

Central Bucks School District

Program of Studies

2016-2017

Grades 9-12



Updates to this booklet can be found online at www.cbsd.org

Central Bucks School District ~ 20 Welden Drive ~ Doylestown, PA 18901

Click on course to go to course description page

NINTH GRADE COURSES..... 9	6949 Engineering and Design..... 12	5525 Web Page Design..... 16
ART 9	6950 Technical Drawing and Design..... 12	5526 Advanced Web Page Design 16
8250 Exploring Drawing and Painting..... 9	6957 Communications Technology 12	5668 High School and College Computer Skills 16
8954 Three-Dimensional Design..... 9	6958 Engineering Processes..... 12	ENGLISH..... 17
8366 Exploring Ceramics 9	WORLD LANGUAGE 13	0000 Honors English 10..... 17
8460 Exploring Photography..... 9	4501 Spanish 1 13	0020 Academic English 10 17
ENGLISH..... 9	4820 French 1..... 13	0110 Advanced Placement English Language & Composition..... 17
0900 Advanced English 9..... 9	4202 French 2..... 13	0100 Honors English 11..... 17
0920 Academic English 9 9	4502 Spanish 2..... 13	0120 Academic English 11 17
0970, 0980, 0990 English 9 10	HIGH SCHOOL COURSES..... 13	0200 Advanced Placement English Literature & Composition..... 18
FAMILY AND CONSUMER SCIENCES..... 10	ART 13	0210 Honors English 12..... 18
6953 Sewing..... 10	8551 Art 1..... 13	0220 Academic English 12 18
6954 Cooking for Life 10	8552 Art 2..... 13	0660 Becoming a Better Writer 18
HEALTH AND PHYSICAL EDUCATION . 10	8553 Art 3..... 13	0601 Debate..... 18
7950 Physical Education/Health 9 10	8554 Art 4..... 13	0661 SAT/ACT Preparation: Vocabulary, Reading Comprehension and Analysis, and Written Expression 18
MATHEMATICS 10	8360 Introduction to Ceramics 13	0662 Journalism..... 18
2900 Algebra 2/Trigonometry 10	8361 Ceramics 1..... 13	0665 Creative Writing..... 18
2901 Geometry/Trigonometry 10	8362 Ceramics 2..... 14	0668 Theater: Acting Workshop..... 19
2915 Algebra 1..... 10	8363 Ceramics 3..... 14	0671 Shakespeare 19
2916 Algebra 1 B 10	8251 Drawing and Painting 1 14	0672 Science Fiction 19
2920 Algebra 1A..... 11	8252 Drawing and Painting 2..... 14	0673 Introduction to Film Studies..... 19
2970, 2980, 2990 Mathematics 9..... 11	8461 Photography 1 14	0674 Media Production 1 19
MUSIC 11	8462 Photography 2 14	0675 Media Production 2 19
8965 Band 9..... 11	8463 Photography 3 14	0676 Media Production 3 19
8967 Chorus 9..... 11	8464 Photography 4 14	0678 Media Production Practicum..... 19
8966 Orchestra 9..... 11	8562 Computer Graphics: Illustration and Design 14	FAMILY AND CONSUMER SCIENCES..... 20
PEN (Gifted Program)..... 11	8564 Digital Imaging 15	6159 The Young Child..... 20
9901 PEN Seminar 9 11	8567 Introduction to 3-D Modeling and Animation 15	6161 The School-Age Child..... 20
READING..... 11	BUSINESS AND COMPUTER APPLICATIONS 15	6162 Living Independently 20
4940 Reading 9 11	5160 Accounting 1..... 15	6264 American Cuisine 20
4970, 4980, 4990 Reading 9..... 11	5260 Accounting 2..... 15	6265 Global Gourmet..... 20
SCIENCE 11	5161 Business Administration..... 15	6266 Food Science 20
3900 Advanced Science 9..... 11	5061 Business Today..... 15	6267 Nutrition 20
3920 Academic Science 9..... 12	5660 Consumer Law & Business Ethics 15	HEALTH AND PHYSICAL EDUCATION . 20
3970, 3980, 3990 Science 9 12	5661 Marketing & Advertising Fundamentals16	7061 PE/Health..... 20
SOCIAL STUDIES 12	5667 Sports & Entertainment Marketing 16	7062 PE/Health..... 20
1900 Advanced United States History 12	5062 Personal Finance 16	7069 Stress Management and Healthy Living20
1920 Academic United States History 12	5163 Business Computer Applications..... 16	7562 Advanced Health..... 21
1970, 1980, 1990 United States History 12	5561 Media Design 16	
TECHNOLOGY AND ENGINEERING EDUCATION 12		

7064 Team Sports.....	21	9600 PEN–Grades 10–12	27	1162 Introduction to the Law	32
7065 Lifetime Sports	21	SCIENCE	27	1163 Geography.....	32
7066 Personalized Fitness	21	3010 Honors Biology	28	TECHNOLOGY & ENGINEERING EDUCATION	33
7063 Fitness Trends	21	3020 Academic Biology	28	6360 Exploratory Architectural Design.....	33
7068 Aquatic Conditioning.....	21	3100 Advanced Placement Biology	28	6361 Architectural Design 1.....	33
MATHEMATICS	22	3040 Practical Biology	28	6362 Architectural Design 2.....	33
2540 Algebra 1A.....	22	3130 Human Anatomy and Physiology	28	6363 Architectural Design 3.....	33
2640 Algebra 1B	22	3122 Applied Human Anatomy and Physiology	28	6560 Exploring Engineering and Architecture33	
2645 Geometry	22	3110 Honors Chemistry	28	6561 Engineering and Architecture 1	33
2141 Algebra 2.....	22	3120 Academic Chemistry	28	6562 Engineering and Architecture 2	33
2541 Applied Mathematics.....	23	3140 Conceptual Chemistry.....	28	6563 Engineering and Architecture 3	33
2122 Geometry/Trig.....	23	3114 Organic and Equilibrium Chemistry... 29		6460 Exploratory Materials Engineering.....	34
2520 Algebra 2/Trig	23	3101 Advanced Placement Chemistry.....	29	6461 Materials Engineering 1	34
2110 Precalculus/Trig	23	3224 Academic Physics	29	6462 Materials Engineering 2	34
2111 Accelerated Precalculus/Trig.....	23	3225 Honors Physics.....	29	6463 Materials Engineering 3	34
2221 Intermediate Math Concepts.....	23	3102 Advanced Placement Physics: Newtonian Mechanics.....	29	6721 Engineering 1.....	34
2625 Statistics and Data Analysis	23	3103 Advanced Placement Physics: Electricity & Magnetism	29	6722 Engineering 2.....	34
2101 Calculus 1	23	3640 Astronomy/Space Exploration	29	WORLD LANGUAGE	35
2103 Calculus 2	24	3646 Geology and Environment	30	4101 Chinese 1.....	35
2005 Advanced Placement Computer Science A	24	3643 Oceanography	30	4102 Chinese 2.....	35
2007 Advanced Placement Computer Science Principles	24	3121 Environmental Science.....	30	4103 Chinese 3.....	35
2102 Advanced Placement Calculus AB	24	3108 Advanced Placement Environmental Science	30	4501 Spanish 1.....	35
2200 Advanced Placement Calculus BC	24	3213 Forensic Science	30	4502 Spanish 2.....	35
2601 Advanced Placement Statistics	24	SOCIAL STUDIES, INCLUDING HISTORY AND THE SOCIAL SCIENCES.....	31	4203 French 3.....	35
9103 Algebra Lab	24	1101 Advanced Placement European History. 31		4503 Spanish 3.....	35
2003 Introduction to Computer Programming25		1111 Honors Modern World History	31	4513 Spanish 3, Honors.....	36
2004 Introduction to Java.....	25	1120 Academic Modern World History	31	4204 French 4.....	36
2623 SAT Math Preparation	25	1000 Advanced Placement U.S. History	31	4504 Spanish 4.....	36
MUSIC	25	1012 Honors American Government and Economic Systems	31	4514 Spanish 4, Honors.....	36
8663 Concert Band.....	25	1022 Academic American Government and Economic Systems	31	4214 French 4, Honors.....	36
8625 Jazz Lab	25	1202 Advanced Placement Macroeconomics 32		4505 Spanish 5.....	36
8660 Symphonic Band	25	1203 Advanced Placement Comparative Government	32	4500 Advanced Placement Spanish	36
8665 Jazz Ensemble.....	25	1210 Honors Global Relations.....	32	4200 Advanced Placement French.....	36
8661 Chorus–Grade 10	26	1220 Academic Global Relations.....	32	4401 Latin 1.....	36
8662 Choir–Grades 11, 12.....	26	1160 Psychology – Grades 11, 12	32	4402 Latin 2.....	36
8664 Orchestra.....	26	1161 Sociology – Grades 11, 12.....	32	4403 Latin 3.....	37
8667 Music Theory.....	26			4522 Study Abroad: France.....	37
8620 Music Technology.....	26			4521 Study Abroad: Spain	37
8600 Advanced Placement Music Theory	26			YEARBOOK	37
PEN (Gifted Program).....	27			9568 Yearbook Production.....	37

CENTRAL BUCKS MIDDLE SCHOOLS~GRADE 9

HOLICONG MIDDLE SCHOOL

2900 Holicong Road
Doylestown, PA 18902
Kevin T. Shillingford, Principal
Deborah Kleeman, Barbara Louderback,
Gregory Striano, Counselors
(267) 893-2700

TAMANEND MIDDLE SCHOOL

1492 Stuckert Road
Warrington, PA 18976
Cheryl R. Leatherbarrow, Principal
Mandy Cammann, Jeffrey Klein, Counselors
(267) 293-2900

LENAPE MIDDLE SCHOOL

313 West State Street
Doylestown, PA 18901
Timothy P. Donovan, Principal
Ann Kuntzmann, Jodi Schmon, Counselors
(267) 893-2800

TOHICKON MIDDLE SCHOOL

5051 Old Easton Road
Doylestown, PA 18902
Kevin R. Marton, Principal
Diane Schute, Gregory Striano, Joseph
Stryker, Counselors
(267) 293-3300

UNAMI MIDDLE SCHOOL

160 South Moyer Road
Chalfont, PA 18914
Christina D. Lang, Principal
Kathleen Houpert, Kate Mallon, Counselors
(267) 893-3400

CENTRAL BUCKS SENIOR HIGH SCHOOLS~GRADES 10–12

CENTRAL BUCKS HIGH SCHOOL-EAST

2804 Holicong Road
Doylestown, PA 18902
Abram M. Lucabaugh, Principal
George Moustakas, Guidance Coordinator
Tanya Barone-Durant, Elizabeth Carr,
Melanie Jones, , Marilyn Russo, Walter
Sandstrom, Counselors
(267) 893-2300

CENTRAL BUCKS HIGH SCHOOL-SOUTH

1100 Folly Road
Warrington, PA 18976
Scott A. Davidheiser, Ed.D., Principal
Virginia Barrett, Guidance Coordinator;
Taryn Barrett, Thomas Hill, Laura Ladley,
Michele McGrogan, Kerry Monk, Counselors
(267) 893-3000

CENTRAL BUCKS HIGH SCHOOL-WEST

375 West Court Street
Doylestown, PA 18901
Jason H. Bucher, Principal
Lisa Corr, Guidance Coordinator;
Lori Bagnick, Michael Curtis,
Donna Dallam, Valerie D'Alonzo,
David Manners, Counselors
(267) 893-2500

Area Career and Technical School GRADES 9–12

MIDDLE BUCKS INSTITUTE OF TECHNOLOGY

2740 Old York Road
Jamison, PA 18929
Kathryn Strouse, Administrative Director
Stephanie Gregory, Counselor
(215) 343-2480

General Information

Planning Your Program

Planning a four-year program is a serious undertaking. Although some of your courses are required, you will have many choices to make during your years of school. The courses you request will be guided largely by your plans for the future. **Whatever your plans, you should be taking the most challenging courses you can within your academic abilities.**

Some students are sure of their future plans; others are not. It is common for young people to change their minds about which career to choose. The important thing is to choose as rigorous a program as possible so you don't limit yourself if you change your mind about college or career plans. Sometimes it seems overwhelming to have so many choices to make. Although scheduling is primarily your responsibility, you will have plenty of help from your counselor, your teachers, and your parents.

Your school counselor can provide detailed information about academic programs, graduation requirements, college admissions, technical programs, and scheduling options. Your teachers can help you decide whether you have the ability for a particular course and will recommend students for specific programs. Your parents can provide guidance about your plans for the future, and they must approve your final course request.

Scheduling decisions are important. Counselors and administrators work during the summer to provide a schedule that tries to accommodate the needs of all students. If it is impossible to schedule all course requests, alternate course requests will be used. **Once the schedule has been established, it may be impossible to honor a change request because classes have been fixed and teachers have been assigned—so choose carefully.**

Recommended Course Sequences

Under the English, Math, Science, Social Studies and World Language sections in Grades 10–12, you will find recommended course sequences for the Most Rigorous Program and the Academic Program.

The **Most Rigorous Program** is recommended for college-bound students with high achievement and interest in a particular academic area. Students who are planning to apply to the most selective colleges should select courses in one or more subject areas from this sequence. Very competitive colleges look for students who take a district's most challenging courses. If you plan to apply to very selective schools, you should be choosing courses from the most rigorous sequences.

Courses in the **Academic Program** have been designed with the rigor necessary for students who are planning to attend college. Students applying to very competitive schools may also want to select some of their courses from the Most Rigorous Program. Every year, returning alumni from a variety of colleges comment that their high school Advanced Placement courses not only helped to prepare them for taking a particular college subject but also helped them in general to prepare for the large amount of reading and writing required in college.

