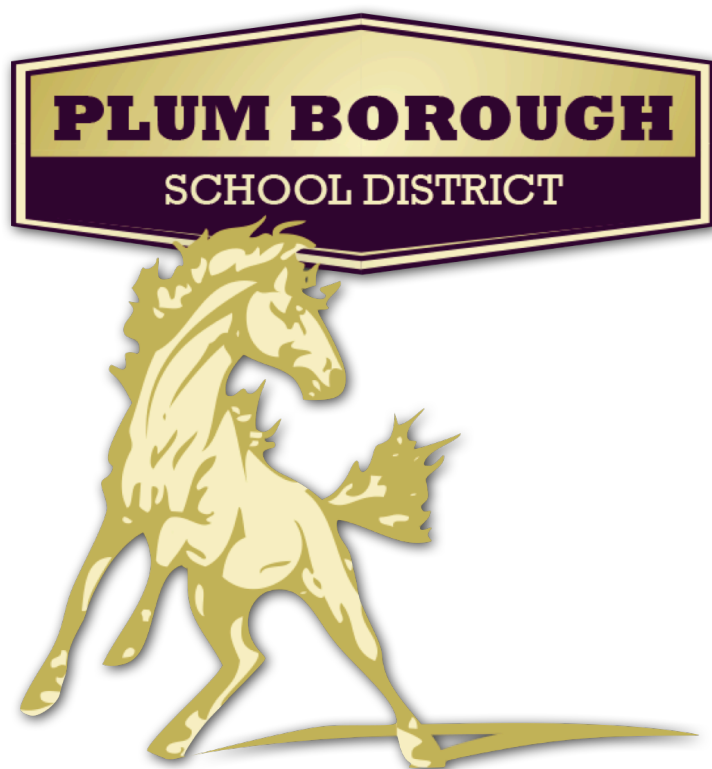


**10<sup>th</sup>–12<sup>th</sup> GRADE  
PROGRAM OF STUDIES  
2016-2017**

**PLUM SENIOR HIGH SCHOOL**



**Plum Senior High School  
900 Elicker Road  
Plum, PA 15239  
412-795-4880  
FAX 412-795-3527  
[www.pbsd.k12.pa.us](http://www.pbsd.k12.pa.us)**

## **DISTRICT MISSION STATEMENT**

The Plum Borough School District's mission is to educate children in a safe and engaging learning environment while developing creative problem-solvers, critical thinkers and globally competitive citizens.

### **BOARD OF SCHOOL DIRECTORS**

Mr. Kevin Dowdell, President  
Mr. Richard Zucco, Vice President  
Mrs. Sue Caldwell  
Mr. Sal Colella  
Mrs. Michele Gallagher  
Mrs. Vicky Roessler  
Mr. Jim Rogers  
Mr. Steve Schlauch  
Mrs. Michelle Stepnick

### **CENTRAL ADMINISTRATION**

Dr. Timothy Glasspool, Superintendent  
Dr. Guy Rossi, Assistant Superintendent

### **PLUM SENIOR HIGH SCHOOL ADMINISTRATIVE STAFF**

Mr. Ryan Kociela, Principal  
Mrs. Rachel Gattuso, Assistant Principal  
Mr. Adam Szarmach, Interim Assistant Principal  
Mr. Robert Alpino, Athletic Director  
Mr. Jeff Wolfe, Coordinator of Student Services

### **GUIDANCE STAFF**

*(assigned to students by last name alphabetically)*

Mr. Robert Fekety, A – Do  
Mrs. Kerry Plesco, Dr – La  
Mrs. Nadia Abbondanza, Le – Rh  
Mr. Brian Betta, Ri – Z

## **Foreword**

Plum Senior High School offers a comprehensive curriculum which provides students the capability to individualize schedules to best prepare for post-secondary aspirations. Parents are encouraged to communicate with both teachers and counselors during the scheduling process. In many cases, the selection of classes can be a simple task, but with others, it can prove to be challenging. Class

selection should be based on academic success, academic interest, post-secondary aspirations and input from parents, teachers, and guidance counselors.

We sincerely hope that the upcoming school year will provide countless positive learning experiences.

## **Grade Advancement**

Advancement to subsequent grade levels is determined by credits earned and passing grades in mandated courses.

<b>Grade</b>	<b>Requirements</b>
9→10	Four credits earned in grade 9 of which three must be in the core content areas of English, social studies, math or science.
10→11	A total of 12 credits earned in grades 9 and 10.
11→12	Student must be in position to satisfy all graduation requirements during the course of the regular school year.

## **Graduation Requirements**

A diploma for Plum Senior High is granted upon successful completion of 25.5 credits. These credits include state and district mandated subjects and a graduation project. Students who do not successfully complete credit requirements will not receive a diploma or participate in the commencement ceremony. The state component will depend on PDE legislation.

### **Minimum Credit Requirements for Graduation—Classes of 2017-2020**

<b>Course</b>	<b>Credits</b>
English (Including English Literature)	4.0
Social Studies	4.0
Science (Including Biology)	3.0
Mathematics (Including Algebra I if not successfully completed in 8 <sup>th</sup> grade)	3.0
Physical Education	2.0
Health Education	.5
Electives	9.0
<b>Total</b>	<b>25.5</b>

## **Keystone Exams**

The class of 2017 and all subsequent classes will be required to score proficient or advanced on the state required Keystone Examinations for Algebra I, Biology, and English Literature. Plum Senior High will employ instruction, resources, and remediation steps which afford students the best opportunity for success on the Keystone Exams. Scores for Keystone Exams will be included on

students' official transcripts. Students not scoring proficient or advanced on any of the exams by the end of their 11<sup>th</sup> grade year will be required to complete a project based assessment relating to their content of deficiency, and may also be required to participate in a related remediation class. Students may re-take the exams as many times needed to achieve proficiency as the state permits, until the end of their junior year.

## **Scheduling Process**

Guidance counselors will meet with students and present recommended class selections based upon academic progress, post-secondary aspirations, and potential career goals. Any questions concerning a class can best be answered by either a guidance counselor or the teacher(s) currently teaching the classes in question.

Teaching assignments, class offerings, and class sizes are based on total numbers of student requests for each course through the end of the scheduling process. Because of the potential for adverse educational impacts to class offerings, class sizes, and even staffing, **requests for changes to class selections will not be taken after the last day of the school year (6/3/2016) for the 2016-2017 school year. This includes semester courses that may not begin until January, 2017.** Students will subsequently be expected to adhere to the schedule that results from class selections determined by 6/3/2016.

It is the responsibility of students and parents to thoroughly review class selections and return a signed ***Schedule Agreement***. If there is an error or desired change on the Schedule Agreement (student's class requests), the parent should contact the appropriate guidance counselor prior to the end of the school year to make the necessary corrections. **Failure to return a signed schedule agreement with any questions or adjustments before the last day of the 2015-2016 school year will result in the automatic scheduling of the student using the originally selected course selections that were listed on the schedule agreement.**

## **Study Hall Policy**

Students may not be scheduled for more than ten (10) study halls per six-day cycle.

## **Curriculum and Post-Secondary Planning**

Ranging from workforce ready to advanced college preparatory, various levels of program planning can be created for each student. Students are encouraged to take classes that provide academic rigor in order to best prepare for post-secondary aspirations. Students may enroll in classes of various levels depending on individual need, ability, and interest.

### **Supported**

Supported classes provide similar curricular content to academic classes. Supported classes in grades 9-10 but are often team taught by a regular and a special education teacher. Competency levels of assignments and assessments are modified to meet the individual needs of students.

### **Special Education Programs**

Special Education students are scheduled according to the specific needs identified in their Individualized Education Plans (IEP). A case manager (in addition to the student's counselor) will be assigned to oversee the academic progress and needs of each identified student.

### **Academic**

The content and competency levels of academic classes are designed to prepare students for post-secondary educational experiences. Because entrance requirements vary among post-secondary institutions, it is recommended that students select courses that demonstrate a marketable academic aptitude for potential acceptance to the post-secondary institution of each student's choosing.

## Honors

Honors and Advanced Placement classes provide high levels of academic rigor for students with an interest and/or ability in contents beyond the regular academic level.

Honors classes and the grade level at which they are typically offered:

Course	Grade	Course	Grade
Honors English Composition	9	Plane Geometry (A)	9
Honors English Literature	10	Algebra II (A)	10
Biology (A)	9	Pre-Calc/Trigonometry(A)	11
Chemistry (A)	10	Honors Orchestra	12
Honors Civics	9	Honors Band	12
Honors French IV	11-12	Honors Chorus	12
Honors Spanish IV	11-12	Honors Accounting	11-12

## Advanced Placement Classes:

AP classes are nationally recognized curricula, offering students the opportunity to earn college credit and/or recognition while attending high school. Expectations for assignments and assessments will be intense and demanding. **Students are required to take the College Board Advanced Placement Test for each AP class taken, in order to receive weighted credit (5.0) for the class. Any student who chooses not to take an AP exam will have their GPA adjusted to reflect the unweighted credit once final AP rosters have been submitted by CollegeBoard to the school (approximately in March).** The test fee (\$86) is paid by the student, but the district will provide partial reimbursement of test fees for scores of 5 (\$60), 4 (\$40), and 3 (\$20) for each exam taken. A fee waiver is available for students eligible for the free or reduced lunch program. Applications for fee waivers are available in the Guidance Department.

Advanced Placement classes and the grade level at which they are typically offered:

Course	Grade	Course	Grade
Language Composition	11-12	Statistics	11-12
Literature and Composition	11-12	Calculus AB	11-12
US History	10	Calculus BC	12
European History	11	Biology	11-12
US Government/Comparative Govt.	12	Chemistry	11-12
Psychology	10-12	Physics II and Physics C	12
Economics	12	Spanish	12
Studio Art	12	French	12
Photography/2-D Design	12	Music Theory	10-12

## Dual Enrollment and College in High School Credit Opportunities

**College in High School Classes** – The following classes offer students the opportunity to receive credit from the college or university listed below:

*University of Pittsburgh Affiliated Courses*

AP Calculus AB  
Business Calculus  
Computer Programming with Visual Basic  
Computer Science/Intermediate Programming  
Basic Applied Statistics  
Web Page Design  
AP Physics

*Adams University, Colorado*

Air Force JROTC – Journey into Aviation History  
Air Force JROTC – Summer Leadership Course

*Duquesne University*

Television Productions II  
Television Productions III

*Carlow University*

Economics/Law  
World Cultures

*Indiana University of Pennsylvania*

\*These courses are offered as online dual enrollment at a reduced tuition cost of \$385 per 3 credit class. Students who enroll in any of these courses are required to attend a mandatory orientation at an I.U.P. campus and are limited to enrolling in 2 classes per semester during their junior and senior years.

**English:**

ENGL 101 College Writing\* (Require placement testing)

**Mathematics:**

MATH 101 Foundations of Mathematics\*

MATH 105 College Algebra\*

MATH 110 Elementary Functions\*

MATH 121 Calculus I for Natural and Social Science\*

MATH 217 Intro to Probability & Statistics

\* Require placement testing

**Humanities:**

HISTORY (May choose one of the following)

HIST 196 Explorations in U.S. History

HIST 197 Explorations in European History

HIST 198 Explorations in Global History

**Literature:**

ENGL 121 Humanities Literature\*

(\*ENGL 101 is a prerequisite)

PHILOSOPHY/RELIGIOUS STUDIES (may choose one of the following)

PHIL 101 Informal Logic: Methods of Critical Thinking

RLST 100 Introduction to Religion

RLST 110 World Religions

**Fine Arts:** (may choose one of the following)

ARHI 101 Introduction to Art

DANC 102 Introduction to Dance

MUHI 101 Introduction to Music

THTR 101 Introduction to Theater

**SAT Prep**

SAT prep courses are designed to help students prepare for the math and reading portions of this critical test. Both classes are offered online through the Allegheny Intermediate Unit, Waterfront Learning at no cost to students.

SAT Prep Offerings: SAT Critical Reading and Writing – 0.25 credits

SAT Math – 0.25 credits

**Online Enrichment Electives**

In addition to regular class selections, up to 50 students will be afforded the opportunity to take one online enrichment class. Students taking online classes will complete coursework from an assigned study hall period. Priority for scheduling will be based on grade (seniors given first priority), and sequences of previously taken classes. Waterfront Learning, a component of the Allegheny Intermediate Unit, will be the provider. The most updated listing of enrichment offerings can be found at: <http://www.waterfrontlearning.com>.

**FORBES ROAD CAREER AND TECHNOLOGY CENTER**

**Forbes Road CTC - What we have to offer...**

Forbes Road CTC provides quality education that enables all individuals to achieve their fullest potential in pursuit of employment and/or educational skills. Forbes' goal is to provide a variety of quality learning experiences, which will enable students to compete successfully in today's workplace within a changing global economy. Additionally, Forbes strives to equip students with experiences that will enable them to strengthen family foundations, positively influence the community, and participate as an enlightened and informed member of society.

Forbes Road Career and Technology Center provides a multitude of education courses and programs that can help you obtain the certification and skills you need to move forward in today's competitive job market. We offer 17 programs and are accredited by the Middle States Association of Schools and Colleges.

Advanced Manufacturing	Cosmetology	Health Science Technology
Advertising Design	Culinary Arts	Heating, Ventilation & Air Conditioning
Automotive Technology	Diesel Technology	Landscape Design
Building Construction Technology	Early Childhood Ed	Multimedia Design
Collision Repair Technology	Electrical Technology	Warehouse Management
Computer Networking & Security	Emergency Response	Ninth Grade Exploratory

**Academic Credit Classes**

Forbes Road CTC offers credit classes in English, Math, Physical Education/Health, Social Studies and Science for students in our Apprentice Program, Full-Day students, and students needing to make up course work. The courses offered: Geometry, Trigonometry, Environmental Science, Physics, Biology, Physical Science, Social Studies, US History I, US History II, World Cultures, Economics, English 10, 11 and 12, Algebra 1, II and III. Students needing to make-up course work in

these subjects may take 120 hours of English and/or Math at Forbes Road CTC and receive appropriate credit. This option is subject to sending school approval.

### **Remediation Classes/Resource Room**

All Forbes Road CTC students demonstrating a lack of English/Communication and/or Math skills as determined by the sending districts will be required to take remedial courses. At the request of the home school, students can take Keystone Exam remediation classes at Forbes Road CTC. Forbes has two Resource Rooms that are staffed by certified teachers. Any student that needs help with their academic and /or technical work can go to the Resource Room for help. The staff also provides accommodations for testing.

### **FREE COLLEGE CREDIT**

Increasing numbers of high school technical courses are linked to two-year college programs. These programs can give you a head start on college and prepare you for jobs offering some of the greatest career opportunities for the future. Only 20 percent of the jobs in the U.S. require a four-year degree, but 65 percent require education beyond high school. For the foreseeable future, workers with up-to-date skills will be able to call their own shots and assure their own success.

## **ARCHITECTURE/CONSTRUCTION PROGRAMS**

### **BUILDING CONSTRUCTION TECHNOLOGY**

**CIP 46.9999**

#### **Construction Trades, Other**

Building Construction Technology students gain technical knowledge as well as practical hands-on training in the trade which includes carpentry, plumbing, electrical, masonry and blueprint reading. A complete residential modular house is worked on site. Individuals learn to apply technical knowledge and skills in the maintenance and repair of residential, office, apartment, and other commercial buildings. Students have the opportunity to obtain the OSHA Certification and Pittsburgh Builder's Association Certification.

### **ELECTRICAL TECHNOLOGY**

**CIP 46.0399**

#### **Electrical and Power Transmission Installers, Other**

Students in this program are prepared for entry level electrical and electronic careers. Their hands-on applications include green technology in the program's state-of-the art electrical laboratory. Modern training equipment is utilized to prepare the students for careers in the emerging "high-tech" electrical field. Technical knowledge includes: installing residential, commercial and industrial systems, AC/DC motors, controls and electrical distribution panels. Through the program, students will have practical application and troubleshooting projects to apply the National Electrical Code. Students have the opportunity to obtain the following certifications; Residential Construction, Academy Certification, House Wiring, Residential, Construction Academy, Certification for Electrical, Principles, Builder's Association Certification and OSHA 10 Hour Certification.

### **Heating, Ventilation & Air Conditioning**

**CIP 47.0201**

#### **Heating, AC, Ventilation and Refrigeration Maintenance Technology/Technician**

Students in this program become qualified HVAC technicians and mechanics. Students will learn technical tasks including: assembling and installing air and gas systems; cutting, reaming and threading piping materials; waterproofing and sealing joints; testing entire systems for leaks through



the use of pressure testing devices; installing gas and water plumbing fixtures and equipment; reading and implementing blueprint drawings; and designing plumbing and heating systems. An important part of the technical training covers instruction on how to install, diagnose, service and maintain residential and commercial control wiring for HVAC systems. Students have the opportunity to obtain the following certifications; Type I, II, III and Universal Refrigerant Recover and Transition Certification, Universal Refrigerant 410A Safety & Training Certification, HVAC Excellence Technical Certifications, and Pittsburgh Builder's Association Certification.

