

**Northern Cambria High School**

**813 35<sup>TH</sup> Street**

**Northern Cambria, PA 15714**



**2019 2020**

### **Choosing Your Program of Studies**

Your decisions as to which classes and choice of electives you make, should be based upon what is best for you according to the following: the plans you have for your future career or schooling, your interests, your abilities, and your past scholastic accomplishments.

It is best for you to plan not only for the year ahead but also for all the years between now and your graduation. Make a total plan for each of these years, being careful to fit in those courses which will be most beneficial and profitable to you. In all instances, students, regardless of gender, will be assigned to any course they choose as long as they meet the requirements. The guidance department will be willing to help students select a program or elective subject and make any other recommendations to the student. *HOWEVER, IT IS THE **RESPONSIBILITY OF THE STUDENT** TO MAKE THE FINAL SELECTION OF THE TOTAL PROGRAM AND TO SEE THAT THE QUALITY OF HIS/HER WORK IS ACCEPTABLE AND THAT HIS/HER TOTAL CREDITS AND COURSE REQUIREMENTS MEET THE TOTAL REQUIREMENTS FOR GRADUATION.*

### **Graduation Requirements**

**Students in the class of 2019 - 2020 must score proficient on Keystone Exams or a Project Based Assessment to fulfill all graduation requirements.**

24 Credits must be earned in the following areas to graduate :

<b><u>COURSE</u></b>	<b><u>CREDITS</u></b>
English	4
Social Studies	3.5
Mathematics	3.5
Science	3.5
Health	.5
Physical Education	1
Arts and Humanities	2
BCIT	1
Other Elective Total	5

**Project Based Assessments** are module specific (Bio, Lit., Alg. 1) assessments that are required of students who do not score proficient on the Keystone Exams. The activities/tasks are framed around the Eligible Content of the specific Keystone Exam module. PBAs are designed as a set of activities a student completes independently of classroom instruction in order to demonstrate proficiency in the content area and meet state graduation requirements.

## **Promotion Requirements**

A student's standing as a sophomore, junior or senior depends upon the credits accumulated. A student must meet the minimum requirements to be promoted:

Promotion to 10<sup>th</sup> grade – 5 credits

Promotion to 11<sup>th</sup> grade – 10 credits

Promotion to 12<sup>th</sup> grade – 16 credits

All arrangements for summer classes in schools outside this school district must be approved in advance by the administration.

## **Curriculum Offerings**

### **Academic**

For many of our students, data, classwork, and teacher input will be used pertaining to the selection of classes in the subject areas of math, science and literature. While much thought and consideration will be involved in this procedure, parents will still have the availability to discuss these selections with the high school principal and guidance counselor.

### **Vocational Curriculum**

#### **Grade 10 (Cosmetology only) and grade 11 and 12**

Students will spend one-half day at Admiral Peary Area Vocational-Technical School and the other half day at their home school district where they receive the required subjects that are necessary for graduation. At Admiral Peary, students have the opportunity to become proficient in one area of vocational education. Admiral offers seventeen programs of study. Students applying are evaluated at Admiral Peary by the guidance department on interest, abilities, and learning styles prior to entering. Placement in Admiral Peary programs is based on quotas. Test results, along with student's interest, are used to determine appropriate program placement.

### **Work Study**

The Work Study/Internship Program provides Junior and Senior students an opportunity to meet their academic requirements for graduation while gaining valuable work or internship experience. Through this experience, students will build the knowledge, skills and self-confidence to be successful in higher education, in the workplace and in life. Students participating in this program will attend their academic classes daily and be granted a late arrival/early dismissal to participate in employment or internship during school hours.

### **Registration and Withdrawal**

A student who has attained the age of 17 must register and begin attending high school classes by the second week of school. If the student has not entered as of this time he/she shall not be permitted to enter school until the following year. A student who has attained the age of 18 may

voluntarily withdraw from school on his/her own accord. In either instance, once this student has withdrawn from school, he or she may not re-enter during the same school year, but may be readmitted at the beginning of the next school year.

**Registration and Guidelines and Deadlines**

Each student will register for next year’s classes through the student portal of our Sapphire computer system. For our freshmen and sophomores students, data will be used in the subjects of science, math, and Literature to ensure proper course placement. A parent permission slip will be needed for any student wishing to change from the recommended course.

Students will be informed prior to the end of this school year of the cut-off date for making any changes to schedules, or will be contacted by a Global Connect phone call during early summer. **NO SCHEDULE CHANGES WILL BE PERMITTED AFTER THIS DATE.**

**Weighted Courses**

- All Advanced Placement (AP) will be weighted at 1.25
- All College in High School Dual Enrollment will be weighted at 1.1
- Undesignated Honors will be weighted at 1.05 as listed below

Course	Type	Weight
AP Chemistry	AP	1.25
AP English 12	AP / DE	1.25
Anatomy/Physiology	DE	1.1
Calculus	DE	1.1
Chemistry II	DE	1.1
Contemporary Issues	DE	1.1
Economics	DE	1.1
Honors World History	DE	1.1
Physics	DE	1.1
Psychology	DE	1.1
Public Speaking	DE	1.1
Spanish IV	DE	1.1
Honors ELA 9	Honors	1.05
Honors ELA 10	Honors	1.05
Honors ELA 11	Honors	1.05
Honors Chemistry 10	Honors	1.05

## Earning College Credit in High School

Northern Cambria offers the opportunity for High School students to earn college credits during their High School career. There are three types of courses offered.

### 1. Advanced Placement (AP)

a. Advanced Placement (AP) is a program created by the College Board which offers college-level curriculum and examinations to high school students. AP is taught by certified staff within the High School. Colleges and universities may grant placement and course credit to students who obtain a score of 3 or greater on the AP exam. The AP curriculum for each of the various subjects is created for the College Board by a panel of experts and college-level educators in that field of study. For a high school course to have the designation, the course must be audited by the College Board to ascertain that it satisfies the AP curriculum. If the course is approved, the school may use the AP designation and the course will be publicly listed on the AP Course Ledger.

b. If you earn an AP Exam score of 3 or higher, chances are you can receive college credit, advanced placement or both from your college or university. Each college and university, not the College Board or the AP Program, makes its own decisions about awarding credit and placement. Most institutions have a written policy spelling out things like the minimum required score to earn credit for a given AP Exam, the amount of credit awarded, and how credits are applied. Contact the specific admissions office to find out if your AP credit will transfer.

c. Northern Cambria currently offers AP Chemistry and AP English 12.

### 2. Dual Enrollment

a. A dual enrollment course is one that is offered directly by the University and taught by University staff. Typically, students would either travel to the University or take a dual enrollment course in an online environment. Northern Cambria currently offers dual enrollment courses through Saint Francis and Indiana University of Pennsylvania.

### 3. College in High School Dual Enrollment

a. A College in High School course is a course offered for college credit from a specific University and taught during the school day by a certified High School teacher. You can choose to either purchase the credit at a substantially lower tuition rate or take the course

without purchasing the college credit.

b. Credits earned may or may not transfer from one University to another University.

c. Northern Cambria currently offers several College in High School courses as listed below.

- i. Anatomy/Physiology - Mount Aloysius College
- ii. Calculus - St. Francis University
- iii. Chemistry II - Mount Aloysius College
- iv. Contemporary Issues - Penn Highlands
- v. Economics - St. Francis University
- vi. Honors English 12 - Mount Aloysius College
- vii. Honors World History - Penn Highlands
- viii. Physics - St. Francis University
- x. Public Speaking - Penn Highlands
- xi. Spanish IV - St. Francis University

**It is your responsibility to make sure your credits will transfer. Most Universities have this information listed on their websites under admissions. Several examples are listed below.**

Penn State University

<http://admissions.psu.edu/academics/credit/>

Indiana University of Pennsylvania

<https://www.iup.edu/admissions/transfer/>

University of Pittsburgh at Johnstown

<http://www.upj.pitt.edu/zh/academics/registrar/registrar2/transfer-credit-guidelines/>

## Vocational Curriculum Grade 10 (Cosmetology Only)

### REQUIRED COURSES

### CREDIT

#### GRADE 10

English 10	1
Physical Education	0.25
Math	1
Biology/ Chemistry	1
Vo- Tech	<u>3</u>
	<b>6.25</b>

#### GRADE 11

English 11	1
Physical Education	0.25
Math	1
Social Studies or Science	1
Vo- Tech	<u>3</u>
	<b>6.25</b>

#### GRADE 12

English 12	1
Physical Education	0.25
Science or Social studies	1
1 additional class (Math, Science, Social St., or Computer)	1
Vo- Tech	<u>3</u>
	<b>6.25</b>

## **List of Courses**

**ELA - Literature**

**Foreign Language**

**Social Studies**

**Mathematics**

**Computers/Business Education**

**Science**

**Fine Arts**

**Family and Consumer Science**

**Technology Education**

**Life Sports (Physical Education)**

**Test Preparation / Independent Study**



## ELA - Literature

### Honors ELA 9

**Prerequisite:** Honors enrollment is based on the three criteria: skills assessment, teacher recommendations, and Classroom performances.

