

# **LEHIGHTON AREA HIGH SCHOOL**

## **Curriculum Guide** Career and College Exploration



**2024 - 2025**

## **DISTRICT MISSION STATEMENT**

Partnering with students, families, and community to provide opportunities for life-long success through academic excellence and individual growth in a safe and supportive environment.

## **HIGH SCHOOL VISION STATEMENT**

To engage students in an appreciative pursuit of knowledge while entrusting them with responsibility and an inquisitive journey of self-improvement.

## **BELIEFS**

### **We believe:**

- Every student has the right to learn in a safe, supportive environment.
- All students, regardless of diverse backgrounds and needs are capable of learning and must be respected as individual learners given the ability to develop appropriate skills to maximize their potential.
- Learning is a life-long process that begins within the family and is encouraged through the partnership of all shareholders.
- High standards and expectations, incorporated with varied extra-curricular programs, provide for a well-rounded education.
- Excellence in education requires time, effort, effective communication, and cooperation by the educational community as well as the community at large.
- To make responsible career and life choices, all students must learn to communicate, collaborate, problem solve, develop higher level thinking skills and use technology efficiently.
- The development of a strong work ethic is necessary to enable student to become self-directed and life-long learners.
- Students learn best from highly qualified, caring and well-trained educators.
- Through a positive work environment and focused efforts, our employees will make strong contributions to the district's operational success.
- The educational system must continuously re-examine its purpose, financial commitment, programs, curriculum, and direction in order for a democratic society to flourish.

**LEHIGHTON AREA HIGH SCHOOL**

High School Main Office Telephone: (610) 377-6180

High School Counseling Office: (610) 377-7600

Mrs. Suzanne Howland.....	High School Principal
Mr. Floyd Brown.....	High School Asst. Principal
Mrs. Melissa Armbruster.....	Secretary to the Principal
Mrs. Kelli Costenbader Grades 10 & 12.....	High School Counselor
Mrs. Kathleen Martin Grades 9 & 11.....	High School Counselor
Mrs. Mollie Watts.....	Guidance Secretary

**DEPARTMENT HEAD DIRECTORY**

See district website at [www.lehighton.org](http://www.lehighton.org)

**NON-DISCRIMINATION POLICY**

It is the policy of the Lehigh Area School District not to discriminate on the basis of race, color, sex, religion, national origin, age or non-related handicaps or disabilities in its educational programs, activities or employment practices as required by Title IX, Section 504 of the Rehabilitation Act of 1973, and other such statutes.

Inquiries regarding this policy should be directed to Dr. Christina Fish, Superintendent, Lehigh Area School District, 1000 Union Street, Lehigh, Pennsylvania 18235. Telephone: (610)377-4490.

**A Message for both Students and Parents:**

This Curriculum Guide has been prepared for the information of the parents/guardians and students attending Lehigh Area High School. The material in this guide describes all the courses we offer and explains who may elect the same. It also tells what credit will be received for satisfactorily completing each course.

Many jobs now in existence may well be non-existent five or ten years from now. Likewise, other careers that do not exist today will most certainly be available in the future. Therefore, the best advice the school can give to a student is for them to plan a program that will allow for change.

As educators, we are aware of the fact that many students do not know what they want to do after graduation, but still, they must make some realistic choices concerning their future while still in high school.

Students are challenged to aim high in their future plans, and yet be realistic in their choices. Their choices should be made on the basis of past achievement, personal interests and desires.

We wish to urge all students to seriously consider some form of post-high school education such as a career and technical program, 2 or 4-year college/university, certification program and the military. **KEEP GOING....KEEP GROWING....CONTINUE YOUR EDUCATION.**

As you try to decide which courses you would like to take next year you should have an honest discussion with your parents/guardians. Our guidance counselors are trained and experienced in helping students to select courses wisely, but you must be honest with them. Remember, your final choice of subjects must meet the approval of your parents/guardians, your counselor, and yourself.

Finally, we feel that we have a curriculum that is diverse enough to meet the individual needs of our entire student body, so please take the time to study this booklet closely so that you can take full advantage of our offering.

# **GUIDELINES FOR COURSE SELECTION**

## **COURSE SELECTION PROCESS**

The selection of courses is viewed as a commitment between the student and the high school. We will do everything possible to schedule students to the courses they have selected, but the master schedule construction may dictate alternate course selections. Students are expected to complete those courses they have selected.

Students who do not complete a course selection sheet will be assigned courses by their counselor.

To begin the course selection process, students should consider several key items:

- Graduation requirements-select those classes first
- Prerequisites: Courses or grades that must be earned before taking a specific class
- The recommended and required courses for your post-high school career and educational plans

The counselors will present the Curriculum Guide and course selection sheet to the students. Students will be required to have core subject teachers initial their course selection sheet signifying agreement with the next sequence of course work in that subject area. Students should review courses with parents/guardians and enter their course requests on the computer through Power School. Students will need their Power School log-in. Upon inputting the course requests, students should return their signed course selection sheet to the guidance department. Due dates for each task will be provided to the students at the program of studies presentation.

Administration will build a master schedule based on student need and course request totals. This entire process takes several months. The listing of a course does not guarantee that the course will be taught. In the event of insufficient registration and/or staffing or facilities limitations, the administration reserves the right to cancel any course or limit enrollment in the course.

Counselors will attempt to meet individually with students prior to the conclusion of the school year to review a tentative schedule for the next school year and make adjustments as warranted.

## **PREREQUISITES**

Past experience shows that a certain minimum level of achievement is necessary in certain courses if a student hopes to achieve satisfactorily in the "next level" course.

Students will be placed in their appropriate level class based on prior academic performance, teacher/department recommendations and/or benchmark/standardized testing. In an attempt to continue to encourage and challenge students, prerequisites have been established.

Lehigh Area High School offers the following levels of courses:

**Advanced Placement (AP)** - Classes providing advanced learning and give students the opportunity to study and learn at the collegiate level. Curriculum and guidelines for AP designation are governed by College Board.

**Honors (HN)** - Classes offered for high-achieving students - covering additional topics or some topics in greater depth than in the College Prep course.

A student placed in honors level classes must maintain a final minimum grade of 83% to advance to the next honors level class. Any student who fails an honors level class will be placed into a college preparatory (CP) level for that content.

Dual Enrollment - College classes offered at LAHS, at a college campus or on-line through an accredited college or university. College credits and high school credits are simultaneously earned upon successful completion of the course. Dual enrollment classes will have a special designation on student transcripts.

College Preparatory (CP) - Courses that students take to prepare them for the academic rigor of college.

A student placed in a college preparatory (CP) level high school class may move up to an honors level class the next academic year by earning a final grade of an 88% in the college preparatory class.

Applied (APD) - Courses for students who have difficulty in specific subject areas. Most of these classes are co-taught which enables a student to receive additional help in the subject matter with a small student teacher ratio.

Additional prerequisites are listed after many of the course descriptions.

### **CALCULATION OF THE GRADE POINT AVERAGE (GPA)**

During the course of a school year, two different types of Grade Point Averages (GPA) can be calculated for each student. The first is known as the “simple” or “non-weighted” GPA, while the second type is “weighted.” The “simple” GPA is calculated four (4) times a year, at the end of each marking period, using the grades from that report period to determine who qualifies for our honors lists. This “simple” GPA is never used to determine class rank. The “weighted” GPA is calculated at the end of each semester. Final course grades are used in this calculation, and the quality points are based upon the level (AP, Honors, College Prep, or Applied) of the course. This GPA rewards those students who have selected the more difficult courses (and did well). It is the “weighted,” GPA that is used to determine a student’s official class rank. **OF THE TWO, THE “WEIGHTED” GPA IS THE MOST IMPORTANT. IT IS ALSO CUMULATIVE.**

Dual Enrollment is never factored into grades for Honor Roll purposes, but will be included in final transcript.

Examples of GPA calculations can be find in the student handbook located at [www.lehighton.org](http://www.lehighton.org) under the high school tab-important documents.

### **COURSE FEES- SAFETY & MATERIALS**

Because of the nature of specific courses offered at Lehighton Area High School, students will incur a 20-dollar fee to offset the cost of supplies. Some examples include, purchasing material for art/photography projects, construction or manufacturing supplies which will become their personal property upon completion; pay fees for advanced placement testing or PSAT testing. Any questions about the fee, can be discussed with the class teacher.

## CAREER PATHWAYS

Leighton Area High School has implemented Career Pathways model to assist students in planning appropriate course options that will help them to reach their post-secondary goals based on their interests and skills. A pathway is a broad grouping of careers that share similar characteristics and whose employment requirements call for many common interests, strengths and competences. Choosing a career pathway will help students focus on a career area that matches their interests, helps assist with setting goals and developing a comprehensive course plan for high school, and provides insight into future career options and how they relate to your academic plan. How does it work?

**Step One: Career Awareness:** In elementary school, students are exposed to a wide range of careers through guest speakers, videos, guidance lessons and field trips. Teachers, school counselors, and parents help students develop an awareness of the importance of a good work habits, educational achievement and character development.

**Step Two: Career Exploration:** In middle school, students are encouraged to explore their interests by completing interest inventories and gathering information about careers including working conditions, educational requirements and skills needed. Teachers, school counselors and parents motivate students to identify their abilities and skills and continue to support strong work habits and good decision making skills.

**Step Three: Career Preparation:** In high school, students, with the help of their parents and guidance counselors, will chose one of five clusters:

- Arts, Media & Communication
- Business, Finance, Technology & Entrepreneurship
- Health & Human Services
- Engineering, Science, Mathematics & Industrial Technology
- College Scholars

**Step Four: Career Development:** Based on the career goals chosen, students will be advised to continue preparing for their careers.

