

**Green Tech High Charter School Academic Course Descriptions**

(Updated 2019)

**BUSINESS**

**CTE Business courses**

Semester 1 - Career & Financial Management- 1/2 credit

Career and Financial Management is an introductory business course.  It is designed to promote financial literacy among young adults. The purpose of this course is to provide students with knowledge about business, the economy, careers and financial literacy. It is a project based computer class that introduces economic and management concepts used to help students become successful in the workplace. Students will gain an understanding of and develop the skills needed to be successful in a rapidly changing world. They will explore emerging workplace trends and develop employment skills, including resume writing, public speaking and interviewing. Additional topics include maintaining a checkbook, understanding credit, insurance, investing, and consumerism.

Semester 2 - Entrepreneurship- 1/2 credit

This course will provide students with the tools needed to become a successful entrepreneur. Students will learn what entrepreneurship is and analyze successful entrepreneurs. They will study business planning, market analysis, types of business ownership, the legal environment, and how to manage the finances of their business. Students will also learn how to manage business processes to ensure the survival and growth of their business.

**ENGLISH LANGUAGE ARTS**

**AP English Language and Composition**: An AP course in English Language and Composition engages students in becoming skilled readers of prose written in a variety of rhetorical contexts, and in becoming skilled writers who compose for a variety of purposes. Both their writing and their reading should make students aware of the interactions among a writer’s purposes, audience expectations, and subjects, as well as the way genre conventions and the resources of language contribute to effectiveness in writing

**Literature 12:** This course is the final English Language Arts course required for students to successfully complete in order to graduate. This course is designed to engage students in literature, as well as enable students to work toward an understanding of what skills are necessary to succeed in college and/or the workplace. Major themes include: “Living the American Dream;” “the Minority Experience in America;” “Living in an Increasingly Connected World; and “Writing that Leaves a Legacy.” This course will also focus on the college application process, public speaking, research, and composition. **Prerequisites:** Literature 9 – 11

**Literature 11H:** Upon successful completion of Literature 11H, students will have the opportunity to take the AP English Literature and Composition course in their senior year. **Prerequisites**: Literature 9/9H and 10H

**Literature 11**: This course focuses on students developing, practicing, and mastering reading, writing, listening, and speaking skills, necessary to pass the Regents examination, given at the end of the year. This course is reading and writing-intensive and students will be required to read classic and contemporary literature, as well as deliver oral presentations, debate, formulate and defend ideas, and do in-depth research. **Prerequisites***:* Literature 9 and 10

**Literature 10 Honors:** This course focuses on students developing, practicing, and mastering reading, writing, listening, and speaking skills, necessary to pass the Regents examination, given to 10th grade honors students at the end of the year. This course is reading and writing-intensive, and students will be required to read classic and contemporary literature, as well as deliver oral presentations, debate, formulate and defend ideas, do in-depth research, write in a multitude of ways, and deeply understand fiction and non-fiction works. **Prerequisites***:* Literature 9 honors or Literature 9 with teacher recommendation.

**Literature 10:** This coursewill introduce students to sections of the NYS ELA Regents Examination and help them gain the basic knowledge and skills necessary to successfully complete the Exam (taken in 11th grade); enhance students' ability to think critically and analytically; familiarize students with various works of literature from a variety of sources; familiarize students with how to conduct research and how to write a research paper using MLA format; and strengthen writing skills, with an emphasis on grammar and style. During class sessions, students can expect to have vocabulary practice, journaling and discussion, reading assignments in class and assigned for homework to be followed by quizzes and tests, and practice with grammar, mechanics, and style. A substantial amount of time will be dedicated to student-centered instruction in various forms. Lessons will range from lecture and discussion to dramatic readings to student chosen projects. **Prerequisites**: Literature 9

**Literature 9 Honors:** This course will focus on preparing students for college and career-readiness by enhancing their reading, writing, speaking and listening skills, by using a wide range, and level, of, reading texts. Students will be able to read, analyze and comprehend varied types of literature, including poems, and stories. Lessons will range from lecture and discussion to dramatic readings to student-chosen projects.