**Purpose:** This course is designed for the serious student who desires a more challenging, in-depth study as a Preparation for a college career.

**Description:** This course covers the same concepts as English 9 but in greater depth and at a quicker pace. The Honors English 9 curriculum intensifies the study by examining multiple examples of each genre as well as providing more independent learning opportunities to produce identified outcomes. Then, students will refine their writing skills, practicing standard/formal conventions, by producing compositions and personal writings as a means to both learn and communicate what has been learned. Students will be exposed to SAT based vocabulary that they will learn and apply by completing assigned packets of activities and tests.

**Requirements:** Grades will be assigned based on daily activities, homework, projects, quizzes, essays, and tests. There is a mid-term exam as well as a final exam that combined will be worth 20% of the student's grade.

### ELA 9

Students gain proficiency in varied forms of writing, reading, speaking, listening, and thinking. Main units which incorporate us of a textbook are fiction, nonfiction, poetry, drama, and research. Students design creative projects and compile their writing into individualized portfolios. Students, individually and in groups, present speeches and other work to the class. Grammar, mechanics, spelling, usage and sentence formation are practiced and reviewed. Students organize and maintain a notebook of the class syllabus and classroom rules, vocabulary words, literary terms, notes, handouts, and graded work. Students will participate in independent read of assigned and choice novels. Library orientation and instruction occur periodically throughout the year.

### Honors ELA 10

**Prerequisite:** To continue in the honors program a student is required to successfully complete Honors English 9 with a grade of "B" or higher and a minimum of a "B" on the final exam. To transfer into the honors program, a student must attain an "A" in English 9 as the final grade, a 91% or higher on the final exam, and the recommendation of the English 9 teacher.

**Purpose** This course is designed for the serious student who desires a more challenging, in-depth study as a Preparation for a college career.

**Description:** This course covers the same concepts as English 10 but in greater depth and at a quicker pace. Honors 10 focuses on the study of the elements of literature and the understanding and Identification of literary devices and terminology. This curriculum intensifies the study by examining multiple examples of each genre as well as giving the students opportunities to work independently to produce identified outcomes. Utilizing literature selections as the focus, students will refine their Writing skills, practicing standard/formal conventions, by producing compositions and personal

Writings as a means to both learn and communicate what has been learned. Students will be exposed to SAT based vocabulary that they will learn and apply by compensating assigned packets of activities and tests.

**Requirements:** Grades will be assigned based on the daily activities, homework, projects, quizzes, essays, and Tests. There is a mid-term exam as well as a final exam that combined will be worth 20% of the student's grade. Students are required to take the Literature Keystone exam.

### **ELA 10**

Students improve reading, writing and oral communication skills through literature based, whole language activities. Literary interpretations will focus on critical thinking, attentive listening, and correct, accurate expression of ideas. Students will use self-evaluation and editing skills to improve organization, usage, spelling, and vocabulary in producing examples of expository, persuasive, and creative writing for their portfolios. Students will continue to learn and apply the aspects of research writing. English 10 will continue students' in depth study of the structures and characteristics of fiction, nonfiction, poetry, and drama. Students organize and maintain a notebook of the class syllabus and classroom rules, vocabulary words, literary terms, notes, handout, and graded work.

### **ELA 11**

Students read world literature including Greek, Roman, Middle Eastern, Asian, and African literature for appreciative understanding of diverse cultures, for study of literary types and devices, and for speech and writing topics. Students speak individually and in several group formats. They write papers of various lengths and types including poetry, journal entries, essays, responses to reading, and research papers emphasizing critical thinking, sentence structure, and usage. A career education unit teaches college and career search strategies.

### **ELA 12**

Students improve communication skills through writing, reading, speaking, and listening activities. The course centers on the study of American Literature, including fiction, nonfiction, poetry, and drama. Students read, discuss, and analyze a variety of Literature and study related vocabulary. Students write several compositions based on their readings and complete a job search portfolio that includes a cover letter and resume. Students improve their research skills by writing two well-documented reports, and students present their research findings to the class. Throughout the year, English 12 students participate in independent reading of assigned and choice novels and must maintain an organized binder.

### **Honors ELA 11**

This World-literature based composition course is designed for juniors ready to undertake an advanced level of literary analysis. The course prepares for college level reading and writing. Students read challenging selections from World literature including British literature. They analyze themes and techniques, write papers of synthesis and other papers, and present projects. Honors English replaces English 11 for students who have maintained a 2.75 or better average in English 9 and 10, have the signature of an English teacher, and complete required summer reading. Students considering the option of Advanced Placement English in grade 12 are advised to request Honors English 11.

### **AP / Honors English 12**

Honors English Literature and Composition replaces English 12 for qualified students ready for college level work. Students who enroll in this course may and earn college credits for this work through AP or Dual Enrollment. This course is approved for dual enrollment through Mount Aloysius, which gives AP students another option for earning college credit. Course studies include literary traditions, critical perspectives, and analysis of stories, novels, poems, and plays. Procedures include oral presentations, written responses to literary selections, team

activities, and research projects. Students work to master literary terminology and understand its application to various works of literature. The completion of a summer reading assignment is required for all students planning to take this AP course.

### **Public Speaking**

**Semester**

(ACE Course) This course is designed to help the student build confidence in the theory and practice of public speaking, with the emphasis on the speaker-audience relationship. Skills include analyzing the speaking situation, choosing appropriate topics, conducting research, organizing ideas, utilizing evidence, using voice and body to deliver public speeches effectively to a live audience, and developing the ability to listen actively and critically.

### **Journalism**

**9 Weeks or Year**

Journalism class is an elective designed to provide students with theory and hands-on application of newspaper and magazine writing and design. Students in the class are part of the school's newspaper staff, and they work independently and cooperatively to write and design content to be published in the school's paper, The Emanon. In this elective, students develop and refine their skills in interviewing, gathering facts, organizing information for an article, writing, and editing. Staff members volunteer for and/or are assigned news, feature, sports, opinion articles and photographs for each issue. In addition, students use Publisher to design layouts for the school newspaper.

### **Research Writing**

**Semester**

Using technology and print resources, students in this course explore a variety of relevant topics and present their findings in written, spoken, and computer-generated formats. Students learn to recognize the value of research in their daily lives as well as in the academic world.

### **Creative Writing**

**Semester**

A multi-genre introduction to the craft of creative writing. In the context of a variety of genres, students will examine literary conventions as well as the writing techniques and tools essential to effective writing and editing. We will cover things such as short stories, poetry, children's books, and various other writing projects.

### **Literature and Movies**

**9 Weeks**

"The book was way better than the movie," is a quote that is heard more often than we realize. The purpose of this course is to view the ways books are translated into films. We will be looking at the different directions that directors may take when they translate a work of literature into a film and why they make the changes they make. Concepts in the course will be reinforced through in-class readings, film excerpts and group discussion. Works to be discussed will come from a range of media including film, television, and comics as well as the required reading and movies to be watched.

### **Horror Literature**

**9 Weeks**

The emphasis in this course is reading, discussing what you read in the horror genre. There are several ways to succeed in the course and students are invited to shape the course, as much as possible, to their abilities and interests. In this course, students will have an opportunity to read and discuss a selection of works drawn from the genres of horror and the gothic novel. Concepts in the course will be reinforced through in-class readings, film excerpts and group discussion. Works to be discussed will come from a range of media including film, television, and comics as well as the required reading.