Post-Secondary Goals	Examples
Employment	<p><u>On the job Training</u>-Employer designed training established for the worker to gain the necessary work skills while getting paid on the job.</p> <p><u>Apprenticeship program</u>: Apprentices are paid as they attend work and classes. Upon completion, the worker will gain journeyman status in the specific industry.</p> <p><u>Career Link</u>: Local resource that provides training, employment or support services to job seekers.</p>
Military	<p>All branches of the military have skilled training. Student interested can meet with a recruiter to explore active duty, reserve duty or ROTC opportunities. Students may be able to use their GI Bill to help pay for college.</p>
Education	<p><u>Diploma/Certificate Programs</u>: Short-term programs that last on average 6 months to 1 year that assist with acquiring specific skills in order to gain employment at an entry level job. These programs can be found at technical schools (CCTI Adult Education), community colleges or some four year colleges/universities.</p> <p><u>Associate's Degree</u>: These are 2 year degrees that enable students to gain entry level employment in a specific career. Programs are found at community colleges, trade schools or some four year colleges/universities.</p> <p><u>Bachelor' Degree</u>: These are typically four-year degrees with course work in general education and a declared major. Degrees are obtained in liberal arts colleges, private colleges, state colleges and universities.</p> <p><u>Graduate/Professional Degree Programs</u>: Post graduate degrees required for certain professions in order to practice or be employed in that career such as law, medicine, Ph.D and other professional fields. On average, programs can be 1 to 5 years in length beyond a bachelor's degree. Accelerated programs are available at select colleges/universities.</p>

## Art, Media & Communication Pathway Electives

Sample occupations: Actor, Audio-Visual Designer, Commercial Artist, Animator, Curator, Director, Journalist, Musician, Author, Photographer, Educator, Band Director, Announcer, Art Dealer, Audio-Visual Technician, Cartoonist/Comic Illustrator, Choreographer, Composer, Digital Media, Editor, Designer, Florist, Interior Decorator, Make-up Artist, Producer, Public Relations, Sound Technician, Television & Radio Reporter, Website Designer, Agent, Custom Designer

Sports Literature	Algebra for Everyday Living	Visual Art
Creative Writing	Algebra for Employment	Craft/Three Dimensional Art
Literature Through Film	Statistics	Drawing & Painting I
Science Fiction	AP Statistics	Multi-Media & Broadcasting
Mythology & Folklore	History of Am. Popular Culture	Web Page Design
AP English Literature	Sociology	Sports & Enter. Marketing
Choir	Global Issues	Personal Finance
Band	Psychology	Photography I & II
Music through Film	AP Psychology	Advanced Photo & Design
Class Voice	Cooking 101	Illustration and Animations
History of Modern Music	Child Development	Ceramics & Sculpture I & II
History & Appreciation of Musical Theater	Foods Around the World	Honors Art Seminar I & II
Music Theory I & II	Interior Design	Visual Communication
Spanish I, II & III	Advanced Baking	

- Career clusters: Arts/ATV/Technology & Communication



Look for this icon for elective offerings in Art, Media, and Communication

## Business, Finance, Technology & Entrepreneurship Pathway Electives

**Sample Occupations: Advertising, Auditor, Certified Public Accountant, Entrepreneur, Human Resource Manager, Investment Executive, Marketing Analyst, Copywriter, Merchandise Buyer, Shipping/Receiving Clerk, Actuary, Credit Analyst, Economist, Financial Planner, Insurance Broker, Animator, Information technologist, Network Administer, Web Designer, PC Support Specialist, Programmer, Software Application Specialist, User Support Specialist, Public Relations, Sales Executive, Retail Marketing Coordinator, Internet Security, Forensic Accounting, Restaurant Owner, Small Business Owner, Facilities Manager, Baker, Casino Manager**

AP English Literature & Comp.	AP Psychology	Personal Finance
AP Statistics	World Geography	Business Law
Statistics	Sociology	Sports & Ent. Marketing
Statistics AP	Global Issues	Introduction to Business
Pre-Calculus with Trigonometry	US History AP	Microsoft Office Professional
Calculus	Cooking 101	Computer Programming
AP Calculus AB	Foods Around the World	Illustration & Animation
Algebra in Everyday Living	Accounting I, II, II	Visual Communication
Algebra in Employment	Multi-Media and Broadcasting	Visual Art
Psychology	Web Page Design	

- Career clusters: Business, Management & Administration, Marketing, Finance, Information Technology



Look for this Icon for elective offerings in Business, Finance, Technology & Entrepreneurship

**Health & Human Services Pathway Electives:**

**Sample Occupations: Dental Assistant, Hygienist, EMT/Paramedic, Lab Technician, Phlebotomist, Radiographer, Registered Nurse, Athletic Trainer, Occupational Therapist, Physical Therapist, Physician’s Assistant, Psychologist, Research Scientist, Veterinarian, Toxicologist, Child Care Worker, Clinical Psychologist, Teacher, Principal, Speech Language Pathologist, Lobbyist, National Security Advisor, Director of Operations, Event Planner, Tour and Travel Guide, Funeral Director, Massage Therapist, Personal Fitness Trainer, Attorney, Corrections Officer, Firefighter, Paralegal, Security Director, Law Enforcement**

AP English Literature & Comp.	World Geography	Personal Finance
Sports Literature	History of Am. Popular Culture	Multimedia & Broadcasting
Algebra in Everyday Living	Sociology	Chemistry
Algebra in Employment	Global Issues	Modern Chemistry
Pre-Calculus with Trigonometry	Cooking 101	AP Chemistry
Calculus	Child Development	Human Anatomy & Physiology
AP Calculus AB	Advanced Baking	Physics
Statistics	Foods Around the World	Physics & Technology
AP Statistics	Interior Design	AP Physics; Algebra
Psychology	Introduction to Business	Project & Research Science
AP Psychology	Business Law	AP Biology
US History AP	Personal Conditioning	Environmental Science
Spanish I, II, III		

- Career Clusters: Health Science, Education & Training, Hospitality & Tourism, Law, Public Safety, Corrections and Security, Government & Public Administration



Look for this Icon for elective offerings in Health & Human Services

**Engineering, Science, Mathematics & Industrial Technology Pathway Electives**

**Sample Occupations: Aerospace Engineer, Agricultural Engineer, Analytical Chemist, Architect, Astrophysics, Anthropologist, Ecologist, Geologist, CAD Technician, Mathematician, Statistician, Zoologist, Educator, Civil Engineer, Construction Manager, Biologist, Chemical Engineer, College Professor**

AP Literature & Composition	Global Issues	AP Chemistry
Pre-Calculus with Trigonometry	World Geography	Physics & Technology
Calculus	Construction Tech. I, II, III, IV	Physics
AP Calculus AB	Manufacturing Tech. I, II, III, IV	AP Physics Algebra
Statistics	PLTW Civil Eng. & Architecture	AP Biology
AP Statistics	Engineering Graphics	Interior Design
Algebra in Everyday Living	Project and Research Science	Personal Finance
Algebra in Employment	Anatomy & Physiology	
Psychology	Environmental Science	
AP Psychology	Modern Chemistry	
Sociology	Chemistry	

- Career Clusters: Science, Technology, Engineering, Math, Agriculture, Food, & Natural Resources, Architecture & Construction, Manufacturing, Transportation, Distribution & Logistics



Look for this Icon for elective offerings in Engineering, Science, Mathematics, and Industrial Technology

## **COLLEGE SCHOLARS**

Lehigh Area High School in partnership with Lehigh Carbon Community College (LCCC) is able to offer students entering the 11<sup>th</sup> grade the ability to earn their associates degree from LCCC while simultaneously earning their high school diploma. Eligible students must have a minimum of a 3.0 GPA, be advanced or proficient on all Keystone exams, have good attendance and discipline and successfully pass LCCC placement testing to be considered for the program. This is a two-year program that will start at the beginning of a student's 11<sup>th</sup> grade year. An informational session for students, parents/guardians is typically held in February. If accepted, students will take all their courses through LCCC. Tuition, transportation, textbooks and any additional supplies or fees are the responsibility of the student. Students will not be eligible for honor roll through Lehigh Area High School, however, will be eligible for dean's list through LCCC if the student earns the necessary grades.

## **FAILURE OF REQUIRED COURSES**

If students have failed a course with a final average between a 60%-48%, one may attempt to pass this course by attending a summer/winter credit recovery class. If the final course average was below a 48%, the course **MUST BE REPEATED** in a "regular" classroom during a "regular" school term.

Any core subject not taken through a winter/summer credit recovery class will need to be repeated during the traditional school year.

## **STUDENT COURSE LOAD**

All students are required to carry a full schedule each school year. Students are required to attempt a minimum of 7 credits per year.

## **NONBINDING NOTE**

The school reserves the right to cancel or postpone courses for which insufficient enrollment, lack of physical facilities, or unavailability of professional personnel necessitates such action.

## **SCHEDULE CHANGES**

Students will be able to review their schedule in PowerSchool in August. Students who need to make a change in their schedule should contact their respective counselor once schedules are released in August to schedule an appointment. A tremendous amount of time is spent in creating each student schedule to maximize educational opportunities. When necessary a counselor-student conference or parent/guardian contact will be made. Serious conflicts will be resolved by administration.

Changes to courses must be made within the first 5 days of the school year.

If permission has been granted by administration for a student to drop a class after the 1<sup>st</sup> week of each semester due to extenuating circumstances, a "WP" or "WF" will be recorded on the student's permanent record. A WP and WF will only be considered under extenuating circumstances prior to the end of the 1<sup>st</sup> marking period of each course. Students taking a WF will receive a 60% for the course which will be calculated into their GPA and class rank.

Since grades will be available 10 days after the last day of school, it will be the responsibility of the student who selected a course and who did not meet the suggested grade prerequisite to make another selection by contacting the guidance office by July 1<sup>st</sup>.

## **GRADUATION REQUIREMENTS**

- All students must be advanced or proficient in Keystone content areas or complete the statewide high school graduation pathway Act 158 as outline by the Pennsylvania Department of Education.
- 26 credits as outlined below must be earned in order to graduate.

<b>Subject</b>	
Language Arts	4 credits
Mathematics	4 credits
Science	4 credits
Social Studies	4 credits
Fitness	1 credit
Wellness	1 credit
*Arts & Humanities	3 credits
Computer/App/Careers	1 credit
Electives	4 credits

(\*) The following areas will count towards this requirement: Art, Music, Band, Family & Consumer Sciences, Industrial Arts, Foreign Languages, plus any courses in English, Math, Science and Social Studies ABOVE graduation requirements.

