Granger High School
Program of Studies
and Course Description Guide
2024-2025

Granger ISD Endorsements

Program of Study	Level 1	Level 2	Level 3	Level 4	
Multidisciplinary Studies Endorsement					
4X4 Plan	1 Course from: English, Math, Science & Social Studies	1 Course from: English, Math, Science & Social Studies	1 Course from: English, Math, Science & Social Studies	1 Course from: English, Math, Science & Social Studies	
STEM Endorsement: Science, Technology, Engineering, and Math					
Math	Algebra I	Geometry	Algebra 2 & Advanced Math	Advanced Math	(Courses may vary – need 5 total math)
Science	Biology	Chemistry	Physics & Advanced Science	Advanced Science	(Courses may vary – need 5 total science)
Fine Arts Endorsement					
Foreign Language	Four credits of any one language OR two levels of the same language other than English and two levels of a different language other than English				
Fine Arts	Four credits from any one discipline (Band, Theater, Art)				
Business and Industry Endorsement: Pathways under Career & Technical Education (See below)					

Career and Technical Education (CTE) Pathways for Business and Industry Endorsement

Statewide Program of Study	Level 1	Level 2	Level 3	Level 4	Industry- Based Certifications
Pathway 1: Business and Industry- Applied Agricultural Engineering					
Applied Agricultural Engineering	Principles of Agriculture, Food, and Natural Resources	Agricultural Mechanics and Metal Technologies	Agricultural Structures Design and Fabrications	Agricultural Equipment Design and Fabrication	AWS D1.1 Structural Steel AWS D9.1 Sheet Metal Welding
Pathway 2: Business and Industry- Animal Science					
Animal Science	Principles of Agriculture, Food, and Natural Resources	Small Animal Management/ Equine Science	Livestock Production	Advanced Animal Science	Fundamentals of Animal Science Certification (iCEV)
Pathway 3: Business and Industry- Plant Science					
Plant Science	Principles of Agriculture, Food, and Natural Resources	Greenhouse Operation and Production	Floral Design	Advanced Floral Design	Texas State Florist's Association Knowledge Based Floral Certification
Pathway 4: Business and Industry- Culinary Arts					
Culinary Arts	Introduction to Culinary Arts	Culinary Arts	Advanced Culinary Arts	Food Science	ServeSafe Manager
Pathway 5: Business and Industry- Digital Communications					

Digital Communications	Principles of Arts, Audio/Video Technology, and Communications	Audio/Video Production I	Audio/Video Production II	Practicum in Audio/Video Production Drones-Scientific Research and Design	Adobe Certified Professional in Digital Video Using Adobe Premiere Pro Part 107 Remote Drone Pilot

AGRICULTURE, FOOD & NATURAL RESOURCES

Principles of Agriculture, Food and Natural Resources **Credit: 1**
To be prepared for careers in agriculture, food, and natural resources, students must attain academic skills and knowledge in agriculture. This course allows students to develop knowledge and skills regarding career opportunities, personal development, globalization, industry standards, details, practice, and expectations. To prepare for success, students need to have opportunities to learn, reinforce, experience, apply, and transfer their knowledge and skills in a variety of settings. ***Grade: 9-12 Prerequisite: None***

Horticulture Science **Credit: 1**
To be prepared for careers in horticultural systems, students need to attain academic skills and knowledge, acquire technical knowledge and skills related to horticulture and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer knowledge and skills in a variety of settings. This course is designed to develop an understanding of common horticultural management practices as they relate to food and ornamental plant production. ***Grade: 10-12 Prerequisite: None. Recommend Principles of Agriculture before taking course.***

Greenhouse Operation and Production **Credit: 1**
This course is designed to develop an understanding of greenhouse production techniques and practices. Students will gain an understanding of common horticulture management practices as they relate to food and ornamental plant production. Plant nutrition, plant use and identification, plant chemical uses and precautions are introduced along with tools and equipment used in the industry.
Grade: 10-12 Prerequisite: None. Recommend Principles of Agriculture before taking course.