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## **Foreign Language**

### **French I**

### **Year**

French I is designed for the beginning French student to introduce the student to the basic sound system of the French language. It is integrated with various listening, speaking, reading and writing activities. Students are also exposed to certain aspects of French culture with each chapter covered throughout this first year course. The final exam is cumulative for the course and there are no exemptions.

### **French II**

### **Year**

French II stresses the mastery of the first year French and is intended to reinforce and advance the French language communication skills both spoken and written. More difficult vocabulary and language structure is presented. Students are exposed to more cultural situations with each chapter covered. No exemptions are made for the final exam which is cumulative for material covered in levels I—II. A final grade in French I of at least 75% is recommended before students advance to the second level.

### **French III**

### **Year**

French III is designed to further enhance spoken and written communication skills. Emphasis is placed on expansion of vocabulary and comprehension of more difficult grammatical structures. In addition to the cultural readings, history lessons of France are incorporated. No exemptions are made for the final exam which is cumulative for material covered in levels I—III. A final grade in French II of at least 75% is recommended before students advance to the third level.

### **French IV**

### **Year**

French IV is designed for those students who wish to increase their overall knowledge of the French language. Students will be exposed to all verb tenses within the language. Material from levels I—III is reviewed while more advanced vocabulary and grammatical structures are covered. In addition to the cultural readings, history lessons of France are incorporated. No exemptions are made for the final exam which is cumulative for material covered in levels I—III. A final grade in French III of at least 75% is recommended before students advance to the fourth level.

### **Spanish I**

### **Year**

Spanish I is designed for the beginning Spanish student to introduce the student to the basic sound system of the Spanish language. Students will start with the very basics like the alphabet and will move forward through the integration of various listening, speaking, reading and writing activities. Students will also be exposed to certain aspects of the Hispanic culture with each chapter throughout this first year course. The Final Exam is cumulative for the course.

### **Spanish II**

### **Year**

Spanish II stresses the mastery of first year Spanish and is intended to reinforce and advance the Spanish language skills in both written and spoken communication. A “C” average in Spanish I is recommended before advancing to level II. More difficult vocabulary and grammatical structures are presented in this course. Students will learn the Preterite tense in addition to the Present Tense. The expansion of knowledge of the Hispanic culture will continue to grow with each of the Chapters covered this year. Final Exemptions are given based on the criteria of the Northern Cambria School District. The Final Exam is cumulative for material covered in levels I- II.

### **Spanish III**

### **Year**

Spanish III is designed to further enhance spoken and written communication skills. Emphasis is placed on the expansion of more difficult vocabulary and the comprehension of more difficult grammatical structures. This course is designed to make students become more proficient in writing. Students will be expected to write essays

based on course content and language structure learned in levels I-III. A “C” average in Spanish II is recommended before advancing to this level. Final Exemptions are granted in conjunction with the Northern Cambria School District Policy. The Final Exam is cumulative for material covered in levels I-III.

**Spanish IV**

**Year**

Spanish IV is designed for those students who wish to enhance their proficiency in their overall knowledge of the Spanish language and the Customs and Culture of the Hispanic people. Students will further be exposed to many more verb tenses and themed vocabulary thus enhancing their communication skills. Students will specifically increase their speaking proficiency through various interviews and conversations that will take place throughout the year using all levels of vocabulary. Students taking this course may receive college credits through Saint Francis University. This class is also a Level II weighted course. A solid foundation in levels I-III is recommended before advancing to this level. Final Exemptions are granted in conjunction with the Northern Cambria School District Policy. The Final Exam is cumulative for material covered in levels I-IV. A “C” average in Spanish III is recommended before advancing to this level.

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## Social Studies

### U.S. Cultures II

Year

U.S. Cultures II pertains to the study of American history from the Great Depression period to the present. Students will be exposed to the historical, geographic, political, economic, and sociological events which influenced the development of the United States and the resulting impact on world history. The standards for this course relate to the history of the United States from the Great Depression era to the present. Students should continue to learn fundamental concepts in civics, economics, and geography within the context of United States history.

### U.S. Cultures III

Year

U.S. Cultures III pertains to the study of American history from the Great Depression period to the present. Students will be exposed to the historical, geographic, political, economic, and sociological events which influenced the development of the United States and the resulting impact on world history. The standards for this course relate to the history of the United States from the Great Depression era to the present. Students should continue to learn fundamental concepts in civics, economics, and geography within the context of United States history. This is a continuation of USC II. **Prerequisite: MUST HAVE COMPLETED USC II.**

### International Studies

Year

The goal of this course is to foster informed, responsible participation in public life. The course will increase students' awareness of their world, their nation, their state, and themselves, giving them fundamental understandings of their society and others, both past and present. This course will provide students with the opportunity to study a wide variety of topics they will confront as responsible citizens and adults. Students will study current U.S. and World events. Upon completion of this course the student will understand the major ideas, protections, privileges, structures, and economic systems that affect the life of a citizen in the United States.

**Prerequisite: MUST HAVE COMPLETED USC II & USC III.**

### Honors World History (11th and 12th grade only)

Year

This course is designed to provide an in-depth background in world history for students who plan to go into related areas of study and/or work after high school. Honors World History will enhance the understanding of world literature, languages, and international relations. Students will study the Renaissance and Reformation, the era of Exploration and Expansion, the Industrial Revolution, and other various topics such as the Holocaust. As a course requirement students will also partake in the historical research and skills development necessary to complete a National History Day project. The course will also focus on broad themes and look at cross cultural connections that relate to our current world today. Being that college credit is offered, it is a high level class that is aimed to students who will be attending postsecondary education. **Prerequisite: USC II & USC III.**

### Problems of Democracy/ Applied Economics

Semester

This course will provide students with the opportunity to study a wide variety of topics they will confront as responsible citizens and adults. Among the topics studied are: money and banking, checking accounts, credit card and the Stock Market. Students will also study voting and election, political parties, the U.S. Constitution, Criminal and Civil Law, plus current events. (11th & 12th)

### Contemporary Issues

Semester

This course develops those understandings and skills that are necessary for citizens to exert an influence on the American political and economic systems. This course will be an issues-centered course where students will be able to analyze current domestic and foreign issues through a reflective thinking process. Identifying issues, points

of view, arguments, evidence, and sources are part of this process. Students will be able to analyze these issues through the concepts of the various social studies disciplines (anthropology, archeology, economics, and sociology). Critical thinking skills, problem solving techniques and approaches to conflict resolution will also be applied to this course. Student assessment will be based on participation in classroom discussions and different written exams/projects. Dueling opinions and lively debate should be the norm in this course making the class fun, enriching and meaningful. **Prerequisite: USC II & USC III.**

**(11th & 12th)**

### **Psychology**

**Year**

This course is a general introduction to the scientific study of the brain, behavior, and mental processes of humans and animals, with emphasis on the goals of psychology: to describe, explain, predict, and control behavior. Students objectives would include studying the core concepts and theories of psychology; learning the basic skills of psychological research: applying psychological concepts to life; developing critical thinking skills; building reading, writing, and discussion skills; and learning about ethical standards. Student assessment will be based on participation in classroom discussion, written exams, writing papers and projects. Being that college credit is offered, it is a high level class that is aimed to students who will be attending postsecondary education in the field of health sciences or human services. This will count towards the student's Social Studies requirement for graduation. **Prerequisite: USC II & USC III.**

### **Economics**

**Year**

This course is aimed to prepare college bound students for their studies in Economics. This course will be a yearlong class that will consist of two main parts, focusing on Macroeconomics and Microeconomics. The students will learn the basic concepts of Supply and Demand, and use these concepts to delve deeper into the economies of our world, country, and town. Economics will be a dual enrolment class that will be offered for college credit. Being that credit is offered, it is a high level class that is aimed to students who will be attending postsecondary education in the field of business, accounting, economics, or political science. This will count towards the student's Social Studies requirement for graduation. **Prerequisite: USC II, USC III, and Plane Geometry.**

### **The PA Immigrant/Researching your Family Tree**

**9 Weeks**

From the start, the United States has been continually filled with newcomers whose adjustments to American life have seldom been smooth. In fact, the challenges we face today about immigration are not new. Only the stories are. Pennsylvania is a patchwork quilt of ethnic and racial groups, with common dreams and unique cultural traditions. People arrived to Pennsylvania with a variety of backgrounds, with different reasons for coming here. In this course, students will reflect on the American immigrant experience, with an emphasis on their own family's stories. They will study the immigrant experiences of people of Pennsylvania from the 1790's through the 1930's. Each student will use ancestry.com or similar websites to research their own heritage and create their own family tree. Students will analyze historical documents, photographs, and websites to find out what the Pennsylvania immigrant story is, and in turn, find out about their own unique story of immigration.