“BE IT FURTHER RESOLVED, THAT upon failure to meet the required credit units for graduation, no student will be allowed to participate in the formal Commencement exercises.”

## **DUAL ENROLLMENT**

In partnership with Lehigh Carbon Community College (LCCC), Leighton School District is able to offer college level courses while students are still in high school. Students can choose to take classes on site at a LCCC campus, on-line or at the high school when available. In most cases, students will earn three college credits/class and one honors level credit at LAHS. Students are responsible for the cost of the course, textbook and any travel that may be required.

This opportunity is open to all juniors and seniors. Students are responsible for completing a LCCC application and submitting tuition fees to the guidance office.

Students will adhere to all of the policies and procedures established by LCCC including fulfilling pre-requisites, grade requirements and placement testing as determined by LCCC.

Students will work with their guidance counselor and parents/guardians to determine appropriate class enrollment.

School Board policy 204.2 provides further information on dual enrollment.

A complete list of courses offered and course descriptions can be located on the Lehigh Carbon Community College website [www.lccc.edu](http://www.lccc.edu).

## **CARBON CAREER AND TECHNICAL INSTITUTE (CCTI)**

CCTI is a comprehensive career and technical school offering both academic studies and career and technical studies in a full day format.

The school serves students in grades 9, 10, 11 & 12. CCTI also offers FLEX scheduling for students who want to get a portion of a program to round out their high school curriculum and provide them with some skill or information in a particular trade.

### **CCTI Technical Areas:**

Auto Collision & Repair

Auto Service & Technology

Carpentry

Cosmetology

Culinary Arts

Digital Marketing

Drafting and Design Technology/Technician

Electrical Distribution and Automation/Electrician

Electronics Communication Engineering Technology

Engineering Technology

Graphic Design

Health/ Medical Assistant/Aide

Heating, Ventilation, Air Conditioning & Refrigeration

Precise Machine Technology

Welding

Interested students need to complete and submit a CCTI application to the guidance office by the first Monday in March prior to the beginning of the new school year.

### **NCAA CLEARING HOUSE**

Any student interested in playing athletics at a Division I or Division II college or university must register with the NCAA Clearing House. It is important that students choose college preparatory classes that have been approved by the NCAA Clearinghouse. Below is further information from the NCAA Clearinghouse website.

- At the beginning of your **junior year**, complete your online registration at [www.eligibilitycenter.org](http://www.eligibilitycenter.org).
- Register to take the ACT, SAT or both and use the NCAA Eligibility Center code “**9999**” as a score recipient. Doing this sends your official score directly to the NCAA Eligibility Center.
- Double check to make sure the courses you have taken match your school’s list of NCAA courses.
- Have your high school counselor send an official transcript to the NCAA Eligibility Center after completing your junior year. If you have attended more than one high school, the NCAA Eligibility Center will need official transcripts from all high schools attended.
- Before registering for classes for your **senior year**, check with your high school counselor to determine the amount of core courses that you need to complete your senior year.
- Take the ACT and/or SAT again, if necessary. The NCAA Eligibility Center will use the best scores from each section of the ACT or SAT to determine your best cumulative score.
- Continue to take college-prep courses.
- Check the courses you have taken to match your school’s list of NCAA courses.
- Review your amateurism responses and request final amateurism certification on or after April 1 (for fall enrollees) or October 1 (for spring enrollees).
- Graduate on time (in eight academic semester

## ***COURSE DESCRIPTIONS***

\*A more detailed description of the class and grading system used can be located in the course syllabus.

### **FITNESS & WELLNESS**

#### **H0025 – FITNESS (.5)**

This course will encompass activities including: advanced skills development, strategies involving competitive team sports, mass games, designing an individual fitness and strength training program, dance, lifetime sports and leisure activities. This course will follow the same outline as Fitness I.

Grades are derived from authentic performance skills and objective testing.

#### **H0023 - PERSONAL CONDITIONING (.5)**

This course is designed to give students the opportunity to learn fitness concepts and conditioning techniques used for obtaining optimal physical fitness. Students will benefit from comprehensive weight training and cardiorespiratory endurance activities as well as additional lifetime physical fitness and well-being activities.



#### **H0055 – WELLNESS I (.5)**

This course will offer instruction on awareness of the human body – physically, mentally, and socially in all phases of health. Concepts such as human growth and development, nutrition, the use of alcohol, tobacco, drugs, and infectious diseases, including AIDS.

#### **H0056 - WELLNESS II (.5)**

This course will continue to expand on topics covered in Wellness I.

Prerequisite: Students must successfully pass Wellness I

### ***INSTRUCTION RELATED TO AIDS***

*The State Board of Education has rules that require school districts to teach both the dangers of and the prevention of AIDS. In the senior high school this will be done in the Wellness class.*

*Teachers will excuse students who, for moral or religious reasons, oppose instruction on the topic of sexually transmitted diseases. To have a child excluded from these presentations, a parent or guardian of the student must deliver or send by registered mail to the senior high school principal's office a signed statement that they do not want their child in health class during these discussions. Then, too, should a parent wish to examine the material that will be used in AIDS lessons; one can make arrangements by calling the high school.*

## LANGUAGE ARTS – 0100

### ENGLISH 9 (1.0)

This freshman class blends the rigorous study of literature with the development of the rudiments of written communications. It is the fundamental course on which all higher level Language Arts courses expand upon. Much time is spent on literature responses, and analysis development, and compositions. The Literature unit consists of reading novels, short stories, poetry, and *Romeo and Juliet* by William Shakespeare. Students are taught to analyze all types of literature and apply the work to life. By the completion of the courses, students will be able to write informative pieces; with focus, effective developmental strategies, and precise stylistic techniques. Students will review the grammatical and mechanical qualities of formal writing. Some literacy concepts will be studied in written analysis. Students will produce the following types of essays: narrative, descriptive, persuasive, compare/contrast, cause/effect, and problem/solution. Students are expected to write and present speeches, complete daily journals and study vocabulary. This course will include at least one independent reading and critical literary research project.

**H0110 – Honors:** Students should expect a rigorous content level and pace. This course demands greater independence and responsibility. A 90% or higher in 8<sup>th</sup> grade English/Language Arts is required.

**H0111– College Preparatory:** See above

**H0112 – Applied:** This is a basic language arts course for students who feel challenged by the rigors of writing and literature. This course will focus on communication skills, as well as the basics in grammar and writing with the intent to sharpen those skills. The writing includes practice in narrative, persuasive, and informative essays. Special emphasis will be placed on reading.

### ENGLISH 10 (1.0)

This course will cover short stories and poetry in terms of analysis of structure and meaning. A large amount of writing on both topics will be required. Students will also read a contemporary novel, *Julius Caesar* by William Shakespeare, *Crucible* by Arthur Miller and one classic novel. Students will produce the following types of essays: narrative, descriptive, persuasive, compare/contrast, cause/effect, and problem/solution. This course will include at least one independent reading and critical literary research project.

**H0120 – Honors:** Themes and essays on all works will be required. Literature responses, panel discussions and group writing projects will also be part of the class structure.

**H0121 – College Preparatory:** See above

**H0122 – Applied:** See above

## ENGLISH 11 (1.0)

This course combines the study of various types of literature and nonfiction texts with critical thinking and writing skills. Emphasis to be placed on college-readiness. Students will complete a major outside reading and supplementary analysis with the goal of promoting a deep understanding of complex text. The course will build toward mastery of the eleventh- and twelfth-grade English/Language Arts PA Standards. Students will study novels, poetry, nonfiction and drama from a variety of time periods and authors. College-level conventions of writing, speaking, listening, and presenting will be emphasized through rigorous assessments. Various modalities of writing will be explored, including persuasion, argument, analysis/evaluation, and exposition.

**H0130- Honors**

**H0131- College Preparatory**

**H0132- Applied**

## ENGLISH 12 (1.0)

This course will promote mastery of the eleventh-and-twelfth-grade PA standards for English/Language Arts through a synthesis of literacy, analysis, and communication instruction. This course is designed to prepare student for the realities of a college-level literature and/or composition class. Students will compose multi-paragraph constructed responses across a variety of modes including: research, analysis, evaluation, argument, persuasion, and exposition. Two major independent reading and composition projects must be completed. Major texts will include novels, poems, Shakespearean drama, and nonfiction. Student will enhance listening and speaking skills through presentations.

**H0140-Honors**

**H0141- College Preparatory**

**H0142- Applied**

### **H0148 – ENGLISH LITERATURE AND COMPOSTION-ADVANCED PLACEMENT (1.0)**

AP English is open to selected college-bound seniors who have demonstrated superior understanding of and performance in all English skills. These students will be identified through testing and evaluation by the English department in conjunction with the guidance department. Advanced analytical and critical thinking and writing skills will be stressed. Classes will be taught on a college level in a seminar atmosphere and cover all genres of literature. Students completing this course should be able to qualify for college credit or placement by passing the AP exam and to compete at a high level in college courses.

Prerequisite: Students must have an 83% or better in Honors English 10 and 11



## MYTHOLOGY & FOLKLORE (.5)

During this 90 day course (semester) class, students will read and discuss mythology from multiple cultures and discover how these stories connect people around the world. This course presents an overview of mythology and folklore. Students will journey with ancient heroes as they slay dragons and outwit the gods, follow fearless warrior women into battle and watch as clever animals outwit those stronger than themselves. The course is offered for 10<sup>th</sup>-12<sup>th</sup> grade students.

**H0157- Honors**

**H0154 – College Preparatory**



## CREATIVE WRITING (.5)

This 90-day course offers students who are beginning to explore creative writing or who are wishing to further develop their skills an opportunity to study experienced writers and apply their own unique style. The class introduces students to the process and techniques of creative writing. Students experiment with various types of writing including poetry, fiction, historical fiction, drama, and children's literature. Included in the course is a 2-week historical context study researching influential historical events that shaped the world and establishing those events as criteria for prose and poetry. The Holocaust will be included in this historical context study. Class readings expose students to various writing styles and provide examples of the successes and strategies of other writers. Class time is spent discussing the writer's craft, the assigned readings, and student writing. A necessary component to this course is reading and critiquing each other's work in a seminar forum with the eventual consideration and efforts toward publication. This course is offered for 10<sup>th</sup>-12<sup>th</sup> grade students.