Floral Design I **Credit: 1**
To be prepared for careers in floral design, students need to attain academic skills and knowledge, acquire technical knowledge and skills related to horticultural systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer knowledge and skills in a variety of settings. This course is designed to develop students' ability to identify and demonstrate the principles and techniques related to floral design as well as develop an understanding of the management of floral enterprises. ***Grade: 9-12 Prerequisite: None. Recommend Principles of Agriculture before taking course.***

Advanced Floral Design **Credit: 1**
In this course, students build on the knowledge from the Floral Design course and are introduced to more advanced floral design concepts, with an emphasis on specialty design and specific occasion planning. Through the analysis and evaluation of various occasion and event types, students explore the design needs and expectations of clients and propose and evaluate appropriate creations. Furthermore, an emphasis on budgetary adherence and entrepreneurship equips students with many of the necessary skills needed for success in floral enterprises. ***Grade: 10-12 Prerequisite: Floral Design. Recommend Principles of Agriculture before taking course.***

Agricultural Mechanics and Metal Technologies **Credit: 1**
To be prepared for careers in agricultural power, structural, and technical systems, students need to attain academic skills and knowledge; acquire technical knowledge and skills related to power, structural, and technical agricultural systems and

the industry; and develop knowledge and skills regarding career opportunities, entry requirements, industry certifications, and industry expectations. To prepare for success, students need to learn, reinforce, apply, and transfer knowledge and skills and technologies in a variety of settings. This course is designed to develop an understanding of agricultural mechanics as it relates to safety and skills in tool operation, electrical wiring, plumbing, carpentry, fencing, concrete, and metal working techniques. ***Grade: 10-12 Prerequisite: None. Recommend Principles of Agriculture before taking course.***

Agricultural Structures Design and Fabrication **Credit: 1**
In this course, students attain knowledge and skills related to agricultural facilities design and fabrication to be prepared for careers in mechanized agriculture and technical systems. Students explore career opportunities, entry requirements, and industry expectations. To prepare for success, students reinforce, apply, and transfer their academic knowledge and technical skills in a variety of settings. ***Grade: 11-12 Prerequisite: None Course. Recommend Principles of Agriculture before taking course.***

Agricultural Equipment Design & Fabrication **Credit: 1**
In this course, students will acquire knowledge and skills related to the design and fabrication of agricultural equipment. To prepare for careers in mechanized agriculture and technical systems, students must attain knowledge and skills related to agricultural equipment design and fabrication. ***Grade: 11-12 Recommend Principles of Agriculture before taking course.***

Principles of Construction **Credit: 1**
This course is intended to provide an introduction and lay a solid foundation for those students entering the construction or craft skilled areas. The course provides a strong knowledge of construction safety, construction mathematics, and common hand and power tools. For safety and liability considerations, limiting course enrollment to 15 students is recommended. This course also provides communication and occupation skills to assist the student in obtaining and maintaining employment. ***Grade: 10-12 Recommend Principles of Agriculture before taking course.***

Wildlife, Fisheries, and Ecology Management **Credit: 1**
In this course, students examine the management of game and non-game wildlife species, fish, and aqua crops and their ecological needs as related to current agricultural practices. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings. ***Grade: 10-12 Recommend Principles of Agriculture before taking course.***

Livestock Production **Credit: 1**
In this course, students will acquire knowledge and skills related to livestock and the livestock production industry. Livestock Production may address topics related to beef cattle, dairy cattle, swine, sheep, goats, and poultry. ***Grade: 10-12 Recommend Principles of Agriculture before taking course.***

Small Animal Management **Credit: 1/2**
In this course, students will acquire knowledge and skills related to small animals and the small animal management industry. Small Animal Management may address topics related to small mammals such as dogs and cats, amphibians, reptiles, and birds. ***Grade: 10-12 Recommend Principles of Agriculture before taking course.***

Equine Science **Credit: 1/2**
In this course, students will acquire knowledge and skills related to equine animal systems and the equine industry. Equine Science may address topics related to horses, donkeys, and mules. ***Grade: 10-12 Recommend Principles of Agriculture before taking course.***