### **Street Law**

**9 Weeks**

Street Law is a social studies elective that serves as an introductory course to law and legal systems in the United States. Units will include: Introduction to Law, Constitutional Law, Criminal Law and the Criminal Justice Process Civil Law. Like any introductory course, Street Law is a survey. We will touch on broad and specific legal topics to give students a better understanding of law and how it affects you in real life. We will use case studies, individual research, group discussion and debate, guest speakers and a mock trial throughout the course in order to reach

our goal. Dueling opinions and lively debate should be the norm in this course making the class fun, enriching and meaningful.

**Prerequisite: USC II & USC III**

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## Mathematics

### Algebra 1 – Part A

### Year

This course is the first in a sequence of two that are going to ensure the students understanding of the basic ideas and concepts of Algebra. It consistently applies and connects algebra principles to other areas of mathematics, other disciplines and real-life applications. Students will understand and use the basic ideas of algebra including: Algebraic Expressions, Rational Numbers, Solve Equations, Applications Numbers, Functions and Graphs.

### Algebra 1 – Part B

### Year

This course is the second in a sequence of two that are going to ensure the students understanding of the basic ideas and concepts of Algebra. It consistently applies and connects algebra principles to other areas of mathematics, other disciplines and real-life applications. Students will continue to learn Algebra 1 concepts including: Inequalities, Polynomials, Factoring, and Rational Expressions. Algebra 1A is a prerequisite for this class.

### Algebra 1 - Part C

### Semester

This course is designed to as a remediative course to help students improve performance on the Keystone Exam. This is an extension of a sequence designed to ensure the students understanding of the basic ideas and concepts of Algebra and is. It consistently applies and connects algebra principles to other areas of mathematics, other disciplines and real-life applications. Students will continue to learn Algebra 1 concepts including: Inequalities, Polynomials, Factoring, and Rational Expressions.

### Integrated Math

### Year

Integrated Mathematics is a course that builds on the mathematical topics and problem solving techniques students already have. It has been designed to prepare you for success in college, in careers, and in daily life in the 21st century. It helps you develop the ability to explore and solve mathematical problems, think critically, work cooperatively with others, and communicate ideas clearly.

The mathematical topics in this course are integrated. This course teaches the essential topics in the Algebra 1/Geometry/Algebra 2 sequence, plus many other interesting, contemporary topics. The topics such as Measurement, Statistics, Probability, Logical Reasoning, Discrete Mathematics, and Functions are spiraled throughout the course so that you continually build on what you have learned.

Integrated Mathematics develops a clear understanding of topics and strong problem solving skills by helping you get actively involved in learning, study meaningful mathematics, see connections among different branches of mathematics, solve real-world applications and long-term projects, and use calculators and computers.

### Algebra I

### Year

This course is an introduction to the basic ideas and concepts of algebra. Algebra I is the study of operations and relations among numbers through the use of variables instead of using just constants. These symbols vastly increase the scope of arithmetic. It consistently applies and connects algebra principles to other areas of math, other disciplines, and real-life applications. Students will understand and use the basic ideas of Algebra including: Algebraic Expressions, Rational Numbers, Solve Equations, applications of Rational Numbers, Functions and Graphs, Inequalities, Polynomials, Factoring, and Rational Expressions.

### Algebra II

### Year

Algebra II will cover the main ideas from First Degree Equations and Inequalities, to Polynomial and Radical Equations and Inequalities, to advanced functions and Relations and lastly Discrete Mathematics. Like any

mathematics course each new topic studied hinges on something learned in a previous unit. The material covered is based on the eligible content of the Keystone Exams. This course will apply and connect algebra principles to real-life applications and implement graphing calculators to reinforce certain topics.

**Prerequisite: MUST HAVE COMPLETED ALGEBRA I AND GEOMETRY.**

### **Plane Geometry**

**Year**

This course provides experiences in problem solving with reference to geometric theory and application. Students will analyze characteristics and properties of two- and three- dimensional geometric shapes and develop mathematical arguments about geometric relationships. This includes an introduction to formal/informal proof and deductive/inductive reasoning. The course also includes the study of the relationships of Lines and Angles, Triangles, Quadrilaterals, Circles, as well as their area, surface area, and volume. Students will also gain an introduction to Trigonometry. Students will be expected to become proficient in the use of a protractor and compass.

**Prerequisite: MUST HAVE COMPLETED ALGEBRA I**

### **Trigonometry/ Statistics**

**Year**

This course begins with a basic review of the Algebra II concepts. Graphing calculators will be integrated into this portion of the course. The review section leads us to the introduction of the trig functions. Right triangle theory along with the six circular functions will be explored in detail. Graphs, identities, manipulations, and current applications of these concepts will be explored throughout the course.

The class will then introduce students to the basic terminology and techniques of statistics and probability. Students will be required to collect, organize, and analyze different types of data. Applications of these techniques will include problems from agriculture, biology, business, economics, education, psychology, and engineering. Several hands on activities will be incorporated throughout the year to help the students understand and apply the concepts with “real data”.

**Prerequisite: MUST HAVE COMPLETED ALGEBRA II**

### **Calculus**

**Year**

This course is an introduction to the basic premises of calculus. It contains detailed work on representing functions with graphs, formulas, tables and verbal descriptions. Then it explores the many types of functions including linear, polynomial, exponential, logarithmic, trigonometric and their inverses. Next will be work related to the concept of a limit. Evaluating limits both numerically and graphically will then be explored. A general treatment of derivatives and their applications forms the body of the course. These concepts will start with investigations of tangent lines, then move into techniques involving computation of derivatives and end with applications of derivatives including related rates. Investigation of integrals will follow if time permits.

**Prerequisite: TRIGONOMETRY**

### **Personal Finance - (11<sup>th</sup> & 12<sup>th</sup> Grade Only)**

**Semester**

Personal Finance is a course designed to incorporate mathematics into everyday living. Topics covered throughout the year are borrowing, budgeting, buying, inflation and depreciation, insurance, investment, savings, statistics, stocks and taxes. Students will utilize a variety of technologies to enhance their financial decisions.

**Prerequisites include: Algebra 1 or Algebra 1B and Geometry.**

### **Personal Finance 2**

**Semester**

Personal Finance 2 is a course designed to incorporate mathematics into everyday living. Students will further explore the topics covered in personal finance 1.

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## **Computers/Business Education**

### **Drone Programming**

**Semester**

Introductory course will teach the basics of coding and computational thinking as they control and program a drone.

Advanced techniques for programming drones and creating an obstacle course using a set of constraints and then program your drone to complete the course.

### **Intro to Business**

**9 Weeks**

This is a lecture/project course that will cover the basic concepts of the economy, how the economy affects everyday life, wants and needs, and ethics and business responsibility.

### **Intro to Business 2**

**9 Weeks**

This is a lecture/project course that will cover the basics of marketing. It will cover entrepreneurship, owning, and managing a business, leadership in management.

### **Intro to Web Page Development**

**9 Weeks**

This is a project based course that will introduce the key skills using HTML5 for web site development and the basic coding for cascading style sheets using CSS3 to format the appearance of a website.

### **Intro to Dreamweaver**

**9 Weeks**

A project based course covering the basics of building web pages using Adobe Dreamweaver. Students will create interactive web pages. **Prerequisites include: Intro to Web Page Development**

### **Intro to Adobe Photoshop 1**

**9 Weeks**

A project based course that introduces basic skills in Photoshop. This course will cover spot healing tool, selection tools, combining images, and creating posters.

### **Intro to Adobe Illustrator**

**9 Weeks**

A project based course that introduces the basics of Adobe Illustrator. Course will include creating cartoon drawings using shapes.

### **Accounting 1**

**Semester**

This is an introductory lecture/project based course that teaches the basics of accounting for a service business.

### **Accounting 2**

**Semester**

This course expands on the basics of Accounting 1 with the use of Quickbooks accounting software.