**H0155 – Honors:** This Honors elective includes a more rigorous workload for a more experienced writer.

**H0156 – College Preparatory:** This college preparatory level is offered to beginning writers and will require fewer assignments and/or shorter page length requirements.



## H0158- EFFECTIVE COMMUNICATION (.5)

This 10<sup>th</sup> grade semester course will focus on effective language skills starting with the fundamentals of English grammar including: parts of speech, sentence types, phrases, and clauses. We examine and practice skills associated with: coordination, subordination, conciseness, parallelism, and tenses. Correct usage and punctuation is also emphasized. Additionally, students will write constructed responses which contain text references and sufficient commentary. Finally, we will utilize Progress Learning to bolster literacy terminology and eligible content tested on the Keystone Exam.

## LITERATURE THROUGH FILM (.5)

This course explores the highly complex relationship between printed literature and film. Students will engage in analytical studies of novels, short stories, plays and nonfictional texts and their respective film adaptations. Further, students will investigate films not having a textual companion in terms of applicable literary technique, social/historical context, and commentary on our everyday lives. This course is reading and writing extensive with most class time dedicated to viewing films, discussing contents, and preparing for written responses. This class is offered to students in grades 10-12.

**H0164- Honors:** This Honors elective will require a more rigorous workload and may require additional reading, projects and assignments.

**H0168- College Preparatory:** See above



## SCIENCE FICTION (.5)

This course is designed as a study in science fiction as a literary genre through literature and film. Students will analyze the elements and themes of science fiction as well as the literary styles of authors such as George Orwell. Students will read a wide variety of science fiction works, including classic science fiction and more modern science fiction. Students will be guided to make thematic and topical connections between texts and time periods. Students will also analyze the literary and structural elements specific to the science fiction genre. Students will be asked to expand their thinking about science and its connection to humanity, social structures, and its role in our past and future.

**H0165-Honors**

**H0166- College Preparatory**



## H0169- SPORTS LITERATURE HONORS (.5)

Sports Literature is an honors level, writing intensive semester course, focusing on sports-themed fiction, non-fiction, poetry, and film. Students will read, analyze, discuss, and create sports-themed writing, such as weekly constructed responses and original works.

Pre-requisite: 11<sup>th</sup> and 12<sup>th</sup> grade students



**Language Arts – Flow Chart  
Graduation Requirements**

<b>Grade</b>	<b>Applied</b>	<b>College Preparatory</b>	<b>Honors/AP</b>
9	English 9	English 9 CP	HN English 9
10	English 10 Effective Communication	English 10 CP	HN English 10
11	English 11	English 11 CP	HN English 11
12	English 12	English 12 CP	HN English 12 <i>or</i> AP English Literature & Composition

## SOCIAL STUDIES - 0200

### US HISTORY (1.0)

This course will survey United States History from approximately 1900 to the Present. The major topics discussed will be: *The Age of Expansion, Progressivism, World War I, The Twenties and Thirties, World War II, The Cold War, America since the Cold War.*

**H0210 – Honors:** The emphasis of this course goes beyond memorization of facts, and focuses on interpretation and analysis of historical data and writings.

**H0211 – College Preparatory** – See above

**H0212 - Applied** - Information will be delivered at a pace more desirable to student learning styles and abilities.

### UNITED STATES GOVERNMENT AND CIVICS (1.0)

This course will analyze the United States Constitution, the three branches of our Federal Government and their intricate interrelationships will be the major focus of this course. The major topics discussed will be: *individual rights and liberties, the American political system, the electoral process, the power of American public opinion, as well as, our foundational documents and relevant Supreme Court cases.*

**H0220-Honors:** The emphasis of this course goes beyond memorization of facts and focuses on applying that information to current events in U.S. government and politics. Individual research and presentations will be required throughout the course

**H0221- College Preparatory**-See above

**H0222 – Applied:** - Information will be delivered at a pace more desirable to student learning styles and abilities.

### H0228 - UNITED STATES GOVERNMENT AND POLITICS- ADVANCED PLACEMENT (1.0)

This course is designed to be rigorous and demanding, with the overall goal of preparing students for the AP Exam. Students will be provided the opportunity to take an analytical perspective on United States government and politics. This course would best suit students who are intrinsically motivated and have an interest in government and politics. Students who choose not to take the College board AP Exam will receive honors credit for the course.

### ECONOMICS (1.0)

This course will place great emphasis on the basic economic problem of scarcity. Students will be expected time and again to demonstrate their efficiency in problem solving through decision-making skills. Additional topics covered in detail include: Business Organizations, Economic Markets, and Supply and Demand, Labor Relations, International Monetary Policy, Comparative Economic Systems and Social Problems facing the United States today

**H0230 – Honors:** Great emphasis will be given to the development of critical thinking skills, preparing students for college assimilation through written projects, outside readings and individual research projects.

**H0231 – College Preparatory:** See Above

**H0232- Applied:** Information will be delivered at a pace more desirable to student learning styles and abilities.

### PSYCHOLOGY (.5)

This course will introduce students to the systematic and scientific study of the behavior and mental processes of humans. Students will be exposed to the psychological facts, principles and phenomena associated with each of the major content domains within psychology. Students will explore ethics and methods psychologists use in their science and practice. Analyzing topics through the lens of various perspectives in psychology will foster critical thinking skills.

**H0250 - Honors**

**H0251 – College Preparatory**

**H0253 - Applied:** This level of study will provide basic principles of Social Psychology to better aid the student in understanding themselves as well as the world around them.



### H0258 - PSYCHOLOGY – ADVANCED PLACEMENT (1.0)

This course will give students a college-level introduction to psychology. This course is designed to be rigorous and demanding, with the overall goal of preparing students for the AP Exam. This course would best suit students who are intrinsically motivated and have an interest in psychology. Students who choose not to take the AP College board exam will receive honors credit for the course.



### WORLD GEOGRAPHY (.5)

This course is an introduction to the basics of world geography. Students will learn how the World's physical features as well as cultural diversities have impacted and shaped the world we live in today. Throughout the course, students will develop knowledge and skill to help them better understand the differences in physical features and climates from the regional to the international level, as well as gaining a better understanding of different cultural perspectives

**H0272 - Honors:** Great emphasis will be given to the development of critical thinking skills, preparing students for college assimilation through written projects, outside readings and individual research projects.

**H0273 - College Preparatory**

**H0274 - Applied**



## SOCIOLOGY (.5)

Social Studies elective that introduces students to the study of human group behavior. The methods of sociological investigation will be examined as a background for the actual areas of group behavior that Sociology seeks to explain. An emphasis will be placed on those areas of human relations and group behavior that affect our everyday lives with special attention given to the causes and potential solutions to social problems which affect our society in general and many of us in particular.

**H0245 - Honors**

**H0244 - College Preparatory**



## GLOBAL ISSUES (.5)

Social Studies elective to provide interested students with an understanding of the various world issues shared by existing nations and cultures. While the primary focus is on current events there are several thematic unites that encompass issues that are shared by all world citizens. Themes and topics vary from year to year due to the changing nature of world events.

**H0248 - Honors**

**H0247 - College Preparatory**

**H0246 – Applied**



## HISTORY OF AMERICAN POPULAR CULTURE (.5)

Social Studies elective that is designed to serve as an introduction of the study and analysis of American popular culture. The course will explore how the events of American history have been reflected in the daily lives of American citizens through print media, television, music, movies, clothing styles, and other trends or fads.

**H0263- Honors**

**H0262- College Preparatory**



## H0209- US HISTORY ADVANCED PLACEMENT (AP) (1.0)

Social Studies elective where students investigate significant events, individuals, developments, and processes in nine historical periods from approximately 1491 to the present. Students develop and use the same skills and methods employed by historians: Analyzing primary and secondary sources; developing historical arguments; making historical connections; and utilizing reasoning and comparison, causation, and continuity and changes. The course also provides eight themes that students explore throughout the course in order to make connections among historical developments in different times and places: American and national identity; work, exchange, and technology; geography and the environment; migration and settlement, politics and power; America in the world; American and regional culture; and social structures.



## Social Studies – Flow Chart Graduation Requirements

Grade	Applied	College Preparatory	Honors/AP
9	US History	US History CP	HN US History
10	US Government & Civics	US Gov.& Civics CP	AP US. Government & Politics <i>Or</i> HN US Government
11	Economics	Economics CP	HN Economics
12	Psychology (.5) World Geography (.5) Global Issues (.5)	Psychology CP (.5) World Geography CP (.5) Sociology CP (.5) Global Issues CP (.5) History of Am. Popular Culture CP (.5)	HN Psychology (.5) HN World Geography (.5) HN Sociology (.5) HN Global Issues (.5) History of Am. Popular Culture (.5) AP Psychology (1.0) AP US History (1.0)

## MATHEMATICS – 0300

### H0315-FUNDAMENTALS OF ALGEBRA (1.0)

This course is designed to build the foundation necessary for students to be successful in an Algebra 1 course. Topics include forms of operations with numbers, one variable equations and inequalities, coordinate geometry and linear relations, and data analysis and probability

#### ALGEBRA I (1.0)

**H0320- Honors:** This is an advanced algebra course designed to prepare the student for future honors level math coursework. Topics to be discussed include solving one variable equations and inequalities, relations and functions, writing and graphing linear functions, systems of equations and inequalities, polynomials, factoring, radical expressions and data analysis and probability. Students are required to complete a summer prerequisites packet for this course.

Prerequisite: 90% or higher in 8<sup>th</sup> grade math

**H0324 - College Preparatory:** This course lays the groundwork for the student's studies in college preparatory mathematics. A great deal of time is devoted to solving equations and inequalities in one and two variables. Relations and functions are also studied. Polynomials will be explored through classification and operations, as well as applications of factoring. Learning will continue with radical expressions which will include the Pythagorean Theorem, simplifying radicals and operations with radicals. The course will conclude with data analysis and probability.