High School Block Scheduling

The district's high schools use a block scheduling model. The year is divided into four nine-week terms or marking periods. Students take four courses each marking period, and each course is scheduled for 90 minutes. Block scheduling allows students to concentrate on four subjects at a time without feeling rushed from one subject to another. The longer learning period each day gives students an opportunity to practice what they have just learned; a science lab, for example, can follow the lesson in the same period instead of being scheduled for another day. Because one can take the equivalent of eight full-year courses instead of the seven under the traditional system, students have more opportunities to accelerate course sequence and take additional courses in the areas that are most important to them or other areas.

Courses are taught for nine, 18, 27 or 36 weeks. In general, courses that are taught over the whole year in a traditional schedule are now completed in 18 weeks (two marking periods). Typical semester courses, most of which are electives, are completed in nine weeks.

Many Advanced Placement courses are 18 weeks in length; however, some AP courses in Social Studies, Calculus, Biology, Chemistry, and English Literature are 27 weeks long.

PE/Health is taught either for nine weeks or every other day for 18 weeks. Music performance courses (band, orchestra, choir, jazz ensemble) are scheduled for a full year but on an A/B schedule (every other day).

It is important to map out a four-year plan. Please refer to the worksheets in the back of this booklet.

Here are some sample schedules to give you an idea how block scheduling works. The courses listed are only examples—your schedule may look very different.

	Grade 10			
	1st MP	2nd MP	3rd MP	4th MP
1	Draw/Paint 1	American Cuisine	Creative Writing	PE/Health
2	French 3		Academic Biology	
3	Algebra 2/Trig		English 10	
4	Modern World History		Business Today	
	Grade 11			
	1st MP	2nd MP	3rd MP	4th MP
1	Psychology	Marketing	Astronomy	SAT/ACT Prep
2	Spanish 4		Academic Chemistry	
3	PreCalculus/Trig		English 11	
4	American Government		Ceramics 1	
	Grade 12			
	1st MP	2nd MP	3rd MP	4th MP
1	Academic Physics		English 12	
2	Choir/Study Hall	Choir/Study Hall	Choir/Music Theory	Choir/Music Theory
3	Global Relations		Spanish 5	
4	Calculus 1		Calculus 2	

Here is a sample of a schedule for a student who attends Middle Bucks Institute of Technology in Grade 10. The MBIT program may be scheduled in the morning or afternoon. This example shows MBIT in the morning.

Grade 10				
	1st MP	2nd MP	3rd MP	4th MP
1	MBIT Program		MBIT Program	
2	MBIT Program		MBIT Program	
3	Modern World History		Academic Biology	
4	English 10		Geometry/Trigonometry	

Minimum Course Requirements

Students in senior year may have no more than one block each marking period as study hall (early release or late-arrival). Central Bucks recommends that students take a rigorous course load based on their post-secondary career goals and plans.

Course Requests

All course requests will be reviewed with you, your teachers, and your parents. When you and your parents approve the courses listed on your Verification Sheet at the end of your Program Planning, consider that to be your final course request. **Courses must have a sufficient enrollment in order to be offered. If a course you requested will not be offered, another course will be selected from your alternate courses.**

Course Change Policy

Changes in course requests will only be honored for the following two reasons: (1) failure to meet the required prerequisite; or (2) a level change that must be approved by the principal.

Course Withdrawal

In the rare case that you may have been inappropriately placed in a course, a school policy governs how a course will be treated when it is dropped after the school year begins. Withdrawing from a course is a serious step and can affect your permanent record.

The following are the rules for recording a course from which the student has withdrawn. If the withdrawal occurs during the first three days of a nine week course or the first five days for an 18, 27, or 36 week course, the course will be removed from the records.

If withdrawal from a course occurs after the fifth school day for an 18, 27, or 36 week course (first three days for a 9 week course) but before the midpoint of the course, a grade of W+ (passing) or W- (failing) will be recorded in the marking period column and in the final grade column on your report card and transcript.

If withdrawal from a course occurs after the midpoint and is passing, the final course grade will be W+; if the student is failing, then the final course grade will be an F.

Graduation Requirements

(1) Course Credits. All students are required to earn a minimum number of credits by successfully completing the performance assessments and the course work in the assigned curriculum areas as specified on the Required Graduation Credit Distribution chart on the following page.

Students have the ultimate responsibility of meeting all graduation requirements. You should periodically check your credit status and consult with your school counselor if you have any questions. Credit status can be checked on the Portal.

(2) Performance Assessments. All students are required to successfully complete both the Ninth Grade Performance Assessment and the High School Career Plan. Upon successful completion of each performance assessment, students will receive .5 credit (Class 2016) for each assessment. Beginning with the Class of 2017 students will receive a .25 credit for each performance assessment.

(3) Core Assessments. Each student is required to complete core assessments in math, science, English, social studies, and PE that verify achievement of academic standards at the proficient level or above.

(4) Keystone Exams. The Keystone Exams are end-of-course assessments designed to assess proficiency in the subject areas of Algebra I, Literature, and Biology. Students must demonstrate proficiency on these exams. Students who are not proficient on an exam are may retake the exam until they demonstrate proficiency. Proficiency on these exams is a graduation requirement in the state of Pennsylvania for the Class of 2019.

Summer School Courses

Students who wish repeat a course not successfully completed during the regular school term may fulfill certain graduation requirements by attending summer school. **Note: Some ninth grade courses, such as English and social studies, are not offered in high school, making online summer school a requirement for students who fail these courses at the expense of the family.**

Credit by Alternative Methods

Students may request consideration for credit by alternative methods for a planned course through evaluation, online course, and college courses. Details are specified in School Board Policies 217.1, 217.2, and 217.3.

Credit by alternative methods requires an application and approval *in advance* by parents, specified school staff members, and the principal. See your counselor for details. **A weighted grade will not be given for credit through alternative methods.**

Required Graduation Credit Distribution
Beginning with the Class of 2017

Subject	Standard Diploma	MBIT/Standard Diploma	Scholar's Diploma
English	4.00	4.00	4.00
Mathematics	4.00	4.00	4.00
Science	2.00	2.00	3.00
Biology	1.00	1.00	1.00
Social Studies	4.00	4.00	4.00
World Language			2.00
Electives	10.75	11.25	8.75
PE/Health	1.00	.50	1.00
Performance Assessment	.50	.50	.50
Total Credits	27.25	27.25	28.25

A minimum of one credit per year is required in English and Social Studies. Please refer to the graph in the subject section of this guide for the courses that will meet these yearly requirements.

The Scholar's Diploma requires a cumulative 3.4 GPA. Credits must be earned in at least three Advanced Placement Courses.

Electives include all subject areas. When a requirement in a specific area has been satisfied, any additional courses taken in that subject area will apply toward the Elective credit requirement. For example, if a student completed 4 credits in science the last course taken applies to the Elective requirement.

In accordance with state regulations for high school graduation requirements, beginning with the Class of 2019, students must demonstrate proficiency on the Keystone Exams in Literature, Algebra 1, and Biology.

Special Education

The Individual Education Plan (IEP) developed by parents and school personnel outlines the program for students in special education. The IEP describes both the regular education and special education courses in which students should enroll. A transition plan is also part of each student's IEP. The purpose of this plan is to outline the steps being taken to assist in student preparation for life after graduation.

Students involved in special education may also attend Middle Bucks Institute of Technology. Students interested in a Middle Bucks program should talk to their counselor and special education teachers. Special education students may also participate in a work-study program. Upon completion of the senior high special education program, students will be recommended for graduation with a Central Bucks diploma.

Gifted Education (PEN)

PEN, or Program for Enrichment, is a program for students who have been identified as gifted. The PEN program is described in detail under course descriptions.

Transfer Students

When a student transfers to Central Bucks, the counselor will evaluate the student's transcript to determine which course credits apply to the district's graduation requirements. Grades of the transfer courses will be listed according to the grading scale of the transferring school. **The district will weight grades from another school system only for courses that are also weighted-grade courses in Central Bucks or any Advanced Placement course.**

Advanced Placement Courses (AP Courses)

Students who take Advanced Placement courses should plan to take the appropriate AP examination. Please read the information about AP Tests in *Planning for College*.

Grades and Quality Points

Report Cards are posted four times each year and are available on the Parent/Student Portal. Letter grades are assigned the following quality points for computing grade point average:

A	= 4.0	B-	= 2.6	D+	= 1.4
A-	= 3.6	C+	= 2.4	D	= 1.0
B+	= 3.4	C	= 2.0	D-	= .6
B	= 3.0	C-	= 1.6	F	= 0

Honor Roll Criteria

Honor Roll: 3.0 Grade Point Average

High Honor Roll: 3.6 Grade Point Average

Distinguished Honor Roll: 4.0 Grade Point Average

Grading Scale

Letter Grade	Min. %	Letter Grade	Min. %	Letter Grade	Min. %
A	92.5	B-	79.5	D+	66.5
A-	89.5	C+	76.5	D	62.5
B+	86.5	C	72.5	D-	59.5
B	82.5	C-	69.5	F	0

Weighted Grades

Weighted grades are designed to encourage academically able students to select the most rigorous courses. Students may earn additional quality points in AP and Honors level courses.

The student who earns a grade of A in an AP course will receive 5 quality points instead of 4, a B grade earns 4 points instead of 3, a C earns 3 points instead of 2, and a D earns 2 points instead of 1. No credit will be given for a failing grade.

All honors courses in grades 10-12 are weighted by .25. The student who earns a grade of A in an Honors course will receive 4.25 quality points instead of 4, a B grade earns 3.25 quality points instead of 3, a C earns 2.25 instead of 2, and a D earns 1.25 quality points instead of 1. No credit will be given for a failing grade.

Student Recognition for Graduates

Only students who have been actively enrolled in an approved secondary school for the four years prior to graduation and have met the academic requirements established by Central Bucks School District will be eligible for consideration for valedictorian and salutatorian. Students receiving this honor will be notified by the principal on the morning of graduation. The valedictorian and salutatorian shall be recognized at the graduation ceremonies at their respective high schools.

It shall be the responsibility of each high school principal to select student speakers for the graduation ceremony through an audition process. Each high school shall establish a graduation speaker selection panel comprised of professional staff for the express purpose of selecting two student speakers for graduation. Prospective student speakers must submit written speeches and audition before the graduation speaker selection panel. The high school panels will develop a common rubric to be used for the selection of the speakers. Recommendation for speakers made by the panel shall be final.

On the last day of school, the principal and the Guidance Coordinator will review students for high academic performance according to the following system:

Cum Laude — 3.70 cumulative G.P.A.

Magna Cum Laude — 3.90 cumulative G.P.A.

Summa Cum Laude — 4.10 cumulative G.P.A.

A student earning a cumulative grade point average according to the above categories will receive a diploma seal indicating a graduating status of Cum Laude, Magna Cum Laude, or Summa Cum Laude. Cumulative grade point averages are calculated using weighted and non-weighted grades.

College Athletic Eligibility

Students planning to participate in Division 1 or 2 college athletics should be aware of NCAA academic requirements. High school course selection determines whether or not students will be able to play sports in those colleges. Students should contact their counselor or coach for specific details. **It is the student's responsibility to**

determine if his/her course work meets NCAA requirements. You may access NCAA approved courses online through the NCAA Eligibility Center Online at www.eligibilitycenter.org

Foreign Exchange Programs

Details regarding credit and graduation requirements must be carefully arranged with your school counselor if foreign study is being considered.

Students cannot assume that credits will be obtained through foreign study. Because of the difficulty of earning enough credits for graduation through foreign study, it is recommended that students participate in a foreign exchange program **after** graduation from high school.

Early Completion of Graduation Requirements

Students who have completed all graduation requirements, **including completion of the High School Career Plan (Performance Assessment) credit**, by the end of the second marking period of their senior year may leave school with parent permission. These students will receive their diplomas with the rest of the senior class at commencement in June.

Careful planning with your school counselor is essential. Students must have their plans reviewed by their counselor and principal and students must request the early graduation option by May of their junior year. The plan should give reasons for early graduation and explain how the student's time will be used productively. Students requesting such approval must maintain full-time student status during their first semester. **Students are not permitted to leave at the end of the third marking period.**

Parent Portal

Parents and students have the ability to log into the Parent Portal feature of our Infinite Campus student system to see the current information regarding their students. Parents and students can view their schedule, email teachers, and scroll down to view the current progress of their grades within a particular course-section based on the latest scores entered by their teacher for their assignments/test/projects.

Information about student's attendance record, immunizations, assessment scores from standardized tests, family address, and phone information is available through the portal. Parents and students can print out copies of the class schedule, unofficial transcript, and report cards. If a copy is desired, parents are encourage to print out the final report card of the school year as this will not be available on the Portal after July 1st each summer. High school students can track their credits completed towards their high school graduation requirements through the Graduation Planner. Students in grades 9-11 can use the Infinite Campus Portal to login and select their requested courses for the upcoming school year during January of the current school year. For more information on the Parent Portal feature, refer to the Parent Resources section of our district website.

Get Connected!

There are a number of online accounts which students must maintain in order to access grades, course information, college search data, and more. Please refer to the grid below as a guide to all of the accounts, where to access them, and how to log in.