ARTS, A/V TECHNOLOGY & COMMUNICATIONS

Graphic Design **Credit: 1**
Graphic Design program of study explores the occupations and educational opportunities associated with designing graphics to meet specific commercial or promotional needs, such as advertisements, packaging, or logos. ***Grade: 9 Prerequisite: None***

Yearbook **Credit: 1**
Students enrolled in Yearbook communicate in a variety of forms such as print, digital, or online media for a variety of audiences and purposes. High school students are expected to plan, draft, and complete written and/or visual communications on a regular basis, carefully examining their copy for clarity, engaging language, and the correct use of the conventions and mechanics of written English. ***Grade: 9 Prerequisite: None***

Audio/Video Production I **Credit: 1**
Careers in audio and video technology and film production span all aspects of the audio-video communications industry. This is an introduction and overview of the visual and audio media world. Students learn the fundamentals of video, film style and audio production using professional equipment and software. Students gain knowledge and experience through extensive hands-on assignments involving video cameras, video and audio editing, directing, video graphics, writing, producing studio and location productions, pre-production, production and post-production. ***Grade: 9-12 Prerequisite: None Preferred to have Principles of Art, Audio/Video Technology, and Communications.***

Audio/Video Production II **Credit: 1**
This course is designed and structured to work as an open and largely self-directed lab course that allows students to expand and deepen the skills they learned in Audio Video Production. After learning the basic foundations in Audio Video Production, students who advance to Advanced Audio Video Production are able to concentrate on the areas of their greatest interest, such as videography, video/film editing, audio recording, audio mixing, sound reinforcement, sound design, visual design, dialog editing, lighting, video engineering, script writing, directing, producing, still or animated computer graphics, special effects. ***Grade: 9-12. Prerequisite: Preferred Audio/Video Production I***

Professional Communications **Credit ½**
Professional Communications blends written, oral, and graphic communication in a career-based environment. Careers in the global economy require individuals to be creative and have a strong background in computer and technology applications, a strong and solid academic foundation, and a proficiency in professional oral and written communication. Within this context, students will be expected to develop and expand the ability to write, read, edit, speak, listen, apply software applications, manipulate computer graphics, and conduct Internet research.
Grade: 8-12 Prerequisite: None. Recommend taking same year as Health as a rotation for semesters.

CULINARY ARTS

Intro to Culinary Arts **Credit: 1**
Introduction to Culinary Arts will emphasize the principles of planning, organizing, staffing, directing, and controlling the management of a variety of food service operations. The course will provide insight into the operation of a well-run restaurant. Introduction to Culinary Arts will provide insight into food production skills, various levels of industry management, and hospitality skills. This is an entry level course for students interested in pursuing a career in the food service industry. This course is offered as a classroom and laboratory-based courses. ***Grade: 9 Prerequisite: None***

Culinary Arts **Credit: 1**
Culinary Arts begins with the fundamentals and principles of the art of cooking and the science of baking and includes management and production skills and techniques. Students can pursue a national sanitation certification or other appropriate industry certifications. This course is offered as a laboratory-based course. ***Grade: 9 Prerequisite: Intro to Culinary***

ENGLISH LANGUAGE ARTS

English I **Credit: 1**

Students practice all forms of writing in this course. An emphasis is placed on organizing logical arguments with clearly expressed related definitions, thesis, and evidence. Students write to persuade, to report and to describe. English I students read extensively in multiple genres from world literature such as reading selected stories, dramas, novels, and poetry originally written in English or translated to English from oriental, classical Greek, European, African, South American, and North American cultures. Students interpret the possible influences of the historical context on a literary work. ***Grade: 9 Prerequisite: None***

English II **Credit: 1**

Students practice all forms of writing in this course. An emphasis is placed on persuasive forms of writing such as logical arguments, expressions of opinion, and personal forms of writing. These personal forms of writing may include a response to literature, a reflective essay, or an autobiographical narrative. English II students read extensively in multiple genres from world literature such as reading selected stories, dramas, novels, and poetry originally written in English or translated to English from oriental, classical Greek, European, African, South American, and North American cultures. Students learn literary forms and terms associated with selections being read. Students interpret the possible influences of the historical context on a literary work. ***Grade: 10 Prerequisite: English I***

