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**2017-2018**  
**Academic Course**  
**Descriptions**

## English Course Offerings at Trumbull Career & Technical Center, 2017-2018

### English III (Juniors)

The main objective of this class is for students to get a complete experience in literature, writing, research and public speaking based on the Common Core Content Standards. Students will work together and individually to gain a better understanding of the different types of literature. In addition, students will be writing essays (both formal and personal), creating class presentations and other projects, reviewing grammar and punctuation rules, and increasing their vocabulary.

### Honors English III (Juniors)

Honors English III is a course designed to help students prepare for college through a heavy emphasis on reading, writing, literary analysis and research based on the Common Core Content Standards. With the use of iPads, students will also become proficient in learning 21<sup>st</sup> century technology skills and in using iPads for educational purposes. Because of the strong focus on reading and writing skills within the curriculum, a writing prompt is required for acceptance into the class. The prompt and rubric will be available on the TCTC website.

### English IV (Seniors)

This course focuses on the twelfth grade Common Core Content Standards in Language Arts, using them to promote student literacy and critical thinking. This class focuses on literacy in the traditional sense of reading a variety of texts across genres, while still focusing on new and emerging sources and media. In addition, there is an emphasis on writing in all of its forms, refining voice by producing everything from research papers to poems and short stories, with special focus placed on the grammar and usage conventions of these forms.

### Honors English IV (Seniors)

This course is designed to make students college and career ready through the use of reading, writing, listening, and speaking. Students will read different genres of literature and write about and/or respond to what has been read. Students will also listen and learn speech through class lectures and/or discussion and view course related videos and/or presentations. The Common Core Standards for English Language Arts and Literacy set forth by the Ohio Department of Education will be covered in this class. *Seniors will be expected to have earned the minimum four points in English end-of-course state tests before being admitted into Honors English IV.*

### Composition-YSU English 1550 (College Credit Plus-Juniors)

The objectives of this course are to make each student a more competent and effective writer, reader, and a better critical thinker. Writing assignments will be from a variety of genres, including compare/contrast, argumentative, narrative and informational. Along with the writing, students will be reading and discussing many thought-provoking texts. In addition, students will be learning methods of planning, composing and revising on the computers and iPads. This course meets all standards in the Common Core as well as those put forth by Youngstown State University. Overall, students will be expected to read and write on the college-level while participating in college ready discourse and assignments in preparation for post-secondary education.

### American Literature and Diversity- YSU English 2618 (College Credit Plus-Seniors)

This course is designed to introduce students to writers and works in relation to the diversity of American culture, politics, lifestyles, and social movements. The aim of this course is to help students see that American literature represents American culture in all of its diverse forms, including class, race, and ethnicity. Upon successful completion, students will be able to discuss a wide-ranging body of knowledge about cultural difference through multiple American literary genres, learn tools, strategies, and skills to interpret literary texts, and assess cultural conflicts among minority and majority cultures in the United States by analyzing values, priorities, expectations, more, and rules. An equally important goal is to have fun with the readings, to allow students to enjoy reading.

*Note: The two above courses are offered as College Credit Plus courses. If students meet the YSU criteria to apply, including the required ACT score and GPA, they will receive 3 hours of transferable YSU English credit. Please see your guidance counselor for specific admission requirements.*

## Math Course Offerings at Trumbull Career & Technical Center, 2017-2018

### Math 3

This course will expand on many of the concepts from Algebra, Geometry, Statistics, and Probability that were in an Integrated Math 2. In addition, functions, and trigonometry will be addressed. This course will further prepare students for a more rigorous mathematical progression in high school or college and will provide them with a solid foundation for the mathematics that may occur in their career and in everyday life. This course will also develop a student's problem-solving skills, critical thinking abilities, and strengthen situational analysis abilities. At the end of this course the student will be prepared for Math 4 or College Prep Mathematics (with teacher recommendation). Math 3 follows the Integrated Pathway in the Common Core State Standards and is an Algebra 2 equivalent.

### Math 4

This course continues and expands upon the topics covered in Math 3. Students will continue to explore topics found in an Algebra 2 and Geometry courses. They will also explore more in-depth trigonometry, probability, data analysis, and modeling. This course will prepare students for college level mathematics topics.

### Geometry

This course is designed to give students a basic understanding of elementary geometry concepts that will be utilized in other high school and college mathematics courses. This geometry course will serve to strengthen and sharpen students' analysis and problem-solving skills. Although elements of geometric theory (postulates, theorems and proofs) will be presented in this course, the focus will be on the application of geometric principles, while utilizing algebraic methods. At the end of the course students will be prepared for either Math 3 or Algebra 2 depending on their success in the course. The course follows the traditional pathway for Geometry in the Common Core State Standards.