Name of Account	Description	How to access	Username	Password
Student Portal (or "Infinite Campus"	Access grades, schedule, calendar, teacher emails. Print schedules, unofficial transcripts.	Go to www.cbsd.org , click "Parents/Students" tab, choose For Students, and click Infinite Campus icon.	Your Student ID number	First and last initials, and birthdate in 6 digits: For example, Joe Smith with a BD of January 8, 1996= js01081996
Student Account (or "Network Login")	Access your own desktop on school computers. Save work on your own hard-drive on the server. Drop files into teacher folders.	Any district computer	Last Name.First Initial (+) last 3 digits of ID. Ex: Joe Smith = Smith.J123	First time: Same as Username. You will then be prompted to choose your own.
Blackboard Accounts (High School teachers)	Allows for interactive communication between teacher and students; course info, assignments, videos, and links are posted.	Go to www.cbsd.org , click "Parents/Students" tab, For Students, click "Blackboard" link on right; or, click link on teacher's web page.	Last Name.First Initial (+) last 3 digits of ID. Ex: Joe Smith = Smith.J123	First time: Same as Username. You will then be prompted to choose your own.
Naviance	Web-based college/career search tool. Will use for Career Plan and all college applications.	Go to www.cbsd.org , click "Parents/Students" page, For Students, and click on Naviance for High School link on left then the login for your high school.	Log-in instructions will be provided by your High School Guidance office.	Log-in instructions will be provided by your High School Guidance office.
Parent Portal	Parents can access their students' grades, schedule, assessments, health information, etc.	Go to www.cbsd.org , click on "Parents/Students", For Parents, and click link for Parent Portal.	First time login: Use Activation Key (get from Guidance Office upon enrollment).	Follow prompts for Username and PW.

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<https://twitter.com/CBSDInfo>

Please check individual buildings websites for links to building specific social media sites. Building links can be found at www.cbsd.org

Middle Bucks Institute of Technology (Grades 10-12)

Middle Bucks Institute of Technology offers a complete array of career, technical, and preprofessional courses to enhance the academic program of all students. The Middle Bucks Campus is located on Old York Road in Jamison, Warwick Township. The school is operated jointly by four participating school districts: Centennial, Central Bucks, Council Rock, and New Hope-Solebury. The school provides both a morning and afternoon program with students spending the other half of the day at their high school, where they continue to play an integral role, studying their required subjects and participating in co-curricular and interscholastic activities. Students entering 10th, 11th, or 12th grades are eligible to apply for admission. Transportation to Middle Bucks Institute of Technology is provided by the school district.

Students who attend MBIT will fulfill their physical education requirements for graduation in 9th grade year (.5 credit). Students who discontinue the MBIT program and return to their home school full time must complete the required PE credits for a Standard Diploma. Students will complete their Career Plan (Graduation Project) through their home schools.

Variety of Career Development Experiences

Depending on individual career plans and goals, students may enroll for one semester (18 weeks) or for one, two, or three-year experiences. Students whose career plans include college will find any of the career programs to be meaningful and appropriate enhancements to a college prep curriculum. Middle Bucks also offers many technical programs ideal for the employment-bound student.

All programs provide internship, clinical, or other work-based experiences in business and industry. Partnership agreements are in place for advanced credit in associate and/or baccalaureate programs at Bucks County Community College, Delaware Valley University, Gwynedd Mercy University, and Pennsylvania College of Technology, a Penn State affiliate.

Admission

Students must complete a Middle Bucks Institute of Technology application to be considered for admission. Selection is based on completion of selected prerequisites, aptitude and achievement scores, interest inventories, attendance records, behavior patterns, emotional stability, and staff recommendations. Selected programs require prerequisites. Applications may be obtained from your school counselor, by calling Middle Bucks Institute of Technology at 215-343-2480, or by visiting www.mbit.org

Assessment

Assessment services are intended to help students make career decisions by identifying their technical aptitudes and interests and will be offered to students in each of the four sending districts. A testing center has been created at MBIT with staff trained in test administration and interpretation. For more information, or to have your child tested, please contact either your child's school counselor or MBIT's school counselor.

The Educational Program

The educational program at Middle Bucks Institute of Technology is organized into ten career clusters and twenty-three career pathways (i.e., major courses of study). Typically, students enroll in one career pathway as their major field of study and then complete a core set of courses common to the career cluster and a highly rigorous technical sequence of courses related to their career pathway.

Students may complete additional specialized courses as they advance beyond standard secondary curriculum. The career cluster model is recognized as one of the most effective educational initiatives for preparing young people for the new economy.

For complete course descriptions and information please visit the MBIT website for the MBIT Program of Studies book at: <http://www.mbit.org/Page/64>

MBIT Career Clusters and Pathways

Architecture & Construction Career Cluster Pathways:

- Building Trades Occupations
- Computerized Drafting & Engineering Graphics
- Construction Carpentry
- Electrical & Network Cabling
- HVAC & Plumbing Technology
- Practical Environmental Landscaping

Arts, A/V Technology & Communications Career Cluster Pathways:

- Commercial Art & Design
- Multimedia Technology

Health Science Career Cluster Pathways:

- Dental Occupations
- Medical and Health Professions
- Sports Therapy & Exercise Management

Hospitality & Tourism Career Cluster Pathway:

- Culinary Arts & Science

Human Services Career Cluster Pathways:

- Cosmetology
- Early Childhood Care & Education

Information Technology Career Cluster Pathways:

- Administrative Sciences & Business Technology
- Networking & Operating Systems Security
- Web Design & Interactive Media

Law, Public Safety & Security Career Cluster Pathway:

- Public Safety

Manufacturing Career Cluster Pathway:

- Welding Technology

Science, Technology, Engineering, & Mathematics Career Cluster Pathways:

- Engineering Related Technology

Transportation, Distribution, & Logistics Career Cluster Pathways:

- Automotive Technology
- Collision Repair Technology

Planning for College

Please refer to your building's school guidance website for detailed information about the college admission process.

Students often want to know how they can improve their chances of being accepted to the college of their choice and how they can prepare for college work. Although there is no guarantee that a student will be accepted by a particular college, the next few pages offer proven ways to find colleges which are the best fit for you, along with sound advice on how to give yourself the best possible preparation for the rigors of college work.

Go for the Challenge

Selecting appropriate courses and a challenging academic program is the first step in planning for college. Consult the Recommended Course Sequences charts for appropriate English, Math, Science, Social Studies and World Language courses, and read the section on course selection under General Information. Plan as rigorous a program as you can within your abilities.

Naviance

Naviance is a tool that is very helpful in post-secondary planning. Naviance, a web-based service designed especially for students and parents, contains a program called Family Connection that students use to help in making decisions about colleges and careers. Family Connection is linked with Counselor's Office, a service that school counselors use to track and analyze data about college and career plans. It provides information that is specific to our high schools. This tool will enable students to get involved in the planning and advising process, build a resume, complete on-line surveys, manage timelines and deadlines for making decisions about colleges and careers, and register for college visits. Each student will be issued registration information for Naviance for a personal Naviance account.

Academics Should Come First

Give your studies your maximum effort. Although all phases of your high school record are considered for college admission, scholastic achievement in challenging courses is the single most important criterion. College admission officers have learned that a student's quality of work in high school is the best predictor of success in college.

Maximum effort means more than doing your homework, completing course assignments on time, and studying for tests. It means asking for help from your teachers if you are having difficulty or if you have missed classes because of illness. **It means making sure that athletics, a part-time job, or extra-curricular involvements do not interfere with school work.** It means reviewing class work periodically, not just the night before a test. It means reading for pleasure, as well as the books assigned in class, and keeping up with news and current events.

PSAT

Students should plan to take the PSAT as sophomores and juniors. The PSAT will give you valuable experience in preparing for the more important SAT exam. Sophomores who have taken or are taking Geometry are encouraged to take the PSAT for practice. **Scores on the PSAT taken by juniors are used to determine National Merit Scholarship semifinalists and commended students for the following school year.** For this reason, students should be sure to

take the test in their junior year even if they have taken a practice test as sophomores.

SAT

Colleges consider your scores on the SAT. Colleges may also look at results of SAT Subject Tests and Advanced Placement Tests, where applicable. More selective colleges may require students to take one or more SAT Subject Tests. These tests may also be used for placement in college courses. Please make sure that you have your scores sent to your high school. Visit www.collegeboard.org for online registration, test preparation, and further information.

ACT

Some students may choose to take the ACT. All colleges accept ACT scores for consideration in addition to (or in place of) both SAT and SAT Subject Tests. Visit www.actstudent.org for online registration test preparation, and further information.

Testing Information for PSAT/SAT/ACT/AP

	PSAT	SAT	ACT	AP
Site	All 3 high schools	CB East & CB South	CB South	All 3 high schools
Site Code	None needed	East 39-162 South 39-718	South 218270	None needed
Dates	October only	Multiple times every year	October and April	First 2 weeks of May
Appropriate Grade	10 th & 11 th	11 th & 12 th	11 th & 12 th	10 th , 11 th & 12 th

CEEB Code

East 390488

West 391045

South 394992

CEEB codes must be entered whenever a student registers for the SAT or ACT.

Test Preparation is Key

Students should not take the PSAT, SAT, or ACT without careful preparation. No student should take the SAT or ACT without completing Algebra 1, Algebra 2/Trigonometry, and Geometry/Trig; these skills are required for the math portion of the test. Two courses offered in Central Bucks *SAT/ACT Preparation: Vocabulary and Reading Comprehension Skills* and *SAT Math Preparation*, may also be helpful.

ePrep, a computer-based SAT and ACT review program, is available free of charge in Central Bucks high schools. Contact the school's librarian or your counselor for further information.

Take the AP Test as Part of Your AP Course

Students who take Advanced Placement courses should plan to take the appropriate Advanced Placement Exam. (Exams are given at all three high schools.) When you take the AP exam, you can compare your ability with that of students across the country. AP test scores are not placed on the high school transcript. However,

good AP scores will reflect well on your academic abilities when colleges consider your high school program.

If you score high enough on the AP Exam (qualifying scores vary among colleges), many colleges will award college credit or allow you to skip the beginning level of a course sequence.

Students sometime hesitate to take the AP exam because they intend to take the beginning course in college, no matter how well they may score on the exam—especially when the college course is in the area of their intended major. Even if you achieve a high AP score, you can still take the beginning courses you want in college. No college will require that you skip a course.

Class Rank and GPA

Class rank is not reported to colleges for admission purposes, but the district does report the student's cumulative grade-point average (GPA). The GPA is based on grades from all classes taken in grades 9–12.

Concern for grade-point average should not keep students from selecting a challenging program and should not be used as an excuse for dropping a course in order to take one that seems easier. Colleges are more interested in the academic rigor of a student's program than they are in the student's GPA.

Plan a Well-Rounded Program

College admission officers also look at the degree to which a student has contributed to the life of the school or community.

If you are planning to apply to highly selective schools, it's essential to have something that will set you apart from the thousands of other applicants who also have good grades and high SAT or ACT scores. An outstanding admissions interview, especially thoughtful and well-written answers to essay questions on your application, or a significant project can make a difference.

Depth in your activities is also important; the fact that you were responsible for a complete redesign of your student newspaper, for example, would mean more than just listing "school newspaper" on your application. You should also mention special talents, abilities, leadership, achievements, or experiences that might not be included in your high school record, such as Scouting honors, extensive travel, fluency in another language, or ability in a non-school activity, such as ballet, skating, or gymnastics.

Gather Information

Visit college websites for applications and information, including financial aid and early-decision requests. Find out all you can about colleges and the application process. School counselors are your best source of information about college selections, admissions procedures, and testing schedules. Students should talk to counselors regularly and keep them informed of plans. Students should follow the recommended milestones in Naviance.

Both you and your parents should plan to attend college information programs provided by the Guidance Departments, along with the district College Fair, which is scheduled each spring. Colleges also send representatives to each high school throughout the fall to meet with interested students. Information is available in the

Guidance Department, on Naviance, and on the guidance webpage of each high school website.

College Visits

It is also important to visit the colleges that interest you so you can schedule interviews with admissions counselors and get a real idea of what the school and campus are like. Come to college interviews on time, appropriately dressed, and prepared with thoughtful questions. Be sure to send a letter of thanks after the interview.

Complete Applications Carefully

When applying for college, students are often overwhelmed by applications, especially those that ask for extensive responses to essay questions. Be sure to give yourself plenty of time to fill them out. **Students are ultimately responsible for meeting all application deadlines.** Take time with essay questions. Revise and edit your responses and have someone proofread them before you submit them. Tips for completing the college essay can be found in each high school's Guidance Department.

Transcripts

Official transcripts must come from the Guidance Department, not from the student. **Please note** that transcripts will contain grades for all courses taken in grades 9–12. The student's GPA is based on grades in courses taken in grades 9–12.

Students who complete their applications online must also complete a Transcript Request Form in order to have an official transcript sent to the college.

It takes time for office staff to prepare your transcript, especially when hundreds of students are applying to college at the same time. **Please allow at least fifteen SCHOOL days—three weeks—for your Transcript Request to be processed.**

Most colleges accept electronic transfer of college application documents. The CB high schools will use this method of sending transcripts and other supporting documents when accepted electronically by individual colleges. This will be done through our Naviance web program.

Don't forget to request that SAT or ACT scores be sent to the colleges to which you are applying. Although you may request that scores will appear on your transcript, some colleges require that results be sent directly from the testing service.

Do not submit your application package to the Guidance Department.

College Recommendations

When personal or teacher references are required, ask the permission of the individuals whose names you intend to give. **Don't ask teachers, counselors, or community members to write recommendations for you at the last minute**—it's not fair to them, and a hastily written recommendation will not help your application.

Central Bucks teachers may now submit college recommendations electronically through Naviance. Students should check with their counselor for specific procedures to follow for requesting teacher and counselor recommendations.

Financial Aid

Choose the best college you and your family can afford. For many students this means exploring all options for financial aid. Financial aid packages include grants, which are based on student need; scholarships, which are awarded on the basis of ability alone or ability combined with need; work-study programs; and low-interest student loans, which must be repaid after graduation. See your school counselor for information about how to apply for financial aid. Contact the financial aid office of any college to which you are applying for specific policies.

Along with filling out the required forms for college financial aid, you should explore all other scholarship opportunities. Some scholarships are based on need, some on academic achievement or special talent, and some are even more specialized. Your counselor, Naviance, and Financial Aid Night in the Fall can help you with scholarship information. Students must apply online at www.fafsa.ed.gov for consideration for financial aid.