**Literature 9:** This course will focus on reading comprehension skills, writing skills, evaluating and explaining ideas, conducting library and Internet research, developing a research paper, and documenting research. This course will also focus on increasing students’ writing and thinking skills by applying critical thinking and writing skills to a variety of grade appropriate academic assignments, including analyzing complex texts. A substantial amount of time will be dedicated to student-centered instruction in various forms.

**Literature Lab:** This laboratory is a supplementary course, designed specifically to help students improve their reading comprehension, grammar identification, and language usage skills.

**MATHEMATICS**

**Algebra A**

This course is the first year in a two-year sequence of basic Algebra. Students will learn the fundamentals of Algebra, first degree equations, probability, square roots, basic Trigonometry, graphing, and simple Geometry.

**Integrated Algebra**

*Prerequisite: High score on Performance Series testing*

This is a one-year course in basic Algebra. This course will focus on first degree equations, second degree equations, absolute value, exponential and rational expressions, functions, polynomials, square roots, ratios and probability. Students will be introduced to basic Trigonometry, Geometry, and Statistics. This course culminates in the Integrated Algebra Regents Examination.

**Integrated Algebra Honors**

*Prerequisite: Very high score on Performance Series testing*

This course is an intensive one-year, Honors course in Algebra. This course will focus on first degree equations, second degree equations, absolute value, exponential and rational expressions, functions, polynomials, square roots, ratios and probability. Students will be introduced to basic Trigonometry, Geometry, and Statistics. This course culminates in the Integrated Algebra Regents Examination.

**Math Lab/ Exploring Algebra through Technology**

This course is only taken as a second Math course along with Algebra A. In this course, students will learn the fundamentals of Algebra in an interactive, technology-focused setting, while also strengthening their Arithmetic and Pre-Algebra skills.

**Intermediate Algebra**

*Prerequisite: Algebra B, Algebra R, or Algebra H*

This course focuses on new types of equations and functions, applications of Algebra to Science, and higher order radicals. This course further explores coordinate geometry, rational expressions, and systems of equations and inequalities. Students will also investigate more complex factoring methods for polynomials and more complex probability problems. This course will culminate in the Integrated Algebra Regents Examination.

**Geometry A**

*Prerequisite: (1) Algebra B, Algebra R, Algebra H, or Intermediate Algebra, (2) at least a 70 on the Integrated Algebra Regents Exam*

This course is the first year in a two-year sequence of Geometry. The concepts of plane, solid, coordinate, and transformational Geometry will be explored. Students will also learn the fundamentals of Geometry and Logic, and discover the important relationships that exist within triangles, and basic geometric proofs.

**Geometry**

*Prerequisite: (1) Algebra B, Algebra R, Algebra H, or Intermediate Algebra, (2) at least a 75 on the Integrated Algebra Regents Exam*

This course focuses on important relationships in triangles. Students will learn the fundamentals of Geometry and Logic, write geometric proofs of triangles, quadrilaterals, and circles. Students will also study plane, coordinate, and transformational Geometry. They will learn and apply locus-based definitions and compass/straight-edge constructions. This course will culminate in the Geometry Regents Examination.

**Geometry Honors**

*Prerequisite: (1) Algebra B, Algebra R, Algebra H, or Intermediate Algebra, (2) at least a 78 on the Integrated Algebra Regents Exam*

This course is an intensive one-year, Honors course in Geometry. Students will learn the fundamentals of Geometry and Logic, write geometric proofs of triangles, quadrilaterals, and circles. Students will also study plane, coordinate, and transformational Geometry. They will learn and apply locus-based definitions and compass/straight-edge constructions. This course will culminate in the Geometry Regents Examination.

**Integrated Algebra**: This course will introduce students to algebraic concepts, such as variables, expressions, equations, inequalities, patterns, relations, functions, and coordinate geometry. Solving problems mathematically, analytically, and accurately will be the major component of this course.