**Prerequisites include: Accounting I**

### **HTML Game Development 1**

**9 Weeks**

Project based course where students build a game through tutorials using HTML5 and CSS3.

### **Computer Hardware/Networking**

**9 Weeks**

This course will teach about the inside components of computers and their function in the operation of a

computer. Students will build and disassemble CPU's. Students will also learn basic networking skills including making custom Cat5 cables and setting up networks.

**Yearbook/Digital Photography**

**9 Weeks or Year**

A project based course where student will create the current school year's yearbook. They will learn advanced techniques in design, layout, and editing photos.

**Video Game Design 1**

**9 Weeks**

A project based course that introduces the basics of logical thinking and programming using scratch or Stencyl to build and program basic video games.

**Video Game Development (Video Game Design 2)**

**9 Weeks**

Project based self-study course where students will plan and create their own video game using the software of their choice.

**Prerequisite:** Video Game Design 1

**Video Broadcasting and Editing**

**9 Weeks or Year**

This course will include planning segments/content, script writing, & editing and producing final product for the school news and PSAs.

2 semester courses (where students switch)

**Video Broadcasting and Production**

**9 Weeks or Year**

This course will include the on-air personalities, behind the scenes crew, and filming of the school news & Public Service Announcements (PSA) production on topics relevant to the student population.

**Intro to Computer Programming**

**Year**

This course is designed to provide students with a better understanding of structured programming. Prior knowledge of programming language is not necessary. This class will introduce Visual Basic.

**Prerequisite:** Plane Geometry and another Computer Application Course.

**WEB 110 --Bitmap Graphic Design (PhotoShop)**

**Year**

This course provides students with a working knowledge of Adobe PhotoShop to produce professional quality graphic designs. The course will concentrate on designing images for multimedia and web page use and will also cover printed designs. Specific topics covered include PhotoShop tools, palettes, and masks as well as the use of peripheral devices such as scanners.

**Freshman Seminar**

**9 Weeks**

This hands-on course introduces the student to the more popular microcomputer software packages available including Windows, word processing, spreadsheets, and presentations. This course provides students with a working knowledge of these software packages to accomplish the more common tasks. The Microsoft Office suite, MS Word, MS Excel and MS PowerPoint is used.

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## Science

### Academic Biology 1/ Biology 1

Year

Biology is a science course that exposes the student to the unifying characteristics of living forms and progresses to the diversity of life. Diversity begins with the simplest organisms and works toward the complex ecosystems. The students are lead through a planned course of study designed to make them more aware of themselves as functioning organisms, as well as, identifying other living organisms and their methods of survival. Many branches of biology are included in this course. Those areas which comprise most of the course content include: Scientific Research, Biochemistry, Cell Structure and Organization, Cell Growth and Reproduction, Genetics, Heredity, Homeostasis and Transport, Evolution, and Ecology. (Required for all Freshmen)

### Keystone Science-9

Semester

This course focuses on an investigation of the relationship between living communities and their chemical and physical environments. Major topics of study include energy flow, biogeochemical cycles, biotic and abiotic influences on communities of living things, population dynamics, and a study of aquatic and terrestrial ecosystem pollution. **(Required for all Freshman)**

### Biology II

Year

This course includes a more detailed study of selected topics from Biology I. General topics include the origin of life, the chemical basis of life and the process of life. Detailed topics include the study of cells, genetics, microbiology, evolution, anatomy, and physiology. Laboratory exercises provide opportunities for practical application of the content, learning scientific methods and the introduction of additional topics. Comprehensive vertebrate dissection occurs during the eight weeks of this course. **PREREQUISITE - MUST HAVE COMPLETED BIOLOGY I and CHEMISTRY I**

### Introduction to Marine Biology

Year

In this course, students will be exposed to aquatic biology and the basics of marine science. Study will range from in depth observation of the five oceans, to a heavy focus on marine mammalogy and ichthyology, the interaction of animal life with both phytoplankton and zooplankton, deep sea life, coastal communities, and other similar topics. The course will also heavily focus on the anthropogenic factors currently impacting our marine environments such as point source and nonpoint source pollution, oil drilling/spills, carbon dioxide absorption, and unsustainable fishing practices. Students will be exposed to both the power and fragility of marine ecosystems, while simultaneously learning how to preserve and protect these areas. **PREREQUISITE - MUST HAVE COMPLETED BIOLOGY I and CHEMISTRY I**

### Anatomy/ Physiology

Year

This course is tailored to students that are seeking careers in the health sciences. The course includes a detailed study of the following major systems: Integumentary, Skeletal, Muscular, Nervous, Endocrine, Cardiovascular, Lymphatic, Respiratory, Digestive, Urinary, and Reproductive. Laboratory experiences that include comprehensive vertebrate dissection are incorporated during the regular class period. **PREREQUISITE - MUST HAVE COMPLETED BIOLOGY I and CHEMISTRY I. (Biology II Recommended, but not required)**

### Earth Science

Year

The Earth Science course is designed to interpret and understand the world around you. Our topics will include Astronomy (study of outer space), Geology (study of rocks, earthquakes, volcanoes and plate tectonics), Meteorology (study of the atmosphere, climate and climate change), and Oceanography (study of the oceans and water systems). Students will participate in laboratory exercises, small group activities, web based investigations,

class discussions, projects, and research. Throughout the course, you will be enabled to learn the 'how' and 'why', not just the 'what' of science. **PREREQUISITE - MUST HAVE COMPLETED BIOLOGY I and CHEMISTRY I**

### **Environmental Science**

### **Year**

This course will allow the students to identify relationships between organisms found in nature. Two main topics will be discussed: Ecology and Evolution. When discussing Ecology we will cover the topics: Ecosystems and Biomes, Energy Flow within the Ecosystems, Organism Interactions, Population Dynamics, Earth's Cycles and Environmental Changes. When discussing Evolution we will include the Theory of Evolution, the Mechanisms of Evolution, and Scientific Terminology. **Students who have taken Global are ineligible for this course.**

### **Global Science**

### **Year**

This course is designed for any college prep student whether they are science oriented or non-science oriented. It details the earth's ecological systems and man's interdependence with them. The content includes the application of critical thinking to resolve environmental problems. One expected student outcome will be describing and ecosystem model and planning a project, which demonstrates stewardship for the selected ecosystem.

**PREREQUISITE - MUST HAVE COMPLETED BIOLOGY I and CHEMISTRY I. Students who have taken Environmental Awareness are ineligible for this course.**

### **Physical Science**

### **Odd Years**

To be alternated with Agri-science in odd years. The focus of this course is to provide the student with information on a wide variety of NON-Life science issues. Topics include Newton's Laws of Motion with emphasis on a NON-Mathematical description of forces, motion and gravity; the Quantum Theory describing the inner workings of the atom; Einstein's famous Theory of Relativity and how It has completely change how we view the universe as well as space related topics such as the creation of the universe and the Big Bang Theory. Also covered as time allows are a brief history of scientific thought and advances in technology; radiation and radioactivity, as well as the basics of electricity. All topics are covered in a descriptive, non – mathematical fashion (other than a unit on the SI-Metric system). Hands on activities are included as equipment and time allow.

### **Agri-science**

### **Even Years**

To be alternated with Physical Science in even years. Agri-Science is the application of science in the various fields of agriculture, including natural resources, animal and crop production, food science, buildings and structures, land and wildlife management, equipment, and practices. Students will also be exploring the many careers in different aspects of agriculture.

### **Physics**

### **Year**

The purpose of the course is to help students learn analytical thought processes, prepare for college, and understand science and technology in our everyday world. Four major disciplines will be covered: mechanics, wave motion, thermodynamics, and electricity and magnetism. A laboratory using scientific apparatus will supplement comprehension in a variety of concepts within the four disciplines and applying concepts learned in the classroom.

**Prerequisite: MUST HAVE COMPLETED TRIGONOMETRY OR CURRENTLY ENROLLED TRIGONOMETRY.**

### **Chemistry I**

### **Year**

This course covers a wide variety of basic chemical including structure of matter, changes in matter, the periodic table, writing and balancing chemical equations, the mole concept and writing chemical formulas. These topics will be related to real-world situations. This course does not have a scheduled lab period, but lab activities are used during class to illustrate many of these concepts.