### Algebra 2

Students will continue to study many of the algebraic concepts and processes covered in Algebra 1 and Geometry. Critical thinking and problem solving skills will be reinforced, as students expand on the material covered in previous courses. Topics covered in this course will include properties of and operations with real and complex numbers, linear and nonlinear equations and inequalities, polynomials, rational expressions, functions, conic sections, logarithmic functions and trigonometric functions. After successful completion of Algebra 2, students will be prepared for Pre-Calculus or College-Prep Math (based on teacher recommendation). This course is modeled after the traditional Algebra 2 Pathway found in the Common Core State Standards.

### College Prep Math

This is a project-based course including, but not limited to, statistics, probability, discrete math, trigonometry and other advanced math topics. This course is designed to introduce students to some advanced math seen in college level math courses. This course can be taken after successful completion of Algebra 2, Math 3 or Pre-Calculus.

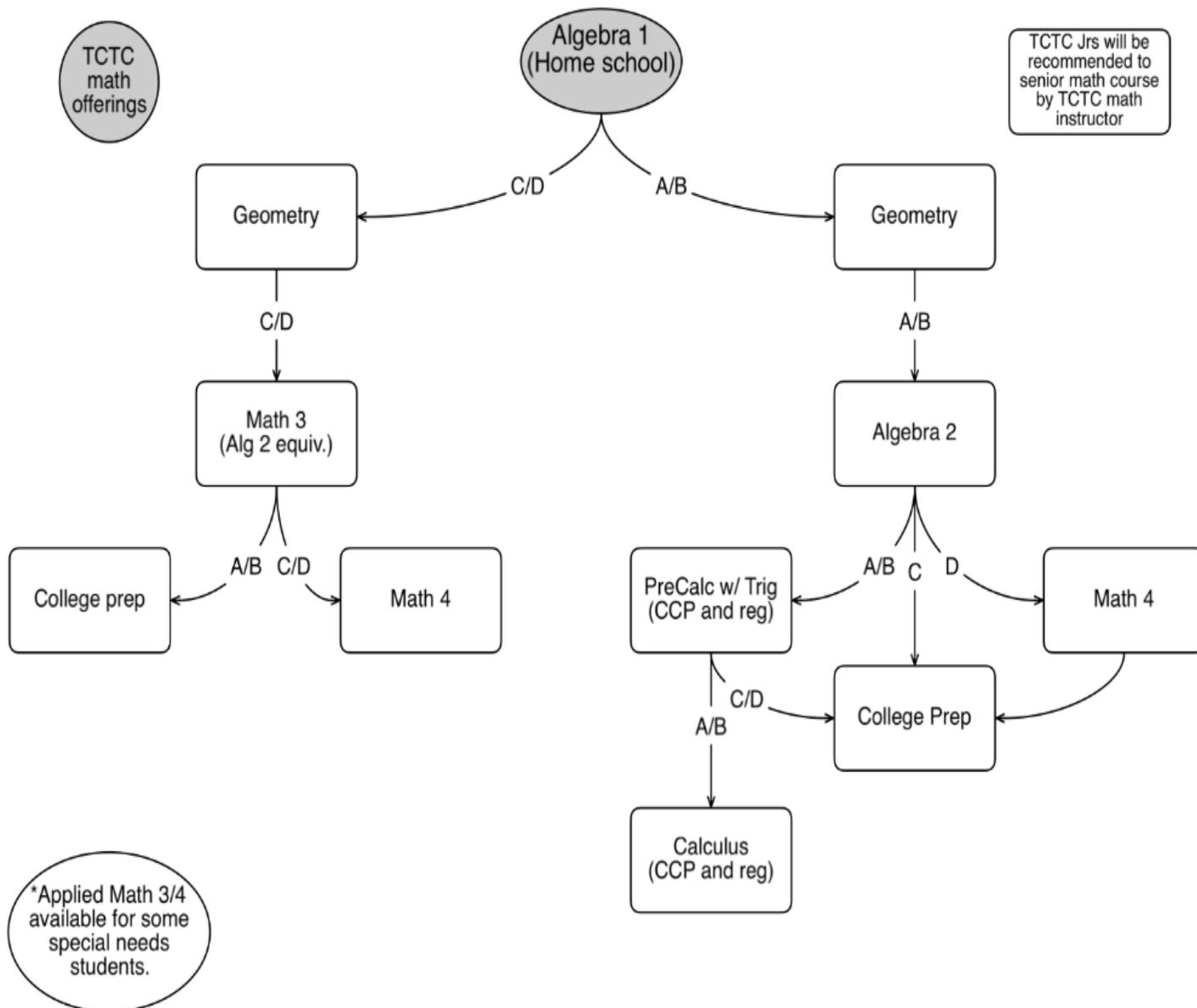
### Pre-Calculus w/ Trigonometry

This course is designed as a preparation for a course in Calculus. Topics covered in this course will include the nature of graphs, polynomial and rational functions, trigonometric functions, graphs of trigonometric functions, trigonometric identities, exponential and logarithmic functions, sequences and series. At the successful completion of Pre-Calculus students will be ready for college level mathematics, including Calculus 1. The first semester of this course is modeled after YSU's College Algebra 1510 and second semester YSU's Trigonometry 1511. This class is offered as a CCP course. Students who qualify may have the opportunity to obtain credit for YSU 1510 and 1511.