## **LANDSCAPE DESIGN**

### **CIP 01.0601**

#### **Applied Horticulture/Horticulture Operations, General**

Landscape Design is a profession that focuses on creating everything outdoors from gardens, to residential landscapes to commercial grounds. The Landscape Design program immerses students in the history and theory of landscape and floral design, broadens their horticultural knowledge and plant vocabulary, and nurture their creativity while grounding them technically. This program is a specialized curriculum designed to prepare students to be desirable employees of nurseries, greenhouses, businesses. Both maintenance and establishment of lawns, as well as, landscaping homes and businesses are included in the curriculum. The principles of design are also included along with plant identification, budgeting, and cultivation procedures. The student's involvement in the Allegheny County FFA Chapter will give them an opportunity to enter horticulture and landscape contests and make contacts with employers and students from all over the nation. Students have the opportunity to obtain the following certifications; PA Pesticides License, ICPI (Interlocking Concrete Paver Institute), NCMA (National Concrete/Masonry Association) and Versa-Lok Basic Training.

## **ADVERTISING DESIGN**

### **CIP 50.0402**

#### **Commercial and Advertising Art**

The field of advertising and commercial art requires people who possess a wide range of creative skills. Today's commercial artist must be familiar with many forms of production, illustrative techniques, computer graphics and photography. From simple line drawings to computer-generated imaging, the students create art that requires them to apply technical theory to an advertising agency workplace. Students will apply their designs on state-of-the-art equipment including digital printers, a laser engraver, vinyl cutters, a sublimation system and the embroidery machines. The curriculum includes the foundation for all creative/design fields. Students apply the design principles to create a variety of products and printed materials - to reach and compel the target audience to purchase products and services.

## **COMPUTER NETWORKING & TELECOMMUNICATIONS**

### **CIP 11.0901**

#### **Computer Systems Networking & Telecommunications**

This exciting technical course prepares students to design, maintain and secure today's Information Technology (IT) Systems which support every aspect of our global economy. Network Security Specialists acting as Ethical Hackers prevent data loss from cyber-attacks, network intrusions and viruses, protecting valuable personal and corporate data. Students will use the latest tools to gain the practical experience needed to earn valuable professional certifications such as A+, Network+ , CISCO and Security+. Network Security Specialists are in high demand in law enforcements, large corporations, and government agencies including the FBI, CIA and NSA.

## **MULTIMEDIA DESIGN**

### **CIP 11.0801**

#### **Web Page, Digital/Multimedia and Information Resources Design**

This program gives students the freedom to be creative, imaginative and inspired to create presentations for entertainment, industrial and commercial use. Students will learn to use hardware such as digital and video cameras, and projectors in conjunction with the computer and the internet. The course content is designed to create animations, manipulate photographs, create pictures, presentations podcasts and web sites using state-of-the-art software. Both platforms of personal computers and MACs are taught. Finally, students complete a digital portfolio showcasing their “best works”.

## **EMERGENCY RESPONSE SERVICES**

### **CIP 43.9999**

**Homeland Security, Law Enforcement, Firefighting and Related Protective Services, Other** Emergency Response Services program is for students interested in pursuing a career, volunteer service, or additional post-secondary education in emergency medical service, law enforcement, fire or emergency management services. Students may also gain employment in areas of security and industrial safety. The program will challenge students with technical knowledge, as well as, hands-on training in a fully equipped on-site lab which includes a fire tower and a fire truck. Students have the opportunity to obtain the PA State/National Registry Emergency Medical Technician Certification, AHA Basic Life Support (CPR), Fire Extinguisher Training, Industrial Fire Brigade Basic, HAZMAT Awareness, and NIMS 100, 200, 700, and 800.

## **HEALTH SCIENCE TECHNOLOGY**

### **CIP 51.0899**

#### **Health/Medical Assisting Services, Other**

With today’s fast growing medical profession, now is a great time to consider a career in health care. This program will assist you in getting a jump start in the financially rewarding health career or an edge in your post-secondary health field studies. Many students continue their education and become Pediatric Nurses, Surgical Technicians. And Veterinary Technicians. Students can also prepare for careers in Physical Therapy, Occupational Therapy, Medical Office areas, along with many other medical specialties. This pre-nursing course gives you an opportunity to gain valuable hands-on experience and interact with patients under the supervision of a Registered Nurse. Student have the opportunity to obtain the following certifications; American Heart Association CPR/AED, American Heart Association First Aid, and Direct Care Staff Worker Certification.

## **MACHINE TOOL TECHNOLOGY/MACHINIST**

### **CIP 48.0501**

#### **Machine Tool Technology/Machinist**

Advanced Manufacturing is a high paying field that requires both technical knowledge and hands-on training. Students will learn to design and create metal objects that are useful in everyday life. Students will read blueprints, cut, shape and finish metal products on state-of-the-art manual and computer controlled machines. Student projects have included making: motorcycle parts, all-terrain vehicle parts, race car parts, machinist tools, chess sets, ornaments, name tags, gears and 15 pound combat robots. This program is accredited by NIMS (National Institute for Metalworking Skills). Students have the opportunity to obtain NIMS Level I Certification and OSHA Safety Certification.

## **EARLY CHILDHOOD EDUCATION**

### **CIP 19.0708**

#### **Child Care and Support Services Management**

The Early Childhood Education program participants receive practical experience at local daycares in the community. Students study all the phases of child development: physical, social, emotional and intellectual. They learn about nutrition, guidance, and discipline. They study how to help the child

develop daily living skills and about the value of play, literature, music, art, math, and science in child development. Students present a series of learning and developmental activities in child care facilities practicing their creative teaching, child caring and management skills. Students have the opportunity to obtain First Aid, CPR, and CDA–Ready Certifications.

## **COSMETOLOGY/COSMETOLOGIST, GENERAL**

**CIP 12.0401**

### **Cosmetology/Cosmetologist, General**

The cosmetology program is designed to provide students with academic and technical skills needed in the field of cosmetology. Students will study care of hair, nails and skin. They will learn the proper use of cosmetology tools and equipment, as well as techniques in hair cutting, styling, coloring, permanent waving, relaxing, manicuring, pedicuring and skin care. The Cosmetology Clinic provides students with the opportunity to practice their technical and customer service skills on clients from the community. Students will also focus on preparing to test for their PA Cosmetology License and/or PA Nail Technician License.

## **CULINARY ARTS**

**CIP 12.0508**

### **Institutional Food Workers**

Culinary Arts is designed to offer instruction in the commercial restaurant industry including areas such as gourmet and fine dining skills, fast food operations, customer service, menu planning, and cost-control along with other important aspects of food service. This highly appealing and interesting area stresses the technology of preparing and serving attractive nutritious foods. Students learn the complete food cycle including nutrition, ordering processes, menu design, equipment use and maintenance, sanitation, hygiene, food prep and presentation skills. Students have the opportunity to obtain the ServSafe–National Restaurant Association Certification.

## **AUTOMOTIVE TECHNOLOGY**

**CIP 47.0604**

### **Automobile/Automotive Mechanics Technology/Technician**

Automotive Technology students will disassemble and rebuild engines, diagnose problems with the aid of a computer while having the opportunity to earn their PA State Inspection and Emissions Certification. Our Automotive Technology program is NATEF (National Automotive Technicians Education Foundation) certified and meets strict industry standards. Students gain a clear understanding of the automotive service industry, basic technology skills, career opportunities and the steps necessary for success in the field. The Automotive Technology course includes specialized technical knowledge and “hands-on” experiences in the diagnosis, maintenance and repair of the modern automobile. Students have the opportunity to obtain NATEF, PA State Safety Inspection Mechanic and PA State Emissions Inspector certification.

## **COLLISION REPAIR TECHNOLOGY**

**CIP 47.0603**

### **Autobody/Collision and Repair Technology/Technician**

The Collision Repair Technology, NATEF certified, program gives you the skills to transform wrecked vehicles into a custom designed master piece. Students are instructed in the use of state of the art equipment in order to become competent in metalworking, welding, surface preparation, refinishing and estimating. Students have the opportunity to obtain the following certifications; ASE, PA State Safety Inspection and PA State Emissions Inspector certification.

## **DIESEL TECHNOLOGY**

**CIP 47.0613**

## **Medium/Heavy Vehicle and Truck Technology/Technicians**

Trucks and heavy equipment are part of virtually every aspect of today's transportation, construction, and manufacturing industries. Most of these vehicles are powered by diesel engines. The diesel technology course trains its students in the repair and servicing of diesel-powered equipment. Special emphasis is placed on the direct needs of local business and industry. Technical knowledge is enhanced by "hands-on" work involving actual maintenance activities of school owned vehicles and equipment. While the emphasis is on diesel engines, gasoline powered equipment and vehicles are also included as part of the instructional program. Students have the opportunity to obtain NATEF, PA State Safety Inspection Mechanic and PA State Emissions Inspector certification.

## **WAREHOUSE MANAGEMENT**

### **CIP 52.0203**

#### **Logistics, Materials and Supply Chain Management**

This program will actively engage students in the process of receiving, storing, shipping, controlling and distributing products. Students will use conveyors, hand trucks and fork lifts to transport materials and supplies. They will work in the Forbes Road CTC Distribution Center using technology to scan and track products. This program will expose students to careers related to the movement of materials and products. Students can obtain an OSHA Forklift Certification.

## **Internships/Apprenticeships**

### **FEA Internship**

This internship is available for seniors interested in a career in education. Students will be partnered with teachers in various Plum Borough schools to gain first-hand experience in a classroom setting. Students enrolled in this elective will be responsible for the completion of various tasks and responsibilities associated with planning and preparation, instruction and learning, and other professional responsibilities within the teaching profession.

Specific information for the course is as follows:

- Open to 12<sup>th</sup> grade students
- 0.5 elective credits
- Pass/Fail monitored quarterly
- Students will be responsible for arranging their own transportation**
- Visitations will take place 2-3 times/week and will rotate to multiple sites
- Students will be scheduled for the internship during 12<sup>th</sup> period, to allow students to travel to their placements and work with the program facilitator on fulfilling program requirements.
- Requirements and program criteria will be jointly developed by the program facilitator and cooperating teachers.

For more information on this opportunity, please see your guidance counselor.

### **Technology Help Desk Apprenticeship**

This course provides hands-on support for the Plum Borough School District 1:1 Program. Student help desk apprentices will build meaningful technical knowledge and problem-solving skills while providing valuable support to their peers. Under the guidance and supervision of Plum Borough School District IT staff, student help desk apprentices will provide technical consultation and service, perform hardware repairs, resolve software problems, and develop art/graphics.

- Open to 11<sup>th</sup> and 12<sup>th</sup> grade students
- 0.5 elective credits
- Pass/Fail monitored quarterly

Prerequisite: 2.5 GPA, 90% Attendance, Instructor Permission, Resume, and Successful Interview

## **Rank and Academic Merit**

Official class rank is not be formally calculated. Percentage and numeric rank estimates will be available through the guidance department at the request of post-secondary institutions and scholarship organizations.

Students with a 4.0 grade point average and above will be awarded a medallion for “Academic Excellence” at commencement, and lead the roll call procession. Formal valedictorian and salutatorian standings will not be recognized, but may be merited through rank requests of post-secondary institutions and scholarship organizations.

## **Educational Release**

Educational Release enables seniors who have conditionally met graduation requirements and other graduation criteria to be excused from part of their school day to participate in external course offerings and real-world opportunities not offered through the high school program of studies. Educational Release can include coursework at outside educational institutions, apprenticeship experiences, volunteer service, and work experiences. The release time from Plum Senior High School may not exceed three periods. Students participating in Educational Release will report the nature and location of their experience to their guidance counselor at the beginning of the school year, and update their guidance counselor on the status and progress of their experiences at the end of each marking period.

Students may receive credit for coursework approved through their guidance counselor. Grades for outside coursework will not be calculated into the student’s quality point average.

NOTES: The responsibility of all costs and transportation related to the nature of the Educational Release (including a school parking pass) rests with the student and their family, not the Plum Borough School District. The District is not responsible for the facilitation or liabilities of experiences off a Plum Borough School District property.

## **General Class Offerings by Department**

### **ENGLISH**

<b>Course No.</b>	<b>Course Title</b>	<b>Grade</b>	<b>Sem.</b>	<b>Level</b>	<b>Credits</b>
100	English 9 - Composition	9	Y	2	1

101	English I - Composition	9	Y	1	1
102	English 9, Honors - Composition	9	Y	3	1
103/113/ 123	English Functions	9-11	Y	1	1
110	English 10 - Literature	10	Y	2	1
111	English II - Literature	10	Y	1	1
112	English 10, Honors - Literature	10	Y	3	1
120	English 11	11	Y	2	1
121	English III	11	Y	1	1
122	AP English Language and Composition	11-12	Y	AP	1
130	English 12	12	Y	2	1
131	English IV	12	Y	1	1
132	AP English Literature and Composition	11-12	Y	AP	1
140	Television Production I (elective)	10-12	S	2	.5
141	Television Production II (elective)	11-12	Y	2	1
142	Communication/Speech (elective)	11-12	S	2	.5
143	Television Productions III (elective)	12	Y	2	1
146	College Writing (elective)	11-12	S	2	.5
180	Yearbook (elective)	10-12	Y	2	1
193-199	Reading	9-12	Y	1	1

## SOCIAL STUDIES

Course No.	Course Title	Grade	Sem.	Level	Credits
200	Modern American History	9-10	Y	2	1
201	Modern American History Foundations	9-10	Y	1	1
202	Civics Foundations	10	Y	1	1
203	Civics	10	Y	2	1
204	Honors Civics	9	Y	3	1
205	Advanced Placement American History	11	Y	AP	1
206	World Cultures	11	Y	2	1
207	World Cultures Foundations	11	Y	1	1
208	Advanced Placement European History	11-12	Y	AP	1
209	Economics/Law	12	Y	2	1
210	Economics/Law Foundations	12	Y	1	1
211	World Geography	12	Y	2	1
212	Sociology	12	Y	2	1
213	AP Government/Comparative Government	12	Y	AP	1
216	AP Psychology (elective)	10-12	Y	AP	1

## MATHEMATICS

Course No.	Course Title	Grade	Sem.	Level	Credits
300	Pre-Algebra	9-10	Y	1	1
301	Algebra I w/Lab	9-12	Y	2	1
302	Plane Geometry	9-12	Y	2	1
303	Plane Geometry (A)	9	Y	3	1

304	Algebra II (A)	9-10	Y	3	1
305	Algebra I Foundations	10-11	Y	1	1
311	Algebra II	10-12	Y	2	1
312	Intermediate Algebra Concepts I	9-12	Y	1	1
313	Intermediate Algebra Concepts II	10-12	Y	1	1
314	Pre-Calculus/Trigonometry (A)	11	Y	3	1
315	Advanced Transition Math	9-12	Y	1	1
321	College Algebra	11-12	Y	2	1
322	Pre-Calculus/Trigonometry	11-12	Y	2	1
324	AP Calculus AB	11-12	Y	AP	1
330	Applied Statistics	11-12	Y	2	1
331	AP Statistics	11-12	Y	AP	1
332	Business and Social Sciences Calculus	12	Y	2	1
334	AP Calculus BC	12	Y	AP	1

## SCIENCE

Course No.	Course Title	Grade	Sem.	Level	Credits
400	Introduction to Physical Science	9	Y	1	1
401	Environmental Science	9-10	Y	1	1
402	Biology (A)	9-10	Y	3	1
410	Intermediate Science I	10-11	Y	1	1
411	Biology w/lab	10-11	Y	2	1
413	Chemistry (A)	10-11	Y	3	1
415	Biology Remediation	10-11	Y	1	.5
420	Intermediate Science II	12	Y	1	1
421	Chemistry	10-12	Y	2	1
422	Anatomy & Physiology	10-12	Y	2	1
423	Introduction to Forensics	11-12	Y	2	1
425	Physics	11-12	Y	2	1
426	AP Physics I	11-12	Y	AP	1
427	AP Physics II	12	Y	AP	1
428	AP Physics (C)	12	Y	AP	1
431	Intro to Geoscience	11-12	Y	2	1
433	AP Biology	11-12	Y	AP	1
434	AP Chemistry	11-12	Y	AP	1