English III **Credit: 1**

Students practice all forms of writing in this course. An emphasis is placed on business forms of writing such as the report, the business memo, the narrative of a procedure, the summary or abstract, and the resume. English III students read extensively in multiple genres from American literature and other world literature. Periods from American literature may include the pre-colonial period, colonial and revolutionary periods, romanticism and idealism, realism and naturalism, early 20th century, and late 20th century. Students learn literary forms and terms associated with selections being read. Students interpret the possible influences of the historical context on a literary work. ***Grade: 11 Prerequisite: English II***

Business English **Credit: 1**

Students recognize, evaluate, and prepare for a rapidly evolving global business environment that requires flexibility and adaptability. Students apply technical skills to address business applications of emerging technologies. Students enhance reading, writing, computing, communication, and reasoning skills and apply them to the business environment. Students are expected to plan, draft, and complete written compositions on a regular basis. Students edit their papers for clarity, engaging language, and the correct use of the conventions and mechanics of written English and produce final, error-free drafts for business reproduction***. Grade: 12 Prerequisite: English III***

College Prep English **Credit: 1**

Students locate explicit textual information, draw complex inferences, and describe, analyze, and evaluate the information within and across multiple texts of varying lengths. Comprehend and use vocabulary effectively in oral communication, reading, and writing. Identify and analyze the audience, purpose, and message across a variety of texts. Describe and apply insights gained from reading and writing a variety of texts. Compose a variety of texts that demonstrate reading comprehension, clear focus, logical development of ideas, and use of appropriate language that advance the writer's purpose. Determine and use effective approaches and rhetorical strategies for given reading and writing situations. ***Grade: 12 Prerequisite: English III***

English IV University of Texas OnRamps Dual Enrollment: **1 high school credit**
Rhetoric 306 Credit: 3 College Hours
Rhetoric 309 Credit: 3 College Hours

This two-semester, six-credit writing intensive sequence features a fall semester course in argumentation, which is essential to leadership communication skills. It is followed by a spring semester topics course, which furthers students' writing in their application of rhetorical skill by analyzing texts related to American identities. Over the two courses, students will research and analyze the various positions held in any public debate and learn to advocate their own positions effectively through a process of drafts and revisions. In the fall, students will explore the ethics of argumentation and what it means to fairly represent someone with whom they disagree. By the spring, students are ready to analyze arguments presented by others, research a topic of their own, and craft sound and effective arguments. Across these two courses, students will develop their skills and knowledge to write four- to six-page essays and read non-fiction text aligned to college expectations for critical writing, reading, research, and analysis. ***Grade: 12 Prerequisite: English III and teacher recommendation***

FINE ARTS

Band: 9-12

Band I **1 Credit**
Band II **1 Credit**
Band III **1 Credit**
Band IV **1 Credit**

Heavy emphasis is placed on the importance of music as a performing art. The performance-oriented organization strives to provide aesthetic and creative outlets for individual as well as group expression. Areas that are brought out in the course of rehearsals include but are not limited to: the understanding of recreating an art form for the enjoyment of listener and performer, the esprit-de-corps associated with being a member of a respected organization, self-discipline in the independence of individual study, and socio-cultural influences reflected through music. The high school band functions as a representative of Granger ISD in school, community, region and state activities. On occasion, the band will represent Granger in various out of city/state functions.