Scholarship Information

Scholarship announcements and college information are provided throughout the year through the Guidance Department. Students should check Naviance for a list of scholarships.

NINTH GRADE COURSES

ART

8250 Exploring Drawing and Painting

(.25 credit)

This course is designed for all students who enjoy two-dimensional work. Emphasis is placed on developing basic drawing and painting skills and techniques. A variety of media will be used, including drawing pencils, pastels, charcoal, crayon, markers, ink, brush and ink, watercolors, and opaque media. The fundamentals of composition as found in the elements and principles of design will be used when drawing and painting from life and imagination, using realistic and abstract themes. Art history, art criticism, and aesthetics will be integrated into all units of study.

8954 Three-Dimensional Design

(.25 credit)

This course introduces students to three-dimensional art through the integration of concepts and skills associated with sculpture, crafts, and industrial design. Students will be exposed to a wide range of concepts, media, and techniques, as well as art history and current trends in three-dimensional design. Students will create a variety of projects using materials such as metal, clay, wax, and wood.

Through individual attention, small-group instruction, lecture, and demonstration, students will develop creative ideas and refine artistic skills. Individual and group critiques will provide students with a means to develop aesthetic standards and a more critical approach to art.

8366 Exploring Ceramics

(.25 credit)

This is a beginning level course that emphasizes the application of two- and three-dimensional design principles in the media of ceramics. Students will focus on hand-built methods of ceramic production, while producing a wide variety of functional and decorative pieces. Students will also explore the significance of clay to human development through their study of Art History, Art Criticism, Aesthetics, and Philosophy. A variety of topics and experiences will provide students with a foundation for further in-depth course work in ceramics.

This course is not required in order to take Ceramics 1, nor does it replace Ceramics 1 as the prerequisite for Ceramics 2. No fee for materials.

8460 Exploring Photography

Lenape Only

(.25 credit)

Students will study the basic principles of exposing, developing, and printing 35mm black and white film. Students will explore some of the photographic possibilities using a SLR 35mm film camera with manual controls. Care and use of a camera and darkroom equipment and the fundamentals of good photography will be emphasized. Cultural influences on the artist/photographer and historical development of the media will be studied. Included in this course of study will be an introduction of digital photography techniques and its parallels to film photography.

Students will purchase their own film, photographic papers, and various other photographic supplies at an approximate cost of \$45. **Each student MUST have use of a 35 mm camera with MANUALLY ADJUSTABLE controls for focus, aperture, and shutter speed.**

ENGLISH

English 9 is a required course for high school graduation. There are no substitutes for this core course.

0900 Advanced English 9

0920 Academic English 9

(1 credit)

The English 9 course integrates reading, writing, researching, speaking and thinking skills. Students will gain an understanding of the craft of literature by examining author's purpose and craft as well as the use of various literary devices across literary genres. Students will analyze text for evidence of specific literary elements, namely theme, point of view, and indirect characterization. Students will also begin introductory literary analysis and experiment more deeply with narrative writing techniques. A core of classic literature is balanced with contemporary and culturally diverse fiction and nonfiction selections in order to better understand how social, historical, political, cultural, and/or geographical contexts influence writing.

The advanced course of study includes variations in materials, tasks, and assessments for advanced level classes. Students in this course are expected to be avid readers and sophisticated writers. In

this course, students will encounter challenging texts, discussions, and writing requirements.

[0970, 0980, 0990 English 9](#)

(1 credit)

These courses are designed for students with special needs.

FAMILY AND CONSUMER SCIENCES

[6953 Sewing](#)

(.25 credit)

In this course students will learn skills that will help them create new and useful items from fabric. Students will use creativity and problem solving skills to create 3-dimensional projects from 2-dimensional patterns. Machine sewing skills, pattern reading, and measuring will be emphasized. This is a hands-on-project-based course during which students will construct at least one article of clothing, and complete a second student-selected project either 'up-cycling' or another sewing project.

[6954 Cooking for Life](#)

(.25 credit)

This course focuses on how to plan and eat in order to stay vibrant and healthy. The course includes the latest trends in nutrition and consumerism. Students will participate in challenging cooking lab experiences that include a variety of recipes to fit today's lifestyles. A culminating project that requires students to cook for their families is required.

HEALTH AND PHYSICAL EDUCATION

[7950 Physical Education/Health 9](#)

(.5 credit)

Health-related fitness is a goal for all students. Knowledge, team work, cooperation, decision-making skills, sportsmanship, and leadership skills are emphasized as objectives for success.

Areas of study include: Team and Lifetime Sports, Cooperation Activities, HIV/AIDS, Substance Abuse, Growth and Development (Human Sexuality), Nutrition, Physical Fitness, and Healthy Relationships.

MATHEMATICS

Because of the sequential development of the mathematics curriculum, students must attain the prerequisites in the previous course before advancing to a more difficult level. The prerequisite for each course has been developed with the sole purpose of ensuring students have the skills they need to be successful. These prerequisites must be met before entering the course. Students who do not meet the requirement can elect to attend summer school to reach the prerequisite or retake the course during the next school year.

[2900 Algebra 2/Trigonometry](#)

(1 credit)

This course is designed for students with outstanding mathematical ability and interest who have mastered the concepts and skills of Algebra 1. Students taking Algebra 2/Trig in ninth grade are accelerated 2 years in their study of mathematics. Students will simplify a variety of expressions (radical, exponential, quadratic, polynomial, rational). Students will solve linear, quadratic, and polynomial equations and will graph and analyze linear, quadratic, and polynomial functions. Other topics include series, sequences, and trigonometry of the right triangle.

Prerequisite: (2800) Geometry/Trig, B- (80%) or better or teacher recommendation

[2901 Geometry/Trigonometry](#)

(1 credit)

This course is designed for students with outstanding mathematical ability. Students taking Geometry/Trig in 9th grade are accelerated 1 year in their study of mathematics. Geometry/Trig is a modern development of Euclidean Geometry covering congruency, similarity, parallelism, perpendicularity, areas, and volumes. Concepts from coordinate geometry are reviewed with an emphasis on the integration of algebra and geometry. Trigonometry topics include indirect measurement, and theories/applications relating to tangents, apothems, and inscribed polygons.

Prerequisite: (2810) Accelerated Algebra 1 or (2811) Algebra 1B, C- (70%) or better or teacher recommendation

[2915 Algebra 1](#)

(1 credit)

Accelerated Algebra 1 applies previously learned arithmetic skills to expressions involving variables. Fundamental operations and properties are studied. Major topics include linear equations and inequalities in one and two variables, exponents and polynomials, factoring, quadratic equations, radicals, rational expressions and statistics and data analysis. Problem solving, communication and reasoning are emphasized throughout the course. Students in this class will take the Algebra 1 Keystone Exam.

Prerequisite: (2820) Pre-Algebra, A- (90%) or better or teacher recommendation

[2916 Algebra 1 B](#)

(1 credit)

Algebra 1B builds on the concepts studied in Introduction to Algebra. This is the second course in an in-depth two year study of formal Algebra. The fundamental operations and their properties are studied. Topics include: linear functions and inequalities, systems of equations, exponents and polynomials, factoring polynomials, rational expressions, radicals and quadratic functions. Problem solving, application, communication and reasoning are emphasized throughout the course. Students in this class will take the Algebra 1 Keystone Exam.

Criteria for placement: (2815) Algebra 1A, grade of C- (70%) or better or teacher recommendation.

2920 Algebra 1A

(1 credit)

Algebra 1A builds on the concepts introduced in Pre-algebra. This is the first course in an in-depth two year study of Algebra. The fundamental operations and their properties are studied. Topics include: solving linear equations, linear functions, factors, exponents, polynomial expressions, and statistics and data analysis. Problem solving, communication and reasoning are emphasized throughout the course.

2970, 2980, 2990 Mathematics 9

(1 credit)

These courses are designed for students with special needs.

MUSIC

Students may elect to take a music performance class (Band, Chorus or Orchestra) in ninth grade. Please note: Students must be enrolled in one of these curricular music performance classes to be eligible to audition for the BCMEA County Music Festival or any of the select (after-school) music ensembles.

8965 Band 9

(.5 credit)

This course is designed for ninth graders who play band instruments in the woodwind, brass, and percussion families. The goal of this full-year program is to further develop musical skills by providing a wide range of musical experiences. Students will learn the techniques needed to achieve higher levels of music performance. Both concert and marching opportunities are scheduled.

8967 Chorus 9

(.5 credit)

This course is designed for ninth graders who enjoy singing and choose to enroll in a full-year program. Emphasis is placed on developing comprehensive musicianship through the use of choral literature representing a variety of styles, forms, and cultures, including both sacred and secular texts. The goal is for students to perform artistically at their ability level while developing skills in vocal technique, sight-reading, basic music theory, and music history literature.

8966 Orchestra 9

(.5 credit)

This course is designed for ninth graders who have a minimum of two years of study of violin, viola, cello, or string bass. This requirement may be waived pending an audition.

The goal of this full-year program is to further develop musical skills while providing a variety of musical experiences. Students will learn the techniques needed to achieve higher levels of performance.

PEN (Gifted Program)

9901 PEN Seminar 9

(.25 credit)

This course provides students identified as gifted with the opportunity to approach texts, ideas, and the world philosophically, critically, and analytically. Class readings are given meaning through interpretive and expressive writing, discussion, and the use of emerging technologies. Intellectually inquisitive students will explore language and thought through an interdisciplinary approach to learning within the format of a seminar.

At the beginning of the course, students may choose between taking PEN for a letter grade or as a pass/fail course. In either case, credit will be awarded if the course is passed.

READING

4940 Reading 9

(1 credit)

This course is designed for students who have not mastered basic reading, writing, and study skills. Students will be involved in all aspects of communication: reading, literary analysis, writing, speaking, listening, language, and study and research skills. The course will combine whole group instruction with self-selected topics for reading and writing. Computers will be an important resource for developing writing and higher level thinking skills. This course offers elective credit toward graduation.

4970, 4980, 4990 Reading 9

(1 credit)

These courses are designed for students with special needs.

SCIENCE

3900 Advanced Science 9

(1 credit)

Ninth grade Advanced Science is an integrated course. Students will study the same core concepts as the 3920 course (see below). Students are introduced to topics in life science, physical science, and earth science. Students will use problem-solving strategies, observation, data collection, and analysis while studying concepts in the natural world.

The advanced course of study includes variations in materials, tasks, and assessments. Students will be required to read, analyze, and react in written form to science writers who deal with the main themes of this course: change, adaptation, and ecology. Writers may include Lynn Margulis, Jonathan Weiner, Carl Sagan, and Isaac Asimov, among others. In addition, simulations and micro-worlds linked to these themes will be used in the course.

Prerequisites: Advanced Science 8, A or B or teacher recommendation; Academic Science 8, A or A- or teacher recommendation.

3920 Academic Science 9

(1 credit)

Academic Science is an integration of earth, life, and physical science. It is the study of geology and the forces that shape our planet: plate tectonics, earthquakes, volcanoes; how climate and topography have generated the biomes of our earth; how life has changed and adapted to these diverse habitats. Topics also include botany, evolution, geology, invertebrate and vertebrate physiology, and ecology.

Active student participation through questioning, labs centered around the scientific method, simulations, scientific readings, and problem-based activities will form the core of instruction. This course is intended for students wishing to meet college entrance requirements.

3970, 3980, 3990 Science 9

(1 credit)

These courses are designed for students with special needs.

SOCIAL STUDIES

United States History is a required course for high school graduation. There are no substitutes for this core course.

1900 Advanced United States History

(1 credit)

United States History will cover the content of American history between 1890 and the present. Topics will follow those in Academic United States History.

This course is designed for students who have demonstrated proficiency in social studies content and skills as well as language arts skills. Students will be expected to complete significantly more reading, informative and persuasive writing, and research projects than in the standard course. Some of the educational materials will be on a higher level than those used in the standard course.

Prerequisite: Advanced Social Studies 8, A or B or teacher recommendation; Academic Social Studies 8, A or A- or teacher recommendation.

1920 Academic United States History

(1 credit)

United States History continues work begun in Grade 8 and includes the history of the United States from 1890 to the present. Units include Industrialization, America as a World Power, Great Depression and New Deal, World War II and the Cold War, The Civil Rights Movement, and Contemporary America.

1970, 1980, 1990 United States History

(1 credit)

These courses are designed for students with special needs.

TECHNOLOGY AND ENGINEERING EDUCATION

6949 Engineering and Design

(.25 credit)

This course focuses on the process of bringing a design concept to reality. Through actual construction and testing of prototypes, students gain an understanding of the entire design cycle. Students evaluate their designs through experimentation. Students design and create projects within the five areas of technology. Projects vary and may include CO2 cars, rockets, gliders, mousetraps and battery powered vehicles, bridges, robotic arms, skateboards, and other structures. Students have the opportunity to work on their own projects and focus designs that interest them.

6950 Technical Drawing and Design

(.25 credit)

This course allows students to explore basic engineering drawing techniques, computer-aided drafting, product design and development, architectural design, exploration of graphic software and solid modeling. Students interested in engineering, architecture, computer illustration, design, construction, and technology should find this course of value. Students will work on an individual basis as they utilize freehand, mechanical, and computer-aided methods of illustration.

6957 Communications Technology

Tamanend only

(.25 credit)

This course gives students hands on experience with current communications trends and devices. Students will apply communications principles while producing effective messages. Students will create projects using video production equipment and digital cameras. Various types of photo editing software will be utilized to produce the final project. Students in Communications Technology will also be involved in the daily production of the school's morning show. Students will also examine the historical impact of communication technologies on society and examine future trends and career opportunities.

6958 Engineering Processes

Not offered at Tamanend

(.25 credit)

This course is designed as a "hands on" course that teaches the basics of materials processing and production. From developing an idea to following a plan, students learn to safely use tools and power equipment to process materials to form finished products.