## MODERN WORLD LANGUAGES

Course No.	Course Title	Grade	Sem.	Level	Credits
500	Spanish I	9-12	Y	2	1
501	Spanish II	9-12	Y	2	1
502	Spanish III	10-12	Y	2	1
504	Spanish Honors IV	11-12	Y	3	1

505	AP Spanish	12	Y	3	1
510	French I	9-12	Y	2	1
511	French II	9-12	Y	2	1
512	French III	10-12	Y	2	1
515	French Honors IV	11-12	Y	3	1
516	AP French	12	Y	3	1

## BUSINESS EDUCATION

Course No.	Course Title	Grade	Sem.	Level	Credits
600	Computer Applications for School and Business	9-12	Y	2	1
601	Web Site Design & Development	10-12	Y	2-3	1
602	Computer Programming with Visual Basic	10-12	Y	2-3	1
603	Computer Programming with Java	10-12	Y	2-3	1
610	Business Law and Finance	10-12	Y	2	1
611	Introduction to Accounting	10-12	Y	2	1
612	Honors Accounting	11-12	Y	2	1
613	Marketing	11-12	Y	2	1
614	International Business	11-12	Y	2	1
615	AP Economics	12	Y	AP	1

## ENGINEERING AND TECHNOLOGY EDUCATION

Course No.	Course Title	Grade	Sem.	Level	Credits
750	Exploratory Engineering Technologies	9-10	Y	1-2	1
751	Intro to Materials Processing & Engineering	10-12	Y	2	1
752	Advanced Materials Processing & Engineering	11-12	Y	2	1
753	Structural Engineering and Design	12	Y	3	1
754	Applications I/II				
761	Intro to Robotics Engineering and Design	10-12	Y	2	1
762	Robotics Engineering and Design	11-12	Y	2	1
763/764	Advanced Robotics Engineering Design I/II	12	Y	3	1
775	Introduction to Engineering Design	10-12	Y	2	1
776	Engineering Design	11-12	S	2	.5
777	Architectural and Civil Engineering	11-12	S	3	.5

## FINE ARTS

Course No.	Course Title	Grade	Sem.	Level	Credits
800	Intermediate Band	9	Y	2	1
801	Concert Orchestra	9-12	Y	2	1
802	Girls Chorus	9	Y	1-2	1
803	Jazz Ensemble	9-12	Y	2-3	1
810	Symphonic Band	10-12	Y	3	1



811	Concert Band	10-12	Y	2	1
812	Symphonic Orchestra	10-12	Y	2-3	1
813	Concert Choir	9-12	Y	1-3	1
814	Ladies Chorus	10-12	Y	1-3	1
815	Chamber Choir	10-12	Y	3	1
816	Class Piano/Music Theory	10-12	Y	2	1
817	Music Technology/Appreciation	10-12	Y	2	1
818	AP Music Theory	10-12	Y	3	1
830	Honors Band	12	Y	3	1
831	Honors Orchestra	12	Y	3	1
832	Honors Chorus	12	Y	3	1
833	Beginning Winds	9-12	Y	1-3	1
850	Art I	9	Y	1-2	1
851	Art II	10-12	Y	1-2	1
852	Art III	11-12	Y	2	1
853	Art IV	12	Y	3	1
856	Photography I	10-12	S	2	.5
857	Photography II	11-12	Y	2	1
854	AP Studio Art	12	Y	AP	1
859	AP Photography: 2-D Design	12	Y	AP	1

## PHYSICAL EDUCATION

Course No.	Course Title	Grade	Sem.	Level	Credits
900	Physical Education	10-12	Y	1-2	.5
901	Physical Education/Swim	9	Y	1-2	.5
910	Health	9	Y	1-2	.5
921	Strength, Flexibility, and Conditioning (elective)	11-12	S	2	.5
922	Strength II (elective)	12	S	2	.5

## AIR FORCE JR. ROTC

Course No.	Course Title	Grade	Sem.	Level	Credits
912	AFJROTC Aviation History	9	Y	2	1
915	AFJROTC Advanced Drill	10-12	Y	2	1
917	AFJROTC Basic Survival	10-12	Y	2	1
920	Summer Leadership Course	9-11	S	2	.5

## VOCATIONAL TECHNICAL EDUCATION

Course No.	Course Title	Grade	Sem.	Level	Credits
990	Forbes Career & Technology Center 1 <sup>st</sup> Year	10-12	Y	2	3
991	Forbes Career & Technology Center 2 <sup>nd</sup> Year	11-12	Y	2	3
992	Forbes Career & Technology Center Apprenticeship Program	11-12	Y	2	3
993	Forbes Co-op	12	Y	2	3

# ENGLISH DEPARTMENT

## Class Descriptions

GRADE	HONORS	ACADEMIC	ACADEMIC SUPPORT
<b>9</b>	English 9 Honors - Composition	English 9 - Composition	English I Composition
<b>10</b>	English 10 Honors - Literature	English 10 - Literature	English II Literature
<b>11</b>	AP English Language and Composition	English 11	English III
<b>12</b>	AP English Literature and Composition	English 12	English IV

### 100 English 9 - Composition

Grade 9

Level 2

1 Credit (Year)

The fundamental focus of 9<sup>th</sup> Grade English builds upon the elements of literature and composition through concurrent instruction of vocabulary, grammar and usage, and reading for meaning. The course will be dedicated to developing the skills of literature comprehension and analysis, and writing, especially in the areas of expository, persuasive and research-based composition. Students will continue to develop the skills necessary to reach high achievement levels on the Literature Keystone Exam and other forms of standardized testing. Students will read a variety of fiction and non-fiction works, developing skills and strategies to extract the author's meaning and purpose.

Course Requirements: *Seven Habits of Highly Effective Teens* by Sean Covey

### 101 English I - Composition

Grade 9

Level 1

1 Credit (Year)

This course is based on the academic 9<sup>th</sup> grade curriculum, but is intended to provide students with more opportunity to practice and develop the reading and writing skills necessary for proficiency on the Keystone Exams, success in the classroom, and college or career readiness. Students will focus on reading strategies in fiction and non-fiction, and develop writing skills in expository, persuasive and research-based compositions.

Course Requirements: *Seven Habits of Highly Effective Teens* by Sean Covey

### 102 English 9, Honors - Composition

Grade 9

Level 3

1 Credit (Year)

Students will focus primarily on expository, persuasive, and research writing in the enriched setting of an honors level class. Intended for the student who is advanced in reading and writing in 8<sup>th</sup> grade, students will be able to express ideas through expository and persuasive writing, building upon the elements of composition through concurrent instruction of vocabulary, grammar and usage and reading for meaning. Students will continue to develop the skills necessary to reach high achievement levels on the English Composition Keystone Exam and other forms of standardized

testing. Students will read a variety of fiction and non-fiction works, developing skills and strategies to extract the author's meaning and purpose in an enriched environment.

Course Requirements: *Seven Habits of Highly Effective Teens* by Sean Covey, *A Tale of Two Cities* by Charles Dickens, *A Midsummer Night's Dream* by William Shakespeare

RECOMMENDATION: Teacher recommendation

### **110 English 10 - Literature**

Grade 10

Level 2

1 Credit (Year)

Students will be able to gain understanding and think critically through reading, writing, and speaking. Students will be able to express ideas through expository and persuasive writing in preparation for the Keystone Exam. The fundamental focus of English 10 builds upon the elements of literary analysis and reading for meaning. This course corresponds to the Keystone Assessment Anchors and eligible content and culminates with The Keystone Exam in Literature. This course draws short stories, novels, non-fiction, and poetry from the best of the world's literature to teach literary techniques and terminology. The culminating assessment for this class is the Keystone Exam for Algebra I. A score of Proficient or Advanced is a graduation requirement as per the PA Department of Education.

REQUIRED SUMMER READING: *The Last Lecture* by Randy Pauch

PREREQUISITE: English 9 or English I

### **111 English II - Literature**

Grade 10

Level 1

1 Credit (Year)

The English 10 program is intended for students who have experienced academic difficulties with their English program. The instruction concentrates on improving skills in reading, writing, and speaking. Students will be able to express ideas through expository and persuasive writing in preparation for the Keystone Exam. The fundamental focus of English 10 builds upon the elements of literary analysis and reading for meaning. This course corresponds to the Keystone Assessment Anchors and eligible content and culminates with The Keystone Exam in Literature. This course draws short stories, novels, non-fiction, and poetry from the best of the world's literature to teach literary techniques and terminology. The culminating assessment for this class is the Keystone Exam in Literature. A score of Proficient or Advanced is a graduation requirement as per the PA Department of Education.

REQUIRED SUMMER READINGS: *The Last Lecture* by Randy Pauch

PREREQUISITE: English 9 or English I

### **112 English 10, Honors - Literature**

Grade 10

Level 3

1 Credit (Year)

Concentrating on a variety of literary genres, this course is designed for the student who has demonstrated an exceptional academic aptitude and significant interest in the areas of reading, writing, speaking, and listening. Students will continue to read critically and analyze literature such as non-fiction, fiction, drama, and poetry at an accelerated pace. Accompanying the extensive reading of literature during the course, the student will develop and polish composition and oral presentation skills. Along with taking the Keystone Literature Exam at the end of the course, students will also be assessed through discussion, performance, projects, tests, writing, and quizzes. The culminating assessment for this class is the Keystone Exam in Literature. A score of Proficient or Advanced is a graduation requirement as per the PA Department of Education.

REQUIRED SUMMER READINGS: *Merchant of Venice* by Shakespeare, *All Quiet on the Western Front* by Remarque, and *The Last Lecture* by Randy Pauch

PREREQUISITE: English 9

RECOMMENDATION: Teacher recommendation

### **120 English 11**

Grade 11

Level 2

1 Credit (Year)

This course of study has been developed as a two-semester required English course in American literature on the eleventh grade level. Through the study of American literature, both fiction and non-fiction, students will be able to analyze and interpret literary devices and structures to understand author's purpose. Students will read American works, including novels, short stories, poetry, essays, articles, and drama. Students in this course will become proficient in reading and analytical strategies necessary for academic and personal success. In addition, students will demonstrate their understanding of literature through varied composition styles.

REQUIRED SUMMER READING: *Into Thin Air and The Glass Castle*

PREREQUISITE: English 10 or English II

### **121 English III**

Grade 11

Level 1

1 Credit (Year)

This supported program is intended for students who have experienced academic difficulties with their English program. Through the study of American literature, both fiction and non-fiction, students will be able to analyze and interpret literary devices and structures to understand author's purpose. Students will read early American through contemporary works, including novels, short stories, poetry, essays, articles, and drama. Students in this course will become proficient in reading and analytical strategies necessary for academic and personal success. In addition, students will demonstrate their understanding Of Mice and Men.

REQUIRED SUMMER READING: *Of Mice and Men*

PREREQUISITE: English 10 or English II

### **122 AP English Language and Composition**

Grade 11-12

Level AP

1 Credit (Year)

AP English Language and Composition is designed for highly motivated and extremely capable students who are interested in earning Advanced Placement credit through taking the A. P. Language and Composition Exam. The course provides a college level study of American literature primarily through the exploration of fiction and nonfiction works in the American literary canon. Special emphasis is placed on critically reading and writing of expository, argumentative, and analytical prose in order to prepare students for the English Language and Composition Exam administered in May. Units are designed to reflect a literacy-based approach to English instruction; therefore, students will read works from a variety of genres focused on a major American literary theme. In order to receive weighted grading credit for the class, students must take the Advanced Placement Exam (see p. 5).

REQUIRED SUMMER READING: *In Cold Blood* by Truman Capote, *The Awakening* by Kate Chopin, *A Separate Peace* by John Knowles

PREREQUISITE: English 10

RECOMMENDATION: Teacher recommendation, a "B" average or better in English 10.

### **130 English 12**

Grade 12

Level 2

1 Credit (Year)

Students study British literature from the Anglo Saxon period to the present time. Students will also read a 19th century novel and one modern novel. Several written papers may be required (expository, persuasive, and narrative) at the teacher's discretion.

COURSE REQUIREMENTS: State-approved graduation project

REQUIRED SUMMER READING: *Tuesdays with Morrie*

PREREQUISITE: English 11 or English III

### **131 English IV**

Grade 12

Level 1

1 Credit (Year)

This supported program is intended for students who have experienced academic difficulties with their English program. Students study British literature from the Anglo Saxon period to the present time. Students will also read a 19th century novel and one modern novel. Several written papers may be required (expository, persuasive, and narrative) at the teacher's discretion.

COURSE REQUIREMENTS: State-approved graduation project

REQUIRED SUMMER READING: *Tuesdays With Morrie*

PREREQUISITE: English 11 or English III

### **132 AP English Literature and Composition**

Grade 11-12

Level AP

1 Credit (Year)

This course is designed for student who has demonstrated a high aptitude and proficiency in the language arts. Students have an opportunity to study a wide variety of traditional and contemporary works including novels, plays, poetry and short stories, with emphasis on critical thinking, discussion and analytical writing skills. In order to receive weighted grading credit for the class, students must take the Advanced Placement Exam (see p. 5).

COURSE REQUIREMENTS: State-approved graduation project (research paper and presentation)

REQUIRED SUMMER READING: *Tess of the D'Urbervilles* by Hardy, *How to Read Literature Like a Professor* by Thomas C. Foster, *The Metamorphosis* by Franz Kafka

PREREQUISITE: English 11

RECOMMENDATION: Teacher recommendation, a "B" average or better in English 11 or "C" average or better in A.P. English Language and Composition

### **140 Television Productions I (Elective Offering)**

Grade 10-12

Level 2

.5 Credit (Sem.)

Television Productions I is offered to sophomores, juniors and seniors as an elective. Students will be introduced to the basic techniques of audio-visual production. Units will focus on theory and creating treatments, as well as the hands-on use of television cameras, sound, lighting, and editing equipment. Students will become proficient in all aspects of video production from pre-production to post-production. Assessments will consist of written exams, evaluation of examples, quizzes demonstrating proficiency on equipment and technique, and completion of video projects.

### **141 Television Productions II (Elective Offering)**

Grade 11-12

Level 2

1 Credit (Year)

This course will provide an opportunity for students to enhance their speaking and peer-mentoring skills while learning the basic techniques of audio-visual production. Emphasis will be placed on the talent and technical requirements necessary for television production. The course will cover the use of audio equipment, cameras, a switcher, and character generator, as well as the art of editing. In addition, students will have a hands-on experience using a storyboard and preparing for an interview. As students refine their video skills from pre-production to post-production, they will be producing shows that will be broadcast to the high school student body and to the community on channel 23. Students will produce the annual telethon in collaboration with the National Honor Society. Evaluation will consist of written exams and the proficiency evidenced in the creation, formulation, storyboard, writing, direction, and production of television show projects by a given deadline. This course requires extensive filming after school and in the evenings.

PREREQUISITE: Television Productions I

### **142 Speech (Elective Offering)**

Grade 11-12

Level 2

.5 Credit (Sem.)

This course is designed to introduce students to the fundamentals of speech and the vast field of communication. Students will present research through various forms of media. It includes units in variety of speech types and topics. Other units offer students a basic overview of a variety of communication mediums. Students will enhance their research and writing skills as they improve their speaking skills.

### **143 Television Productions III (Elective Offering)**

Grade 12

Level 2

1 Credit (Year)

This course will refine the skills that the students learned in Television Production II and allow students the opportunity to further enhance those skills. Emphasis will be placed on the talent and technical requirements necessary for television production. Students will create and product their own television series. The series will be shown on Verizon Fios and Comcast. Students will also produce the annual telethon in collaboration with the National Honor Society. Evaluation will consist of the proficiency evidenced in the creation, formulation, storyboard, writing, direction, and production of television show projects by a given deadline. Extensive filming after school and in the evenings is required.

PREREQUISITE: Television Productions II

### **146 College Writing (Elective Offering)**

Grade 11-12

Level 2

.5 Credit Sem.

This course is designed for college bound students who would like to improve their composition skills. Students will write journals, personal essays, analytical essays, persuasive essays, and other types of writing that might be assigned in a freshman introductory composition course. Course objectives include writing grammatically correct prose, improving writing style, and using the computer to produce documents and manuscripts.

### **180 Yearbook (Elective Offering)**

Grade 10-12

Level 2

1 Credit (Year)

This course is designed for students in any grade level. The course will teach the basic skills needed to produce the Criterion Yearbook. Students will acquire and hone skills in layout, design, writing, editing, interviewing, photography, business management, and marketing. Students will learn and use Josten's Yearbook Avenue computer program. This course will emphasize the concept of a yearbook as a journalistic product with a theme-led structure, a reference tool, and a permanent record of the school year. Students' graded assignments will require them to attend activities outside of the school day (such as sporting events and other after-school activities), for which students must provide their own transportation.