Art I **Credit: 1**

This course introduces the elements and principles of art and attempts to provide experiences that will enable students to express creative ideas through a variety of mediums: design, drawing, painting, printmaking, and sculpture. ***Grade: 9-12 Prerequisite: None***

Art II **Credit: 1**

In level II art courses, students will interpret visual parallels between the structures of natural and human-made environments and apply design skills in creating practical applications, in clarifying presentations, and in defining choices made by consumers. Students will analyze specific characteristics of artworks in various cultures. They also will select and critique original artworks, portfolios, and exhibitions by peers or others. ***Grade 10-11 Prerequisite: Level I art course***

Art III **Credit: 1**

In level III art courses, students will analyze visual characteristics of natural and human-made subjects in a variety of ways, illustrating flexibility in solving problems, creating multiple solutions, and thinking imaginatively. Students will solve visual problems and will develop multiple solutions for designing ideas, for clarifying presentations, and for evaluating consumer choices. Students also will trace influences of various cultures on contemporary artworks; will analyze original artworks, portfolios, and exhibitions; and will provide examples of in-depth exploration of one or more themes. G***rade: 11-12 Prerequisite: Level II art course***

Art IV **Credit 1**

In level IV art courses, students will create themes for personal artworks that integrate a broad range of visual observation, experiences, and imagination. They will identify and illustrate art history as a major source of interpretation. Students also will develop evaluative criteria for selecting artworks to include in a portfolio and senior exhibition that demonstrate a high level of creativity and expertise in one or more art areas. ***Grade: 12 Prerequisite: Level III art course***

Theatre Arts I **Credit: 1**

In level I courses, students are exposed to the elements of drama and the conventions of theatre. Students will focus on the skills of improvisation; employ stage movement to convey thought, feelings, and actions; and define and give examples of theatrical conventions. Students will learn to analyze a character from a script, describing physical, intellectual, emotional, and social dimensions. They also will improvise, write, and refine monologues, scenes, and vignettes to convey meaning to the audience. Students will develop an understanding of the historical and cultural influences on theatre and analyze the roles of live theatre, film, television, and electronic media in American society. ***Grades 10-12***

Theatre Arts II/III/IV **Credit: 1**

This is an advanced theater course designed for the theater student interested in continuing their Fine Arts credit. In this course, we will examine Improvisation, audition process, monologues, duets, and group scenes. Students will learn to analyze a character from a script, describing physical, intellectual, emotional, and social dimensions. They also will improvise, write, and refine monologues, scenes, and vignettes to convey meaning to the audience. Students will develop an understanding of the historical and cultural influences on theatre and analyze the roles of live theatre, film, television, and electronic media in American society.

10-12 Prerequisite: Level I Theater course

HEALTH EDUCATION

Lifetime Nutrition and Wellness **Credit: ½**

This laboratory course allows students to use principles of lifetime wellness and nutrition to help them make informed choices that promote wellness as well as pursue careers related to hospitality and tourism, education and training, human services, and health sciences. Grade: 9-12 Prerequisite: None

LANGUAGES OTHER THAN ENGLISH

Spanish 1 **Credit: 1**

This course focuses on the basic grammar structure of the Spanish language. Reading, writing, listening and speaking skills will be used. Also, the Spanish culture will be studied along with cultural activities. In first year Spanish, the present tense is presented, as well as an abundance of thematic vocabulary. Students are expected to have a thorough understanding of English grammar to successfully complete the foreign language program. **Grades 8-10.**

Spanish II **Credit: 1**

Through listening speaking, reading and writing, students will learn the vocabulary and grammar of Spanish, which is appropriate for the intermediate level of language learning. The preterit tense is presented. They will also continue to acquire a refreshing, sympathetic and realistic view of Hispanic culture. Thus, students will not only understand a language foreign to them but will also understand the native speakers of this language. **Grades 9-12**

Spanish III **Credit: 1**

Spanish III encompasses listening, speaking, reading and writing skills, grammar, culture, and research. The students are expected to be able to comprehend and accurately express ideas in Spanish, acquire vocabulary, grasp grammatical structure, accurately read magazine articles and literature selections in Spanish, as well as memorize original dialogues, translate and memorize simple poetry. **Grades 10-12**

American Sign Language **Credit: 1**

Introduces the basic American Sign Language (ASL) skills, focusing on communication in a cultural context. Covers fingerspelling, basic vocabulary and grammatical structures, and the development of visual receptive and gestural expressive skills. Designed for students with little or no previous knowledge of ASL. **Grades 9-11**