**Algebra 2/Trigonometry**

*Prerequisite: (1) Geometry B, Geometry R, Geometry H, or Intermediate Geometry, (2) at least a 65 on the Geometry Regents Exam*

In this course, students will explore complex numbers, conic sections, logarithms, master function notation, and graph analysis. Students will also study arithmetic and geometric sequences and series, including sigma notation, as well as advanced topics in Trigonometry, including analytic graphs, trigonometric equations, trigonometric proofs, and the laws of sines and cosines. This course will culminate in the Algebra 2/Trigonometry Regents Examination.

**Algebra 2/Trigonometry Honors**

*Prerequisite: (1) Geometry B, Geometry R, Geometry H, or Intermediate Geometry, (2) at least a 74 on the Geometry Regents Exam*

This course is an intensive Honors course in Algebra. In this course, students will explore complex numbers, conic sections, logarithms, master function notation, and graph analysis. Students will also study arithmetic and geometric sequences and series, including sigma notation, as well as advanced topics in Trigonometry, including analytic graphs, trigonometric equations, trigonometric proofs, and the laws of sines and cosines. This course will culminate in the Algebra 2/Trigonometry Regents Examination.

**Intermediate Algebra 2/ Trigonometry**

*Prerequisite: Algebra 2/ Trigonometry*

This course includes the following topics commonly found in pre-calculus mathematics:

trigonometry; sets and logical statements; functions, polynomial functions; logarithmic and

trigonometric functions (including circular functions); complex numbers, plane analytic geometry; matrices; vectors, induction, and the binomial function; permutations, combinations, and probability and elementary statistics; sequences, series and limits. It also includes derivatives of polynomials and curve sketching, and conic sections. This course reviews and unifies mathematical experience and acts as a transition from the mathematics commonly associated with the secondary schools to higher mathematics.

**Precalculus**

*Prerequisite: Algebra 2/Trigonometry R or Algebra 2/Trigonometry H*

In this course, students will explore Algebra, Geometry, Trigonometry, probability, and statistics. Students will also study mathematical modeling, limits, and derivatives.

**Precalculus Honors**

*Prerequisite: (1) Algebra 2/Trigonometry R or Algebra 2/Trigonometry H, (2) at least a 65 on the Algebra 2/Trigonometry Regents Exam*

This course is an intensive Honors course in Precalculus. In this course, students will explore Algebra, Geometry, Trigonometry, probability, and statistics. Students will also study mathematical modeling, limits, and derivatives, advanced topics in complex numbers, vectors, and matrices.

**SCIENCE**

**Living Environment/ Biology**/ **(Honors**) This course will introduce students to the basic principles of biological sciences, with the goal of enabling students to understand important relationships, processes, and the historical development of ideas in science. Scientific inquiry and laboratory work are key components of this course. Students must complete 1200 minutes of laboratory experience with written reports for each laboratory. This course may be taken over a one or two year sequence.

**Biology B:** This course is designed to acquaint students with topics in biology, chemistry of life, cell structure, cells and their environments, photosynthesis and cellular respiration, chromosomes and cell reproduction, meiosis and sexual reproduction, Mendel and heredity, DNA, how proteins are made, gene technology, history of life on earth, Evolution, classification of organisms, populations, ecosystems, biological communities, environments, kingdoms of life, viruses and bacteria, protists, fungi, plants, plant reproduction, plant structure and function, plant growth and development, animals, simple invertebrates, mollusks and annelids, arthropods, echinoderms and invertebrate chordates, vertebrates, fishes and amphibians, reptiles and birds, mammals, animal behavior, human body structure, circulatory and respiratory systems, digestive and excretory systems, body defenses, nervous system, hormones and the endocrine system, reproduction and development. Class activities will include discussion, on-site labs, online lab simulations and other interactive activities, lab reports, and an exploration project. **Prerequisites: Algebra**

**Chemistry/ Honors:** This course will introduce students to the basic principles of chemistry, like matter, energy, atomic structure, chemical bonding, the periodic table, the mathematics of chemistry, kinetics, equilibrium, acid-base theories, redox reactions, electrochemistry, and organic and nuclear chemistry. Students must complete 1200 minutes of laboratory work and have satisfactory seat time in order to be eligible for the Physical Setting/ Chemistry Regents Exam. This class may either be taken as Regents or Non-Regents. **Prerequisites:** A score of 75 or better on the Living Environment Regents and a score of 75 or better on the Algebra Regents.