**H0337- Applied:** This course will cover the essentials of Algebra 1. A great deal of time will be devoted to solving equations and inequalities in one and two variables. Relations and functions will also be studied followed by the writing and graphing of linear equations and inequalities. Polynomials will be explored through classification and operations, as well as applications of factoring. Learning will continue with radical expressions which will include the Pythagorean Theorem, simplifying radicals, and operations with radicals. The course will conclude with data analysis and probability. In addition to learning the material in the regular class time, students will participate in a half-credit lab during which they will see Algebra 1 practical applications showcased, bridging theory to reality.

### H0338- ALGEBRA I ADVANTAGE LAB (0.5)

This course is designed as a supplemental program for Algebra 1 students using material provided by Project Lead the Way. As per their website, "Through PLTW Algebra 1 Advantage's fun and interactive approach, students embark on an engaging journey connecting Algebra to real-world scenarios and discovering its practical applications. By immersing themselves in dynamic problems and projects, students develop problem-solving skills and a deeper understanding of how to apply mathematics into everyday life. They will also find that getting to a solution is an adventure, an iterative process and that is ok to fail and try again."

#### ALGEBRA II (1.0)

**H0330 – Honors:** This is a challenging course for students who have a strong desire to focus on mathematics. This course is designed for students who have demonstrated the ability to quickly comprehend, master, and apply the concepts taught in Algebra I. After a brief review of Algebra 1 concepts, this course will continue with solving quadratics and radical equations and inequalities. Linear programming is studied as well as polynomial functions and rational expressions. The course concludes with exponential and logarithmic

functions as well as analyzing conic sections. If time allows, statistics and probability and sequences and series are introduced.

Prerequisite: 90% or higher in 8<sup>th</sup> grade Algebra I or 83% or higher in Honors Algebra 1

**H0331- College Preparatory:** This course is designed for students who are planning to attend college but not necessarily majoring in the field of science or mathematics. This course includes analyzing equations and inequalities, graphing linear relations and functions, solving systems of equations and inequalities, polynomials and polynomial functions, radical expressions, equations and complex numbers, quadratic functions and inequalities, rational expressions, equations, and inequalities.

### **H0336-ALGEBRA II / GEOMETRY**

Various topics will be studied in this course. The Algebra 2 portion will start by looking at systems of equations and inequalities. Discussion will focus on the variety of ways to show and solve these systems including, but not limited to, graphs, tables, and algebraic solutions. Quadratic equations and their properties will also be discussed. The focus will be on solving, illustrating their graphs, and application to the real world. The Geometry portion will focus on the properties and attributes of geometric shapes from triangles to circles. We will also be looking at area, surface area, and volume calculations of various shapes. Finally, geometric problem solving will be addressed.

### **GEOMETRY (1.0)**

**H0340 – Honors:** This course provides students with a comprehensive and balanced treatment of the different aspects of geometry. Theory and mathematical applications of theorems, definitions, and postulates shall be explored with plane and three-dimensional figures. Work will focus on angle relationships, triangles, polygons, congruency, parallel lines, circles, coordinate geometry, basic trigonometry, area and volume, etc. The course deals in depth with the study and method of proof, informal and formal reasoning, symbolic and visual thinking, synthetic, coordinate, and transformational methods.

**H0341 – College Preparatory:** This course provides students with a comprehensive and balanced treatment of the different aspects of geometry. Theory and mathematical applications of theorems, definitions, and postulates shall be explored with plane and three-dimensional figures. Work will focus on angle relationships, triangles, polygons, congruency, parallel lines, circles, coordinate geometry, basic trigonometry, area and volume, etc. The course deals in depth with the study and method of proof, informal and formal reasoning, symbolic and visual thinking, synthetic, coordinate, and transformational methods.

### **ALGEBRA IN EVERYDAY LIVING (.5)**

This course engages students with real-world financial applications of mathematical topics appropriate for academic level. Each chapter blends a financial topic with a relevant math concept. Many practical applications are covered including expenses, banking services, loans, credit and budgeting.

**H0347-College Preparatory**

**H0346-Applied**



## ALGEBRA IN EMPLOYMENT (.5)

This course engages students with real-world financial applications of mathematical topics appropriate for academic level. Each chapter blends a financial topic with relevant math concept. Many practical applications are covered including income, taxes, paying for college, managing credit and investing.

### H0349- College Preparatory

### H0348-Applied



## PRE-CALCULUS WITH TRIGONOMETRY (1.0)

**H0370- Honors:** This is a demanding course designed to prepare the student for advanced calculus coursework. Topics to be discussed are relations and functions, linear algebra and matrices, the nature of graphs, polynomial and rational functions, conic sections and systems of non-linear equations, exponentials and logarithmic functions, trigonometric functions and their graphs, and trigonometric identities and equations. Students are required to complete a summer prerequisites packet for this course.

**H0352-College Preparatory:** This course is designed to prepare the student for an introductory calculus or college algebra course. After a brief review of some algebra topics, subjects to be discussed are systems of equations and inequalities, the nature of graphs, polynomial and rational functions, exponentials and logarithmic functions, trigonometric functions and their graphs, and trigonometric identities and equations.



## STATISTICS (1.0)

Many college majors require at least one course in Statistics, especially medical, mathematical, science and business related fields. All students who are planning on attending college, are encouraged to take at least one high school statistics course.

Data organization will be studied as well as a wide range of graphing techniques. Analysis of data distribution, central tendencies, and values of spread, including variation and deviation will be explored. The course will also introduce the nature of classic probability and the calculation of its values. Lastly, inferential statistics will be introduced through course intervals and hypothesis testing.

### H0360: Honors

### H0361: College Preparatory



### H0364- AP STATISTICS (1.0)

Through the use of technology, projects and laboratories, cooperative group problem-solving, and writing, students will be introduced to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. The curriculum, designed by the College Board, will expose students to four broad conceptual themes: Exploring Data, Sampling and Experimentation, Anticipating Patterns, and Statistical Inference.

Throughout each class, students will dialogue with peers and instructor, both verbally and in writing, using appropriate statistical terminology, vocabulary, and language. Students will have the opportunity to take the AP Statistics exam at the end of the course in order to potentially receive college credit for the course. Students who choose not to take the College Board AP exam at the conclusion of the course will receive honors credit.



### **H0380 –CALCULUS HN (1.0)**

This course is designed for students who plan to pursue a scientific or math-oriented career. Students who select this course should have a thorough knowledge of Algebra, Plane Geometry, and Trigonometry. Calculus is a study of limits, continuity, differentiation, applications of derivatives, integration, and application of integration techniques. The course of study is designed to prepare students for a collegiate Calculus course.



### **H0386 -AP CALCULUS AB**

AP Calculus AB/BC is a Calculus course designed to cover the topics of two semesters of collegiate calculus at an accelerated pace. Students should have an excellent knowledge of Algebra, Plane Geometry, and Trigonometry. The course material follows the recommendations of the Committee on Mathematics of the Advanced Placement Program. The topics covered include limits, derivatives, integrals, polynomial approximations, and series. The course is designed to prepare students for the Advanced Placement Calculus BC exam. College-level performance and work habits are expected and students should have a graphing calculator. Students who choose not to take the College board AP Exam will receive honors credit for the course.



## Mathematics: Flow Chart Graduation Requirements

Grade	Applied	College Preparatory	Honors/AP	Honors/AP
8				Algebra I
9	Fundamental of Algebra	Algebra 1 CP	HN Algebra I	HN Algebra II
10	Algebra 1 Algebra 1 Advantage Lab	Algebra II CP	HN Algebra II	HN Geometry
11	Algebra II/Geometry	Geometry CP	HN Geometry	HN Pre-Calculus with Trig. HN/AP Statistics
12	Algebra in Everyday Living (.5) Algebra in Employment (.5)	Pre-Calculus with Trig. CP Statistics CP Algebra in Everyday Living CP (.5) Algebra in Employment CP (.5)	HN Pre-Calculus with Trig. HN/AP Statistics	HN Calculus AP Calculus AB HN/AP Statistics

## SCIENCE – 0400

### EARTH SCIENCE/ECOLOGY (1.0)

This course provides students with a greater understanding of the fundamentals of geology, meteorology, and oceanography concerning Earth Science. For ecology, a combining of ideas from natural science, social sciences, and ethics to present an idea of how nature works, and how things are interconnected. It examines how the environment is being used and abused and what individuals can do to protect and improve it. Some topics include ecology, watersheds, wetlands, natural resources, agriculture, and the impact of humans on the environment.

**H0411- College Preparatory**

**H0412- Applied**

### BIOLOGY/LAB (1.0)

This course deals primarily with the fundamental properties of living things, life processes, classification, growth and reproduction, heredity, and natural selection. Emphasis is placed upon the modern energy relationships, organic chemistry, and genetics. Laboratory work is an integral part of the course where applicable.

**H0420 – Honors:** This is an accelerated class for students possibly interested in a career in the science field.

**H0421 – College Preparatory:** This course is designed for students who do not desire an accelerated program in biology. It covers the basic principles of life: chemical and structural, energy relationships, classification, heredity, and natural selection. Class discussion and laboratory investigation will be implemented.

### H0427-MODERN BIOLOGY (1.0)

This course is designed to be interesting, understandable, and practical. It will deal with the most difficult concepts easily through the use of analogies and examples familiar to students. In a unified manner, the course will include the study of cells, reproduction, energy relationships, genetics and natural selection

### H0430-KEYSTONE BIOLOGY (.5)

This semester course is designed for those students who have not earned proficient or advanced scoring on the Biology Keystone exam. This course will cover the following topics: **basic biological principles, the chemical basis of life, bioenergetics, homeostasis and transport, cell growth and reproduction, genetics, evolution, and ecology.** Students will have the opportunity to take the Keystone Biology Exam.

### H0419-BIOLOGY/LAB ADVANCED PLACEMENT (1.0)

AP Biology is a yearlong course with integrated laboratory experiments. The course is equivalent to a freshman-level collegiate general biology course. The course requires students to apply independent thinking and analytical skills to increase their knowledge and understanding of biological concepts as they relate to the AP Biology Curriculum Framework. The course will utilize the concepts of life processes, classification, growth and reproduction, bioenergetics, organic chemistry, genetics and evolution as they relate to the four big ideas:

**Big idea 1:** The process of evolution drives the diversity and unity of life.

**Big idea 2:** Biological systems utilize free energy and molecular building blocks to grow, to reproduce, and to maintain dynamic homeostasis.