WORLD LANGUAGE

All courses in World Languages are only offered if there is sufficient enrollment.

[4501 Spanish 1](#)

[4820 French 1](#)

(1 credit)

The goal of first-year language is to enable students to use fundamental expressions and vocabulary in verbal and written context while integrating cultural elements. This course emphasizes communicative skills, relevant grammar concepts, and reading comprehension.

CDs, DVDs, online resources, and a variety of supplementary materials are used to help achieve this goal. The department recommends a grade of C or better in the previous year's English course.

[4202 French 2](#)

[4502 Spanish 2](#)

(1 credit)

Level 2 continues language study in the same patterns as Level 1. Students experience opportunities for more advanced verbal and written self-expression and related cultural elements. More advanced grammatical concepts, vocabulary, and expressions are taught in complete sentences with an emphasis on speaking and writing. CDs, DVDs, online resources, and supplementary materials are essential parts of these classes.

Prerequisite: Level 1, grade C- or better.

HIGH SCHOOL COURSES

ART

All courses in Art are only offered if there is sufficient enrollment.

[8551 Art 1](#)

(18 weeks, 1 credit)

This course is open to all students who are interested in beginning an exploratory study of art. Knowledge, skills, and techniques learned in grades K-8 serve as a starting point and foundation for students to develop and refine their ability to control various two- and three-dimensional media. Students will have introductory and developmental experiences in drawing, acrylic painting, linoleum printmaking, and sculpture.

Students will also be involved in an active study of Art History, with a focus on American Art. Processes and skills associated with Art Criticism, Aesthetics, and Philosophy will also be explored.

[8552 Art 2](#)

(18 weeks, 1 credit)

Students in grades 10-12 who elect this course will continue to refine skills through more advanced study of media and processes involved in drawing from direct observation, painting, printing, drawing, and three-dimensional design, along with Art History,

Criticism, and Philosophy. Students will focus on conceptual development, use of elements of design for creative expression, and the human figure in art.

Prerequisite: Art 1 or Drawing and Painting 2, C or better.

[8553 Art 3](#)

(18 weeks, 1 credit)

In this course, students will further develop skills and knowledge in life drawing, landscape drawing, watercolor, acrylic, and oil painting. Techniques of additive and/or subtractive process sculpture, advanced printmaking processes (e.g., serigraphy and etching); and three-dimensional design, will be emphasized. Students will continue to focus on conceptual development and use of elements of design for creative expression. In addition art-related careers, Art History, Criticism, and Philosophy will be integrated in the course.

Prerequisite: Art 2, C or better.

[8554 Art 4](#)

(18 weeks, 1 credit)

This course is intended for students seeking to develop a more sophisticated and refined style for their artwork or for those who wish to prepare portfolios for college or employment interviews. Students will study portfolio development and interviewing processes and techniques, as well as develop individual creative solutions to problems involving advanced drawing skills, mixed media, painting, graphics, and sculpture. This course will emphasize advanced drawing and painting strategies. This course prepares students for a future in the arts or art school. Business practices, artist statements, and portfolio development are taught. Art History, Criticism, and Philosophy will be integrated into all units.

Prerequisite: Art 3, C or better.

[8360 Introduction to Ceramics](#)

(9 weeks, .5 credit)

This is a beginning level course that emphasizes the application of design principles in the media of ceramics. Students will focus on hand-built methods of ceramic production, while producing a wide variety of functional and decorative pieces.

Students will also explore the significance of clay to human development in primitive cultures. This course will provide students with a foundation for further in-depth course work in ceramics.

This course is not required in order to take Ceramics 1, nor does it replace Ceramics 1 as the prerequisite for Ceramics 2.

A fee of \$10.00 will be charged for instructional materials used in projects kept by the student.

[8361 Ceramics 1](#)

(18 weeks, 1 credit)

This course is open to all students in grades 10-12 who would like to explore clay as a medium for artistic expression. Students will focus on hand-building and sculptural techniques, while producing a variety of functional and decorative pieces. This course may also include a brief introduction to the potter's wheel. Glazing and surface decoration will be introduced.

A fee of \$20.00 will be charged for instructional materials used in projects kept by the students.

8362 Ceramics 2

(18 weeks, 1 credit)

Students will continue their study of ceramic media utilizing advanced combinations of hand-building, wheel throwing, and decorative techniques. Students will plan and execute advanced works of art with the instructor, based upon the history of American Art from the 17th century to the present day. Technique is integrated with student ideas, aesthetics and personal expression. Art history, art criticism, and philosophy are included.

A fee of \$20.00 will be charged for instructional materials used in projects kept by the student.

Prerequisite: Ceramics 1, C or better.

8363 Ceramics 3

(18 weeks, 1 credit)

Students will continue their study of ceramic media and design problems. Individuals will plan and analyze units of study with the instructor in order to develop skills in specific areas and knowledge. Technique is integrated with student ideas, aesthetics and personal expression. Art history, art criticism, and philosophy will be included in the study of art from the 17th century through present day.

A fee of \$20.00 will be charged for instructional materials used in projects kept by the student.

Prerequisite: Ceramics 2, C or better.

8251 Drawing and Painting 1

(9 weeks, .5 credit)

This course is open to all students who enjoy two-dimensional work. Emphasis is placed on developing basic drawing and painting skills and techniques. A variety of media will be used including drawing pencils, pastels, charcoal, watercolors, and opaque media. The fundamentals of composition as found in the elements and principles of design will be used when drawing and painting from life and imagination, using realistic and abstract themes.

8252 Drawing and Painting 2

(9 weeks, .5 credit)

This course is open to students in grades 10-12 who want to advance their skills and techniques in various drawing and painting topics and media. Students may work with advanced media such as conte, pen and ink, graphite stick, colored pencil, watercolors, acrylics, and mixed media while being encouraged to develop their own expression and style. This course is of special interest to students who want more time for portfolio presentation work. This course will focus on conceptual development and use of elements of design for creative expression.

Prerequisite: Drawing and Painting 1 or Art 1, C or better.

8461 Photography 1

(9 weeks, .5 credit)

Students will study the basic principles of exposing, developing, and printing 35mm black and white film. Students will explore some of the photographic possibilities using a SLR 35mm film camera with manual controls. Care and use of a camera and darkroom equipment and the fundamentals of good photography will be emphasized. Cultural influences on the artist/photographer and historical development of the media will be studied. Included in this course of study will be an introduction of digital photography techniques and its parallels to film photography.

Students will purchase their own film, photographic papers, and various other photographic supplies at an approximate cost of \$45.

Each student MUST have use of a 35 mm camera with MANUALLY ADJUSTABLE controls for focus, aperture, and shutter speed.

8462 Photography 2

(9 weeks, .5 credit)

This course offers a continued study of specific black and white film skills with expanding technology in night/low light photography, and photo journalism. Photography 2 is designed to allow students to refine and master basic photographic techniques, allows additional darkroom time, and improvement of digital photography skills.

Students will purchase their own film, photographic papers, and various other photographic supplies at an approximate cost of \$45.

Each student MUST have use of a 35 mm camera with MANUALLY ADJUSTABLE controls for focus, aperture, and shutter speed.

Prerequisite: Photography 1, C or better.

8463 Photography 3

(9 weeks, .5 credit)

Photography 3 encourages experimentation with advanced techniques using the camera and darkroom. Further study of the artist/photographer's role in society, career exploration, and portfolio development will be pursued. Digital photography and Adobe Photoshop will be explored. Previous analog techniques and digital tools will be joined to synthesize modern photography skills. Students will purchase their own film, photographic papers, and various other photographic supplies at an approximate cost of \$45. **Each student MUST have use of a 35 mm camera with MANUALLY ADJUSTABLE controls for focus, aperture, and shutter speed. Devices for capturing digital photos are a plus, but not a requirement. Prerequisite: Photography 2, C or better.**

8464 Photography 4

(9 weeks, .5 credit)

This course is open to students who wish to refine advanced skills using photographic equipment. Students will have maximum use of the darkroom and Photoshop to develop their own portfolio through different darkroom and digital processes. This course concentrates on the use of photography as a fine art medium. Students will demonstrate mastery of photographing and printing techniques and investigate various photographic careers.

Students will purchase their own film, photographic papers, and various other photographic supplies at an approximate cost of \$45.

Each student MUST have use of a 35 mm camera with MANUALLY ADJUSTABLE controls for focus, aperture, and shutter speed.

Prerequisite: Photography 3, grade C or better.

8562 Computer Graphics: Illustration and Design

(9 weeks, .5 credit)

This course is intended to introduce the student to the use of the computer as a drawing and two-dimensional design tool. Students will learn how to manipulate drawing tools and options in the industry standard Adobe Illustrator while working with specific design and illustration problems. Assignments will focus on the development of computer graphics skills necessary for success in the

fields of advertising, animation, graphic design, illustration, and industrial design. Students taking this course should have basic skills in freehand drawing. Students will explore ways the computer can serve as a vehicle for artistic expression.

Assignments will focus on the development of computer graphics skills necessary for success in multiple fields. These will include but not be limited to advertising, animation, graphic design, illustration, app creation, video game design and industrial design.

No Prerequisite

8564 Digital Imaging

(9 weeks, .5 credit)

This course is designed to introduce the student to the use of the computer as a tool in the manipulation of photographic images. The student will learn how to create digital images using Adobe Photoshop to acquire, compose, alter, manipulate, and format images for documents, presentations, websites, apps, and digital photography. Adobe Photoshop is the worldwide industry software used across various fields for image creation and enhancement.

Students may use scanned images and/or digital photographs; however, a digital camera is not required for this course. Students may use an array of devices such as point and shoot digital cameras, smartphones, iPods, tablets, and DSLRs to take digital pictures for the course. These will allow greater flexibility for work to be completed outside of class, but they are not required.

Assignments will focus on the development of computer graphics skills necessary for success in multiple fields including but not limited to graphic design and digital imaging through a series of specific visual design problems.

8567 Introduction to 3-D Modeling and Animation

(9 weeks, .5 credit)

This introductory course is designed to teach the student the basics of three-dimensional modeling and animation with the computer. Three-dimensional modeling techniques using a computerized environment will be explored through sequential assignments.

Students will learn how to create 3-D objects through the use of wire frame modeling, Boolean objects, manipulating lighting, atmospheric effects, camera angles and textural effects. Using principles of 2-D animation and vector paths, students will learn how to set their objects into motion. Storyboarding and key-framing will be used to help students understand the principles of animation and develop effective creative solutions to the assigned projects. Bryce will be the primary software for this introductory course, with integrations of other software for special effects and enhancements.

Assignments will focus on the development of 3-D computer graphics skills necessary for success in multiple fields including but not limited to video game design, television and movie CGI, graphic design, and architectural fields. Storyboarding, sketchbook assignments, and drawing from direct observation will help students develop effective creative solutions to the assigned projects.

BUSINESS AND COMPUTER APPLICATIONS

All courses in Business and Computer Applications are only offered if there is sufficient enrollment.

5160 Accounting 1

(18 weeks, 1 credit)

This first year course will provide students considering careers in the fields of Marketing, Business Administration, Finance, and Accounting with a firm foundation in accounting concepts. Students will learn the language of business, balance a checkbook, and gain an understanding of accounting practices for a sole proprietor or partnership. Course content will be combined with technology to provide real life experience through the completion of business simulations.

5260 Accounting 2

(18 weeks, 1 credit)

This course is designed to strengthen the skills necessary for students seeking a college degree in business. Students learn about payroll, including commissions, depreciation of plant assets, and other transactions. Students will also learn how to interpret reports and records of a business. Advanced principles of computerized accounting and a business simulation will be used.

Prerequisite: Accounting 1, C or better.

5161 Business Administration

(9 weeks, .5 credit)

This course is designed for students who are planning on, or may be interested in, a college business administration major. It serves as a foundation in business management for all college business majors. Course topics include the environment of business, ethical business issues, types of business ownership, and the impact of business management on production, marketing, financial management, human resources and other management responsibilities.

5061 Business Today

(18 weeks, 1 credit)

Business Today is an introductory course that is beneficial to all students interested in learning more about their role as consumers, workers, and citizens. This course is strongly recommended for all students planning a business career. Course topics include banking, insurance, business management, entrepreneurship, career exploration, credit, and more.

5660 Consumer Law & Business Ethics

(9 weeks, .5 credit)

This course presents the principles of law that govern the activities of individuals and business. Students will learn the legal rights of consumers, as well as the legal obligations of businesses. Topics include contract law, employment rights and duties, and consumer protection. A field trip to the Bucks County Courthouse, where students will experience the US legal system first hand, will be used to reinforce course concepts. This course is valuable to both business and non-business students.

5661 Marketing & Advertising Fundamentals

(9 weeks, .5 credit)

This highly interactive, hands-on course provides an overview of marketing in modern organizations. Students will learn basic concepts such as advertising, brand recognition, pricing, and competitive selling techniques. Students will be exposed to the terms, concepts, and frameworks used by practicing marketing managers and will have an opportunity to use newly acquired skills in developing and marketing an innovative product. This course provides an awareness of career opportunities and improves personal consumer knowledge.

5667 Sports & Entertainment Marketing

(9 weeks, .5 credit)

Students will learn how businesses spark interest and gain profits from millions of consumers. Topics build upon introductory concepts covered in the Marketing and Advertising course and include sponsorships, licensing, event marketing, endorsements, TV commercials, and more. Computer simulations will help to expand knowledge beyond the traditional classroom setting. Topics covered will include amateur and professional sports teams, the business of entertainment, and special events.

Prerequisite: Marketing & Advertising Fundamentals, C or better.