### Academic Chemistry/ Honors Chemistry 10

Year

This course is designed for the academic, college-bound student. This course will prepare students with the basic knowledge of chemistry needed for more advanced science classes. The course develops problem-solving skills related to atomic theory, periodic properties, atomic structure, quantum theory, chemical bonding and stoichiometry. This course also introduces basic skills and techniques used in a chemistry laboratory. Prerequisite and/or concurrent: Algebra I.

### Chemistry II

Year

This course is designed to introduce the academically oriented student to college type lecture-lab classes. It will further develop some of the concepts presented in chemistry I and will also introduce new subject areas including gas laws, organic chemistry, and acid/base chemistry. The emphasis is on problem solving and will include a variety of laboratory exercises from various areas of chemistry. Prerequisite: Academic Chemistry or Honors Chemistry. It is **strongly recommended that students applying for Chem. II have at least an 80% in Academic or Honors Chem.**

### AP Chemistry

Year

The AP Chemistry course provides students with a college-level foundation to support future advanced coursework in chemistry. Students cultivate their understanding of chemistry through inquiry-based investigations, as they explore topics such as: atomic structure, intermolecular forces and bonding, chemical reactions, kinetics, thermodynamics, and equilibrium. Created by the AP Chemistry Development Committee, the course curriculum is compatible with many Chemistry courses in colleges and universities. Prerequisite: Chemistry II. **It is strongly recommended that students applying for AP Chem have at least an 85% in Chem II.**

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## Fine Arts

### Concert Band

Year

The course provides a musical experience for students that includes but is not limited to the classroom. Students will explore basic music theory, history and composition, based upon their current individual level of achievement in band. Extracurricular events (marching, jazz, honors band) are not required parts of the course but are strongly advised. Students who participate in these extra ensembles receive extra credit reducing the normal classroom workload. The culmination of this class is at least two public concerts per year.

**Prerequisite: Must have been enrolled in middle school band. Otherwise, an audition must be scheduled with the director.**

### Symphonic Band

Year

This is an advanced-honors course within the high school instrumental curriculum, and can be taken in place of *Concert Band*. This course is scheduled in conjunction with concert band. In addition to the requirements of the concert band track, *Symphonic Band* students are obligated to fulfill the following ensemble requirements:

- a. Marching Band- graded in the first and fourth quarters. All rehearsals/performances from August-May are expected.
- b. Honors/PMEA Festivals- graded in the second and third quarters. Students are expected to prepare and participate in county and district-PMEA level auditions. Students are expected meet and prepare for auditions with the director. Students will need to meet the minimum required audition scores for it to be considered "successful." It is also expected for students to advance through the festival-circuit, if given the opportunity.

**Prerequisite: Student is required to have successful experience in instrumental music in middle school, with a grade no lower than an "A."**

### Concert Choir

Year

The purpose of this course is to increase the student's awareness of all aspects of choral singing. Emphasis will be placed upon: 1) methods used to provide a strong tonally acceptable individual choral sound; 2) factors needed to work with other singers in the formation of successful choral ensembles; and 3) the technique of polyphonic singing within a choral ensemble. Pre-requisites of this course: 1) previous experience in the middle school chorus in 8th grade; 2) successful completion of an interview/audition with the Choral Director. Students will be expected to perform in at least two public concerts per school year as part of their mid-term and final evaluations. Extra credit will be given to students who participate in extra ensembles; such as District and Regional Choral Festivals as well as the audition for District chorus and any small choral ensemble that rehearses after school. Each student will be evaluated on his or her individual performance level.

### Introduction to ART

9 Weeks

This course is designed as an introductory art course for students wishing to pursue more individualized classes in art. ART I will explore the areas of drawing, painting, and the use of clay. A variety of drawing concepts, drawing media, painting, and color theory, as well as three-dimensional design projects will be produced in this class.

### Drawing

9 Weeks

Drawing I is designed for students who enjoy drawing and want to improve their drawing skills. The examination of the elements of design (line, form/shape, value, color, space & texture) and the principles of design (balance, variety, unity, emphasis, proportion, movement & rhythm) will be the basis for this course. Students will focus on developing drawing skills from observation, grid technique, and 2-dimensional design using a variety of art materials and tools.



**Painting****9 Weeks**

This course will focus on the fundamentals of painting. Emphasis will be placed on color theory and exploration of the processes of wet-into-wet, dry-brush. Students will work with a variety of different painting media while learning and experimenting with many techniques. A range of subject matter will be explored including still life, landscape, non objective and imaginative images.

**Art Outside the Classroom****9 Weeks**

This course is designed for the student who would like to create permanent artwork within the school and community. Emphasis on idea, design and craftsmanship is central to this class. Projects produced in this class may include: PennDot's Paint the Plow, school spirit murals, and motivational and educational murals.

**Exploring Creativity****9 Weeks**

This course is designed for the hands-on student that enjoys creating with various materials. Students will develop their creative and technical skills while exploring various mediums, traditional and non-traditional, as well as equipment used to design hand-crafted items. Students will be exposed to a variety of craft techniques with an emphasis placed on design and craftsmanship. Projects created in this class may include: weaving using a variety of materials, papier mache, tie dye, batik design and seasonal decorative projects.

**Exploring Creativity II****9 Weeks**

This course is designed to strengthen student's creative skills while building on concepts and skills learned in Exploring Creativity I. Students will continue to develop their creative and technical skills through the creation of projects such as plaster paris sculpture, stained glass mosaic, fiber arts, tee-shirt screen printing, weaving, and basketry. **Prerequisites include: Exploring Creativity I**

**Ceramics****9 Weeks**

In this class, students explore clay as a 3-dimensional medium through a variety of hand-building construction techniques including coil, pinch, slab, and combinations. A variety of projects will enable students to strengthen their creative skills. Functional and sculptural clay pieces, along with learning the basic techniques, tools, materials, and vocabulary will be learned. Students will experiment and learn a variety of decoration processes, including additive, subtractive, glazing, staining, and use of mixed media.

**Jewelry Design****9 Weeks**

This course is designed to introduce students to the basics of jewelry making. Students will design and produce jewelry using traditional metalsmith techniques such as piercing, sawing, filing, polishing, soldering, and copper enameling.

**Intro to Guitar****9 Weeks**

This quarterly elective course is designed for the **beginning** guitar student. The course is taught in a group setting with individual responsibilities. Focus will be on the application of beginning techniques, such as: guitar set up/tuning, notation (including standard, chords, and tablature), and performing techniques. Students will also develop an understanding of music fundamentals, theory, and various styles of guitar-playing in regards to genre and style (classical, rock, jazz, etc.)

**Music and Film****9 Weeks**

This course will explore how we are exposed to music through film. The class will focus on the role music plays in film with an emphasis on the following:

1. Elements of Music and Film
2. Music and Film throughout from 1900
3. Music and Film Genres

#### 4. The Evolution of the Musical

Students will be asked to analyze music and film examples in class. Supplemental reading and media resources may be used outside of class. Primary assessments will be class discussion and intensive writing-response assignments.

##### **An Introduction to Music Theory**

**9 Weeks**

This course is designed to develop a student's understanding on the mechanics and structure of music notation, with an emphasis on the elements of music. Students will become comfortable with basic music processes heard in everyday popular music as they listen, read, and analyze music notations. Students will also develop basic songwriting skills as result of this course.

**Prerequisite: Must be enrolled in Band/Chorus or can play a musical instrument.**

##### **Music of the 60's:**

**9 Weeks**

Music of the 60's is an introductory course that will explore the popular music of the decade and how the music reflected society. [Top](#)

## **Family and Consumer Science**

### **Parenting and Pregnancy**

**9 Weeks**

Creating and growing a life is for most individuals the most amazing experience of their life. In this course, students will learn about the growth and development of the fetus during each of the trimesters of pregnancy. Students will have an understanding on a handful of chromosomal abnormalities and research how their own behaviors will affect the growth and development of the child. The importance of prenatal care will be discussed along with birthing options available for the mother. We will then travel to how prepared you are to be a parent. We will also look at parenting styles and the psychological effects they can have on the child and mother. This class will also offer an after-school experience with "Baby-Think-It-Over" (a newborn simulator), that will allow students to have a hands-on experience on being a parent. 10th through 12th grade

### **Developmental Disorders**

**9 Weeks**

This course introduces students to developmental disabilities including Autism, Down Syndrome, Fetal Alcohol Syndrome, health impairments, learning disabilities, and emotional and behavioral disorders. This course is intended to increase students' awareness of challenges presented to individuals with disabilities in everyday situations. Topics included are: symptoms, adaptation, treatment, advocacy, and the unique issues faced by individuals who are mainstreamed into the community. Students will explore environmental factors that could potentially harm the unborn child and ways to stay healthy during their lifespan.