**Big idea 3:** Living systems store, retrieve, transmit, and respond to information essential to life processes.

**Big idea 4:** Biological systems interact, and these systems and their interactions possess complex properties.

As a Biology AP student, you must be committed to a year of focused study and you will be expected to take the AP exam in May. Students who choose not to take the College board AP Exam will receive honors credit for the course.

Prerequisite: Completion of Honors Biology I with an 83% or better OR Completion of College Preparatory Biology I with an 88% or better AND completion of College Preparatory Chemistry I or higher level with an 88% or better.



### CHEMISTRY/LAB (1.0)

This course provides a firm foundation in chemical concepts and principles using a strong mathematical approach to the study of chemistry and a high degree of student involvement in the laboratory. Emphasis is placed on utilization of the students' problem-solving and critical thinking skills.

**H0440- Honors:** Prerequisite: Completion of Algebra I with an 80% or better and completion of HN Biology with an 80% or better or CP Biology with an 85% or better.

**H0441 – College Preparatory:** This is an introductory chemistry course designed to help students understand how chemical principles and concepts are developed from experimental observations and data, and how these principles can be used to explain phenomena in the laboratory as well as in daily life. Emphasis is placed on the development of problem-solving skills and critical thinking skills.

Prerequisite: 75% or better in Algebra 1 or Algebra II College Preparatory (H0331) which ever math was most recent and 75% or better in Biology (H0421)



### H0447-CHEMISTRY/LAB ADVANCED PLACEMENT (1.0)

This course is a heavily oriented laboratory design used to prepare students for the AP Chemistry Exam. It is equivalent to a first year college chemistry course. The content includes advanced concepts in atomic structure, chemical bonding, molecular structure, equilibrium, kinetics, thermodynamics, electrochemistry, and analytical techniques. Class size will be limited based on student achievement. Students who choose not to take the College board AP Exam will receive honors credit for the course.

Prerequisite: Completion of Honors Chemistry with a 83% or higher or completion of CP Chemistry with an 88% or better



### H0446 – MODERN CHEMISTRY/LAB (.5)

This lab based course is designed to introduce basic chemistry concepts and principles that are evident in everyday life. The topics that will be emphasized are the scientific notation, significant figures, physical and chemical changes, atomic structure, the periodic table and basic chemical nomenclature.



## PHYSICS/LAB (1.0)

This laboratory oriented course provides coverage on concepts on physics, the science of matter and energy.

**H0450 – Honors:** Stress is placed on problem solving, using Algebra, Trigonometry, and many aspects of Geometry, in order to help the college-bound student develop good thought processes. College level problems and materials are used whenever student progress in concept mastery permits.

Prerequisite: 83% or higher in Honors Geometry or 88% in College Preparatory Geometry

**H0451 – College Preparatory:** Laboratory investigations provide opportunities to discover and apply basic concepts to situations of varying practicality and complexity. The mathematics involved requires mastery of Algebra and Geometry. Problem solving skills are emphasized. Students develop skills in the application of the scientific method and measurement to common situations.

Prerequisite: 75% in college preparatory Geometry and/or teacher recommendation



## H0458- PHYSICS 1 ADVANCED PLACEMENT/LAB (1.0)

AP Physics 1 is an algebra-based, introductory college-level physics course. Students cultivate their understanding of Physics through inquiry based investigations as they explore these topics: kinematics; dynamics; circular motion and gravitation, energy; momentum; simple harmonic motion; torque and rotational motion; electric charge and electric force; DC circuits; and mechanical waves and sound. Students who choose not to take the College board AP Exam will receive honors credit for the course.

Prerequisite: 83% or better in Honors Physics I or teacher recommendation



## H0457 – PHYSICS AND TECHNOLOGY/LAB (1.0)

Physics is the study of matter and energy. This 90-day lab based course is designed to be practical in nature. Topics include measurement, motion, forces, energy and simple machines. Problem solving skills are emphasized. Students will develop skills in the application of the scientific method and measurement to common situations.

Prerequisite: Passing final grade in Biology



## HUMAN ANATOMY AND PHYSIOLOGY/LAB (1.0)

**H0460-Honors-**This course is designed to give the student a detailed study of the human body at the tissue, organ and organ systems levels. It covers the structure and function as well as the interrelationships among organ systems. The following organ systems will be covered: skeletal, muscular, integumentary, digestive, cardiovascular, blood, urinary, endocrine, respiratory and reproduction. The last quarter of the spring semester is spent dissecting a cat to observe the organ systems. The curriculum is designed to have weekly tests and quizzes, daily homework assignments, and lab work with a partner.

**H0461 - College Preparatory-** The course includes the study of body organs and systems and their functions: cellular physiology, blood circulation, muscle action, skeleton, respiration, elimination, hormones, digestion, and body covering. Physiological experiments are included when appropriate. It is recommended for students interested in post-secondary study in the biological sciences, allied medical fields, and physical education.



## ENVIRONMENTAL SCIENCE/LAB (1.0)

This course includes both classroom and outdoor lab scenarios to help students become aware of and concerned for their environment. Emphasis will be Pennsylvania environmental issues. As students identify PA animals and plants, they will relate environmental concepts to gain the knowledge and skills to work toward responsible decisions for environmental awareness.

**H0470- Honors:** This is an accelerated class for those who may be entering post-secondary science fields.

**H0471- College Preparatory:** See above



## H0401-HN PROJECT & RESEARCH SCIENCE (1.0)

This course will provide students with the opportunity to develop, conduct and present an original research project. In addition, students will design, construct, and test multiple design challenges. Experimental design will include mathematics and the use of technology to gain data and display information. Participants in this class are encouraged to compete in Science Olympiad.



### Science – Flow Chart Recommended Graduation Requirements

Grade	Applied	College Preparatory	Honors/AP
9	Earth Science	Earth Science CP	HN Biology
10	Modern Biology	Biology CP	Any Additional AP/HN Science course
11	Modern Chemistry (.5) Keystone Biology (.5)	Any additional CP Science course	Any additional AP/HN Science course
12	Physics & Technology	Any additional CP Science course	Any additional AP/HN Science course

## WORLD LANGUAGES - 0500

**NOTE: A student should have a strong foundation in English grammar before electing any world language course. All classes will attempt to use the foreign language being studied as much as possible during class lessons.**

### **H0511 – COLLEGE PREPARATORY SPANISH I (1.0)**

This course is an introduction to the Spanish language through the use of basic vocabulary and basic grammatical constructions. The use of Spanish beyond the classroom, in our country, is briefly explored.

Prerequisite: 80% or better in 8<sup>th</sup> grade English or high school English during prior year and/or departmental recommendation and instructor's approval. NOTE: If you don't have a strong foundation in English grammar, you will probably experience difficulty in this course.



### **H0521 – COLLEGE PREPARATORY SPANISH II (1.0)**

The course includes a slight review of Spanish I such as present tenses. New grammatical constructions are introduced with an emphasis on the past tenses, along with vocabulary expansion. Upon completion of this course the student should have adequate proficiency to express himself/ herself /themselves in many oral and written situations.

Prerequisite: 80% in Spanish I and/or department recommendation



### **H0530 – HONORS SPANISH III (1.0)**

This course reviews and expands on Spanish grammar and vocabulary. The remaining grammatical tenses are stressed. Emphasis is placed on oral/ aural skills and advance sentence construction. Reading and writing are improved through learning the use of language outside of the classroom. Upon completion of this course, the students should have proficiency, to express himself/herself/themselves in many oral and written situations.

Prerequisite: 88% in Spanish II and/or instructor approval



## BUSINESS EDUCATION – 0600

### H0601 – INTRODUCTION TO BUSINESS (1.0)

Strongly recommended for students who intend to pursue a career in business, however should be taken by all students as a general knowledge course. Special emphasis will be placed on the following: the development of all consumer skills – personal and business related; choosing a career; credit; banking; insurance; federal income tax returns; free enterprise, and your role in the free enterprise system.



### H0610- HONORS MICROSOFT OFFICE PROFESSIONAL (1.0)

This course will cover the following topics: Word, Excel, and PowerPoint. Students will learn how to use these applications to create professional documents, spreadsheets, and presentations. Upon completion of the course, student will be prepared to take the Microsoft Office Certification exam in Word and Excel and earn a valuable credential that will help them in their future academic and professional endeavors.

Pre-requisite: 88% or higher in Computer Application & Career Readiness



### H0618- COMPUTER APPLICATIONS & CAREER READINESS (1.0)

Students will learn skills needed to succeed in high school and the workplace. It is designed to expose students to principles, concepts, and procedures relating to: digital citizenship; soft skills; career exploration & acquisition; and computer applications. Students will enhance their word processing skills with the creation of various documents including résumés. Students will explore various career pathways using a web-based program. Students will also gain a deeper understanding of principles and concepts related to personal finance and budgeting using spreadsheet applications. They will also develop effective presentation skills while using presentation software. This course will prepare students for higher learning as well as for today's workplace.

### H0622 - COMPUTER PROGRAMMING CP (1.0)

This course provides entry-level training on computer programming languages, as well as relevant and current computer science topics. This includes programming algorithms, interface development, telecommunications techniques, and exposure to topics being addressed by professionals in the field.

In addition, this class will explore unique Python data structures such as tuples and dictionaries, and how to create Python programs with graphic elements that range from simple circles and squares to graphical user interface (GUI) objects like buttons and labels. While Python contains the same basic structures as other languages, it also offers unique functionality that makes your life as a programmer easier. Whether you are interested in writing simple scripts, full programs, or graphical user interfaces, this course will give you tools you need to use Python with skill and confidence.

Employment pathways include Computer Programmer, Computer and Information Systems Managers, Computer Software Engineers, Computer Security Specialist, and Computer Support Specialists.