MATHEMATICS

Algebra I **Credit: 1**

Algebra I provides the foundation concepts for high school mathematics. Students will be introduced to algebraic thinking and will use symbols to study relationships among quantities. They will be introduced to the relationship between equations and functions and will receive the tools for algebraic thinking as well as the training to use technology to model mathematical situations to solve meaningful problems. Foundations will be laid for all functions, with emphasis on linear and quadratic. ***Grade: 9 Prerequisite: none***

Geometry **Credit: 1**

Geometry provides an opportunity to do geometric thinking and spatial reasoning. The student will study properties and relationships of all geometric figures relating to zero, one, two, and three dimensions and will be introduced to the relationship between geometry & other mathematics with other disciplines.
Grade: 9-12 Prerequisite: Algebra I

Algebra II **Credit: 1**

Algebra II allows students to continue to build on the algebraic skills of analysis of data and the foundations of Algebra I. It shows a connection between algebra and geometry and illustrates how the tools of one can be used to solve problems in the other. The course includes in-depth studies and applications of polynomial, rational, radical, exponential and logarithmic functions, and systems of equations using matrices. ***Grade: 9-12 Prerequisite: Algebra I***

Financial Mathematics **Credit: 1**

Financial Mathematics is a Career and Technical Education course about personal money management. Students will apply critical thinking skills to analyze financial decisions based on current and projected economic factors. Financial Mathematics will integrate career and postsecondary education planning into financial decision making. ***Grade: 10-12***
Prerequisite: Algebra I

University of Texas OnRamps Dual Enrollment
PREPARATION FOR CALCULUS **1 credit (high school)**
Math 305G – 3 College Hours

In Discovery Pre-Calculus, students will deepen and extend their knowledge of functions, graphs, and equations from their high school algebra and geometry courses so they can successfully work with the concepts in a rigorous university-level calculus course. This course is designed to push students well beyond "drill and kill" type exercises, with an emphasis on unpacking mathematical definitions and making logical arguments to their peers. The course is divided into seven units. Each unit consists of a series of explorations designed to engage students and empower them to develop their problem-solving skills. In each exploration, students will create connections with prior concepts in developing the current topic.

University of Texas OnRamps Dual Enrollment
University of Texas OnRamps College Algebra Dual Enrollment **1 credit (high school)**
Math 301 – 3 College Hours

In this course, students deepen their critical thinking skills and develop their ability to persist through challenges as they explore function families: Linear, Absolute Value, Quadratic, Polynomial, Radical, Rational, Exponential, and Logarithmic. Students analyze data algebraically and with technology while developing their knowledge of properties of functions, matrices and systems of equations, and complex numbers. Students will experience a high-quality curriculum designed by the faculty at The University of Texas at Austin. The pedagogy of the course, Inquiry-Based Learning, encourages students to take an active role in the construction of their learning. This learning will be accomplished by abstraction, generalization, problem-solving, and modeling.

PHYSICAL EDUCATION

Athletics: 9-12 **1 Credit**

The PE/Athletic period is specifically designed for training athletes who will represent the school in extra-curricular events. Student/athletes are required to participate in the athletic period if they are going to compete on any Granger ISD athletic team. Only student/athletes who will compete in the Granger athletic program, or student athletes who have completed their eligibility and plan to play at the next level are allowed to participate in the athletic period. Participation in athletics requires intense physical training on a regular basis. For that reason, student/athletes are required to complete a physical examination by a doctor each year before being allowed to participate on an athletic team.
All athletic classes are sanctioned by the University Interscholastic League. In order to participate, a student must maintain a 70 average in all classes. A complete doctor's physical is required from each student athlete upon entering the 9th grade. Insurance is provided to each student athlete while participating in or while traveling to and from any UIL event sanctioned and chaperoned by GISD. GISD provides this insurance at no cost to the student athlete. Each student athlete is required to attend every practice session, unless previously excused by the head coach due to extenuating circumstances. All missed practice time will be made up. Each student will be required to abide by the rules set up by the Athletic Department without exception.
PE Equivalent I
PE Equivalent II
PE Equivalent III
PE Equivalent IV

Aerobic Activity: 9-12 **1 Credit**

Students are exposed to a variety of activities that promote health-related fitness. A major expectation of this course is for the student to design a personal fitness program that uses aerobic activities as a foundation.