**Regents Physics (Honors)/Physical Setting (1-year course):** This is a one-year, advanced course designed to allow students to develop their Mathematical, Engineering, and Scientific Inquiry skills by understanding the basic concepts of Physics. Students will have many opportunities to reinforce, extend, and apply what they learn with fun and meaningful investigations and activities. This course culminates with the New York State Physics Regents Examination. Students must satisfactorily complete 1200 minutes of laboratory to be eligible for the Regents exam. **Prerequisite**: At least a 75 on the Integrated Algebra Regents Examination.

**Earth Science/Physical Setting (1-year):** This course is an historical study of the Earth’s environments (in space, in the atmosphere, on land and in water) Concepts basic to Physics, Chemistry, and Geology are unified in the study of the Earth. The use of Mathematics, graphs, maps, and the collection and analysis of data is emphasized in the laboratory activities. Students must complete 1200 minutes of laboratory in order to be eligible for the Regents Examination.

**Environmental Science: (1-year) ( Honors):** Thisis an interdisciplinary course, embracing a wide variety of topics from Biology, Chemistry, Earth science, and Geography. The goal of the Honors Environmental Science course is to provide students with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems, both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving and/or preventing them. This is course is more rigorous than Regular Environmental Science in depth, pace and produces 2 projects more than the regular Environmental Science course. **Prerequisites:** *Required*: Two (2) years of science (one year of Living Science and one year of Physical Science). A 65 or above on the Integrated Algebra Regents Examination. *Recommended*: 1-year of Earth Science.

**Environmental Science: (1-year**): Thisis an interdisciplinary course, embracing a wide variety of topics from Biology, Chemistry, Earth science, and Geography. The goal of the Regular Environmental Science course is to provide students with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems, both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving and/or preventing them. **Prerequisites:** *Required*: Two (2) years of science (one year of Living Science and one year of Physical Science).

**Social Sciences**

Psychology- 1 credit

This course is designed to introduce students to the systematic and scientific study of behavior and mental processes. Students will increase their understanding of psychology, its methods, theory and research. This is a survey course, so students will focus on bits of information from many different areas in Psychology. Primarily, the course will explore the psychological facts, principles and phenomena associated with each of the major sub fields of psychology (consciousness, learning, personality, cognition, etc.)

**SOCIAL STUDIES**

**US History:** US History is a year-long course analyzing the origins of the American nation in the Founding Era and the Civil War and then concentrates on the emergence of the modern era from the beginnings of the Industrial Revolution in 1870 to the fall of communism in 1989 and into the present. The course prepares students to grapple with fundamental questions concerning the history of the United States from the proper role of government in a representative democracy to the role of social movements in shaping the character of the American experience. Close attention will be paid to the role of America in world affairs as well as examining how the economic conditions and policies have shaped the response of government and ordinary citizens alike. At the conclusion of the course students will have a ready command of the details of American history, allowing them both the historical perspective to comment on particulars as well as inform their thinking regarding current issues, preparing them for the focus on American Government and Economics in the 12th grade.

**US History Honors:** This is a more intensive course than the Regents US History. It delves deeper in thought, introspection and writing within the parameters as established for the regular US History Course.

**Government (1/2 year) and Economics (1/2 year**) *Required for graduation.* This course is broken up into two sections Civics and Economics. In the Civics portion, the founding principles of the US Government, the three branches of government (executive, legislative, judicial), and the levels of government (federal, state, local) will be examined. The Economics portion of the course will examine the basic principles of economics, Microeconomics (the study of how a business operates), and Macroeconomics (large, general overview of economics on a national level).

**Government (1/2 year) and Economics (1/2 year**) **Honors:** This is a more intensive course than the regular Government/ Economics. It delves deeper in thought, introspection and writing within the parameters as established for the regular Gov/Econ course.