## **SOCIAL STUDIES DEPARTMENT**

### **Class Descriptions**

<b>GRADE</b>	<b>HONORS</b>	<b>ACADEMIC</b>	<b>ACADEMIC SUPPORT</b>
<b>9</b>	Honors Civics	Modern American History	Modern American History Foundations
<b>10</b>	AP American History AP Psychology (Elective)	Modern American History Civics	Modern American History Foundations

			Civics Foundations
<b>11</b>	AP European History AP Psychology (Elective)	World Cultures	World Cultures Foundations
<b>12</b>	AP European History AP Psychology (Elective) AP US Govt./ Comparative Govt.	Economics/Law Sociology World Geography World Cultures	Economics/Law Foundations

**Three of the four required credits are mandated courses for grades 9-11. Seniors select their fourth credit from the grade 12 Social Studies listing (not to include elective classes).**

### **200 Modern American History**

Grade 9-10

Level 1

1 Credit (Year)

This course covers our nation's history from post reconstruction to the present. Major topics addressed are the Growth of Labor, Industrialization, Immigration, Imperialism, Progressivism, World War I, the Great Depression, World War II, Cold War, the Civil Rights Movement, End of Iron Curtain, and the War on Terror. Current events are included throughout the course.

### **201 Modern American History Foundations**

Grade 9-10

Level 1

1 Credit (Year)

Modern American History supported mirrors the Modern American History curriculum. Instructional support and academic assignments vary depending upon class needs. This course covers our nation's history from post reconstruction to the present. Major topics addressed are the Growth of Labor, Industrialization, Immigration, Imperialism, Progressivism, World War I, the Great Depression, World War II, Cold War, the Civil Rights Movement, End of Iron Curtain, and the War on Terror. Current events are included throughout the course.

### **202 Civics Foundations**

Grade 10

Level 1

1 Credit (Year)

Civics Foundations mirrors the Civics curriculum. Instructional support and academic assignments vary depending on class needs. The course will provide a comprehensive background for the understanding of United States citizenship and the foundations and operation of American government. Students will apply this understanding to our nation, function of government, and election issues. This course will emphasize civic participation by the students.

PREREQUISITE: Modern American History or Modern American History Foundations

### **203 Civics**

Grade 10

Level 2

1 Credit (Year)

Civics will provide a comprehensive background for the understanding of United States citizenship and the foundations and operation of American government. Students will apply this understanding to our nation, function of government, and election issues. This course will emphasize civic participation by the students.

PREREQUISITE: Modern American History or Modern American History Foundations

### **204 Honors Civics**

Grade 9

Level 3

1 Credit (Year)

Honors Civics will provide a comprehensive background for the understanding of United States citizenship and the foundations and operation of American government. Students will apply this understanding to our nation, function of government, and election issues. This course will emphasize civic participation by the students.

Honors civics will mirror the concepts of the civics course, but at an accelerated pace. This course will prepare students with the knowledge necessary to successfully pass the Civics Keystone Exam.

RECOMMENDATION: Teacher Recommendation

### **205 Advanced Placement American History**

Advanced Placement American History is a college level course in American History. Examinations, essays, research work, and supplemental reading assignments are similar to those given at the university level, in an American History survey course. This course is offered to those students who excel in the social studies and/or those students who have an intense interest in American History.

1 Credit (Year)

**PREREQUISITE:** Modern American History

## 206 World Cultures

## Level 2

This course is designed to provide the student with an understanding and appreciation of the following geographic regions and countries: Europe, the Soviet Union, South Asia, East Asia, Africa, Latin America, and the Middle East. Emphasis will be placed on the major cultural and political structures of the world, with emphasis on the historic development of the culture and its present pattern. This course is also designated a Carlow University “College in High School” course, designed to mirror *Carlow’s course HS 151-World Cultures, Their Histories and Developments*. Students are able to earn three college credits through Carlow University if they earn a C or better for the year and if they pay a fee to Carlow University.

## 207 World Cultures Foundations

Level 1

World Cultures Academic Support mirrors the World Cultures curriculum. Instructional support and academic assignments vary depending upon class needs. This course is designed to provide the student with an understanding and appreciation of the following geographic regions and countries: Europe, the Soviet Union, South Asia, East Asia, Africa, Latin America, and the Middle East. Emphasis will be placed on the major cultural and political structures of the world, with emphasis on the historic development of the culture and its present pattern.

208 AP European History

Level AP

Advanced Placement European History is a college level course in European history (1450-present). It is designed specifically to prepare all students to be successful on the College Board Advanced Placement European History exam. Highly developed critical thinking skills and proficiency in historical essay writing are necessary. Work is designed to be similar to that given at the university level.

**COURSE REQUIREMENTS:** All students will be responsible for completing all parts of the summer assignment, as well as research projects and presentations for both the mid-term and final exam grades. In order to receive weighted grading credit for the class, students must take the Advanced Placement Exam (see p. 4).taking the Advanced Placement Examination.

RECOMMENDATION: "B" or better in World History, "C" or better in AP American History, and/or teacher recommendation

## 209 Economics/Law

## Level 2

This course is designed to provide the student with foundations in both economics and in law. Semester one focuses on economics and semester two focuses on law. During the economics semester, students will examine how people produce goods and services necessary to satisfy their needs and wants. The course will be centered on consumer economics and basic economic theory. During the law semester, students will examine the origins of American Law, criminal law and juvenile justice, tort law, and the individual's rights and



liberties. Extensive projects, essay writing, oral presentations, as well as homework, discussion, and tests are important components of this course. A major research paper and major projects are required.

***College Credit Option:***

This course has been approved for college credit from Carlow University's College in High School Program for the economics portion of the course. Students who choose this option must maintain a "C" or better to receive 3.0 college credits at the discounted rate of \$50.00 per credit, or \$150.00, from Carlow University. Should the student enroll at Carlow University upon high school graduation, this course will be applied to Carlow's graduation requirements. Should the student enroll at another college, or university, the acceptance of transfer of credits from Carlow's CHS program is determined by that college or university. Most colleges and universities generally accept CHS credits as electives or general graduation requirements.

**PREREQUISITE:** World Cultures or World Cultures Foundations

**210 Economics/Law Foundations**

Grade 12

Level 1

1 Credit (Year)

Law/Economics, Supported mirrors the academic Law/Economics curriculum. Instructional support and academic assignments vary depending upon class needs. This course is designed to provide the student with foundations in both economics and in law. Semester one focuses on economics and semester two focuses on law. During the economics semester, students will examine how people produce goods and services necessary to satisfy their needs and wants. The course will be centered on consumer economics and basic economic theory. During the law semester, students will examine the origins of American Law, criminal law and juvenile justice, tort law, and the individual's rights and liberties. Homework, discussion, and tests are important components of this course.

**PREREQUISITE:** World Cultures or World Cultures Foundations

**211 World Geography**

Grade 12

Level 2

1 Credit (Year)

This course has been constructed to provide the student with the basic map skills necessary to function in everyday life with respect to news, travel and general conversation. It also attempts to explain the many interrelationships between man's cultures and his physical environment. This understanding of man's interdependence with the earth is accomplished through the study of physical, cultural, economic and demographic (population) factors which are analyzed through the techniques of geographic thinking. A second semester project must be completed by the student.

**PREREQUISITE:** World Cultures or World Cultures Foundations

**212 Sociology**

Grade 12

Level 2

1 Credit (Year)

Sociology is structured to challenge the minds of today's student with contemporary subject matter of greater depth. Attention is given to the building of human nature, the social self, the communicative human being, the group member with socialized wishes and drives, and current social issues. Students are required to prepare a research project using community resources and multimedia methodology for presentation in their sociology class. The course is suggested for seniors with an interest in the humanities and the social sciences.

**PREREQUISITE:** World Cultures or World Cultures Foundations

**213 AP US GOVERNMENT/COMPARATIVE GOVERNMENT**

Grade 12

Level AP

1 Elective Credit

This AP offering is comprised of two semester AP courses, each with its own AP test opportunity for college credit. In semester one, students will examine United States Government and Politics. In semester two, students will examine Comparative Government and Politics.

**Part One – United States Government and Politics**

This part of the course includes both the study of general concepts used to interpret U.S. Government and politics and the analysis of specific examples. It also requires familiarity with the various institutions, groups, beliefs, and ideas that constitute U.S. government and politics.

## Part Two – Comparative Politics and Government

This part of the course aims to illustrate the rich diversity of political life, to show available institutional alternatives, to explain the differences in processes and policy outcomes, and to communicate to students the importance of global political and economic changes. Six countries form the core of the AP Comparative Government course: China, Great Britain, Iran, Mexico, Nigeria, and Russia.

RECOMMENDATION: Teacher recommendation, Prior Honors or AP experience suggested

### 216 AP Psychology (Elective)

Grades 10-12

Level AP

1 Elective Credit

The AP Psychology course is a college level course designed to introduce students to the study of behavior and mental processes of human beings and animals. In this course, students will be exposed to how people learn and think, the process of human development and human aggression, selflessness, intimacy, and self-reflection. They'll study core psychological concepts while learning to gauge human reactions, gather information, and form meaningful conclusions. In order to receive weighted grading credit for the class, students must take the Advanced Placement Exam (see p. 4). Summer work is required.

RECOMMENDATION: Teacher recommendation

## MATHEMATICS DEPARTMENT

### Class Descriptions

GRADE	HONORS	ACADEMIC	ACADEMIC SUPPORT
9	Plane Geometry (A) Algebra II (A)	Algebra I w/Lab Plane Geometry	Advanced Transition Math Pre-Algebra
10	Algebra II (A) Pre-Calc/Trig (A)	Plane Geometry Algebra II	Pre-Algebra Algebra I Foundations Int. Alg. Concepts I
11	Pre-Calc/Trig (A) AP Calculus AB	Algebra II College Algebra Pre-Calc/Trigonometry	Algebra I Foundations Int. Alg. Concepts I Plane Geometry
12	AP Calculus AB AP Calculus BC AP Statistics	Algebra II College Algebra Pre-Calc/Trigonometry Applied Statistics Business Calculus	Int. Alg. Concepts I Plane Geometry Int. Alg. Concepts II

**NOTE:** The Math Department suggests that students have the use of a Texas Instruments TI-84 Plus series graphing calculator to use in class and for homework assignments. These calculators are designed to enhance students' understanding of math concepts and will be of use in courses beginning with Algebra I.

### 300 Pre-Algebra

Grade 9-10

Level 1

1 Credit (Year)

This course develops algebraic thinking and prepares students for Algebra 1. Students will review fractional relationships using ratios and proportions; use variables to describe patterns and represent unknown quantities in formulas and simple equations; use inequalities to represent written statements; use the order of operations to evaluate numeric expressions and algebraic equations; balance equations; and use equations to describe a given situation.

RECOMMENDATION: "C" or better in Math 8 support

**301 Algebra I w/Lab**

Grade 9

Level 2

1 Credit (Year)

This course provides a formal development of algebraic concepts and methods necessary for students to succeed in advanced courses. Students will use and represent numbers in equivalent forms; use exponents, roots, and absolute values to solve problems; simplify expressions; write, solve, and graph linear equations, systems of linear equations, and linear inequalities; analyze and use patterns; interpret and use linear functions and their equations, graphs, and tables; describe, compute, and use the rate of change (slope) of a line; analyze and interpret data on a scatterplot, use data displays to make predications. The course will incorporate extensive use of technology, including TI graphing calculators and web-based math tools, to solve theoretical and real-world problems. The course will include hands-on labs in which physical situations are represented by linear functions, to connect the theoretical to the practical. Critical thinking and problem solving will be emphasized in the course. The culminating assessment for this class is the Keystone Exam for Algebra I. A score of proficient or advanced is a graduation requirement per the PA Department of Education.

PREREQUISITE: Math 8

RECOMMENDATION: "C" or better in Math 8

**302 Plane Geometry**

Grade 9-12

Level 2

1 Credit (Year)

This course is developed through axioms and postulates with emphasis on deductive reasoning. Geometric concepts relating angles, segments, areas, triangles and other polygons are proven. The students in this course learn the relationships of geometric figures as well as develop algebraic concepts and methods that will enable students to represent situations that involve variable quantities with expressions and equations. Throughout the course students will use appropriate technology, including TI graphing calculators, to estimate, measure, compute, and solve theoretical and practical problems.

PREREQUISITE: Algebra I w/Lab

**303 Plane Geometry (A)**

Grade 9

Level 3

1 Credit (Year)

This course is developed through axioms and postulates with emphasis on deductive reasoning. Geometric concepts relating angles, segments, areas, triangles and other polygons are proven. The students in this course develop logical thinking while learning the relationship of geometric figures. RECOMMENDATION: "B" or better in advanced Algebra I or "A" in Algebra I with teacher recommendation.

**304 Algebra II (A)**

Grade 9-10

Level 3

1 Credit (Year)

This course is designed for those students with special skills and knowledge in mathematics. The course develops an understanding of the ideas of linear equations, quadratic equations, rational numbers, irrational numbers, imaginary numbers, functions, and operations with real exponents, but the material is developed in greater depth. Students will use graphing calculators to enhance the understanding of algebraic concepts. Therefore, it is recommended that they purchase a TI-84 Plus calculator for this course and successive courses.

RECOMMENDATION: Advanced Algebra I and Geometry with a "B", or an "A" in both Algebra I and Geometry with teacher recommendation.

**305 Algebra I Foundations**

Grade 10-11

Level 1

1 Credit (Year)

Algebra 1 Foundations provides a foundation of algebraic concepts and methods necessary for students to succeed in future math classes. Students will represent and use numbers in equivalent forms; use exponents, roots, and absolute values to solve problems; simplify expressions; write, solve, and graph

linear equations, systems of linear equations, and linear inequalities; analyze and use patterns; interpret and use linear functions and their equations, graphs, or tables; describe, compute, and use the rate of change (slope) of a line; analyze and interpret data on a scatter plot; use measures of dispersion to describe a set of data; use data displays to make predictions; apply probability to practical situations. Throughout the course students will use appropriate technology, including TI graphing calculators, to estimate, measure, and compute and solve theoretical and practical problems. The culminating assessment for this class is the Keystone Exam for Algebra I. A score of Proficient or Advanced is a graduation requirement as per the PA Department of Education.

PREREQUISITE: Pre-Algebra

RECOMMENDATION: "C" or better in Pre-Algebra

### **311 Algebra II**

Grade 10-12

Level 2

1 Credit (Year)

Algebra II develops an understanding of the ideas of linear equations, quadratic equations, rational numbers, irrational numbers, imaginary numbers, functions, and operations with real exponents. Students will use graphing calculators to enhance the understanding of algebraic concepts. Therefore, it is recommended that they purchase a TI-84 Plus calculator for this course and successive courses.

RECOMMENDATION: A grade of "C" or better in Plane Geometry and Algebra.

### **312 Intermediate Algebra Concepts I**

Grade 10-12

Level 1

1 Credit (Year)

This is the first course of two in the Intermediate Algebra Concepts sequence. In Intermediate Algebra Concepts I, students will build upon the concepts learned in Algebra 1 with the additional support of more time to develop concepts. This course develops an understanding of the ideas of linear equations, systems of equations, inequalities, quadratic equations, absolute value equations, and probability. Students will use graphing calculators to enhance the understanding of algebraic concepts.

PREREQUISITE: Algebra I or Algebra 1 w/lab

### **313 Intermediate Algebra Concepts II**

Grade 12

Level 1

1 Credit (Year)

This is the second course of two in the Intermediate Algebra Concepts sequence. In Intermediate Algebra Concepts 2, students will build upon the concepts learned in Intermediate Algebra Concepts 1 with the same additional support of more time to develop concepts. This course develops an understanding of systems of equations/inequalities, quadratic functions, other classes of functions, rules of exponents, data analysis and statistics. Students will use graphing calculators to enhance the understanding of algebraic concepts.

PREREQUISITE: Intermediate Algebra Concepts I

### **314 Pre-Calculus with Trigonometry a Graphing Approach (A)**

Grade 10-11

Level 3

1 Credit (Year)

This course explores polynomials, trigonometry, logarithms, and exponentials and their functional characteristics. Students will develop both algebraic and graphic support for their answers. Graphing calculators will be used in class daily and for homework assignments. Students will need to purchase their own TI-83, TI-84, or equivalent.

RECOMMENDATION: Grade of "B" or better in advanced Algebra II or an "A" in Algebra II with teacher recommendation.

### **315 Advanced Transition Math**

Grade 9-12

Level 1

1 Credit (Year)

This course develops basic math skills by building on number concepts and exploration through problem solving. Content in number concepts will span addition, subtraction, multiplication, division, factors and

multiples, number patterns, fractions, decimals, percents, scientific notation, and integers. Problem solving will be explored through data, measurements, two-dimensional objects, area and perimeter, properties of shapes and transformations, probability, and graphing.