5062 Personal Finance

(9 weeks, .5 credit)

This practical course allows students the opportunity to evaluate how current decisions impact our long range financial success. Topics covered include strategies for money management, how to properly budget and save money, preparing income taxes and the necessary skills needed to invest successfully. Students learn about identity theft, credit card debt, funding a college education, their first car, and home ownership all while maintaining a quality credit standing. This course provides 10th – 12th grade students with a solid foundation for making well informed, personal financial decisions leading them towards the goal of financial independence.

5163 Business Computer Applications

(9 weeks, .5 credit)

This class is strongly recommended for all college-bound students because it will assist in passing college technology placement tests, which many require for admission. Students will create spreadsheets and databases using Excel and Access, skills needed in college and future careers. Students will learn to use higher-level spreadsheet and database design techniques in order to solve problems, organize and calculate data, and make fact-based decisions.

5561 Media Design

(9 weeks, .5 credit)

Media Design teaches students how to work with robust software and media to create visually effective products such as posters, menus, advertisements, newsletters, brochures as well as many other print media samples. This class provides students with a fundamental understanding of the desktop publishing field using the latest industry standard software, Adobe InDesign. Students will

also discover advanced communication skills by using Microsoft PowerPoint to help create professional and appealing multimedia presentations. Additional topics covered in the course include and are not limited to essential design basics, advanced word processing skills, and graphic editing techniques.

5525 Web Page Design

(9 weeks, .5 credit)

This course centers on digital media including web page design and a variety of photo editing techniques. Students will learn a broad range of skills and techniques necessary to design and build a Web presence on the Internet. Design issues specific to web-based presentations will be discussed including the application of different graphics, colors, web page fonts, and the use of CSS formats. Effective web page layout and navigation techniques will be explored and applied while using current industry standard tools. This is a creative, hands-on course that all future business owners should consider.

5526 Advanced Web Page Design

(9 weeks, .5 credit)

Advanced Web Page Design takes students closer to the professional level of web design. Students will have the opportunity to create a fictitious freelance web design company and work with clients to discover, design and develop professional websites for their business, organization, or club. In a hands-on, independent learning environment students will learn professional communication, interviewing and time-management skills as well as advanced problem solving techniques. Advanced web design uses industry standard software packages including Adobe's Dreamweaver and Photoshop.

Prerequisite: Web Page Design, C or better.

5668 High School and College Computer Skills

(9 weeks, .5 credit)

Taking this course will enable you to become an expert user of Microsoft Office. Possessing advanced skills in Word, Excel, Publisher, PowerPoint, Photostory, Movie Maker and keyboarding will ensure your success in high school, college and the workplace. Exciting projects which also integrate online research, simulations, wikis, blogs and podcasts allow you to express your creativity in both writing and design, in this dynamic hands-on course.

Students are required to take four credits of English during grades 9-12, one English course per year. The required sequence of courses provides students with instruction in each basic area of language arts: reading, writing, speaking, and listening.

All sophomores must take a one-credit course, English 10. Following that, English 11 and English 12 must be taken in that sequence. Advanced Placement courses may be taken in place of English 11 and/or English 12. Advanced Placement Language can only be taken in the junior year, and Advanced Placement Literature can only be selected for senior year. For students with special interest in English and communication, enrichment electives are recommended rather than the acceleration of course sequence.

English elective courses are only offered if there is sufficient enrollment.

REQUIRED ENGLISH SEQUENCES			
Grade 9	Grade 10	Grade 11	Grade 12
MOST RIGOROUS PROGRAM For college-bound students applying to colleges designated as most competitive. Students in the most rigorous program should also consider electives such as SAT/ACT Preparation and Debate.			
Advanced English 9	English 10: Honors Level	AP English Language and Composition	AP English Literature and Composition
ACADEMIC PROGRAM For the majority of college-bound students. Students in the academic program should also consider electives such as SAT/ACT Preparation and Becoming a Better Writer.			
Academic English 9	English 10: Honors Level OR English 10: Academic Level	English 11: Honors Level OR English 11: Academic Level	English 12: Honors Level OR English 12: Academic Level

Grade 10 English

[0000 Honors English 10](#)

[0020 Academic English 10](#)

(18 weeks, 1 credit)

The English 10 course focuses on literary genres and analysis of text, encouraging students to examine how authors develop their craft through genre conventions, devices, and stylistic elements. Students will analyze how writers use style, tone, and voice to communicate an idea. They will focus on close reading strategies in various genres to understand what tools authors use to achieve their purposes and how different genres can fulfill the same purpose through varying techniques. Students will understand the conventions of reading various genres, the differences between genres, and the characteristics of different genres. They will be introduced to nonfiction reading strategies and literary analysis with particular attention to tone and theme.

The course of study includes variations in materials, tasks, and assessments for each level of the class. Students in the Honors course are expected to be avid readers and sophisticated writers. In this course, students will encounter challenging texts, discussions, and writing requirements.

Honors weighted-grade course for 0000.

Grade 11 English

[0110 Advanced Placement English Language & Composition](#)

(18 weeks, 1 credit)

Students will become skilled readers of prose written in a variety of periods, disciplines, and rhetorical contexts. They will produce expository, analytical, and argumentative essays that introduce a complex central idea and develop that idea with appropriate evidence drawn from primary and secondary sources, cogent explanations, and clear transitions.

A summer reading/writing assignment is required and must be completed before the start of the course.

Students taking this course should plan to take the Advanced Placement English Language Test given in May.

AP weighted-grade course.

Prerequisites: B grade or better in English 10 or recommendation of 10th grade English teacher.

[0100 Honors English 11](#)

[0120 Academic English 11](#)

(18 weeks, 1 credit)

The English 11 course is designed to equip students with the knowledge and skills to listen carefully, to evaluate arguments, to discern tone, and to analyze and implement rhetorical strategies in writing. They will read text that is selected to showcase the techniques that lead to an author's overall purpose. Students will understand that authors make stylistic choices and employ rhetorical and literary techniques based on their intentions, their subject, and their

audience. Students will also craft their own writing to analyze rhetoric and to synthesize information into a cogent argument. Students will develop a unique writing voice, create sound and logical arguments, and be able to justify their stylistic and rhetorical choices.

The course of study includes variations in materials, tasks, and assessments for each level of the class. Students in the Honors course are expected to be avid readers and sophisticated writers. Students will encounter challenging texts, discussions, and writing requirements.

Honors weighted-grade course for 0100.

Grade 12 English

0200 Advanced Placement English Literature & Composition

(27 weeks, 1.5 credits)

Students will learn how to read literature perceptively and how to express responses to it. Students will study a representative sampling of works from several genres and literary periods. Students will learn to respond to language with increasing sensitivity and discrimination.

A summer reading/writing assignment is required and must be completed before the start of the course. Students taking this course should plan to take the Advanced Placement English Test given in May.

AP weighted-grade course.

Prerequisites: B grade or better in English 11 or recommendation of English teacher.

0210 Honors English 12

0220 Academic English 12

(18 weeks, 1 credit)

Students will use critical reasoning skills to prepare them for post-secondary experiences. They will learn the value of literary analysis skills and examine how literature mimics the human experience across different perspectives, societies, and time periods. Students will examine the interrelationships that exist between text, self, and world. Students will gain a deep understanding of the connection between text and the human experience that justifies literature as a unique and important tool for examining and understanding humanity. They will demonstrate effective communication skills through a variety of mediums.

The course of study includes variations in materials, tasks, and assessments for each level of the class. Students in the Honors course are expected to be avid readers and sophisticated writers. Students will encounter challenging texts, discussions, and writing requirements.

Honors weighted-grade course for 0210.

Electives

THESE COURSES PROVIDE GRADUATION CREDITS IN ELECTIVES ONLY. ENGLISH ELECTIVE COURSES ARE ONLY OFFERED IF THERE IS SUFFICIENT ENROLLMENT.

0660 Becoming a Better Writer

(9 weeks, .5 credit)

In this course, students will examine real-world models and writing purposes and use those mentor texts to help create their own writing in various modes. They will understand that writing purposes vary:

and may include objective such as: express and reflect, inform and explain, evaluate and judge, inquire and explore, analyze and interpret, and take a stand/propose a solution. Students will practice honing their writing skills to fit each purpose and audience. Students will also develop a writing portfolio, which will focus on growth and revision, over the course of nine weeks. Students should leave the course keener observers of real-world writing that they encounter every day; they will have a better understanding of how to continue to become a successful writer.

0601 Debate

(9 weeks, .5 credit)

Debate is designed to teach methods of logical thinking, argumentation, and formal debating procedures and skills. Students will learn the fundamentals of debate and will participate in several formal debates. Debate provides training in research, rhetoric, language skills, oratory, reasoning, politics, and philosophy. This course is especially useful for students planning a career in law, government, or business.

Note: Debate may be taken more than once for elective credit with teacher approval.

0661 SAT/ACT Preparation: Vocabulary, Reading Comprehension and Analysis, and Written Expression

(9 weeks, .5 credit)

This SAT Preparation course is designed to improve a students' skills in the areas tested on the redesigned SAT that began in the Spring of 2016. Students will improve their ability to interpret, synthesize, and use evidence found in a wide range of sources, including literature, nonfiction, charts, and graphs. Students will also read a wide variety of arguments and analyze how authors develop and support their arguments. This course also helps students sharpen their test-taking skills.

0662 Journalism

(9 weeks, .5 credit)

Journalism is designed to teach techniques of journalistic writing as found in the news story, the editorial, the feature story, the interview, and the sports story. Students will write these types of articles and will study examples found in various newspapers. The course includes copy reading and proofreading, headline composition, page makeup, and word processing. Independent effort is demanded of journalism students. Interviews must often be conducted and articles researched and written outside of class time.

Note: Journalism may be taken more than once for elective credit with teacher approval.

0665 Creative Writing

(9 weeks, .5 credit)

Creative writing is designed to provide students with an opportunity to work with a variety of creative forms, including such options as: short stories, poems, essays, and plays. To stimulate personal awareness and creative potential, the use of a writer's notebook will be established. Students are expected to produce a collection of original works.

Note: Creative Writing may be taken more than once for elective credit with teacher approval.

0668 Theater: Acting Workshop

(9 weeks, .5 credit)

Theater: Acting Workshop introduces students to the art of acting in a workshop environment. Students will participate in various body, voice, movement, and improvisation exercises during class time. Reading, memorizing, critiquing, and reflecting are all required components of the course. Various readings will introduce students to different methods of acting, which students will then apply as they rehearse and present scenes to the class. These scenes will be critiqued by the instructor as well as by students in the class. **Note: Theater may be taken more than once for elective credit with teacher approval.**

0671 Shakespeare

(9 weeks, .5 credit)

This course aims at developing an appreciation, an enjoyment, and an understanding of Shakespeare's work. Two tragedies, two comedies, and one history will be studied in depth. Class work includes the staging of scenes, reading of plays and critical essays, and writing analytical papers. **This course is offered every other year. It will be offered for 2014-2015, 2016-2017, etc.**

0672 Science Fiction

(9 weeks, .5 credit)

This course will provide students with a survey of major novels, short stories, and poems by the masters of science fiction. These readings will form the basis for a thoughtful look at the future. **This course is offered every other year. It will be offered for 2015-2016, 2017-2018, etc.**

0673 Introduction to Film Studies

(9 weeks, .5 credit)

Introduction to Film Studies offers students the opportunity to develop visual literacy and analytical skills through the close examination of significant filmic texts. Students will learn the language and essential techniques of film (shot composition, camera angles, editing, etc.) in order to appreciate and explore the form's unique expressive abilities. This information will be combined with more familiar literary concepts (imagery, setting, symbolism, theme, etc.) to analyze the ways in which cinema is both similar to and different from written texts. Central concerns of the course include the translation of literature to cinema, the exploration of various filmic genres, the analysis and evaluation of films based on similar styles, themes and contexts, as well as the study of individuals who have made substantial contributions to cinema.

MEDIA PRODUCTION ELECTIVES

0674 Media Production 1

(9 weeks, .5 credit)

Students will learn the basics of video production and how to effectively communicate a message via video. These fundamentals include *pre-production skills*, which include researching, writing scripts, and storyboarding; *production skills*, which include operating video and audio equipment, single and multi-camera production, lighting, and various crew positions; and *post-production skills*, which include editing and audio mixing.

Students will display their knowledge both in written papers and by completing several hands-on group video projects. Whether you are

interested in making videos as a hobby or pursuing journalism, broadcasting, or videography as a career, this introductory course will provide the necessary basics. This class is open to all students, grades 10-12.

0675 Media Production 2

(9 weeks, .5 credit)

This intermediate course further explores digital video production, concentrating on the role of the producer, writer, and director, and on advanced production and post-production techniques. Students will plan, research, write, produce, and edit informational video productions for distribution to audiences in school and in the community. Students may learn the journalistic skills of broadcast news, do investigative reporting, practice on-camera talent techniques, produce and direct interview shows, or create video features. Informative and persuasive writing will be required. Study hall and/or out-of-school time may be required. This course may be taken more than once for elective credit.

Prerequisite: C or better in Media Production 1 or instructor permission.

0676 Media Production 3

(9 weeks, .5 credit)

Students demonstrating high levels of communication and production skills, motivation, and ability to work independently will produce real-world products: videos made for community partners like the hospital, museums, and businesses; videos made for nonprofit community groups like teen organizations; and videos made to explain and promote district educational programs and extra-curricular activities.

Projects will demand high levels of production and post-production skills. Students will engage in informational interviewing and other forms of research, organization of information, and development of creative solutions based on the information.

Outlining, scripting, and storyboarding will be necessary. Informative and persuasive writing will be required. Producers will create production schedules and timelines, organize and deploy production resources, and meet deadlines. Out-of-school time will be required for some productions. This course may be taken more than once for elective credit.

Prerequisite: B or better in Media Production 2 or approval of instructor.