**Global History 9 (or Global History I) - Full year - One credit.**  This course is the first year of a two-year course that culminates with a Regent’s examination in Global History for all students at the conclusion of their second year. This course uses a chronological approach to world history, with a variety of historical themes woven into the presentation of materials. Units of study include the Ancient World (4000 B.C.E. to 500 C.E.); expanding zones of exchange and encounter (500 C.E. to 1200 C.E.); global interactions (1200 C.E. to 1650 C.E.), the first global age (1850 to 1770); and the age of revolutions (1750 to 1914).

**Global History 9 (or Global History I) Honors- Full year - One credit:** This is a more intensive course than the regular Global History I. It delves deeper in thought, introspection and writing within the parameters as established for the regular Global History I course.

**Global History 10 (or Global History II):** This course engages students in the study of modern world history in order to achieve a more critical and integrated understanding of global societies and cultures during the past five hundred years. Students will explore developments in Africa, Asia, the Americas, and Europe; consider the rise of the West after 1750; investigate the origins and outcomes of world war, revolution, and genocide in the 20th century; trace the disintegration of western empires after World War II; and ponder the global challenges of the post-Cold War era. Students attempt the Global History Regents upon successfully completing this course.

**Global History 10 (or Global History II) Honors:** This is a more intensive course than the regular Global History II. It delves deeper in thought, introspection and writing within the parameters as established for the regular Global History II course.

**LANGUAGE**

**Spanish I** This is the first level of three levels in a language course designed to meet the advance regents diploma standing. The Spanish I course designed to develop world language skills and to prepare students for living in a global society. Classroom instruction is designed to develop the ability to communicate in a second language by involving students in communicative tasks. Classroom instruction includes reading, writing, listening, and speaking skills. Students will learn the target language in a course designed to develop world language skills and to prepare students for living

**Spanish II**

*Prerequisite Spanish I*

This is the second year of a three year track-requirement for the advanced regents diploma. It is also considered an elective course designed to further enhance world language skills and to prepare students for living in a global society. Classroom instruction is designed to increase the ability to communicate in a second language by involving students in communicative tasks. Classroom instruction includes reading, writing, listening, and speaking skills. Students will learn the target language in a contemporary cultural context.

**Spanish III**

*Prerequisite: Spanish III*

This is the third and last year of the Three- Year track requirement for the advanced regents diploma. This course reviews and broadens grammatical concepts of the Spanish language through practice of more complex structures and more extensive vocabulary. Spanish 3 provides further opportunity to practice the four basic language skills. The course increases emphasis on speaking, reading, writing, and listening, and continues to present information pertaining to the life and culture of the people. The course is conducted primarily in the Spanish language. Students attempt the School based Spanish language exam, which is required for the advanced regents diploma.

**VISUAL & PERFORMING ARTS**

**PERFORMING ARTS:**

Band (Brass/Woodwind): Band (Brass/Woodwind) is designed to teach beginning and advanced music lessons. Emphasis is placed upon the elements of music, exposure to various styles and composers, and improving technical ability through performances for athletic events, concerts and other performances.

**General Music**: General Music Appreciation encourages mastery of the language of music and the language used to talk about music. The book examines the elements of music both in general terms and with reference to illustrative pieces that are attractive, brief and representative of a variety of periods

**Music Production**: Music Production is designed to teach basic skills in recording, editing and mixing beats and songs. This course will also prepare students for college and opportunities in the music and recording industry as well.

**Percussion**: Band (Percussion) is designed to teach beginning and advanced drum/percussion lessons. Emphasis is placed upon the elements of music, exposure to various styles and composers, and improving technical ability through performances for athletic events, concerts and other performances.

**VISUAL ARTS:**

**Art I:** Art I focuses on the *basics*. Students in this course will create 2-dimensional and 3-dimensional works of art. They will apply knowledge of the elements & principles of design, be introduced to art styles, movements, and artists of various time periods and cultures, and experiment with a variety of media and techniques.

**AA Studio:** Studio in Art focuses on a variety of forms of art-making. Similar to Art 1, students will create some 2-dimensional and 3-dimensional works, as well as digital works of art. They will apply knowledge of the elements & principles of design, be introduced to art styles, movements, and artists of various time periods and cultures, and experiment with a variety of media and techniques.