### **Careers and Independent Living**

**9 Weeks**

This course focuses on students becoming more independent, responsible, and prepared to make rational decisions about important areas of their lives. Learning how to deal with the consequences of their decisions is also discussed. The course emphasizes topics related to peer pressure, self-esteem, conflict resolution, teamwork, diversity, family, teen pregnancy, dating relationships, and other relationships. This class will also discuss setting goals, personal finances, budgeting, and independent living skills are covered.

### **Fundamentals of Sewing**

**9 Weeks**

In this intermediate sewing class, students are introduced to the sewing machine and its basic functions. This class will cover sewing patterns, selecting fabrics, and basic sewing techniques. Additional topics may include the pressing of sewn garments and seam styles. Students may also learn how to perform simple alterations and how to add buttons and zippers to garments, sizing, measuring, fabric types, and fabric care may also be covered in this course. Students will create a graded sewing project to be completed by the end of the 9 weeks, to show their knowledge that they have learned.

### **Culinary Arts and Food Preparations 1**

**9 Weeks**

This course places an emphasis on cooking basics and food choices for good nutrition and personal health. We will learn fundamental cooking techniques and nutrition basics. Students will understand safety and sanitation procedures that are essential in preparing foods. They will learn the importance of time management when preparing food, the importance of teamwork in planning, preparing, and serving food and the utilization of equipment, terms, and procedures necessary to prepare food safely, basic nutrition principles essential for good health. They will also be educated on how reading, math, and technology are essential to food preparation, and the appropriate rules of social conduct and respect for others through etiquette.

**Culinary Arts and Food Preparations 2****9 Weeks**

This course will focus on Advanced Foods and Nutrition. Students will have the opportunity to develop advanced food preparation skills while applying the nutrition information and food preparation skills learned in Culinary Arts and Food Preparations 1. Students will explore areas of interest which may include: quantity food production, cultural and regional cuisines, convenience foods, creating and adapting recipes, use of small cooking appliances, cake decorating, entertaining, changes in nutritional needs throughout the life cycle, vegetarian diets, nutrition for athletes, eating disorders, and careers in food and nutrition-related occupations. PREREQUISITE Culinary 1

**Baking and Pastry****9 Weeks**

This course is a study of the fundamentals of baking including, dough, quick breads, pies, cakes, cookies, and basic items produced in a bakery. Topics include baking terminology, tool and equipment use, formula conversions, functions of ingredients, and the use of proper ingredients. Students will also learn modern decorating techniques for the creation of beautiful bakery items.

**Child Care and Development****Semester**

Throughout this course, practical application of decision-making processes, responsibilities and effective parenting skills are acquired. The course work covers the physical, emotional, social and intellectual development of the child from birth to one year, the toddler years, and the preschool age years. This class will focus on the issues of discipline, health care, and safety. Child care field observations is included to give the students a hands-on experience.

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## Technology Education & Engineering

### **PRE-ENGINEERING - Intro To Wood Construction**

**9 Weeks**

This course provides experiences in problem solving in the wood construction lab. Students are taught wood characteristics, wood joinery, and building for strength. Students will design, produce, test, ENGINEER & analyze various wood construction technologies. Students will be presented with a design challenge that they will need to design a solution to solve the problem. This is a prerequisite for other Wood Construction Engineering classes.

**Prerequisite: None**

### **PRE-ENGINEERING – INTRO TO WELDING FABRICATION**

**9 Weeks**

Experience the melting two pieces of metal in front of your eyes! This “hands on” course provides experiences in S.T.E.M. (Science Technology Engineering Mathematics) problem solving for metal technology that meets for half of the year. Instruction is provided in all forms of gas and electric welding, which includes flame cutting. The foundation of basic manufacturing production methods will be discussed and utilized to design, produce, test ENGINEER various welding projects.

**Prerequisite: None**

***Anyone interested in a career in Welding, Mechanical Engineering, Machining, Design, Manufacturing and Mechanics should consider this class.***

### **Fine Wood Construction**

**Semester**

The focus of this class will be small wood construction items, such as toys. This STEM related course will increase the student’s skills of hand tools, power tools, and machines. Students will gain insight of industry and how it works through a mass production project chosen by the students. This class is recommended for anyone who wants to gain a woodworking hobby.

**Prerequisite: Introduction to Wood Construction Engineering**

### **Wood Construction Engineering**

**Semester**

The focus of this class will be constructing furniture items. This STEM related course will increase the student’s skills of hand tools, power tools, and machines. Students will gain insight of industry and how it works through a mass production project chosen by the students. This class is recommended for anyone who wants to gain a woodworking hobby.

**Prerequisite: Introduction to Wood Construction Engineering**

### **Advanced Wood Construction Engineering**

**Semester**

Introduction to Wood Construction and one other Wood Construction course.

Students who take this course will have the flexibility to design and construct their own project with approved plans. Also, students who take this class will be expected to assist with community and/or school projects according to needs during the class. Students in this class can integrated another Wood Construction class.

**Prerequisite: Introduction to Wood Construction Engineering / Fine Wood or Wood Engineering**

### **The Engineering Design Process**

**9 Weeks**

The focus of this course is understanding and using the Engineering Design Process in a problem-solving experience. Students in engineering teams apply technology skills to solve engineering design problems and create innovative designs. Students will research, develop, test, and analyze engineering designs using criteria such as

design effectiveness, public safety, human factors and ethics.

**Introduction to STEM Robotics**

**9 Weeks**

This class is intended for students to learn the how to design, program, and build robots using the EV3 Lego Mindstorms kits and software. Students will first learn how to program the robot to move, then will incorporate the sensors. Next students will learn how to include programing loops and switches. During this problem solving process, students will learn teamwork, as they develop robots capable of complex thinking, by designing, building and programing a fully-functioning robotic system.

**STEM Robotics**

**9 Weeks**

Using the knowledge that was obtained in the Introduction to Robotics class, students will be presented with various robotic challenges, that they will need to use the Engineering Design Challenge to research, design, build, test, and analyze the final solution.

**Prerequisite: Introduction to STEM Robotics**

**Advanced STEM Robotics**

**9 Weeks**

Using the knowledge and experiences that was obtained in the STEM Robotics class, students will be given more difficult challenges. Working in a team, you will use the Engineering Design Process to solve the problem.

**Prerequisite: STEM Robotics**

**REGIONAL Technical Competitive Challenge**

**9 Weeks**

Do you have what it takes to lead in a technical world? Take the next level of Technology Education & Engineering. Participate in challenging, technological competitive events. Problem solving, teamwork, and drive is required.

***Anyone interested in a career in Graphic Design, Speech, Mechanical Engineering, Architectural Engineering, Machining, Interior Design, Fashion Design, Manufacturing, and Mechanics should consider this class.*** (Must run 2nd 9wks)

**Engineering Competitive Events**

**9 Weeks**

This class is intended for students want to become experts in the areas associated with the TSA High School competitive events. Students in this class will need to be members of the NCHS TSA organization and will use the time in class to become experts in the competitive events so that they are able to help themselves and their chapter members become strong TSA members. (Must run 3rd 9wks)

**TRANSPORTATION TECHNOLOGY**

**9 Weeks**

In this class, students will be given transportation vehicle design challenges. Students will need to use and understand the Engineering Design Process. Background information will be taught, then students will research and design their final solution. Then using the machines in the Wood Construction lab, students will build, test, and analyze their solutions. Examples of these challenges include Derby Cars, CO2 cars, Mousetrap cars, Mousetrap boats.