Prerequisite: Computer Apps. & Career Readiness



## **H0631 – HONORS WEB PAGE DESIGN (1.0)**

This course provides entry-level to advanced training in the creation and design of web sites. Instruction includes working with web authoring software, the creation of HTML files and graphics for the Web, Web site development and management. Instruction includes the creation of HTML files using Adobe Dreamweaver, Photoshop, Edge Animate, and Flash. Topics include customer expectations, advanced markup language, multimedia technologies, usability and accessibility practices and techniques for the evaluation of web design. Upon completion students should be able to employ advanced design techniques to create high impact and highly functional web pages. Equipment will include Apple computers, digital cameras, scanners, printers and current software for Web page design.

Prerequisite: Computer Applications & Career Readiness and Computer Programming



## **H0651 – ACCOUNTING I (1.0)**

Accounting as it relates to careers as well as personal applications to one's own financial practices. This goal, mentioned above, will be accomplished through the knowledge of accounting terminology; the understanding of accounting concepts, principles, and practices; and the practical application of accounting procedures. The knowledge and skills acquired in Accounting can be used to:

1. Pursue further development of your accounting skills by taking Accounting II
2. Secure an entry-level position in the accounting field.



## **H0662- ACCOUNTING II (1.0)**

This advanced accounting course is designed for students who have successfully completed Accounting I. Advanced theories of accounting are introduced which include payroll, adjusting/closing entries for a partnership, departmental accounting, preparation of financial statements, discounts, returns and allowances, and bad debts. Accounting theory pertaining to a corporation is introduced. A business simulation using the accounting cycle for a partnership is completed. Generally accepted accounting concepts are highlighted throughout the course. Careers in accounting are explored as well as computerized accounting.

Pre-requisite: Accounting I



## **H0653- HONORS ACCOUNTING III (1.0)**

This course is designed for students planning a college major in accounting, business administration, marketing, finance, or management. Student will learn how to record analyze, interpret, and report financial information for corporation. Topics include: accruals, deferrals, depreciation, and bad debts. Computerized accounting problems and a simulation will be incorporated throughout the course.

Pre-requisite: Accounting I & II



## **H0655 - PERSONAL FINANCE (1.0)**

This course is designed to provide students with the necessary skills to perform well as a consumer in day to day affairs that present themselves in a business orientate system such as ours. Topics included: decision making & goal setting; careers & planning; financial planning including budgeting, savings & investing; banking services; credit management; choosing and paying for postsecondary education; risk protection; transportation options and housing.



## **H0661 – BUSINESS LAW (1.0)**

This course is designed to provide an understanding of the origin of law, the basic principles of law that affect consumers, workers, and citizens in their daily relations with one another. In addition, the student will understand his/her legal rights, privileges, and responsibilities. Topics to be covered include: the US legal system, criminal law, civil law, contract law, juvenile justice, sales contracts, product liability, and consumer protection.



## **H0681-SPORTS AND ENTERTAINMENT MARKETING (1.0)**

This course is designed to explore the intriguing world of sports and entertainment from the perspective of marketing and management principles used by successful businesses. Topics covers will include: college and amateur sports, professional sports, marketing the entertainment industry, recreational marketing, public images, marketing plans, leadership, finance, product management, human resources, legal and ethical issues, and customer relations. Introduction to Business is recommended.



## **H0687-MULTIMEDIA & BROADCASTING CP (1.0)**

This one-year elective 12<sup>th</sup> grade course is designed for the study and practice of the basic elements of broadcast journalism, multimedia, and video production. The course will emphasize news-gathering, writing, video recording, editing, and the study of mass media, specifically the use of social media as a news source. Students will learn the basic elements of news value and vocabulary specific to broadcast writing. They will also identify various news sources and use interview skills to create stories using video and editing software. This course also explores the world of digital video and television production. Students work in collaborative teams to produce projects using cameras, while learning the basics of studio and field production, lighting and sound.



## FINE ARTS – 0700

### H0708-HISTORY OF MODERN MUSIC (.5)

The students will explore the development of Rock and Roll, Country, Rap and Pop music from its early years to modern artists of today. Through multi-media material, research projects and student centered discussion the class will learn how music represented culture throughout the decades. The course will help students become more knowledgeable listeners and music consumers as well as relate their generation with previous eras.



### H0709 –MUSIC THROUGH FILM (5.)

This course covers the fundamentals of music through film soundtrack listening and analysis. Units of instructions include instrument families, the basic and advanced elements of music, sound effects, functions of film scoring, film composers, and film score evaluation. Students will develop vocabulary for describing and critiquing film music. This course will include classroom discussion, critical listening, and evaluation of film scores while viewing a wide variety of movies throughout the semester

### H0710 – MUSIC THEORY I (.5)

Students become familiar with musical terminology and development of note reading skills on treble and bass staves, rhythm identification, scale construction and cadence. Performing ability on an instrument or vocal music reading ability

Prerequisites: Completion of Middle School Elective Music



### H0712 – MUSIC THEORY II (.5)

Students become familiar with music terminology, learn how to write musical manuscripts, listen to and construct diatonic intervals, listen to and construct all of the major and relative minor scale forms, listen to and construct the primary and secondary triads. Aural skills will be developed by singing with syllables and in the use of rhythmic, melodic, and harmonic dictation. Part writing will be introduced and applied in writing exercises.

Prerequisite: Music Theory I or students with active involvement in band, chorus, or the private study of an instrument may fulfill the requirement with knowledge and skill in reading music.



### H0714- HISTORY APPRECIATION OF MUSICAL THEATER (.5)

This course is a comprehensive overview of musical theater throughout history beginning with the birth of opera and its evolution into contemporary musical theater. This course will address cultural importance and identify specific elements of musical theater throughout time. It will also highlight the many different types of careers in musical theater both on and off of Broadway.



### H0715- CLASS VOICE (.5)

Class Voice (1 Semester) This course is a detailed study on vocal solo singing and performing. This course will focus on the specifics of vocal technique with an emphasis on classical voice training. Students will study a variety of vocal repertoire including classical art songs, opera, jazz, musical theater, and pop songs.



## BAND (1.0)

This course is taught through a practiced application of basic principles laid down in the middle school plus the development of these skills to a higher level of understanding and achievement. This course will require that all students actively attend all marching band activities. Marching band will begin with summer rehearsals and continue until the end of football season. Three hours of after-school rehearsals during September, October, and November is also required. The remainder of the school term will be spent in the study of instrumental technique and concert band performance. Students may be assigned one lesson per week to improve their individual abilities and techniques on their respective instrument. Emphasis will be placed on reading, breathing technique, and proper performance practices. Performances may include all football games, marching festivals, parades, concerts, PMEA adjudication and possibly day or overnight field trips as scheduled in advance.

Prerequisite: Recommendation from the middle school band director.

**H0760 – Honors:** To recognize the higher levels of achievement, as well as to recognize the students who are already going above and beyond course expectations, the music department offers its honors program. Honors Band is open to any 3<sup>rd</sup> and 4<sup>th</sup> year member of the high school band at director's approval. In addition to meeting all regular Concert Band course requirements, students will be required to prepare and perform two jury recitals, one at the end of each semester. The jury recital will consist of an advanced performance etude, scales, concert repertoire and a self-reflection worksheet. All students enrolled are expected to participate in all performances, demonstrate a high level of rehearsal etiquette and consistently meet or exceed the expectations set forth by the director

### H0762-College Preparatory



## CHOIR (1.0)

The choir rehearses for annual holiday and spring programs. During class the student is provided an opportunity to develop their singing voice and to enhance the knowledge of music as applied to choral singing. Guidance is given in the basic techniques of vocal production. The choir will sing music that embraces different genres and cultures, providing the student with a variety of ensemble singing. Instruction and rehearsal is given in the classroom and at a few required after-school rehearsals. Performances may include concerts, music festivals, community concerts, caroling, PMEA adjudication and possibly day or overnight performance trips as scheduled in advance.

Prerequisites: Recommendation from middle school choral director, or the ability to match tones and/or music reading ability.

**H0764 – Honors Choir:** In addition to singing in the Choir and meeting all of the requirements of the Choir course, students who wish to receive Honors credit must also

1. Be in grades 11 & 12
2. Audition for and be accepted into the Show Choir and perform at all additional performances. Rehearsals take place after school and in the evening at the discretion of the director.
3. Audition for PMEA District 10 Chorus
4. Participate and assist in all school concerts and make a visible effort to audition for solos according to voice-part compatibility.
5. Students will be required to complete an in-depth research project.

## H0766 – College Preparatory Choir



### ART

#### **H0771 - VISUAL ART & DESIGN (.5)**

Visual Art is an introductory art class and an important building block for all other art classes. Students will be introduced to drawing and painting techniques as well as an understanding of the application of the elements of art and how they relate to their artwork.



#### **H0773-CRAFT/THREE DIMENSIONAL ART (.5)**

This is a sampling course designed for the student who does not wish to concentrate on a specific medium, but to experiment with a wide variety of traditional craft methods. Centering on three-dimensional design, areas of sampling may include mosaics, assemblages, basketry, weaving, sculpture etc. Students may be required to purchase supplies depending on project.



#### **H0781 – DRAWING & PAINTING I (1.0)**

This Art course is an extension of the introductory Visual Art course. This course will offer an in-depth look at drawing and painting techniques and subject matter. Students will explore new materials and techniques to help build their skill set.

Prerequisite: Visual Art & Design



#### **H0791 – CERAMICS I (.5)**

Ceramics 1 is a foundation course focusing on the structural techniques of hand-building, coiling, slab, pinch and integrated with the sculptural technique of modeling. Students can expect to complete pieces utilizing these techniques centering on functional as well as non-functional concepts.



#### **H0792 – CERAMICS II (1.0)**

Students will continue to build traditional ceramic skills through assigned projects but with a focus on advanced surface treatment, decorative and glazing techniques. Students will be introduced to throwing on the wheel as an advanced skill.

Prerequisites: Ceramics I



#### **H0799 – HONORS ART SEMINAR (Juniors and Seniors) (1.0)**

This course is intended for students interested in a serious study of Art.