Outdoor Adventures: 9-12 **1 Credit**

Outdoor Adventures is an all-inclusive physical education course. Students are taught life-long skills by using an integrated curriculum of science, math, writing, and critical thinking skills. The focus is on outdoor activities and skills.

SCIENCE

Integrated Physics & Chemistry **Credit: 1**
Learning about matter, energy, and technology and their involvement with all forms of life has become increasingly important for living in today's complex world. Through laboratory and classroom experiences, students will integrate introductory concepts in chemistry and physics to life and earth sciences. Enrichment and application will be emphasized through use of experiments, research, critical thinking, problem-solving and multicultural connections. It will also integrate the disciplines of physics and chemistry in the following topics: motion, waves, transformations, properties of matter, changes in matter and solution chemistry. ***Grade: 9-10 Prerequisite: None***

Biology I **Credit: 1**
In Biology, students conduct field and laboratory investigations, use scientific methods during investigations, and make informed decisions using critical-thinking and scientific problem-solving. Students in Biology study a variety of topics that include structures and functions of cells and viruses; growth and development of organisms; cells, tissues, and organs; nucleic acids and genetics; biological evolution; taxonomy; metabolism and energy transfers in living organisms; living systems; homeostasis; ecosystems; and plants and the environment. ***Grade: 9-11 Prerequisite: None***

Chemistry I **Credit: 1**
In Chemistry, students conduct field and laboratory investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem-solving. Students study a variety of topics that include characteristics of matter; energy transformations during physical and chemical changes; atomic structure; periodic table of elements; behavior of gases; bonding; nuclear fusion and nuclear fission; oxidation-reduction reactions; chemical equations; solutes; properties of solutions; acids and bases; and chemical reactions. Students will investigate how chemistry is an integral part of our daily lives. ***Grade: 10-12 Prerequisite: One unit of science and Algebra I***

Physics I **Credit:1**
In this course, students conduct field and laboratory investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem-solving. Students study a variety of topics that include laws of motion; changes within physical systems and conservation of energy and momentum; force; thermodynamics; characteristics and behavior of waves; and quantum physics ***Grade: 10-12 Prerequisites: Algebra I***

Forensic Science **Credit:1**
Forensic Science is a course that uses a structured and scientific approach to the investigation of crimes and the psychology of criminal behavior. Students will learn terminology and investigative methods related to crime scene investigation, questioning, criminal behavior characteristics, and scientific procedures used to solve crimes. Students will learn the history, legal aspects, and career options available in forensic science ***Grade: 11-12 Prerequisites: Algebra I***

Anatomy and Physiology **Credit: 1**
In this course, students conduct laboratory investigations and fieldwork, use scientific methods during investigations, and make informed decisions using critical thinking and problem solving. Instruction will be presented through an integration of biology, chemistry, and physics. Students will study the structures and functions of the human body and body systems and will investigate the body's responses to forces, maintenance of homeostasis, electrical interactions, transport systems, and energy systems. *This course must include at least 40% laboratory investigations and fieldwork using appropriate scientific inquiry.* ***Grade: 11-12 Prerequisite: Biology I and one additional science credit***

Scientific Research & Design I and II **Credit:1**
Drone Aviation Class
Scientific Research and Design is a broad-based course designed to allow districts and schools considerable flexibility to develop local curriculum to supplement any program of study or coherent sequence. The course has the components of any rigorous scientific or engineering program of study from the problem identification, investigation design, data collection, data analysis, formulation, and presentation of the conclusions. All of these components are integrated with the career and technical education emphasis of helping students gain entry-level employment in high-skill, high-wage jobs and/or continue their education. Students must meet the 40% laboratory and fieldwork requirement. This course satisfies

a high school science graduation requirement. Students shall be awarded one credit for successful completion of this course. Students may take this course with different course content for a maximum of three credits. **Grade 12**