RECOMMENDATION: Teacher Recommendation

### **321 College Algebra**

Grade 11-12

Level 2

1 Credit (Year)

Students will build an understanding of algebra through real world problems with data and technology. Skill building and concept understanding are layered and integrated throughout the course. Students will shift from learning discrete mechanical rules to exploring how algebra is used in the social and physical sciences. Concepts covered will include linear functions, exponential functions, logarithmic functions, quadratic functions, and polynomial functions.

PREREQUISITE: Algebra II or Intermediate Concepts II

### **322 Pre-Calculus with Trigonometry a Graphing Approach**

Grade 11-12

Level 2

1 Credit (Year)

This course explores polynomials, trigonometry, logarithms, and exponentials and their functional characteristics. Students will develop both algebraic and graphic support for their answers. Graphing calculators will be used in class daily and for homework assignments. Students will have access to a graphing calculator in their classroom but it is strongly recommended that they have access to a TI-84 Plus at home.

PREREQUISITE: Algebra I, Geometry, and Algebra II and Proficient

RECOMMENDATION: "C" or better in Algebra II

### **324 Advanced Placement Calculus AB**

Grade 11-12

Level AP

1 Credit (Year)

4 Credits U. of Pittsburgh

This course is designed for students interested in majoring in mathematics, engineering or physical science. This fifth year of college level mathematics examines calculus with some integrated analytic geometry. In the first semester differential calculus is developed with its applications while the second semester is devoted to integral calculus and some of its applications. Students should own a TI-84 Plus calculator for use in this course. In order to receive weighted grading credit for the class, students must take the Advanced Placement Exam (see p. 4).

RECOMMENDATION: A grade of "B" or better in advanced Pre-Calc/Trigonometry or an "A" in Pre-Calc/Trigonometry with teacher recommendation.

### **330 Basic Applied Statistics**

Grade 11-12

Level 2

1 Credit (Year)

4 Credits U. of Pittsburgh

This course teaches methods and terminologies of descriptive and inferential statistics. Students who complete this course will be able to conduct their own analyses of standard one-sample or two-sample data sets, follow statistical reasoning and read statistical reports with understanding. Introductory topics in linear regression, analysis of variance and contingency table analysis will also be covered.

RECOMMENDATION: Algebra II with a "B" or better and a "C" or better in Pre-Calc / Trig or teacher recommendation.

### **331 Advanced Placement Statistics**

Grade 11-12

Level AP

1 Credit (Year)

The purpose of the AP course is to introduce students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Students will be exposed to Exploring Data, Planning a Study, Anticipating Patterns, and Statistical Inference. In order to receive weighted grading credit for the class, students must take the Advanced Placement Exam (see p. 4).

RECOMMENDATION: Pre-Calculus/Trigonometry with an “A” (Advanced Pre-Calculus/Trigonometry with a “B” or better) and teacher recommendation.

## 332 Business and Social Sciences Calculus

Grade 12	Level 2	1 Credit (Year)	4 Credits U. of Pittsburgh
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The course is designed for college bound students planning to major in areas of study other than engineering, science or mathematics. This course will cover differential and integral calculus as related to polynomial, rational, exponential, and logarithmic functions, and does not assume knowledge of trigonometry. The purpose of the course is to support the student interested in accounting, business, biological sciences, economics, the social sciences and liberal arts.

RECOMMENDATION: Suggested that the student took Advanced Algebra 2, or "B" in Algebra II, a "C" in Pre-Calc/Trig, and teacher recommendation.

**NOTE: In order to register for credits and have an opportunity to earn them, the University of Pittsburgh requires that students register and pass an ALEKS test. The deadline for the test will be sometime during the first few weeks of school, but can also be completed during the summer. Details for how to register and complete this test will be communicated to students will be made available on the high school website under the link “Summer Work”.**

## 334 Advanced Placement Calculus BC

Grade 12	Level AP	1 Credit (Year)
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This is the second course in the basic college scientific calculus sequence. It is intended for all mathematics, science, and engineering majors. Calculus BC investigates techniques of integration, applications of differentiation and integration, sequences, Taylor Series, and the calculus of functions in parametric and polar form. Special emphasis is placed on problem solving in real-world contexts. In order to receive weighted grading credit for the class, students must take the Advanced Placement Exam (see p. 4). Students can also earn four AP college credits for this course.

**RECOMMENDATION:** A grade of “B” or better in Advanced Placement Calculus AB and teacher recommendation.

## UNIVERSITY OF PITTSBURGH AFFILIATED PROGRAMS

The following courses are offered under the auspices of the University of Pittsburgh and provide the student with the opportunity of receiving college credit: Advanced Placement Calculus AB, Basic Applied Statistics, Business and Social Sciences Calculus, Advanced Placement Physics and a student may receive credit by paying the university's tuition fee which is set yearly at the discretion of the university. Although not guaranteed, these credits have been accepted by many colleges and universities. RECEIVING CREDIT FROM THE UNIVERSITY OF PITTSBURGH IS OPTIONAL.

# SCIENCE DEPARTMENT

## Class Descriptions

GRADE	HONORS	ACADEMIC	ACADEMIC SUPPORT
9	Biology (A)	Environmental Science	Introduction to Physical Science
10	Chemistry Chemistry (A)	Biology Biology (A)	Environmental Science Intermediate Science I
11	A.P. Biology Physics	Chemistry Chemistry (A)	Intermediate Science I Biology

	A.P. Physics I	Anatomy and Phys. Forensics	Biology Remediation
<b>12</b>	AP Biology AP Chemistry AP Physics (C) AP Physics II	Anatomy and Physiology AP Biology AP Chemistry Forensics Physics AP Physics I Intro to Geoscience	Chemistry Intro to Geoscience Intermediate Science II

#### **400 Introduction to Physical Science**

Grade 9

Level 1

1 Credit (Year)

This course is designed to give students an understanding of the interrelationship between matter and energy. Students will learn how to make observations and record data in the different measurement systems. They will also learn about the scientific method, atomic structure and how to use the periodic table. The fundamentals of chemistry will be explored: properties of matter, the differences between elements and compounds, acid/base chemistry, and how chemicals react. The fundamentals of physics will be explored: motion, force, work and energy. Hands-on activities, computer activities and laboratory work will be used to reinforce these concepts. This course is designed to prepare students for Chemistry and Physics.

#### **401 Environmental Science**

Grade 9

Level 2

1 Credit (Year)

This course presents a study of the environment and how mankind's impact affects the environment. The fundamentals of biology and chemistry will be applied, and students will use critical thinking skills to provide both short-term and long-term solutions to real-world problems facing mankind and the environment.

#### **402 Biology (A)**

Grade 9-10

Level 3

1 Credit (Year)

The course is designed for those students who have demonstrated aptitudes, skill, and knowledge in previously taken science classes. Course content is similar to Biology 411 but is presented at an accelerated rate and in greater depth. The culminating assessment for this class is the Keystone Exam for Algebra I. A score of Proficient or Advanced is a graduation requirement as per the PA Department of Education. RECOMMENDATION: "B" or better in eighth grade IPS, Earth and Space, and teacher recommendation or "A" in Environmental Science and teacher recommendation. It is highly recommended that students in Plane Geometry (A) take this course.

#### **410 Intermediate Science I**

Grade 11

Level 1

1 Credit (Year)

This course is designed to give students a practical overview of basic scientific principles from a biological and earth science point of view. It will also help to point out how these principles affect the students' everyday life. This course is not intended for college preparation.

#### **411 Biology w/Lab**

Grade 10

Level 2

1 Credit (Year)

This course presents a study of living things. Concepts are developed to considerable depth, consistent with the maturity level of the students. Students have the opportunities to develop laboratory skills and techniques to further their understandings of biological science. The culminating assessment for this class is the Keystone Exam for Algebra I. A score of Proficient or Advanced is a graduation requirement as per the PA Department of Education.

PREREQUISITE: Environmental Science

#### **413 Chemistry (A)**

Grade 10-11

Level 3

1 Credit (Year)

The course is designed for those students with special skills and knowledge in science. The subject matter is essentially as Chemistry 421, but the material is developed in greater depth and competency level.

PREREQUISITE: Biology

RECOMMENDATION: B in accelerated biology and teacher recommendation.

#### **415 Biology Remediation (elective credit)**

Grade 10-11

Level 1

.5 Credit (Year)

This 2 out of 6 day course offers students remediation who have not yet scored proficient or advanced on the Biology Keystone Exam. Students who score proficient during the winter retest of the Keystone Exams will still be awarded the .5 credit and moved to a study hall when scores are released.

#### **420 Intermediate Science II**

Grade 12

Level 1

1 Credit (Year)

This course is designed to give students a practical overview of basic scientific principles from a physical and chemical point of view. It will also help to point out how these principles affect the students' everyday life. This course is not intended for college preparation.

#### **421 Chemistry**

Grade 10-11

Level 2

1 Credit (Year)

Emphasized in the course are the structural features of chemical systems, atomic structures, and the bonding of atoms. Reactions involving the breaking of the bonds in reactants to form new bonds in the products are studied. Laboratory investigations are conducted to obtain data for interpreting these changes. Unit topics are: Chemistry in a Modern World, The Organization of Chemistry, Chemical Formulas and Equations, The Physical States of Matter, Solutions, and Chemical Reactions.

PREREQUISITE: Biology, Algebra 1

RECOMMENDATION: Biology and Algebra 1, both with a C or better.

#### **422 Anatomy and Physiology**

Grade 10-12

Level 2

1 Credit (Year)

Anatomy and Physiology is a course designed to cover the following topics in human anatomy and physiology, including cells, tissues, and the following systems: integumentary (skin); skeletal; muscular; circulatory; nervous and sensory; digestive; respiratory. The class is designed to be a continuation to general biology and an introductory course for those students seeking to enter the health field.

NOTE: Students are required to dissect or observe the dissection of sheep parts with a lab quizzes on those dissected parts. Gloves and goggles are provided.

PREREQUISITE: Biology and chemistry

RECOMMENDATION: "C" or better in biology and chemistry

#### **423 Introduction to Forensic Science**

Grade 11-12

Level 3

1 Credit (Year)

This is an interdisciplinary course which exposes students to various careers that are available in the field of sciences and other disciplines. Forensic science involves all areas of science including biology, anatomy, chemistry, physics, and earth science with an emphasis in complex reasoning and critical thinking. In addition, it incorporates the use of technology, communication skills, language arts, art, family and consumer science, mathematics, and social studies. This is a high end elective taught at the first year college level.

PREREQUISITE: Biology and chemistry

RECOMMENDATION: "C" or better in biology and chemistry.

#### **425 AP Physics I**

Grade 11-12

Level AP

1 Credit (Year)

The AP Physics I course is offered to 11<sup>th</sup> grade students wishing to prepare themselves for AP Physics II or A.P. Physics C during the 12<sup>th</sup> grade year, and/or to prepare themselves for the undergraduate physics courses that are typical of pre-health programs. The course is *algebra-based*, with students utilizing mathematical competencies mastered during previous or concurrent courses such as Geometry, Algebra II, and Pre-Calc/Trigonometry. Core areas of study include kinematics, dynamics, circular motion & gravitation, energy, momentum, waves, electrostatics, and DC circuits. Emphases are placed on quantitative analytical



methods, qualitative/conceptual understanding, and on laboratory experimentation in order to prepare students for the AP Physics I exam.

PREREQUISITE: Chemistry

RECOMMENDATION: "C" or better in Chemistry (A), Pre-Calc/Trigonometry, and teacher recommendation

### **430 Physics**

Grade 11-12

Level 3

1 Credit (Year)

Physics is a study of the natural laws and how they affect our lives. The course is designed to meet the requirements of students who expect to enter college, but is also of value to any student who desires to understand how natural laws operate. The year's work is divided into units on vectors, one dimensional and two-dimensional motion, forces, energy, momentum, and wave phenomena. PASCO science workshop interfacing equipment aids in laboratory experiments. Students will utilize computers to display data, analyze the data, and create graphs.

PREREQUISITE: Chemistry

RECOMMENDATION: Plane Geometry and Chemistry with a "C" or better. Student should also currently be enrolled in Pre-Calc/Trigonometry

### **431 Introduction to Geoscience**

Grade 11-12

Level 2

1 Credit (Year)

Introduction to Geoscience is designed for the college bound junior or senior student who wants to have a better understanding of the natural world in which they live. In essence, this is a non-lab science elective that is designed for students who are prepared to work at a level that is appropriate for a student planning on going to college. Many students have said that this course mirrors what they have taken in an entry geology course in college. Through reading, discussion, computer research, current events projects, and written works, students should better understand the significance of the basic principles of environmental science, geology, meteorology, oceanography, and astronomy in their everyday lives. A basic knowledge of Earth's dynamic features and current environmental issues are important to the development of an informed citizen. You don't have to be going into science to succeed but a general interest in current earth and science issues is a must. *At least one major research project is incorporated into the course.* Please see the instructor for further detail.

PREREQUISITE: Biology

RECOMMENDATION: "C" or better in Biology.

### **433 AP Biology**

Grade 11-12

Level AP

1 Credit (Year)

This course is designed to meet the standards of any first-year college biology course. It follows the guidelines laid out by the College Board. The course consists of a scheme covering cellular chemistry, cell physiology, genetics and evolution. A focus of DNA and DNA technology is covered. Comparative animal development as well as comparative vertebrate anatomy is also a part of this course. The course is strongly recommended for any student considering medical, paramedical and health related major/profession at the college level. Any student taking this course is required to take the AP biology exam offered in May, by the College Board.

PREREQUISITE: Biology and Chemistry

RECOMMENDATION: Biology, Chemistry with a "C" or better and teacher approval.

### **434 AP Chemistry**

Grade 11-12

Level AP

1 Credit (Year)

The Advanced Placement Chemistry course is equivalent to a first year college chemistry course. Topics such as atomic structure, equilibrium, kinetics, and thermodynamics are covered in depth. The class meets seven times a week placing emphasis upon quantitative lab work. In order to receive weighted grading credit for the class, students must take the Advanced Placement Exam (see p. 5).

PREREQUISITE: Chemistry

RECOMMENDATION: Chemistry (A) and teacher recommendation

### **435 AP Physics (C)**

Grade 12

Level AP

1 Credit (Year)

This course is designed to meet the standards of both the Advance Placement Physics “C (Mechanics Only)” curriculum and the College in High School through the University of Pittsburgh. In order to receive weighted grading credit for the class, students must take the Advanced Placement Exam (see p. 5). This course is equivalent to a first year calculus-based college physics course. The course concepts covered throughout the year are: vector analysis, kinematics (free fall motion, projectiles, etc.), dynamics (forces, momentum, etc.), rotational motion (torque, angular motion, etc.), planetary motion, work and energy, simple harmonic motion, introduction of waves and motion, introduction of light and sound, and an introduction of electromagnetic theory. Physics labs will include the use of computers and lab software to investigate physics relationships and concepts. Students are directed to use computers to graphically analyze results. In addition, various projects will be introduced throughout the course dealing with the application of physics concepts and theories. Also, field trips will allow students to see physics in action around them.

PREREQUISITE: AP Physics I and Pre-Calculus/Trigonometry

RECOMMENDATION: AP Physics I and Pre-Calculus/Trigonometry with a B or higher and currently enrolled or has already taken a calculus-based math course.

### 435 AP Physics II

Grade 12

Level AP

1 Credit (Year)

The AP Physics II course is offered to 12<sup>th</sup> grade students who successfully completed the A.P. Physics I course during their 11<sup>th</sup> grade year and who wish to further prepare themselves for the undergraduate physics courses that are typical of pre-health programs. The course is *algebra-based*, with students utilizing mathematical competencies mastered during previous courses such as Geometry, Algebra II, and Pre-Calculus/Trigonometry. Core areas of study include fluid mechanics, thermodynamics, electricity & magnetism, optics, atomic physics, and nuclear physics. Emphases are placed on quantitative analytical methods, qualitative/conceptual understanding, and on laboratory experimentation in order to prepare students for the AP Physics II exam.

PREREQUISITE: AP Physics I and Pre-Calculus/Trigonometry

RECOMMENDATION: AP Physics I and Pre-Calculus/Trigonometry with a B or higher and currently enrolled or has already taken a calculus-based math course.

