam.

## **Social Studies 12**

Unit of Credit ½  
Duration 20 weeks  
Grade level 12  
Prer. Soc. St. 11

### **Participation in Government**

This is a half-year course on Practical Government with an emphasis on democratic participation and law-related education. Students will be expected to get involved on special projects and city activities. This course will be offered in the fall and spring semester.

### **Economics**

This is also a half-year course, which will include basic economic understandings and consider decision-making, as well as Microeconomics and Macroeconomics.

Both Participation in Government and Economics will follow the New York syllabus of the Soc. St. outlined by the Bureau of Curriculum Development of the State Education Department.

## **Sports in American History**

Unit of Credit 1  
Duration 40 weeks  
Grade level 9-12

Sports in America account for over \$65 billion in annual revenue and show no sign of slowing down as some economists' project the number to surpass \$75 billion by 2020. Time honored traditions of competition that tested human versus human have developed into an economic staple and sports are often referred to as 'business' more than 'competitions' in American society.

This course will examine the growth of sports as both leisure, amateur competition, and professional organizations since the earliest humans developed games in North America. The class is not about World Series champions or memorizing who won a golf tournament in 1950, it is often about the losers, the struggles, and the way sport has often reflected the nature of humans and the values of the country.

An inquiry based class; Sports in American History will challenge students to see history through sporting events and predict where competition may lead the country in the 21<sup>st</sup> century. Major enduring issues such as classism, ageism, sexism, racism, economics, corruption, and the judicial system are just a few of the topics that will be explored through studying events ranging from Colonial "Thumb Gouging" to PED use in the MLB and the retelling of stories such as Muhammad Ali and animals Seabiscuit.

Students should expect a class that is engaging yet rigorous. It will be enjoyed most by those who appreciate the human spirit and are eager to develop critical thinking skills. Athleticism is not a requirement – if you can define that to begin with.

## **TECHNOLOGY**

### **Design and Drawing for Production**

Unit of Credit 1  
Duration 40 weeks  
Grade level 9–12

This course will involve an in-depth examination of the technical drawing process; design techniques, examination of past solutions and evaluation of students own and others work. After completing this course the students will have a better understanding of critical thinking, creative problem solving and the decision-making process. The Design and Drawing for Production course will give the student a thorough understanding of the Design/Production process that will be implemented throughout the Technology Education sequence and industry. This course can be used as the art/music graduation requirements.

### **Transportation Systems**

Unit of Credit ½  
Duration 20 weeks  
Grade level 9–12

Transportation Systems will acquaint students with a range of methods used to move people, materials, and products across the land, sea and air. The study of these systems will be the main focus of the course. The theory of operation and the scientific principles of the transportation systems will be included. Lab activities will include construction of model planes, rockets and boats. Students will also experiment with internal combustion engines.

Transportation systems and the technology that is involved with them, is rapidly changing. These systems play an immeasurable role in the lives of students and citizens in the modern world. Every aspect of our lives is affected by these systems right down to how the students arrived at school today. Knowing and understanding these systems will give students a real advantage in a world that revolves around transportation.

### **Advanced Transportation Systems**

Unit of Credit ½  
Durations 20 weeks  
Grade level 9–12

Vehicle Diagnostics – This course is the next step to the transportation sequence, converging onto the automotive field. Students taking this course will gain a broad base of technical knowledge and skills within the field of automotive technology. Topics include career awareness, work habits and attitudes, basic automotive electricity and electronics, sub-systems of the automobile and their functions and maintenance. Throughout the entire course students will research alternative fuels and clean transportation solutions and assess the environmental and societal impacts.

### **Technology Research and Development**

Unit of Credit ½  
Duration 20 weeks  
Grade level 11–12

A detailed technology elective course blending math, science, engineering and technology to give students the understanding of the immense amount of work that goes into a product before it reaches the shelves. This course will detail product design, introducing students to topics such as material selection, ergonomics, safety, and appropriate and sustainable technology. After a basic understanding of technology research and development procedures is gained, students will meticulously design a technology system.

### **Material Processing**

Unit of Credit ½  
Duration 20 weeks  
Grades 9-12

This course is designed to provide students with an in-depth understanding of the way materials are processed into items in our everyday lives. This course provides an introduction to higher education opportunities and careers students may pursue within the field of materials processing and computer assisted manufacturing. Students will research, design and produce multiple products using diverse processing and manufacturing techniques.

### **Basic Electronics**

Unit of Credit ½  
Duration 20 weeks  
Grades 9-12

This course is designed to provide students with a general understanding of electricity and electronics in our technological world. Students will become familiar with the comprehensive electrical technologies in our homes and apply knowledge in working electrical models. The course work will include investigating electrical theory, circuit design, installation and troubleshooting. After a basic understanding of electricity is obtained, we will study lasers, telecommunications, radio frequencies, security circuits, and audio systems along with many other electronic systems. Along with investigation and application, we will discuss education and career options that will open up opportunities to continue your interest into the field electronics. Students will finish the course having been exposed to a broad knowledgebase of our electronic technological world.

### **Alternative Energy Systems**

Unit of Credit ½  
Duration 20 weeks  
Grades 10-12

A design-oriented course presenting alternative energy resources and systems as a focus of classroom research activities. Students will apply their technology foundations and systems skills to produce a self-sustaining alternative energy system. Along with the production of the major system, many other model solutions will be researched and created. Examples include but are not limited to: solar design of buildings, photovoltaic, wind, hydro, and other alternative energy options and devices. Students will be exposed to career opportunities in design, and development and production of alternative energy systems, a field that is extremely important as we strive to create a sustainable and environmentally friendly society. This course is especially for those interested in sustainable living and green friendly technology.

### **Advanced DDP**

Unit of Credit 1  
Duration 40 weeks  
Grades 10-12

This course is for students who have successfully completed Design and Drawing for Production and are looking to further their computer drafting skills. Students entering this class should already be able to develop and produce a detailed drawing with AutoCAD software without assistance. We will implement various forms of computer drafting including AutoCAD, Google Sketch Up, Autodesk Inventor and others. Students will be able to implement many more of the vast, detailed and advanced tools of CAD, giving them the experience needed if considering pursuing any technological field.

### **Engineering Concepts**

Unit of Credit ½  
Duration 20 weeks  
Grade 11-12

This is an exploratory learning course that focuses on the world of engineering. Students learn about engineering careers, ethics, materials properties and engineering systems including fluid, electrical, and mechanical. Through the use of the problem solving method and the design process, students will develop concepts in mathematics and physics that apply to the technologically advanced world. With the completion of this course students will be capable of applying its concepts to the everyday world and a possible career choice in engineering.

## **Residential Structures**

Unit of Credit ½  
Duration 20 weeks  
Grade level 9–12

This course is designed to provide students with a general understanding of the materials and processes used in constructing and designing residential structures. This course was created predominately as a hands on course where students will gain knowledge through direct contact with materials and processes commonly used in the construction of new homes. Students will work on projects such as; constructing scale models of house framing, and working on mock wall sections where students will utilize up-to-date techniques for installing, plumbing, insulation, electrical work, sheetrock, hanging doors and windows, and installing cabinetry. Students will also explore the history of residential structures, and investigate job opportunities and career training options that are available in the field of residential construction.