0678 Media Production Practicum

(9 weeks A/B, .25 credit)

This course is designated for juniors and seniors interested in pursuing a career in communications, advertising, television, or film. Each selected student will be scheduled into one of the communications courses, where he/she will plan and conduct practical instructional applications of their media production knowledge and skills. Enrollment is restricted to one student per section.

Note: This course may be taken more than once for elective credit. This course is graded Pass/Fail.

Prerequisite: Students must have completed Media Production 1 and Media Production 2. Completion of application process and an interview with the subject teacher is required for acceptance into the course.

FAMILY AND CONSUMER SCIENCES

All courses in Family and Consumer Sciences are only offered if there is sufficient enrollment.

6159 The Young Child

(9 weeks, .5 credit)

This course provides a study of child development from birth through age five. It offers a balanced selection of topics concerning growth and stages of development, including pregnancy and delivery, the care of children from infancy through preschool, and the importance of play. Students will have the opportunity to practice parenting skills with a computerized baby. Students also extend their understanding through a service learning partnership at a local childcare facility. There are no prerequisites for this course.

6161 The School-Age Child

(9 weeks, .5 credit)

This course is designed for the student whose interests involve working with children as a teacher or working in other child related careers. It provides a study of human development from the elementary school-age child through adolescence. This program offers a selection of topics including the stages of growth and development, knowledge of self, the social issues affecting today's teenagers and their families, and developmentally appropriate instruction. Students extend their understanding through a service learning partnership at a local elementary school. There are no prerequisites for this course.

6162 Living Independently

(9 weeks, .5 credit)

This course is designed to provide students with the skills necessary for living on their own. It will explore human development from late adolescence through adulthood. A selection of topics, such as interpersonal relationships, communication issues, preparing healthy foods, family relationships, automotive basics, consumer issues, and more will be presented. Students will extend their learning through trips to a provided senior center. There are no prerequisites for this course.

6264 American Cuisine

Not available at CB East

(9 weeks, .5 credit)

Regional American fare will be prepared as students explore the amazing variety of foods found throughout our country. Food labs include main dishes, side dishes and desserts with an emphasis on food preparation, safety and sanitation. A variety of demonstrations and videos enhance the learning experience. Current topics related to nutrition and the food industry are discussed. There are cooking competitions in this course for students to demonstrate their learning. There are no prerequisites for this course.

6265 Global Gourmet

Not available at CB East

(9 weeks, .5 credit)

This class is designed for the student who is interested in learning about food customs and cooking practices around the world. Each selected country's geography, history, and culture will be explored and connected to the food habits of its people. Students will also

study safety and sanitation practices and participate in cooking competitions. There are no prerequisites for this course.

6266 Food Science

CB East Only

(9 weeks, .5 credit)

Food or science experiment? Find out what's really in the foods you eat by examining the microbiology of food, safe cooking and handling procedures, physical and chemical changes that occur in food preparation, and the role of government in keeping food safe. Demonstrations will focus on applying knowledge of food science to select, and prepare meals to meet individual needs across the lifespan. There are no prerequisites for this course.

6267 Nutrition

CB East Only

(9 weeks, .5 credit)

If you are what you eat, what are you? Students will explore how various foods affect the body. This study will include an overview of digestive and metabolic processes involved in the body's absorption and use of important nutrients such as carbohydrates, lipids, proteins, vitamins and minerals, and water. Demonstrations will focus on the effects of various preparation methods on nutritional content. There are no prerequisites for this course.

HEALTH AND PHYSICAL EDUCATION

All elective courses in Health and Physical Education are only offered if there is sufficient enrollment.

Music students, or any other students, who deferred PE credit in ninth grade may earn additional .5 or .25 PE credit by: 1) taking any PE elective course or courses for PE credit (recommended) or 2) taking 7061/7062 a second time.

7061 PE/Health

(9 weeks, every day .5 credit)

7062 PE/Health

(18 weeks A/B, .5 credit)

This required, coeducational course integrates the development of physical fitness and sports with units of study aimed at instilling health knowledge, desirable personal habits, positive attitudes, and good decision-making skills. This process of learning about the needs and care of the human mind and body is essential for optimal living.

7069 Stress Management and Healthy Living

(9 weeks A/B, .25 credit)

This elective, coeducational course provides students an opportunity to learn about stress, its causes, and various ways to effectively handle its impact on their life. Topics covered include: What is stress?, exercise, relaxation, nutrition, awareness based interventions, and behavioral techniques. Various techniques will be practiced throughout the course and appropriate clothing is required to participate.

7562 Advanced Health

(9 weeks, .5 credit)

This nine-week course is designed for students with an interest in health or medicine. Course content includes the study of basic anatomy (structure) and physiology (function) of the human body. The focus of the course will be how to analyze the impact of a disease or a life/health problem on the physical, psychological, and social well-being of the individual. Various techniques will be practiced throughout the course and appropriate clothing is required to participate.

7064 Team Sports

(9 weeks, A/B, .25 credit)

This nine-week course is designed for students in grades 10-12 who enjoy the competition of team sports. Activities include team handball, floor hockey, volleyball, lacrosse, soccer, netball and other team activities that require cooperation, leadership, and decision-making skills. Emphasis will be on team participation and strategic competition within a sport. This course may be taken more than once.

7065 Lifetime Sports

(9 weeks, A/B, .25 credit)

This course is designed for students who enjoy individual competition and recreational activities. The course will highlight exposure to activities that can be carried over to adulthood and help students assume responsibility for their own wellness through constructive use of leisure time. Students will gain knowledge of activities such as tennis, table tennis, badminton, Frisbee, walking, pickleball, archery, golf, and bowling. This course may be taken more than once.

7066 Personalized Fitness

(9 weeks, A/B, .25 credit)

This course is designed for students in grades 10-12 with an interest in improving their physical conditioning. Students will be developing personal fitness goals and creating a personal fitness plan while in class. They will receive instruction in all aspects of fitness: including nutrition, lifting techniques, kettle bells, bands, yoga, free weights, medicine balls, and other cutting edge training. Various forms of cardiovascular training will be studied in class. This course may be taken more than once.

7063 Fitness Trends

(9 weeks, A/B, .25 credit)

This elective course is designed for students who want to enhance all components of fitness. Activities may include, but are not limited to: step aerobics, walking, kickboxing, yoga, pilates and more. This course may be taken more than once.

7068 Aquatic Conditioning

CB-East and CB-South only

(9 weeks, A/B, .25 credit)

Aquatic Conditioning is an elective course for students and student athletes who want to get in shape or remain in shape and who are working toward optimum health. This course includes lap swimming, leg and arm work, timed workouts, endurance training, heart monitoring, and more. Student athletes are encouraged to elect this course to get into shape, relieve stress and muscle problems during the sports season, and stay in shape after the season concludes.

Because of the sequential development of the mathematics curriculum, students must attain the prerequisites in the previous course before advancing to a more difficult level. Students with low grades are encouraged to repeat courses in order to master concepts required for sequential classes.

The Mathematics Department recognizes the use of calculators as a valuable tool for learning in the classroom, and calculators will be used extensively for class work and homework in all courses. The district uses TI-83 and TI-84 graphing calculators in the classroom. Students are encouraged to purchase their own graphing calculator, whether this brand or one with similar functions. In certain advanced courses, graphing calculators with specific capabilities are important for daily classroom performance and are required for Advanced Placement Examinations. While no specific brands are endorsed, there are restrictions on the type of calculators allowed on classroom tests and final exams. Calculators that do operations with variables, such as the TI-89, TI-92, and HP49G, will not be permitted to be used on district final exams, even though they may be used on some nationwide tests. Teachers have discretion as to whether these types may be used for particular classroom-related purposes.

MATHEMATICS SEQUENCE – BEGINNING WITH THE CLASS OF 2016			
These sequences represent typical pathways through high school mathematics classes. Additional pathways are possible. If you have any questions, your current mathematics teacher or guidance counselor will be able to answer them for you.			
Grade 9	Grade 10	Grade 11	Grade 12
Advanced Placement Sequence			
College-bound students planning a career in medicine, engineering, science, or mathematics should consider this sequence, especially if they are applying to colleges designated as most competitive. Recommended electives for this level include AP Statistics and Computer Programming courses in Grades 10-12.			
Algebra 2/Trig	Acc. Precalculus/Trigonometry	AP Calc AB	AP Calc BC or AP Statistics
Academic Sequence			
College and non-college bound students seeking a complete study of high school mathematics. Students planning a career in medicine, engineering, science, or mathematics should consider additional mathematics courses including Statistics and Data Analysis, AP Statistics, or Computer Programming courses in Grades 11 and 12.			
Geometry/Trig 1	Algebra 2/Trig	Precalculus/Trigonometry or Acc. Precalculus/Trigonometry	Calculus 1 or Stat/Data Analysis or AP Calc AB or AP Statistics
Accelerated Algebra 1 OR Algebra 1B	Geometry/Trig	Algebra 2/Trig	Precalculus/Trig or Stat/Data Analysis or Intermediate Math Concepts
Algebra 1A	Algebra 1B	Geometry	Algebra 2
	Algebra 1A	Algebra 1B	Geometry

2540 Algebra 1A

(18 weeks, 1 credit)

This high school-level course is designed for those students who have successfully completed Pre-Algebra and who have demonstrated an understanding of arithmetic operations. The course addresses the major concepts of a traditional Algebra I Course. Major topics include integers, evaluating expressions, equations, laws of exponents, polynomials, factoring and the coordinate plane, inequalities.

Prerequisite: Approval of the Math Transition Committee. Please contact your guidance counselor.

2640 Algebra 1B

(18 weeks, 1 credit)

Algebra 1 builds on the concepts studied in Introduction to Algebra. This is the second course in an in-depth two year study of formal Algebra. The fundamental operations and their properties are studied. Topics include: linear functions and inequalities, systems of equations, exponents and polynomials, factoring polynomials, ra-

tional expressions, radicals and quadratic functions. Problem solving, application, communication and reasoning are emphasized throughout the course. Students in this class will take the Algebra 1 Keystone Exam.

Prerequisite: (2920 or 2540) Algebra 1A, grade of C- (70%) or better for the year or approval of the Math Transition Committee. Please contact your guidance counselor.

2645 Geometry

(18 weeks, 1 credit)

The curriculum in this course includes a comprehensive study of Euclidean Geometry. The emphasis of this course is the application of congruency, similarity, parallelism, perpendicularity, and area/volume of common geometric figures.

Prerequisite: (2640) Algebra 1B or teacher recommendation.

2141 Algebra 2

(18 weeks, 1 credit)

This course is designed for the student who has successfully completed Geometry (course # 2645) and includes a review of algebra,

polynomials and factoring, exponents, radicals, sequences and series, matrices, and concepts of probability and statistics.

Prerequisite: (2645) Geometry or teacher recommendation.

2541 Applied Mathematics

(18 weeks, 1 credit)

This course is designed for students who have already completed both Algebra 2 and Geometry. Students will apply mathematics, algebra, and geometry to real-life situations. Typical workshop situations might include designing a landscape or home, tracking stocks, surviving a financial crisis, and planning for your financial future.

Prerequisite: (2640) Algebra 1B, (2645) Geometry, and (2141) Algebra 2 or approval of the Math Transition Committee. Please contact your school counselor.

2122 Geometry/Trig

(18 weeks, 1 credit)

This course is designed for students who have successfully completed Algebra 1 or Accelerated Algebra 1. Geometry/Trig covers congruency, similarity, parallelism, perpendicularity, areas, and volumes. Concepts from coordinate geometry are reviewed with an emphasis on the integration of algebra and geometry. Trigonometry topics may include indirect measurement, and theorems/applications relating to tangents, apothems, and inscribed polygons.

Prerequisite: (2916) Algebra 1B or (2915) Accelerated Algebra 1, C- or better AND teacher recommendation for students taking the high school version of Algebra 1B (2640).

2520 Algebra 2/Trig

(18 weeks, 1 credit)

This course is designed for students with good mathematical ability and interest. Students will simplify a variety of expressions (radical, exponential, quadratic, polynomial, rational). Students will solve linear, quadratic, and polynomial equations and will graph and analyze linear, quadratic, and polynomial functions. Other topics include series, sequences, and trigonometry of the right triangle.

Prerequisite: (2122 or 2901) Geometry/Trig, C- or better or teacher recommendation.

2110 Precalculus/Trig

(18 weeks, 1 credit)

Designed for students who have successfully completed both Geometry/Trig and Algebra 2/Trig, Precalculus/Trig is an extension of the concepts covered in the two prerequisite courses with an emphasis on the functional aspects necessary for preparation for the study of calculus. Polynomial, exponential, logarithmic, and trigonometric functions are addressed in this course. Trigonometric topics include the solution of trigonometric equations, identity manipulations, and transformation graphing, including work with amplitude, period, and phase shift. Combinatorics, probabilities, statistics, and data analysis will be introduced.

Prerequisite: (2520) Algebra 2/Trig, B- or better or teacher recommendation, or (2900) Algebra 2/Trig, C- or better or teacher recommendation, or (2221) Intermediate Math Concepts, C- or better or teacher recommendation.

2111 Accelerated Precalculus/Trig

(18 weeks, 1 credit)

Designed for students who have successfully completed Geometry/Trig and Algebra 2/Trig, Accelerated Precalculus/Trig is an extension of the concepts covered in the two prerequisite courses with an emphasis on the functional aspects necessary for preparation for the study of calculus. Polynomial, exponential, logarithmic, and trigonometric functions are addressed in this course. Trigonometric topics include the solution of trigonometric equations, identity manipulations, and transformation graphing, including work with amplitude, period, and phase shift. Combinatorics, probabilities, statistics, and data analysis will be introduced. **Incoming 10th and 11th graders who intend to take AP Calculus AB should take Accelerated Precalculus/Trig to more fully prepare for the pace and rigor of an AP course. The decision to take Accelerated Precalculus/Trig should not be taken lightly, and this decision should be discussed with your Algebra2/Trig teacher so there is no question regarding the expectation for the course. This is not an AP weighted course.**

Prerequisite: (2900) Algebra 2/Trig B- or better or teacher recommendation or (2520) Algebra 2/Trig B- or better AND teacher recommendation.