## MODERN WORLD LANGUAGE Class Descriptions

Course No.	Course Title	Grade	Sem.	Level	Credits
500	Spanish I	9-12	Y	2	1
501	Spanish II	9-12	Y	2	1
502	Spanish III	10-12	Y	2	1
504	Spanish Honors IV	12	Y	3	1
505	AP Spanish	12	Y	3	1

510	French I	9-12	Y	2	1
511	French II	9-12	Y	2	1
512	French III	10-12	Y	2	1
515	French Honors IV	11-12	Y	3	1
516	AP French	12	Y	3	1

### **500 SPANISH I**

Grade 9-12

Level 2

1 Credit (Year)

This course is designed to introduce students to Spanish through speaking, reading, writing and listening through basic grammatical and thematic structures. Students will learn to greet people and make introductions, use numbers in counting and in telling time, name foods, discuss the weather, give basic commands, speak in the present tense about activities that they like and dislike, describe themselves and others, describe their class schedules, what they do during the school day, and be able to describe their classrooms. Students will ask and answer questions about where they go and what they do for their leisure activities, and describe their families. Various cultural topics will be included in the course including intercultural differences, the Day of the Dead, Christmas and Three Kings Day. The class will consist of individual, small and large group activities using videos, music, reading materials, pictures and technology as means of instruction.

RECOMMENDATION: "C" or better in academic English.

### **501 SPANISH II**

Grade 9-12

Level 2

1 Credit (Year)

In the second level of Spanish, students will learn more advanced concepts as well as review concepts from Spanish I. Students will learn how to speak, read and write in the present and past tenses. They will learn to use vocabulary that is related to everyday life such as travel, shopping, food, giving and asking for directions. Students will be able to use these concepts to ask each other questions, create dialogues, and write paragraphs. Students will also learn a variety of cultural topics such as famous Spanish-speaking people, and famous Hispanic holidays and celebrations. Students will also read short stories to enhance their language comprehension skills.

PREREQUISITE: Level I

RECOMMENDATION: "C" or better in Level I.

### **502 SPANISH III**

Grade 10-12

Level 2

1 Credit (Year)

This course will build proficiency in the four communication skills. The course will enrich the academic students' language and cultural experience. Course topics will include athletic events and competitions, taking trips, sharing future plans with regard to work and community involvement, maintaining health, friendship, and current events. Students will read a Spanish novel and watch a "telenovela". Students will review the past, future and conditional tenses, and be introduced to the Subjunctive.

PREREQUISITE: Level II

RECOMMENDATION: "C" or better in Level II.

### **504 SPANISH HONORS IV**

Grade 11-12

Level 3

1 Credit (Year)

This course is designed for the exceptional student who has successfully completed level three and seeks the challenge of a course comparable in difficulty and content to college level courses. Each quarter the student will be expected to complete a quarter essay in addition to reading and writing assignments and extensive oral participation. The course content includes improving skills in reading, writing, speaking and listening comprehension with regard to topics such as Hispanic cultures, societal rights and responsibilities, Hispanics in the United States, and various customs and beliefs of Hispanic and American cultures.

PREREQUISITE: Spanish III

RECOMMENDATION: "B" or better in Spanish III and teacher recommendation.

### **505 AP SPANISH**

Grade 12

Level 3

1 Credit (Year)

An AP Spanish Language course is comparable to an advanced level (5th- and 6th-semester or the equivalent) college Spanish language course. Emphasizing the use of Spanish for active communication, it encompasses aural/oral skills, reading comprehension, grammar, and composition. The course objectives are to help students understand Spanish spoken by native speakers at a natural pace, with a variety of regional pronunciations, in both informal (interpersonal) and formal (presentational) contexts; develop an active vocabulary sufficient for reading authentic newspaper and magazine articles, contemporary literature, and other non-technical writings (websites, letters and emails, advertisements, signs and instructions) in Spanish; express yourself by describing, narrating, inquiring, and developing arguments in Spanish, both orally and in writing, with reasonable fluency, using different strategies for different audiences and communicative contexts. In this course, special emphasis is placed on the use of authentic source materials and the integration of language skills. Therefore, you should receive extensive training in combining listening, reading, and speaking (or listening, reading, and writing) skills in order to demonstrate understanding of authentic Spanish-language source materials. In order to receive weighted grading credit for the class, students must take the Advanced Placement Exam (see p. 5).

PREREQUISITE: Honors Spanish IV

RECOMMENDATION: "B" or better in Honors Spanish IV and teacher recommendation

### **510 FRENCH I**

Grade 9-12

Level 2

1 Credit (Year)

This course is designed to introduce students to French with a focus on speaking, reading, writing and listening skills through grammatical and thematic structures. Students will learn how to greet people and make introductions, use numbers, tell time, tell the date, discuss weather patterns, describe family relationships, order food and drinks in a restaurant, speak in the present tense using actions verbs, describe their daily activities, express wishes and obligations, describe people and objects, ask questions, talk about possessions, ask for directions and discuss future plans. Students will also learn about French culture including French geography and major monuments, food specialties, the French school system, the euro currency, the use of military time, major sports and weekend activities, French ways of transportation and French holidays. The class will consist of written and oral activities done in groups or individually.

RECOMMENDATION: Recommended "C" or better in any academic English.

### **511 FRENCH II**

Grades 9-12

Level 2

1 Credit (Year)

This course is a continuation of Level I French grammar and expansion of vocabulary. The course is designed to further students' abilities to speak, read, write and understand *basic* French through grammatical and thematic structures. Students will *review* how to greet people and make introductions, use numbers in counting and in telling time, discuss the weather, give basic commands to others, speak in the present tense about activities that they like and dislike, describe themselves and others, describe their family and friends, describe their class schedules, and be able to describe their classrooms. Students will learn how to ask various types of questions and be able to give several types of responses due to expansion of vocabulary and grammar in Level II. Students will work with units incorporating and expanding the themes of city and buildings, sports and leisure activities, and shopping for clothing and food. Students will also be able to use irregular verb forms when talking about their personal activities. They will also be able to talk about their activities in the past and in the future by using the *passé composé* and the immediate future tenses. Various cultural topics will be included in the course including intercultural differences, the city of Paris, various important cities and historical sites in France, other Francophone countries in the world and foods of different regions of France. Some French traditional holidays will be introduced and discussed through various activities such as All Saints' Day, Christmas, The Day of the Kings, Mardi Gras and April Fish Day. The class will consist of individual, small and large group activities using videos, music, reading materials, photos, regalia and various forms of technology as means of instruction.

PREREQUISITE: French I

RECOMMENDATION: "C" or better in Level I.

### **512 FRENCH III**

Grades 10-12

Level 2

1 Credit (Year)

This Academic course is a continuation of Level II French grammar and vocabulary. It is designed to further student's ability to speak, read, write and further understand how to use the *basic tools of French* and expand their personal skill through grammatical and thematic structures. Students will *review* basic grammar in the present tense as a link to understanding how to use colloquial language and translation skills. Students will work with units incorporating and expanding the themes of personal identity, family and friends, personal activities, plans for the future, entertainment, sports and health issues. Students will also be able to use irregular verb forms when talking about everyday activities of themselves and others. They will learn how to replace nouns and speak with a more natural tone using direct and indirect objects pronouns in various tenses. Student will be proficient in the present tense of regular and irregular verbs of the thematic chapters. The students will also be able to understand the usage and differences between the two past tenses (the *passé composé* and the imperfect.) Various cultural topics will be included in the course including intercultural differences, the roots of the French civilization and the Middle Ages in France and its effect on modern French society and language. Some French traditional holidays will be discussed through various activities such as All Saints' Day, Christmas, the Day of the Kings, Mardi Gras and April Fish Day. The class will consist of individual, small and large group activities using videos, music, reading materials, photos, regalia and various forms of technology as means of instruction.

PREREQUISITE: French II

RECOMMENDATION: "B" or better in Level II.

### **515 FRENCH HONORS IV**

Grade 12

Level 3

1 Credit (Year)

This course emphasizes the culture of French society through creating a "Cultural Project Binder" by the end of the school year. Every 5 weeks a new topic will be discussed and options are provided to meet the personal interest of the student. These projects will be created within the target language using intermediate and advanced concepts. Students will study the various topics of research and provide examples of art, music, poetry, architecture, history, science and technology through writing, speaking, drawing and performing. The "Cultural Project Binder" will serve as evaluation of personal language skills and growth in structure of the language. This course is designed for those students who intend on continuing to learn French at the university level of study.

PREREQUISITE: French III

RECOMMENDATION: "B" or better in Level III and teacher recommendation.

### **516 AP FRENCH**

Grade 12

Level 3

1 Credit (Year)

Students who enroll in AP French Language should already have a good command of French grammar and vocabulary and have competence in listening, reading, speaking, and writing. Although these qualifications may be attained in a variety of ways, it is assumed that most students will be in the final stages of their secondary school training and will have had substantial course work in the language.

The course should emphasize the use of language for active communication and help students develop the following:

The ability to understand spoken French in various contexts.

A French vocabulary sufficiently ample for reading authentic newspaper and magazine articles, literary texts, and other non-technical writings.

The ability to express themselves coherently, resourcefully, and with reasonable fluency and accuracy in both written and spoken French.

Course content can reflect intellectual interests shared by the students and teacher (the arts, current events, literature, sports, etc.). Materials might well include audio and video recordings, films, newspapers, and magazines. The course seeks to develop language skills (reading, writing, listening, and speaking) that can be used in various activities and discipline. Extensive training in the organization and writing of compositions should also be emphasized. In order to receive weighted grading credit for the class, students must take the Advanced Placement Exam (see p. 5).

PREREQUISITE: French Honors IV

RECOMMENDATION: "B" or better in French Honors IV and recommendation from French IV instructor.

# BUSINESS EDUCATION

## Class Descriptions

Course No.	Course Title	Grade	Sem.	Level	Credits
600	Practical Applications for the Digital Classroom	9-12	Y	2	1
601	Web Site Design & Development	10-12	Y	2-3	1
602	Computer Programming with Visual Basic	10-12	Y	2-3	1
603	Computer Programming with Java	10-12	Y	2-3	1
610	Business Law and Finance	10-12	Y	2	1
611	Introduction to Accounting	10-12	Y	2	1
612	Honors Accounting	11-12	Y	2	1
613	Marketing	11-12	Y	2	1
614	International Business	11-12	Y	2	1
615	AP Economics	12	Y	AP	1

### 600 Practical Applications for the Digital Classroom

Grade 9-12

Level 2

1 Credit (Year)

This course is highly recommended to all students (grades 9-12) regardless of their future career plans. It is a course designed to develop the basic concepts and skills necessary for high school, college, and beyond. It provides an introduction to the daily use of technology (computers, handheld devices, and phones) with the main focus on Microsoft Office (Word, Excel, and PowerPoint) and Google apps. Students will also learn how to integrate and streamline their daily tasks through the use of real-world simulations.

### 601 Web Site Design & Development

Grade 10-12

Level 2-3

1 Credit (Year)

3 Credits U. of Pittsburgh

The objective of this course is to provide a basic understanding of the methods and techniques of developing a simple to moderately complex web site. Using the standard web page language XHTML, students will learn how to create and maintain a simple web site. After the foundation language of XHTML has been established, the aid of an Internet editor will be introduced. To further enhance the students' web sites, Java Script will be included. Finally, web site design and layout techniques, as well as basic search engine analysis, will be added to enhance the students' practical design skills.

### 602 Computer Programming with Visual Basic

Grade 10-12

Level 2-3

1 Credit (Year)

3 Credits U. of Pittsburgh

This class provides an introduction to developing programs in a Windows environment using Visual Basic. Topics include the design of the graphical user interface, using Visual Basic forms, controls and tools, and event driven programming. Students will be involved in a problem analysis and the development of algorithms to create programs that satisfy a variety of conditions.

### 603 Computer Programming with Java

Grade 10-12

Level 2-3

1 Credit (Year)

3 Credits U. of Pittsburgh

This course introduces students to the concepts, techniques and tools of computer science. Using the programming language Java, the fundamentals of problem analysis, algorithm development are emphasized. Students will design programs that elaborate fundamental concepts. Through an object-oriented approach to programming, the organizational skills developed in this course would be beneficial to any student regardless of intended college major.

### **610 Business Law and Finance**

Grade 10-12

Level 2

1 Credit (Year)

This course is designed for all students, grades 10-12, regardless of career choice or academic path. Explore the foundations of business law as they pertain to everyday life. Topics include, but are not limited to, contracts, criminal law, environmental law, family law and consumer protection. The finance portion of this course focuses on the student's role as citizen, consumer, and active participant in the business world. The course informs students of their various financial responsibilities in a highly technical and competitive society. Topics include, but are not limited to, income, benefits, taxes, budgeting, wise use of credit, insurance, stocks and bonds, personal risk management, buying decisions, savings and investing, and credit problems and laws. This class will also afford students the opportunity to invest **real** money during the school year. Funds were donated by Mr. Robert McCann for a PHS Educational Investment Fund. Proceeds from investments will go to the PHS Media Center and scholarship opportunities for students.

### **611 Introduction to Accounting**

Grade 10-12

Level 2

1 Credit (Year)

This course is recommended for both the college bound student and the student planning to enter the work force upon graduation. The purpose of Introduction to Accounting is to provide students with basic accounting skills to enable them to apply for entry level accounting jobs, and to prepare students planning to major in the accounting/business curriculum in college. This class also provides valuable knowledge and skills that can be used by all people in everyday life regardless of their field of employment.

### **612 Honors Accounting**

Grade 11-12

Level 2

1 Credit (Year)

This course is recommended for both the student planning to go to college and major in business/accounting and the student seeking employment upon graduation. Financial Accounting lays the foundation for building a career in the accounting field. It gives the student a deeper understanding of the preparation of analyzing financial reports. It provides advanced learning in specialized journals and ledgers for departmental accounting manufacturing concerns, partnerships, and corporations. The student becomes more competent so that he or she can compete in a wider employment range for entry level accounting positions. It also helps pave the way to easier understanding of college accounting courses.

PREREQUISITE: Introduction to Accounting

RECOMMENDATION: "C" or better in Introduction to Accounting.

### **613 Marketing**

Grade 11-12

Level 2

1 Credit (Year)

This course is an introduction to marketing concepts. Marketing is the process of developing, promoting, pricing, and distributing products in order to satisfy customer's wants and needs. Students will learn about marketing through real-life examples, practical applications, and creative projects. Topics studied in this course include, but are not limited to, the marketing concept, socially responsive marketing, competition, e-commerce, developing a marketing plan, business-to-business marketing, and developing successful products.

### **614 International Business**

Grade 11-12

Level 2

1 Credit (Year)

This course is an introduction to international business. This course has a strong theory base with a managerial emphasis and a focus on the impact of technology on global business. Students will learn about international business through real-life examples, practical applications, and creative projects. Topics studied in this course are: the impact of international business, the theory of international business, the international business environment, the preparation and development of international business, and the strategy and implementation of international business. Students must demonstrate knowledge in the above-learned concepts both through classroom work and study, and through the application of real world cases.

**615 AP Economics**

Grade 12

Level AP

1 Credit (Year)

This AP course presents the politics and science of economic theories encouraging students to apply an economic way of thinking in their daily lives. The class explores such topics as opportunity cost, marginal decision-making, the role of incentives, the gains from trade, the efficiency of market allocations, as well as extensive study in Micro and Macroeconomic theory. In order to receive weighted grading credit for the class, students must take the Advanced Placement Exam.

# ENGINEERING AND TECHNOLOGY EDUCATION

## Class Descriptions

Course No.	Course Title	Grade	Sem.	Level	Credits
750	Exploratory Engineering Technologies	9-10	Y	1-2	1
751	Intro to Materials Processing & Engineering	10-12	Y	2	1
752	Advanced Materials Processing & Engineering	11-12	Y	2	1
753 754	Structural Engineering and Design Applications I/II	12	Y	3	1
761	Intro to Robotics Engineering and Design	10-12	Y	2	1
762	Robotics Engineering and Design	11-12	Y	2	1
763/764	Advanced Robotics Engineering Design I/II	12	Y	3	1
775	Introduction to Engineering Design	10-12	Y	2	1
776	Engineering Design	11-12	S	2	.5
777	Architectural and Civil Engineering	11-12	S	3	.5

**750 Exploratory Engineering**

Grade 9-10

Level 1

1 Credit (Year)

This course should appeal to all students. In particular, students with an interest in robotics, engineering, architecture, or green design are encouraged to take this course. Students who have interests in technological careers will be exposed to a variety of engineering concepts. Students will apply their creative abilities through the application of Computer Aided Design, scientific principles, and engineering analysis to solve structured and unstructured problems. Individual and team work will be emphasized through the design loop or problem-solving process. Students will utilize math and science concepts combined with the operation of tools and machines to develop solutions to bring thoughts and ideas to life with the use of hands on activities. Emphasis will be placed on materials processing in the Engineering field. Students will work with materials such as woods, plastics, metals, and cardboard and follow products they create through the steps of research, design, prototype, manufacture, and testing. The class will promote technological literacy, leadership, and problem-solving skills.