SOCIAL STUDIES

World Geography Studies **Credit: 1**
In this course, students examine people, places, and environments at local, regional, national, and international scales. Students describe the influence of geography on events of the past and present. A significant portion of the course centers on the physical processes that shape patterns in the physical environment; the characteristics of major landforms, climate, and ecosystems and their interrelationships; the political, economic, and social processes that shape cultural patterns of regions; types and patterns of settlement; the distribution and movement of world population; relationships among people, places, and environments; and the concept of region. ***Grade: 9-12 Prerequisite: None***

World History Studies **Credit: 1**
World History offers an overview of the entire history of humankind. The major emphasis is on the study of significant people, events, and issues from the earliest times to the present. This course is designed to provide students with a vital understanding of the past in order to help them understand their own times. Attention is given to growth of ideas, the arts, religion, education, literature, and other aspects of intellectual and social history, as well as political, geographic, and economic history of world cultures. Students use the process of historical inquiry to research, interpret, and use multiple sources of evidence. ***Grade: 9-12 Prerequisite: None***

U.S. History Since 1877 (Reconstruction) **Credit: 1**
In this course, the second part of a two-year study of U.S. history that begins in Grade 8, students study the history of the United States from Reconstruction to the present through the use of reading, research, writing, and interpretation of maps, charts, graphs, and tables. Historical content focuses on political, economic, military, diplomatic, and social events and issues, including the contributions of significant groups and individuals to the history of this country, and the impact of geographic factors on major events. An important part of the content is the development and application of the principles of citizenship. Students will use critical thinking skills to explain and apply methods of interpreting the past, including points of view and historical context. They will use a variety of rich primary and secondary source material, such as biographies and autobiographies, Supreme Court cases, novels, speeches, letters, diaries, poetry, songs, artworks, photographs, documentaries, and films. ***Grade: 11-12 Prerequisite: None***

US Government **Credit: ½**
This course focuses on the principles and beliefs upon which the United States was founded and, on the structure, functions, and powers of government at the national, state, and local levels. Students learn major political ideas and forms of government in history. A significant focus of the course is on the U.S. Constitution, its underlying principles and ideas, and the form of government it created. Students analyze major concepts of republicanism, federalism, checks and balances, separation of powers, popular sovereignty, and individual rights, and they compare the U.S. system of government with other political systems. ***Grade: 12 Prerequisite: None***

Economics **Credit: ½**
This course is a comprehensive study of the American free enterprise economy. It includes the study of basic concepts of economics, the market system, the American business system, labor unions, money and banking, business cycles, consumer skills, the role of government in free enterprise, and comparative economic systems. Emphasis is placed upon economic decision-making and personal development strategies. ***Grade: 12 Prerequisite: None***

Temple College US Government 2305 – Dual Credit **Credit: ½ High School** **3 College hours**
This course explains the origin and development of constitutional democracy in the United States. Demonstrate knowledge of the federal system. Describe separation of powers and checks and balances in both theory and practice. Demonstrate knowledge of the legislative, executive, and judicial branches of the Federal government. Evaluate the role of public opinion, interest groups, and political parties in the political system. Analyze the election process. Describe the rights and responsibilities of citizens. Analyze issues and policies in U.S. policies. ***Grade: 12 Prerequisite: Must have passed the TSIA***

Temple College Economics 2301 – Dual Credit **Credit: ½ High School** **3 College Hours**
This course explains the role of scarcity, specialization, opportunity cost, and cost/benefit analysis in economic decision making. Identify the determinants of supply and demand; demonstrate the impact of shifts in both market supply and demand curves on equilibrium price and output. Define and measure national income and rates of unemployment and inflation. Identify the phases of the business cycle and the problems caused by cyclical fluctuations in the market

economy. Define money and the money supply; describe the process of money creation by the banking system and the role of the central bank. Construct the aggregate demand and aggregate supply model of the macro economy and use it to illustrate macroeconomic problems and potential monetary and fiscal policy solutions. Explain the mechanics and institutions of international trade and their impact on the macro economy. Define economic growth and identify sources of economic growth. ***Grade: 12 Prerequisite: Must have passed the TSIA***