### Calculus

Students need strong pre-requisite skills in algebra and trigonometry. Students will learn about limits and continuity, derivatives, applications of derivatives, and definite integrals. The course will be modeled after Youngstown State University's Calculus 1 course (1571). Students meeting certain eligibility requirements will have the opportunity to receive dual credit from YSU. Students successfully completing this course will be prepared for a more in-depth mathematical study at the college level.

Calculus is offered as a College Credit Plus course. If students meet the YSU criteria to apply, including the required ACT score, they will receive transferable YSU credit.



## Science Course Offerings at Trumbull Career & Technical Center, 2017-2018

### Earth Dynamics

This course will concentrate on geologic and environmental principles and how they affect the Earth, as well as the expanse of space. Students should be able to understand and utilize the Periodic chart, plate tectonics, green technology, and weather. **Pre-Requisite: Course designed for students on an IEP who are no longer to be placed in a self-contained class.** *Meets Advanced Science Requirement.*

### Biology II

Biology II is a lab based class that engages students in the general principles of life by emphasizing a survey of the kingdoms of life. **Pre-Requisite:** Passed a life science course (do not need to have taken Biology I) *Meets Advanced Science Requirement.*

### Coordinated Science

Coordinated Science is an upper division course that extends information learned during previous physical science courses. It connects physical science topics to real life situations and applies it in an authentic lab setting. This course will explore: mechanics, properties of matter, heat, sound and light, electricity and magnetism, atomic and nuclear physics. **Pre-Requisite:** Passed or enrolled in Algebra 1 or equivalent. *Meets Advanced Science Requirement.*

### Zoology

Zoology is a college-preparatory lab based class that engages students in the general principles of life by emphasizing the animal kingdom, anatomy, physiology, and veterinary terminology. Students will study all the phyla of the Animal Kingdom and mammalian anatomy and learn veterinary terminology. **Pre-Requisite:** Earned a C or better in previous life science course. *Meets Advanced Science Requirement.*

### Anatomy & Physiology

Anatomy & Physiology is a college preparatory lab based class recommended for students who would like to gain an understanding of the body's structure and function. The units covered are the Organization, Support and Movement, Control Systems, and Maintenance of the Human Body. **Pre-requisite:** Earned a C or better in previous life science course. *Meets Advanced Science Requirement.*

### Chemistry

Chemistry is a college-preparatory, lab based class which investigates the science of matter and the changes matter undergoes. Topics include atomic structure, kinetic theory, The Periodic Table, chemical bonding, chemical reactions, stoichiometry, solutions and acid –base reactions. This introductory chemistry course heavily emphasizes skill-building in laboratory activities. **Pre-Requisite:** Completion of Algebra I or equivalent. *Meets Advanced Science Requirement.*

### Physics

Physics is a college-preparatory, algebra-based, lab based course designed for the student who wants to master the concepts of motion, energy, electricity, momentum, light, sound, heat, and fluids. Laboratory work will be included to provide reinforcement to classroom instruction. Students should be able to solve problems independently and be able to apply the concepts learned in class to laboratory exercises. **Pre-Requisite:** Completion of or concurrent enrollment in Algebra II (Trigonometry or Pre-Calculus preferred). *Meets Advanced Science Requirement.*

### Cos-Chemistry

Chemistry is a college-preparatory, lab based class which investigates the science of matter and the changes matter undergoes. Topics include atomic structure, kinetic theory, The Periodic Table, chemical bonding, chemical reactions, stoichiometry, solutions and acid –base reactions. This introductory chemistry course heavily emphasizes skill-building in laboratory activities. The connection of chemistry to the field of cosmetology will be included. **Pre-Requisites:** *Enrolled in the Cosmetology Program, completion of Algebra I or equivalent. Meets Advanced Science Requirement*

## **Social Studies (Government) Course Offerings at Trumbull Career & Technical Center, 2017-2018**

### **US Government**

The purpose of this course is to get students to become informed, active, and fiscally responsible citizens, as well as to meet the criteria and core standards in United States Government and Financial Literacy. This is accomplished through discovering, participating, and reflecting upon how the American People govern themselves at the national, state, and local levels of government. This course offers opportunity to analyze and reflect upon the global economy as well as explore the fundamentals that guide individuals and nations as they make choices about how to use limited resources. The course examines the ability of individuals to use knowledge and skills to make informed political and economic decisions. Students will take the required end-of-course exam in American Government.