**751 Introduction to Materials Processing & Engineering**

Grade 10-12

Level 2

1 Credit (Year)



The practical application of mathematics, technology, science, engineering, and material science is the foundation for this course. Students will begin a yearlong engagement of processing materials into pre-engineered designs and projects based on solving common problems and answering the needs of everyday modern life. Students who enjoy crafting products from raw materials such as woods, metals and plastics into usable items will find the course work fulfilling. Students will engage in Civil Engineering using state of the art site levels and measuring devices. Students will prepare a construction site by compacting soils in preparation for bridges, roads and buildings. Students will design sustainable structures and construct student designed projects. The crafting of materials into practical projects will be explored using a state of the art woodshop. Students will apply STEM to problem solve and design solutions to common problems facing society today and the future. The course is designed to prepare the student for a career in the engineering and or technical world. Students will develop engineering skills through course experiences and activities. Students will be exposed to information and projects that support problem solving, inquiry, critical thinking and creativity.

### **752 Advanced Materials Processing & Engineering**

Grade 11-12

Level 2

1 Credit (Year)

In depth applications of STEM concepts will be the foundation for this course. Students will develop engineering skills, hone machining skills, develop design skills along with materials processing and problem solving. Students with technology or engineering interests will appreciate the rigorous course work and challenges. Using STEM guidelines students will engage in Civil Engineering and land development. Students will engineer sustainable structures in accordance with available technologies. The class will offer hands on application of materials processing leading to the design and construction of a variety of possible projects. Students will use machinery to process materials into usable projects. The application of multi-disciplinary subjects will create opportunities for the advanced student to prepare for unique and intense learning experiences. The course is designed to expose the student to common practice in the engineering fields. The coursework will give students exposure to a variety of STEM challenges and experiences. Students will gain practical knowledge of global solutions to a wide variety of engineering concepts through this exhaustive course.

PREREQUISITE: Introduction to Materials Processing & Engineering

### **753/754 Structural Engineering and Design Applications I/II**

Grade 12

Level 2

1 Credit (Year)

Students will explore structural engineering based on available material resources in this innovative course. Students who are interested in engineering will benefit from the course work and classroom activities. The engineering design process will be applied to problems and other STEM based challenges. Students will face a variety of engineering situations and problems that will require intense problem solving and adaptability skills to navigate. Energy availability and resource consumption will drive the coursework in preparation for inevitable changes in resources. Students will design sustainable solutions in response to changes in global resource availability. Students will be active in the testing process as engineered solutions will require substantial research and development to ensure success. Machinery and tooling exposure will be part of the student's daily academic staple. The course work is highly charged with engineering processes. Students will engage in state of the art design work to prepare the student for present and future engineering challenges. Team work and problem solving will be utilized daily to actively promote critical thinking and problem solving skills. Students will be involved in fundamental engineering activities designed to prepare them for academia and the world of work.

PREREQUISITE: Advanced Materials Processing and Engineering

### **761 Introduction to Robotics Engineering and Design**

Grade 10-12

Level 2

1 Credit (Year)

This course should appeal to students who have interests in designing, creating and programming robots and programming video design software. Robotics is an engaging way to integrate STEM education within the classroom. Students will utilize a variety of engineering design processes in the development of their robots to meet various VEX. Student activities will include brainstorming, designing testing, evaluating best solutions,

and building of robots which will require refinements and/or redesign. Student's robot design will integrate motion, structural, power, sensors, autonomous programming and use of RC controllers. In addition to the science and engineering principals, VEX robots encourage teamwork, leadership and problem solving among groups. Video Game Design will also be utilized in this course due to the programming aspect and other micro controllers as platforms they become available.

PREREQUISITE: Exploratory Engineering

RECOMMENDATION: "C" or better in Exploratory Engineering or teacher recommendation.

## **762 Robotics Engineering and Design**

Grade 11-12

Level 2

1 Credit (Year)

This course should appeal to students who have interests in designing, creating and programming robots, and programming video design software. Student may choose to be part of the BOTS IQ team and utilize CNC equipment such as router, laser and, if funds permit a 3D printer, to develop and build the team's robot. This course will utilize CAD (Computer Aided Design) software and applications to develop engineering skills and concepts for designing, creating, prototyping and testing parts and student-interested based robotic projects. Students will be required to record their progress through written, photo and video documentation. Video Game Design will also be utilized in this course due to the programming aspect and other micro controllers as platforms they become available. Student's robot design will integrate motion, structural, power, sensors, autonomous programming and use of RC controllers. In addition to the science and engineering principals, VEX robots encourage teamwork, leadership and problem solving among groups.

PREREQUISITE: Robotics Engineering

RECOMMENDATION: "C" or better in Introduction to Robotics Engineering or teacher recommendation.

## **763/764 Advanced Robotics Engineering Design (BOTS IQ) I/II**

Grade 11 and 12

Level 2

1 Credit (Year)

This is the advanced robotic course for students who have a desire to work in a team environment and may wish to enter engineering or designing careers. Students will design multiple complex parts acting together to create systems or subsystems with software applications. Student will again utilize CNC equipment such as router, laser and if funds permit a 3D printer and created molds and will incorporate electronic components into the team's robot. This course will utilize CAD (Computer Aided Design) software and applications to develop engineering skills and concepts for designing, creating, prototyping and testing parts and student-interest based projects. Students will be required to record their progress through written, photo and video documentation. Emphasis will be placed upon team design and documentation processes used in the engineering field. Students will work with various materials such as plastics, metals, wood and electronics. This class content will provide students with opportunities to work as teams to improve problem solving skills needed by today and future workforces.

PREREQUISITE: Robotics Engineering

RECOMMENDATION: "C" or better in Robotics Engineering and Design or teacher recommendation.

## **775 Introduction to Engineering Design**

Grade 11-12

Level 2

1 Credit (Year)

This course should appeal to creative students who have a desire to explore designer or engineering careers. Students will design parts with software applications, which will enable students to see 3 Dimensional representations of their products. These parts may be created with clay, machine wax, or Styrofoam to create mockups and/or utilizing student created molds and CNC equipment such as router, laser and, if funds permit, a 3D printer. This course will utilize CAD (Computer Aided Design) software and applications to develop engineering skills and concepts for designing, creating, prototyping and testing parts and student-interest based projects. Students will be required to record their progress through written, photo and video documentation. Emphasis will be placed upon the design and documentation processes used in the Engineering field. Students will work with various materials such as cardboard, plastics, metals, wood and

casting materials. This class content will provide students with opportunities to explore problem solving skills needed by today and future workforces.

PREREQUISITE: Exploratory Engineering

RECOMMENDATION: "C" or better in Exploratory Engineering or teacher recommendation.

### **776 Engineering Design**

Grade 11-12

Level 2

.5 Credit (Semester)

This is a continuation course for students who have a desire to work in a team environment and may wish to enter engineering or design careers. Students will design multiple complex parts acting together to create systems or subsystems with software applications. Student will again utilize CNC equipment such as router, laser and, if funds permit a 3D printer, created molds and student may be required to incorporate electronic components into their product. This course will utilize CAD (Computer Aided Design) software and applications to develop engineering skills and concepts for designing, creating, prototyping and testing parts and student-interest based projects. Students will be required to record their progress through written, photo and video documentation. Emphasis will be placed upon team design and documentation processes used in the Engineering field. Students will work with various materials such as cardboard, plastics, metals, wood and casting materials. This class content will provide students with opportunities to work as teams to improve problem solving skills needed by today and future workforces.

PREREQUISITE: Introduction to Engineering

RECOMMENDATION: "C" or better in Introduction to Engineering or instructor approval.

### **777 Architectural and Civil Engineering**

Grade 11 and 12

Level 3

.5 Credit (Semester)

This course should appeal to students attracted to residential designing, architectural and civil engineering. Students will examine newer building techniques with emphasis on green and sustainable architecture. Students will examine some of the career areas that use Chief Architect software including architecture, construction, interior design, manufacturing and landscape design. Students will research and examine Civil Engineering structures such as tunnels, bridges, locking systems, power stations, etc. Students will examine process in light of real world activities using construction materials to product models on a smaller scale. These activities will be STEM based and will include material testing, molding, and casting. Student will be exposed to sustainable architecture, designs and techniques. This will benefit the student as a future home designer and consumer. Sustainable Architecture designs can be tied in with construction and energy technologies.

PREREQUISITE: Engineering Design

RECOMMENDATION: "C" or better in Engineering Design or instructor approval.

## **FINE ARTS**

### **Class Descriptions**

<b>Course No.</b>	<b>Course Title</b>	<b>Grade</b>	<b>Sem.</b>	<b>Level</b>	<b>Credits</b>
800	Intermediate Band	9	Y	2	1
801	Concert Orchestra	9-12	Y	2	1
802	Girls Chorus	9	Y	1-2	1
803	Jazz Ensemble	9-12	Y	2-3	1
810	Symphonic Band	10-12	Y	3	1

811	Concert Band	10-12	Y	2	1
812	Symphonic Orchestra	10-12	Y	2-3	1
813	Concert Choir	9-12	Y	1-3	1
814	Ladies Chorus	10-12	Y	1-3	1
815	Chamber Choir	10-12	Y	3	1
816	Class Piano/Music Theory	10-12	Y	2	1
817	Music Technology/Music Appreciation	10-12	Y	2	1
819	AP Music Theory	11-12	Y	3	1
830	Honors Band	12	Y	3	1
831	Honors Orchestra	12	Y	3	1
832	Honors Chorus	12	Y	3	1
833	Beginning Winds	9-12	Y	1-3	1
850	Art I	9	Y	1-2	1
851	Art II	10-12	Y	1-2	1
852	Art III	11-12	Y	2	1
853	Art IV	12	Y	3	1
856	Photography I	10-12	S	2	.5
857	Photography II	11-12	Y	2	1
854	AP Studio Art	12	Y	AP	1
859	AP Photography: 2-D Design	12	Y	AP	1

### **800 Intermediate Band**

Grade 9

Level 2

1 Credit (Year)

The Intermediate Band prepares and presents music for school events and public concerts. This music comprises a variety of styles in order to familiarize students with as large and balanced a repertoire as possible. Attendance at scheduled evening and/or after-school performances is a requirement of the course. To become a band member, a student must demonstrate to the band director an acceptable degree of proficiency on a band instrument and is expected to continue their playing development either by private study or instrumental instruction at school. A student whose musical proficiency is not acceptable may take instrumental music instruction to qualify for band membership. Highly qualified band members may be chosen to perform in the PMEA Junior High School District Band and Orchestra festivals, and may audition for District I Honors Band. Qualified band members may be chosen by audition to march with the high school varsity marching band in addition to their membership in the Intermediate Band.

PREREQUISITE: Eighth Grade Band and/or audition

### **801 Concert Orchestra**

Grade 9-12

Level 2

1 Credit (Year)

Concert orchestra prepares and presents music for school events and public concerts. This course is open to all students who play a string instrument (violin, viola, cello, bass). Students should possess a willingness to perform and expand their playing ability through individual and ensemble work. The Concert Orchestra will perform concerts with the Symphonic Orchestra, and attendance at these evening and/or after school events is a requirement of this course. In addition to exploring all periods and styles of string orchestra repertoire, Concert Orchestra will be a training orchestra for string students to sharpen the musical, technical, and ensemble skills necessary to qualify for Symphonic Orchestra. Students with exceptional ability may audition to participate in PMEA Honors and District Orchestras.

### **802 Girls Chorus**

Grade 9 (Females Only)

Level 1-2

1 Credit (Year)

Chorus is designed for those ninth grade girls who enjoy singing and wish to develop their musical abilities. The chorus will sing three and four part music in a wide variety of styles. Students will become thoroughly familiar with the reading of choral music score, work to develop their vocal range and quality, as well as develop knowledge of music symbols and terminology. Chorus members will participate in three mandatory performances each year in December, March and May. Exceptional students may be chosen to participate in the PMEA Junior High School District Chorus or audition for PMEA Honors Chorus. Membership in Ninth Grade Chorus is by departmental approval.

### **803 Jazz Ensemble**

Grades 9-12

Level 3

1 Credit (Year)

Jazz Ensemble will perform at a variety of school and community functions. All styles of jazz music are explored with an emphasis on jazz improvisation (theory and harmony), jazz history and listening. Students playing instruments that are utilized in a standard big band format may participate (saxophones, trombones, trumpets, bass, guitars, piano, drums, and percussion). Students will also explore jazz combo literature. Jazz students of exceptional ability may audition for PMEA District and All-State Jazz Ensembles.

**PREREQUISITE:** Audition and scheduled membership in intermediate, concert, or symphonic bands.

**Note:** Pianists and guitarists are exempt from the band prerequisite.

### **810 Symphonic Band**

Grade 10-12

Level 3

1 Credit (Year)

The symphonic band prepares and presents music for a variety of events which include football games, parades, band festivals, school assemblies and public concerts. Both marching and concert performances are essential elements of this course. Participation in both is required. Demands of the course also include participation in summer and after-school rehearsals, and evening/weekend performances. Music of many styles and types is rehearsed so that the band student is familiar with a large and varied repertoire. To become a member of the symphonic band, a student must demonstrate to the band director a high degree of proficiency on a band instrument. The student is expected to continue his musical development, either through private study or instrumental instruction at school. Band students of exceptional ability may audition and be recommended for a variety of interscholastic festival ensembles, including PMEA and Allegheny-Kiski Honors Bands, PMEA District, Regional, and All-State bands and orchestra. Band members are also eligible for Jazz Band, Small Ensembles, Color Guard, Majorettes and Drill Team

**PREREQUISITE:** Audition

### **811 Concert Band**

Grades 10-12

Level 2

1 Credit (Year)

The concert band prepares and presents music for a variety of events which include football games, parades, band festivals, school assemblies and public concerts. Both marching and concert performances are essential elements of this course. Participation in both is required. Demands of the course also include participation in summer and after-school rehearsals, and evening/weekend performances. Music of many styles and types is rehearsed so that the band student is familiar with a large and varied repertoire. To become a member of the band, a student must demonstrate to the band director an acceptable degree of proficiency on a band instrument. The student is expected to continue his musical development either through private study or instrumental instruction at school. Band students of exceptional ability may audition and be recommended for a variety of interscholastic festival ensembles, including PMEA and Allegheny-Kiski Honors Bands, PMEA District, Regional, and All-State bands and orchestra. Band members are also eligible for Jazz Band, Small Ensembles, Color Guard, Majorettes and Drill Team.

**PREREQUISITE:** Audition

### **812 Symphonic Orchestra**

Grade 10-12

Level 3

1 Credit (Year)

Symphonic Orchestra prepares and presents music for school events and public concerts. This class is designed for the advanced string player who wishes to rehearse and perform music at a high level, and therefore is open to grade 10-12 students who play a string instrument (violin, viola, cello, bass) by audition only. Students should possess a willingness to perform and expand their playing ability through individual and ensemble work. Symphonic Orchestra will explore all periods and styles of string and full orchestra repertoire,

**PREREQUISITE:** Recommendation of orchestra director and audition/re-audition required every year.

Grade 9-12	Level 1-3	1 Credit (Year)
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NOTE: Ninth grade males only. Ninth grade females should enroll in Freshman Chorus.

Grade 10-12	Level 1-3	1 Credit (Year)
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**PREREQUISITE:** Acceptance by audition. All students will be re-auditioned each year.

Grade 10-12	Level 3	1 Credit (Year)
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**PREREQUISITE:** Acceptance by audition. All students will be re-auditioned each year.

Grades 10-12	Level 2	1 Credit (Year)
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The one semester Music Theory course is offered to students who wish to examine the formal elements of music. Course content will include notation of melody and rhythm, intervals, scales and modes, triads, harmony and harmonic progressions, musical dictation, analysis, and ear training. A background in music is desired but not required.

Grades 10-12	Level 2	1 Credit (Year)
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**RECOMMENDATION:** "C" or better in Class Piano.

Grades 11-12	Level 3	1 Credit (Year)
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Musicianship skills such as dictation and other listening skills, sight-singing, and keyboard harmony are considered an important part of the theory course. Students will build upon this foundation with complex tasks like melodic and harmonic dictation, realizing figured bass and Roman numeral progressions, implying appropriate harmony, analysis of repertoire based on elements of music and sight singing. It will be fundamental for students to read and notate music for the course, in addition to having proficient performance skills on an instrument or voice.