**C.A.D.D. Engineering**

**Year**

This “hands on” course provides experiences in S.T.E.M. (Science Technology Engineering Mathematics) problem solving with reference to Electronic drafting. Special emphasis is placed on understanding and usage of computer commands by completing 8 CADD assignments and problem sheets. The American National Standards Institute {ANSI} drawing regulations, manufacturing processes, conventional drawing representation, neatness, accuracy and speed will be emphasized. The utilization of the most current CADD program – AutoCAD 2019, will be extensively used. This “Progressive, Repetitive” instructional technique will master the electronic media. --

"YOU'LL BE AMAZED!!" *Anyone interested in a career in Engineering, Construction, Machining, Interior Design, Manufacturing, Welding, and Mechanics should consider this class.*

**3D CADD ENGINEERING - MECHANICAL**

**YEAR**

This course provides experiences in S.T.E.M. (Science Technology Engineering Mathematics) problem solving for an introductory course in 3D modeling. Students will create 3D models of various Mechanical engineering parts, sheet metal stretch outs, and weldments. The enhanced features of this modeling system are quite different from the line construction using CADD. The creation of a 3D solid model will enable the operator to generate specific views to create the necessary working drawings. From the various parts that have been generated an animation will be created to show the assembly of these parts. The Parametric software Autodesk INVENTOR will be used.

***Prerequisite: CADD engineering***

***Anyone interested in a career in Mechanical Engineering, Structural Engineering, Aerospace Engineering, Machining, Design, Manufacturing and Mechanics should consider this class.***

**3D CADD ENGINEERING -ARCHITECTURAL**

**YEAR**

This course provides experiences in S.T.E.M. (Science Technology Engineering Mathematics) for an introductory course in architectural design. The course reviews design process and principles, thumbnail sketching, building construction, and structural mechanics (HVAC). Students will create the required construction Document drawings to build a residential and commercial structure. Students will be using Autodesk REVIT Building Information 3D Modeling program (BIM) to develop and render models of the structures. Visualization software may also be used to create a virtual walkthrough using Autodesk 3D Studio Max; an animation program.

***PREREQUISITE: CADD Engineering***

***Anyone interested in a career in Architectural Engineering, Structural Engineering, Building Construction, Carpentry, And Interior Design, should consider this class.***

**(BOTH 3D CADD MECHANICAL AND 3D CADD ARCH CAN BE DURING THE SAME CLASS PERIOD)**

**Automation Programming - Machining center, Turning Center & Robotics**

**SEMESTER**

"Look Mom, no hands!" Program a Computer Numerical Control (CNC) machining center to perform cuts in an automated form. This "hands on" course provides experiences in S.T.E.M. (Science Technology Engineering Mathematics) problem solving and programming. Students will then master the MasterCAM software, a Computer Aided Manufacturing (CAM) program, which converts the given geometry of manufactured products into readable code for the CNC Mill. Students will then perform advanced programming, debugging, setup, and interfacing of the Scorbot ER III robotic arm with the CNC equipment as well as the Scorbot ER IV robot to perform automated welding. ***PREREQUISITE: NONE however must be a Junior or Senior.***

***Anyone interested in a career in Engineering, Machining, Programming, CNC Operator, Manufacturing and Automation/Robotics should consider this class.***

**Manufacturing Engineering – Forging, Heat Treating & Foundry**

**Semester**

A S.T.E.M. course relating to metal technology & engineering giving instruction in enhanced manufacturing and engineering techniques, forging and heat-treating. Experience bending and shaping metal into a usable shape. Rearrange the molecular structure and turn a soft piece of metal into a strong, tough usable object of your choice. Additionally, the student will complete 4 robotic experiments. Foundry aspect will focus on the ramming of a sand mold and pouring molten metal to create a casting. ***Anyone interested in a career in Mechanical Engineering,***

***Machining, Design, Manufacturing, Fabrication, welding and Mechanics should consider this class.***

**Manufacturing Engineering – Welding Technology**

**9 Weeks**

Experience MORE opportunities to create the melting of two pieces of metal into one! This “hands on” course provides experiences in S.T.E.M. (Science Technology Engineering Mathematics) problem solving for metal technology. Instruction is provided in all forms of gas and electric (SMA) welding, which includes flame cutting, MIG welding, and Plasma Arc cutting. The foundation of basic manufacturing production methods will be discussed and utilized to design, produce, test ENGINEER various welding projects. Additionally, the student will complete 2 robotic experiments. ***Anyone interested in a career in Welding, Mechanical Engineering, Machining, Design, Manufacturing, and Mechanics should consider this class.***

Prerequisite: **PRE-ENGINEERING – INTRO TO WELDING FABRICATION**

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## **Life Sports (Physical Education)**

### **AEROBIC FITNESS**

**9 Weeks**

This unit is designed to introduce and provide opportunities for students to develop the basic and intermediate skills in a variety of exercising activities that they will be able to participate in now and in the future. Students will be exposed to the basic skills, strategies, and etiquette of the various activities. The components of fitness: muscular strength, muscular endurance, flexibility, and cardiovascular fitness will be emphasized throughout the year.

### **TEAM SPORTS**

**9 Weeks**

This unit is designed to introduce and provide opportunities for students to develop the basic and intermediate skills in a variety of sports and activities that they will be able to participate in now and in the future. Students will be exposed to the basic skills, strategies, and etiquette of the various activities. The components of fitness: muscular strength, muscular endurance, flexibility, body composition and cardiovascular fitness will be emphasized throughout the year.

### **WALKING FOR FITNESS**

**9 Weeks**

This course is designed to provide an opportunity for students to develop a fitness workout plan through the activities of walking and other forms of aerobic exercise. Flexibility, cardiovascular and muscular endurance, as well as muscular strength will be emphasized. Students will be introduced to a low impact form of exercise that is a lifelong activity.

### **ATHLETIC WEIGHT COURSE**

**9 Weeks**

This course is designed to provide an opportunity for students to develop a fitness workout plan through the activities of weight lifting and aerobic exercise. Flexibility, cardiovascular and muscular endurance, as well as muscular strength will be emphasized. Students will be introduced to an exercise that is a lifelong activity.

### **LIFETIME SPORTS AND ACTIVITIES**

**9 Weeks**

This unit is designed to introduce and provide opportunities for students to develop the basic and intermediate skills in a variety of sports and activities that they will be able to participate in now and in the future. Students will be exposed to the basic skills, strategies, and etiquette of the various activities. The components of fitness: muscular strength, muscular endurance, flexibility, body composition and cardiovascular fitness will be emphasized throughout the year.

### **FUNDAMENTALS OF GOLF**

**9 Weeks**

This unit is designed to introduce the basic concepts of golf and provide opportunities for students to learn the philosophies of golf teaching techniques. Students from all skill levels can enhance or learn the basics: club selection, swing plane, rotation, and course management.

### **HEALTHY LIFESTYLES**

**9 Weeks**

We were created to live with healthy bodies and minds. Physical health is important for optimized learning and can be affected by diet and lifestyle choices. Mental health is vital to maintaining a positive outlook and this class will breakdown the makeup of our mental and emotional well-being. We aim to promote a healthy lifestyle by modelling and promoting healthy living to the students and provide information for students and parents to make healthful, informational choices. This class will provide a framework for healthy living in all aspects of the health triangle and promote healthy choices throughout of lifetime. (Once in High School Career)

**BEGINNING EXERCISE/KINESIOLOGY****9 Weeks**

This course will analyze skills necessary for effective movement, fitness technology and athletic training. Students will become involved in the mechanics of the human body and its movements through exercise and physical activity. Students will be introduced to exercise equipment, fitness center, and a variety of exercise programs.

**SPORTS NUTRITION****9 Weeks**

Whether you are a bodybuilder, a professional athlete or simply exercising to improve your health, sports nutrition plays a key role in optimising the beneficial effects of physical activity. Making better decisions with your nutrition and hydration can result in improved performance, recovery and injury prevention. ( Once in High School Career)

**Health****9 Weeks**

This course is designed to encourage good health behaviors. It will help students feel responsible for their own health. It will emphasize choices students should make to maintain and improve health. It leads students to realize that all their decisions affect their physical, mental and social well-being and that their behaviors today affect the quality of their health later on. (Freshman Year)

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## Test Preparation / Independent Study

### SAT Prep Course (independent study cyber course)

Semester

This course is designed to prepare student for the SAT exam

### Guided Academic Reinforcement

9 Weeks

This course is designed to assist students with their course work. In this course, students will have the opportunity to work with an instructor to complete homework and other course work.

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