Students will learn new techniques in observation to create drawings from life. Pictorial references will also be used to create artistic style. Through assigned projects, students will create realistic drawings and paintings and experiment with abstraction in order to find their own artistic style. Sketch book assignments will be given to

help build drawing skills and development of artistic ideas.

Prerequisite: Successful completion of Visual Art & Drawing and Painting 1 and teacher recommendation



### **H0798-HONORS ART SEMINAR II (Seniors) (1.0)**

This is a continuation of Art Seminar 1. Students will continue to build their observational and pictorial drawing and painting skills by choosing advanced subject matter for assigned projects. Students, who are preparing a portfolio in order to pursue art studies after graduation, will benefit from this course and its focus on advanced studio work. Sketch book assignments will be intergraded to help develop drawing skills and development of artistic ideas.

Prerequisite: Honors Art Seminar I & teacher recommendation



### **H0921- PHOTOGRAPHY (.5)**

This course will introduce the history, basic skills, and conceptual elements of photography. Both traditional and digital tools and methods from 35mm cameras to modern devices will be utilized. Students will be exposed to the hardware and software necessary for each step of the image making process.



### **H0922-PHOTOGRAPHY II (1.0)**

This class is a full semester class for the serious photographer who has already taken a Photography I course. This class will further explore the aesthetic and technical theories and techniques of digital and 35mm photography. Photography II will also include the use of image editing software. Various camera settings will be learned to offer greater creative and technical control. Students will also examine images critically through in class critiques.

Prerequisite: Photography & Graphics I



### **H0923-ADVANCED PHOTO STUDIO & DESIGN (1.0)**

Project-based course designed for students who have an interest in further exploring photography, graphic design, social media creations and layout design. Students will be introduced to a variety of photography techniques, an in-depth study of digital photography as well as photo editing software. Students will be able to explore Adobe software programs to enhance photographs, as well as create graphics to be used to promote district-wide social media images, sports and event posters and promotions. Students will be required to submit a portfolio of a variety of concepts, techniques and approaches to demonstrate their abilities as well as their versatility in problem solving and ideation and knowledge of photography and graphic design.

Students should be highly motivated and capable of working independently as well as in a group. They will, within reason, be able to venture around the school (during and after school hours) capturing images as a class and individually. One of the most crucial parts of classroom instruction will be reviews and critiques of images that students have created for that lesson. A camera will be available to students but students may use their own if that if they have access to one.

Pre-requisite: Teacher recommendation.



## **H0925-VISUAL COMMUNICATIONS (1.0)**

Visual communications is a project based course that will allow students to develop their career and communications skills in graphic design, illustration, print and digital media production. Students will become skilled in working with hands-on creations as well as various software programs to create logos, posters, flyers and other design applications.



## **H0774- ILLUSTRATIONS & ANIMATIONS (1.0)**

Illustrations and Animations is a project based course designed for students who have an interest in exploring the art of illustration. Students will be introduced to a variety of tools and techniques for illustrative graphic presentation of design ideas and products. Students will also be able to explore Adobe software programs to enhance and create illustrations.

Prerequisite: Successful completion of Visual Arts



## **FAMILY CONSUMER SCIENCE-0800**

### **H0822- COOKING 101 (.5)**

This course is an introduction to food preparation techniques and culinary theory. Basic concepts of kitchen organization and operation, basic terminology, use of standardized recipes, weights, measures, product evaluation, recipe conversion, food composition, and introduction to commercial equipment and work methods will be taught.



### **H0832- CHILD DEVELOPMENT (.5)**

In this course, students will explore the various theories on child rearing and child development. Students will also study some of the pioneers of teaching and their methods and compare them to child rearing in today's world. Students will also learn basic child care needs and gain an understanding of what levels and time frame that children develop.



### **H0845- FOODS AROUND THE WORLD (.5)**

This semester course is designed for students who wish to learn more about traveling and preparing a mixture of foods originating from all over the world. Various preparation techniques reflecting individual ethnic cooking styles will also be demonstrated as an essential part of the course. Students will study patterns of family meals, current custom and food habits, and cooking techniques unique to those countries. The course will also include an overview of the nutrients needed for good health as well as other components of a healthy lifestyle.

Pre-requisite: Creative Foods or Cooking 101



## **H0846-ADVANCED BAKING (.5)**

A Basics of Baking fundamentals which will introduce students to the basic principles and science of baking. Students will focus on yeast breads, quick breads, classic pies, cookies, pastries and cakes and fillings.

Pre-requisite: Creative Foods or Cooking 101



## **H0871- INTERIOR DESIGN (.5)**

Welcome to Interior Design! This course will explore the spatial and aesthetic concerns of interior design such as space planning, lighting, materials, color theory, and furnishing. Students will create a set of presentation boards depicting drawings, floor plans, elevations, materials, and furniture. The ability to think creatively and the need to articulate design ideas will be emphasized. Students will keep an idea file in the form of a sketchbook/journal. This course introduces students to the wide variety of careers in the field of housing and interiors through hands-on activities. Creativity and application of the elements and principles of design are emphasized.



## **TECHNOLOGY EDUCATION – 0900**

### **TECHNOLOGY**

NOTE: The following technology education courses will be a benefit to both the hands-on learner and to the perspective engineer. In cases where students are given the opportunity to make special projects beyond the general curriculum, which generally use “extra materials”; those students will be financially responsible for the supplies they personally used.

### **H0901 – CONSTRUCTION TECHNOLOGY I (1.0)**

This course offers the beginning student instruction and demonstration in construction using industrial materials. The student will become acquainted with simple design, craftsmanship and various fasteners used in construction. Students will recognize proper use and safety procedures of tools and machines, correct sanding techniques and finishing of industrial materials. The student will gain knowledge of the relationship between science and math through practical applications.



### **H0902 – CONSTRUCTION TECHNOLOGY II (1.0)**

This course gives the student a broader knowledge of construction skills. The students will experience different design techniques for various styles of construction. The students will begin to apply computer science with some of the machines being used in construction. Emphasis will be placed on the use of machine attachments, jigs and fixtures as used in mass production techniques similar to industry. Students will develop an appreciation of quality and craftsmanship in useful work applications.

Prerequisite: Construction Technology I



### **H0903 - CONSTRUCTION TECHNOLOGY III (1.0)**

This course offers the student the opportunity to independently explore specialized areas of construction using problem solving and research techniques. Emphasis will be placed on the use of machine attachments, jigs, and fixtures as used in mass production techniques similar to industry. Students will enhance their knowledge of computer controlled machines in this class thus becoming better prepared to further their education in construction or go into the work force.

Prerequisite: Construction Technology I & II



### **H0904 – CONSTRUCTION TECHNOLOGY IV (1.0)**

This course offers the student the opportunity to expand upon the skills and knowledge obtained in the previous Construction Technology classes. This course offers students to independently explore specialized areas of woodworking. Emphasis will be placed on the use of the machine attachments, jigs, and fixtures as used in mass production techniques similar to industry. Assessments in the course will be including the design, development, and creation of products from initial idea to completion. Students will enhance their knowledge of computer controlled machines in this class thus becoming better prepared to further their education in construction or go into the work force.

Prerequisite: Construction Technology I, II & III



### **H0911- MANUFACTURING TECHNOLOGY I (1.0)**

Manufacturing Technology I is designed to give the students insight to the field of metal working. Major emphasis of the course includes safely operating metalworking hand tools and machinery. Students are required to complete project(s) in tow of six metalworking areas such as machining, forging, welding, sheet metal, casting, and jewelry making. Problem-solving skills will be enhanced by hands-on learning throughout the semester.

Prerequisite: Open to all students



### **H0912 - MANUFACTURING TECHNOLOGY II (1.0)**

Manufacturing Technology II begins where Manufacturing Technology I left off. Students will be introduced to more demanding and complicated procedures. Topics such as MIG welding, advanced machining techniques, cold and hot forging, metal casting, blueprint reading and drawing will be covered extensively. The prospective student will be required to complete various assignments outside of the classroom and lab environment.

Prerequisite: Manufacturing Technology I



### **H0913 - MANUFACTURING TECHNOLOGY III (1.0)**

This course is designed to incorporate and implement all of the skills learned in the previous two courses. Each student will be encouraged to design, plan, and construct their own metal project. Advanced concepts will also be covered such as TIG welding. All equipment and facilities will be available with individualized instruction.

Prerequisite: Manufacturing Technology I & II



## **H0914- MANUFACTURING TECHNOLOGY IV (1.0)**

A fourth level metals course designed to expand upon the skills and knowledge obtained in the previous Manufacturing Technology classes. This course offers students to independently explore specialized areas in metal working. Students can choose to focus on welding, machining, casting, forging, sheet metal, and/or art metal. With an emphasis on advanced techniques, jigs, fixtures, tooling and pattern making. CAD/CAM/CNC will also be discussed including the design, development, and creation of products from initial idea to completion.

Prerequisite: Manufacturing Technology I, II, III



## **H0951 – ENGINEERING GRAPHICS I (1.0)**

Introduction to Engineering Graphics is an introduction to the field of drafting. In this course, students will learn basic skills in sketching, lettering, and orthographic and isometric projections on paper and CAD software. This course will also explore various careers and applications of drafting in everyday life. For students considering a career in drawing, engineering or any trades, this course will be very beneficial.

Prerequisite: Open to all students.



## **H0953 – HN PROJECT LEAD THE WAY (PLTW) CIVIL ENGINEERING & ARCHITECTURE (1.0)**

Civil Engineering and Architecture (CEA) is a high school level specialization course in the PLTW Engineering Program. In CEA students are introduced to important aspects of building and site design and development. They apply math, science, and standard engineering practices to design both residential and commercial projects and document their work using 3D architectural design software. Utilizing the activity-project-problem-based teaching and learning pedagogy, students will progress from completing structured activities to solving open-ended projects and problems that require them to develop planning, documentation, communication, and other professional skills.

Through both individual and collaborative team activities, projects, and problems, students will solve problems as they practice common design and development protocols such as project management and peer review. Students will develop skill in engineering calculations, technical representation and documentation of design solutions according to accepted technical standards, and use of current 3D architectural design and modeling software to represent and communicate solutions.

Prerequisite: Successful completion of Geometry