PREREQUISITE: Class Piano and Music Theory with a "B" or higher

### **830 Honors Band**

### **831 Honors Orchestra**

### **832 Honors Chorus**

Grade 12

Level 3

1 Credit (Year)

These classes are open to Grade 12 students registered for the following classes: Symphonic Band, Concert Chorale, Symphonic Orchestra. Students will be scheduled in the same period as they are currently, but have rigorous additional class requirements that justify the honors designation and credit. Additional course requirements include: Summer preparation of one major solo work to be used as an audition piece, 1st semester audition for, and if accepted participate in PMEA Honors Band, Choir, Orchestra, Alle-Kiski Honors Band; 2nd semester preparation of a second solo or chamber work for recital performance; both semesters research and publication of program notes for concert.

PREREQUISITE: Concert Choir, Concert Band, and Concert Orchestra. Students must be currently be enrolled in Symphonic Band, Concert Chorale, and Symphonic Orchestra.

### **833 Beginning Winds**

Grades 9-12

Level 1-2

1 Credit (Year)

Students will learn basics of woodwind and brass instruments including flute, clarinet, alto saxophone, oboe, bassoon, bass clarinet, trumpet, French horn, trombone, baritone/euphonium, and tuba. Students will gain basic knowledge and playing proficiency on each instrument. Students will form an ensemble with an instrument learned in Beginning Winds and perform in class. Students who excel may have the opportunity to perform in spring concerts with Intermediate Band or Concert Band. It is recommended, but not required, that students have some prior music-reading knowledge prior to taking this class.

### **850 Art I, Introduction to Elements and Principles of Design**

Grade 9

Level 1-2

1 Credit (Year)

Ninth Grade Art is centered on the development of an understanding of the principles of design and the elements of art. Fundamental skills in pencil, water color, charcoal, tempera, pen and ink, pastels, acrylics and various materials are emphasized. A variety of three-dimensional materials are used to increase interest, to develop skills and to stimulate creative thinking.

### **851 Art II, Basics of Art and Studio Design**

Grade 10-12

Level 1-2

1 Credit (Year)

This is a two semester course designed to introduce the student to basic art and craft processes. Fundamentals in drawing, design, color, painting, sculpture, ceramics, printmaking, textiles and mixed media will be explored. NOTE: All students are required to maintain a sketch book consisting of out of class assignments as well as other appropriate work. These sketchbooks are collected on a weekly basis.

### **852 Art III, Appreciation of Art History and Multi-Media Techniques**

Grade 11-12

Level 2

1 Credit (Year)

Art, Level III, will be a continuation and further study of skills and knowledge obtained in previous art courses. Areas of exploration will again be those of drawing, design, color, painting, sculpture, ceramics, printmaking, textiles and mixed media. This course is designed to further the development of basic skills, encourage creative thought, explore individual interests and further develop an appreciation and understanding of the arts. NOTE: All students are required to maintain a sketch book consisting of out of class assignments as well as other appropriate work. These sketchbooks are collected on a nine-week basis.

PREREQUISITE: Art II. Prerequisite of Art II may be waived for admittance to Art III by departmental approval and portfolio review.

RECOMMENDATION: "C" or better in Art II

### **853 Art IV, Intermediate Studio Design**

Grade 12

Level 3

1 Credit (Year)

This course is designed to give the third year student an opportunity to explore in more depth various areas of interest. Students are encouraged to discover through experimentation in an effort to promote creative thinking patterns. Course work consists of both specific assignment as well as problems originating from the students individual interest. Time will be devoted as necessary to portfolio development for those students seeking a career in the arts. NOTE: All students are required to maintain a sketch book consisting of out of class assignments as well as other appropriate work. These sketchbooks are collected on a nine-week basis.

PREREQUISITE: Art III

RECOMMENDATION: Minimum grade of "B" in Art III or teacher recommendation.

### **854 AP Studio Art**

Grade 12

Level AP

1 Credit (Year)

The advanced placement program in Studio Art offers highly motivated students the opportunity to work in an environment that is analogous to a college setting. The art department will identify highly motivated students who have had previous successful experiences in art classes and who are willing to devote considerable time and effort to the study of art and the development of higher level skills. The AP Studio Art Portfolio is a performance based exam/portfolio review. Note: All AP Art students are required to complete summer assignments and expected to devote at least 4 hours per week outside of class to the development of their skills and the completion of their work. In order to receive weighted grading credit for the class, students must take the Advanced Placement Exam (see p. 4).

Prerequisite: Portfolio Review of artwork from previous art classes and Departmental Approval

### **856 Photography I**

Grade 10-12

Level 2

.5 Credit (Sem.)

Photography is designed for the student who has a sincere interest in black and white photography. This course is designed for the beginning photographer as well as those who wish to sharpen previously learned skills. The course is ideal for the student who wishes to pursue photography as a career or hobby. Students will have access to a fully equipped darkroom. A unit on digital photography will be included in the course. Other areas of study will include types of cameras, camera nomenclature, basic camera handling, films, photographic papers, print making, composition, print mounting, types of photography, and safety in photography.

COURSE REQUIREMENTS: Students must provide their own 35 mm camera and film.

### **857 Photography II**

Grade 11-12

Level 2

1 Credit (Year)

Photography II is designed for the more advanced art/photography student who has a genuine interest in pursuing a career in Photography or the Fine Arts. The course will focus on traditional and nontraditional shooting, printing, and developing techniques using black and white, color and digital media. Students will have instruction in the incorporation of the Elements of Art and Principles of Design to make dynamic compositions. Students will have access to a darkroom that is fully equipped to print high quality black and white photographs. Units on digital photography and the manipulation of images will be taught in the computer lab.

COURSE REQUIREMENTS: Students must provide their own 35mm camera and film.

PREREQUISITE: Photography I

RECOMMENDATION: Minimum grade of "B" or better in Photography I.

### **859 AP Photo: 2-D Design**

Grade 12

Level AP

1 Credit (Year)

AP Photography offers highly motivated students the opportunity to work in an environment that is analogous to a college setting. The course is designed for students who have had previous successful experiences in Photography I and who are willing to devote considerable time and effort to the study of photography and the development of higher level skills. Students will work with traditional darkroom techniques as well as Adobe Photoshop to explore and solve composition problems. Throughout the course students will develop portfolios



by creating a large variety of work that incorporates the elements of art and the principles of design. The AP Studio Art Portfolio is a performance based exam/ portfolio review. Note: All AP Photo students are required to complete summer assignments and they are expected to devote at least 4 hours per week outside of class to the development of their skills and the completion of their assignments. Students must have a 35mm camera, digital camera, and a flash drive. In order to receive weighted grading credit for the class, students must take the Advanced Placement Exam (see p. 5).

PREREQUISITE: Photo I and teacher recommendation

## PHYSICAL EDUCATION/HEALTH

### Course Descriptions

Course No.	Course Title	Grade	Sem.	Level	Credits
900	Physical Education	10-12	Y	1-2	.5
901	Physical Education/Swim	9	Y	1-2	.5
910	Health	9	Y	1-2	.5
921	Strength, Flexibility, and Conditioning (elective)	11-12	S	2	.5
922	Strength II (elective)	12	S	2	.5

#### 900 Physical Education

Grades 10-12                      Level 1-2                      .50 Credit                      2/6 Day Cycle

Students will meet two times in a 6-day cycle. Plum PE uniforms are mandatory. Classes will participate in various individual, team, and lifetime activities. Setting individual fitness goals are encouraged. Periodic physical fitness testing is to be expected. Classes strive to enhance physical growth, development and movement and, being an integral part of the educational process, are closely allied with academic progress. This well-rounded program increases the physical and mental well-being in an ongoing process, creating a "sound mind in a sound body."

#### 901 Physical Education/Swim

Grade 9                      Level 1-2                      .50 Credit                      3/6 Day Cycle

Students meet 3 times in each 6-day cycle for the entire year. Proper swim attire is mandatory. Students will participate in skills that promote water safety, stroke development and proficiency, and cardiovascular fitness. The ultimate goal for the students is to feel comfortable in an aquatics environment.

#### 910 Health

Grade 9                      Level 1-2                      .50 Credit                      3/6 Day Cycle

Health is a year-long class that meets 3 times in each 6-day cycle. Units covered include Wellness Study, Mental Health, Nutrition, Substance Abuse, Chronic Disabling Diseases, Human Growth and Development and STD's (including AIDS). A project is required in lieu of a mid-term exam, and a comprehensive final exam is administered.

#### 921 Strength, Flexibility, and Conditioning

Grade 11-12                      Level 2                      .5 Credit (Sem.) (Elective)

This is an elective course that will provide an introduction to muscular anatomy, exercise technique, safety and spotting, exercise program design and program implementation. Students will establish individual fitness goals and execute an exercise program specifically designed to reach their goals. Students are expected to maintain an "A" average in their regular Physical Education class.

RECOMMENDATION: "A" in Physical Education the prior year

#### 922 Strength II (Elective)

Grade 12

Level 2

.5 Credit (Sem.)

This is an elective course that focuses on advanced free-weight movements and flexibility exercises, program design and implementation based on individual fitness goals and sport specific training such as agility and plyometrics. This class is ideal for students who are considering fitness related careers. Students are expected to maintain an "A" average in their regular Physical Education class.

PREREQUISITE: Strength I.

## AIR FORCE JUNIOR ROTC

### Class Descriptions

Course No.	Course Title	Grade	Sem.	Level	Credits
912	AFJROTC Aviation History	9	Y	2	1
915	AFJROTC Advanced Drill	10-12	Y	2	1
917	AFJROTC Basic Survival	10-12	Y	2	1
920	Summer Leadership Course	9-11	S	2	.5

**Note:** College credit is available through Adams State University for certain JROTC classes at \$60 per hour. Please contact one of the AFJROTC instructors for more information.

**No military obligation is expected or incurred by participating in this program.**

The objectives of AFJROTC are to educate and train high school cadets in citizenship, promote community service, instill responsibility, character, and self-discipline, and provide instruction in air and space fundamentals. The AFJROTC program is grounded in the Air Force core values of *integrity first, service before self, and excellence in all we do*.

**UNIFORM REQUIREMENT:** All cadets in every course will have a uniform requirement. All cadets will be issued an AFJROTC uniform at no cost, including tailoring. The uniform wear requirement is designed to teach cadets attention to detail, discipline, and dedication. Students will be required to wear the uniform once a week according to AFJROTC uniform regulations. Students will also be required to provide a V-neck white t-shirt or white undershirt, black socks, and will be required to maintain their hair according to Air Force uniform standards.

#### 912 AFJROTC Aviation History

Grade 9-12

Level 1/2

1 Credit (Year)

Up to 3 Credits: College

The aviation history course focuses on the development of flight throughout the centuries. It starts with ancient civilizations, then progresses through time to modern day. The emphasis is on civilian and military contributions to aviation; the development, modernization, and transformation of the Air Force; and a brief astronomical and space exploration history. It is interspersed with concise overviews of the principles of flight to include basic aeronautics, aircraft motion and control, flight power, and rockets. Throughout the course, there are readings, videos, hands-on activities, and in-text and student workbook exercises to guide in the reinforcement of the materials.

The course is combined with Leadership Education (LE) 100: Traditions, Wellness, and Foundations of Leadership. LE 100 is the component of JROTC leadership education. It will introduce cadets to history, organization, mission, traditions, goals, and objectives of JROTC for all services. It introduces key military customs and courtesies, how to project a positive attitude, exams the principles of ethical and moral behavior,

provides strategies for academic success, and how to be emotionally, mentally, and physically healthy. Avoiding and preventing violence in today's society will also be covered, as well as how to recognize types of bullying and how to advocate for prevention of this type of behavior. This portion of the course will also examine the negative effects of air and water pollution, and how to help keep the environment safe. Cadets will be introduced to civics and our national government, including a historical understanding of the American flag and other important national symbols. The final chapter will also cover how the US Constitution protects our rights and freedoms as American citizens.

### 915 AFJROTC Advanced Drill

Grade 10 – 12

Level 2

1 Credit (Year)

The *“Advanced Drill”* course provides an in-depth introduction to military and civilian drill and ceremonies. This course concentrates on the elements of military drill, and describes individual and group precision movements, procedures for saluting, drill, ceremonies, reviews, parades, and development of command voice. Students are provided detailed instruction on ceremonial performances and protocol for civilian and military events and have the opportunity to personally learn drill. In addition, cadets will study the history, tradition, proper use, display and disposal of the American Flag. This course is designed to build confidence through concentration on attention to detail and communication skills. Though each class will follow an established lesson plan, most of the work is to be hands-on. Students must be a part of the cadet corps (taking one of the basic courses) in order to enroll in this class, but there is no prerequisite.

### 917 AFJROTC Basic Survival

Grade 10 – 12

Level 2

1 Credit (Year)

In the *“Basic Survival”* course, students will learn how to survive in situations where life and safety depends on their decisions. They will learn the basic survival medicine procedures, treatments, and prevention measures when faced with emergency situations. The students will understand the necessities to maintain life, such as; building shelters, identifying and preparing food, fire craft, and water purification. They will learn the concepts of orienteering, traveling, land navigation, and map reading through the use of the compass and global positioning systems. The information and hands on skills learned in this course will aid the student throughout their life.

PREREQUISITE: Students must be a part of the cadet corps (taking one of the basic courses).

### 920 AFJROTC Summer Leadership Course

Grade 9-11

Level 2

.5 Credit (Summer Program)

2 Credits, Adams State University

The *“Summer Leadership Course”* (SLC) is a 5-day session offered during the summer. This course is provided for cadets who plan to return to the AFJROTC program the following academic year. The curriculum for SLC is a mixture of in class leadership academics, field trips, and activities designed to promote and enhance the leadership skills of cadets who aspire to hold positions in the corps.

## SCHEDULE WORKSHEET

Grade 9 Course/Credits	Grade 10 Course/Credits	Grade 11 Course/Credits	Grade 12 Course/Credits	Graduation Course/Credits


## **Statement of Policy**

The Board declares it to be the policy of this district to provide an equal opportunity for all students to achieve their maximum potential through the programs offered in the schools regardless of race, color, age, creed, religion, gender, sexual orientation, ancestry, national origin or handicap/disability. The Board shall provide to all students, without discrimination, course offerings, counseling, assistance, employment, athletics and extracurricular activities. The district shall make reasonable accommodations for identified physical and mental impairments that constitute disabilities, consistent with the requirements of federal and state laws and regulations. This policy is available in the administrative office. For information regarding civil rights or grievance procedures, contact Dr. Timothy Glasspool, Superintendent, 900 Elicker Road, Plum, PA 15239, telephone 412-795-0100. For information regarding activities and facilities accessible to and usable by physically-challenged persons, contact Mrs. Kathleen Graczyk, Section 504 Coordinator.

## **Confidentiality**

The Family Educational Rights and Privacy Act (FERPA) (20 U.S.C. § 1232g; 34 CFR Part 99) is a Federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education.

FERPA gives parents certain rights with respect to their children's education records. These rights transfer to the student when he or she reaches the age of 18 or attends a school beyond the high school level. Students to whom the rights have transferred are "eligible students."

- Parents or eligible students have the right to inspect and review the student's education records maintained by the school. Schools are not required to provide copies of records unless, for reasons such as great distance, it is impossible for parents or eligible students to review the records. Schools may charge a fee for copies.

- Parents or eligible students have the right to request that a school correct records which they believe to be inaccurate or misleading. If the school decides not to amend the record, the parent or eligible student then has the right to a formal hearing. After the hearing, if the school still decides not to amend the record, the parent or eligible student has the right to place a statement with the record setting forth his or her view about the contested information.
- Generally, schools must have written permission from the parent or eligible student in order to release any information from a student's education record. However, FERPA allows schools to disclose those records, without consent, to the following parties or under the following conditions (34 CFR § 99.31):

School officials with legitimate educational interest;  
 Other schools to which a student is transferring;  
 Specified officials for audit or evaluation purposes;  
 Appropriate parties in connection with financial aid to a student;  
 Organizations conducting certain studies for or on behalf of the school;  
 Accrediting organizations;  
 To comply with a judicial order or lawfully issued subpoena;  
 Appropriate officials in cases of health and safety emergencies; and  
 State and local authorities, within a juvenile justice system, pursuant to specific State law.

Schools may disclose, without consent, "directory" information such as a student's name, address, telephone number, date and place of birth, honors and awards, and dates of attendance. However, schools must tell parents and eligible students about directory information and allow parents and eligible students a reasonable amount of time to request that the school not disclose directory information about them. Schools must notify parents and eligible students annually of their rights under FERPA. The actual means of notification (special letter, inclusion in a PTA bulletin, student handbook, or newspaper article) is left to the discretion of each school.

For additional information, you may call 1-800-USA-LEARN (1-800-872-5327) (voice). Individuals who use TDD may call 1-800-437-0833.

Or you may contact them at the following address:

Family Policy Compliance Office  
 U.S. Department of Education  
 400 Maryland Avenue, SW  
 Washington, D.C. 20202-8520