2221 Intermediate Math Concepts

(18 weeks, 1 credit)

This course is intended for college bound students who have successfully completed Algebra 2/Trigonometry and Geometry/Trigonometry, and who want a stronger math background before they are ready to advance to the next math course in sequence. This course includes topics from intermediate algebra and introductory probability and statistics. Topics from algebra include direct and inverse variation, exponents and roots, quadratics, reflections, rotations and translations, functions, series and sequences and basic trigonometry. Some topics from probability and statistics include measures of central tendency, data plots, probability, odds, permutations, and combinations. The fundamentals stressed in this course continue a student's preparation for standardized tests in mathematics. **Prerequisite:** (2520) Algebra 2/Trig, C- or better or teacher recommendation.

2625 Statistics and Data Analysis

(18 weeks, 1 credit)

Statistics is the study of the fundamentals of descriptive and inferential statistics. Topics include data descriptions using graphs, bivariate data, regression lines, probability and probability distributions, measures of center and variability, confidence intervals, and significance testing. The TI-83 graphing calculator is used extensively in this course and is necessary for students to successfully complete the course. Any graphing calculator will suffice provided it has statistical menus. The statistical menus should include mean, median, standard deviation, quartiles, lists and list commands, and distributions (binomial, geometric, normal, and Poisson).

Prerequisite: (2520 or 2900) Algebra 2/Trig, C- or better.

2101 Calculus 1

(18 weeks, 1 credit)

Calculus 1 is the study of limits and change with respect to time. Differential calculus and some integral calculus will be covered in the course. Topics include functions, derivatives and their applications, and integral calculus and its applications. Calculus 1 parallels the first-semester of most college calculus courses. Students must have

an excellent command of algebraic processes to successfully complete this course.

Note: Students requiring a complete study of calculus for college preparation should follow Calculus 1 with Calculus 2. Students electing these two courses are not expected to take the Advanced Placement Examination; consequently, no weighted grade credit is awarded for Calculus 1 and 2.

Prerequisite: (2110) Precalculus/Trig, B- or better

2103 Calculus 2

(18 weeks, 1 credit)

Calculus 2 will continue the Calculus 1 course. Topics will include transcendental functions, techniques of integration, improper integrals, and numerical approximations. Infinite series and polar coordinates will also be studied. This course parallels the second semester of most college calculus courses.

Note: Students requiring a complete study of calculus for college preparation should follow Calculus 1 with Calculus 2. Students electing these two courses are not expected to take the Advanced Placement Examination; consequently, no weighted grade credit is awarded for Calculus 1 and 2.

Prerequisite: (2101) Calculus 1, C- or better or teacher recommendation.

Advanced Placement Level Courses

Students who successfully progress through their mathematics courses may be interested in taking an Advanced Placement level course. An AP course follows a curriculum that is approved by the college-board. The work is challenging and rigorous. Students are engaged in challenging problem solving and critical thinking activities on a regular basis. Students will be prepared to take the AP exam for the course given annually in May. The Central Bucks mathematics department welcomes all students who have completed the given prerequisite into AP courses. Students receive a weighted grade in Advanced Placement courses.

2005 Advanced Placement Computer Science A

(18 weeks, 1 credit)

This course is equivalent to a first-semester college course in Computer Science using the Java language. Students will learn problem solving by learning and applying a programming technique known as Object-Oriented Programming (OOP). The major points of emphasis are programming design and methodology, algorithm development, classes and methods, one- and two-dimensional arrays, and the Case Study.

Students who take this course should plan to take the Advanced Placement Computer Science A Test given in May. AP weighted-grade course.

Prerequisite: (2004) Introduction to Java, B- or better or (2110 or 2111) Precalculus/Trig, B- or better or teacher recommendation.

2007 Advanced Placement Computer Science Principles

PILOT COURSE 2016-2017

(18 weeks, 1 credit)

AP Computer Science Principles introduces students to the central ideas of computer science, instilling the ideas and practices of computational thinking and inviting students to understand how computing changes the world. The rigorous course promotes deep learning of computational content, develops computational thinking skills, and engages students in the creative aspects of the field.



Students who take this course should plan to take the Advanced Placement Computer Science Principles Test given in May. AP weighted-grade course.

Prerequisite: (2520) Algebra 2/Trig, B- or better or teacher recommendation.

2102 Advanced Placement Calculus AB

(27 weeks, 1.5 credits)

This course provides a complete study of differential and integrated calculus. It is designed to prepare students for the Advanced Placement Calculus AB Examination. The course outline completes the recommended topics described by the College Board **at a fast and intense pace** to guarantee time for practice testing exercises.

Students selecting this course should plan to take the Advanced Placement Calculus AB Examination in May. AP weighted-grade course.

Prerequisite: (2111) Accelerated Precalculus/Trig 3, B or better, or (2110) Precalculus/Trig 3, A- or better or teacher recommendation.

2200 Advanced Placement Calculus BC

(27 weeks, 1.5 credits)

This advanced course reviews the concepts of calculus, emphasizing and extending introductory topics in differentiation, and integration. It is designed to prepare students for the Advanced Placement Calculus BC Examination. The course outline completes the recommended topics described by the College Board **at a fast and intense pace** to guarantee time for practice testing exercises.

Students selecting this course should plan to take the Advanced Placement Calculus BC Test in May. AP weighted-grade course.

Prerequisite: (2102) AP Calculus AB, B or better or teacher recommendation.

2601 Advanced Placement Statistics

(18 weeks, 1 credit)

The purpose of this course is to introduce students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. The course will expose students to four broad conceptual themes: (1) exploring data – observing patterns and departures from patterns, (2) planning a study – deciding what and how to measure, (3) anticipating patterns – producing probability and simulation, and (4) statistical inference – confirming models. The course outline covers the topics recommended by the College Board. The **pace is fast and intense** in order to assure time for practice testing exercises. **Students who take this course should plan to take the Advanced Placement Statistics Test given in May. AP weighted-grade course.**

Prerequisite: (2110) Precalculus/Trig 3, B or better or teacher recommendation, or (2111) Accelerated Precalculus/Trig 3, B- or better or teacher recommendation

9103 Algebra Lab

(18 weeks on A/ B day schedule or 9 weeks every day, .5 Math credit) The goal of this class is for students to achieve proficiency on the math standards as measured by the Algebra 1 Keystone Exam. Algebra Lab is a high school level intervention program designed to help students improve their understanding of the PA Common Core Standards addressed in an Algebra 1 course. Test-taking skills, open-ended problem-solving, and familiarity with the kinds of problems asked on the Algebra 1 Keystone Exam are stressed. Students are

identified for participation based on their performance on the Algebra 1 Keystone Exam. Participation is required each year until the student scores proficient or advanced on the exam

Mathematics Elective Courses

MATH elective courses are only offered if there is sufficient enrollment.

2003 Introduction to Computer Programming

(9 weeks, .5 elective credit)

Introduction to Computer Programming presents the fundamental concepts of programming through the use of Alice. Alice is an object-oriented educational programming language with an integrated development environment. Students will create computer animations and virtual worlds using 3D models. This course is designed to introduce and emphasize algorithmic thinking and expression, the concept of abstraction, and problem solving.

Prerequisite: (2520) Algebra 2/Trig, C- or better or teacher recommendation. This course may NOT be used for Math credit.

2004 Introduction to Java

(9 weeks, .5 elective credit)

This course is an introduction to the programming language Java. Emphasis is placed on language syntax and program design and structure. Topics include computer history and architecture, software development life cycle, computer ethics, fundamentals of Java, and object-oriented programming, data types, control statements, and strings. **Students planning to take the Advanced Placement Computer Science A Course in the spring should select this course. This course may NOT be used for Math credit.**

Prerequisite: (2520) Algebra 2/Trig, C- or better or teacher recommendation.

2623 SAT Math Preparation

(9 weeks, .5 elective credit)

This course is designed as a review of previously learned mathematics to prepare students for the mathematics portion of the SAT. Students planning to take the ACT will also find this course beneficial since the course will teach problem-solving skills and effective test-taking strategies. Technology will be integrated throughout the course. An instructional fee will be charged to students who wish to use the SAT review book as a consumable workbook. **This course may NOT be used for Math credit.**

Prerequisite: Students taking this course must have COMPLETED courses in Algebra 2 and Geometry.

MUSIC

All high school music courses are offered on an elective basis. Performance classes meet for ninety minutes on alternate days for the entire year. Students must be enrolled in music performance classes (Symphonic Band, Concert Band, Choir, Chorus or Orchestra) to be eligible to audition for the PMEA District and BCMEA County Music Festival, or to participate in connected co-curricular music activities, including marching band, and instrumental and vocal ensembles. Many of these groups also participate in exhibitions and competitions. MBIT students who have an interest in co-

curricular music activities should speak to their guidance counselor. All courses in Music are only offered if there is sufficient enrollment.

8663 Concert Band

(36 weeks, A/B schedule, 1 credit)

Concert Band is designed for students in grades 10-12 who choose to continue their educational interest in band music. Students gain experience playing a variety of musical styles and continue their development of musical skills and techniques. Public performances are scheduled throughout the year. Individual instruction on specific instruments may take place within the larger group rehearsal. However, ensemble experience and the individual's performance as a responsibility to the group's overall success are emphasized. Only students who are enrolled in Band are eligible to audition for County and District Band, as well as for select instrumental ensembles.

Participation in the band program includes required after-school and evening rehearsals and performances as determined by the director. All band members are encouraged to participate in the Marching Band. Marching Band is one of the most visible co-curricular activities in the high school and provides the opportunity for motivated musicians to attain higher levels of performance.

Prerequisite: Participation in the middle school band program or the equivalent, by audition, and/or approval of the high school band director.

8625 Jazz Lab

(18 weeks A/B schedule, .5 credit)

Jazz Lab class is offered as an opposite-day companion course to Concert Band. This course is open to all instrumentalists desiring to increase their knowledge of jazz performance, improvisation, styles, and music history. Emphasis is placed on the development of the style, interpretation, and technical skills needed for jazz performance along with the historical aspects of this American art form.

8660 Symphonic Band

(36 weeks, A/B schedule, 1 credit)

Symphonic Band is offered to students in grades 10-12 who play woodwind, brass, or percussion instruments. Public performances including concert and marching settings are scheduled throughout the year. Individual instruction on specific instruments may take place within the larger group rehearsal. However, emphasis is on the ensemble experience and on the individual's performance as a responsibility to the group's overall success. Only students who are enrolled in Band are eligible to audition for County and District Band, as well as for select instrumental ensembles.

Participation in the band program includes required after-school and evening rehearsals and performances as determined by the director. All band members are encouraged to participate in the Marching Band. **Prerequisite: Participation in the Concert Band is preferred but not required. Admission is by audition or approval of the high school band director.**

8665 Jazz Ensemble

(36 weeks, A/B schedule, 1 credit)

Jazz Ensemble is offered as an opposite day companion course to Symphonic Band. Students enrolled in this course must also be en-

rolled in Symphonic Band. The course is open by audition to students who play the saxophone, trumpet, trombone, piano, guitar, bass, or drums.

Classes are devoted to a study of a wide variety of jazz music and styles. Emphasis is placed on the development of the style, interpretation, and the technical skills needed for jazz performance, as well as the historical aspects of this American art form.

Participation in the Jazz Ensemble includes required after-school and evening rehearsals and performances as determined by the director. This ensemble will be involved in several jazz competitions and festivals in the spring that generally occur on Friday evenings and some Saturdays.

Prerequisite: Audition and/or approval by high school jazz ensemble director.

8661 Chorus–Grade 10

(36 weeks, A/B schedule, 1 credit)

Chorus is offered to sophomores who enjoy singing in a vocal ensemble. Active participation and pursuit of individual musical growth are essential for the successful performance of choral music. Students will learn to develop proper vocal technique and performance discipline. Emphasis will be placed on training the singers to become better musicians through the use of choral repertoire.

The chorus will perform both classical and contemporary works at the appropriate developmental level. A repertoire will be chosen that reflects a variety of styles, forms, and cultures and includes both sacred and secular texts. School and community performances will be scheduled throughout the year. Only students who are enrolled in Chorus are eligible to audition for County and District Chorus as well as for select vocal ensembles. Participation in the choral program includes required afterschool and evening rehearsals and performances as determined by the director. Participation in the spring trip is optional but encouraged. **Prerequisite: Participation in the middle school choral program is preferred but not required.**

8662 Choir–Grades 11, 12

(36 weeks, A/B schedule, 1 credit)

Choir is offered to juniors and seniors who enjoy singing in a vocal ensemble and have completed at least one year of high school music training. Active participation and pursuit of individual growth are essential for the successful performance of choral music. Students will continue to develop proper vocal technique and performance discipline.

The choir performs both classical and contemporary works at the highest standard. A repertoire will be chosen that reflects a variety of styles, forms, and cultures and includes both sacred and secular texts. School and community performances will be scheduled frequently throughout the year. Only students who are enrolled in Chorus are eligible to audition for County and District Chorus as well as for select vocal ensembles.

Participation in the choral program includes required afterschool and evening rehearsals and performances as determined by the director. Participation in the spring trip is optional but encouraged. **Prerequisite: Participation in Chorus – Grade 10 is preferred but not required.**

8664 Orchestra

(36 weeks, A/B schedule, 1 credit)

Students participating in string orchestra will actively engage in the creation and performance of orchestral music literature, which will expose students to a variety of musical genres and periods. Students will advance their musical development through rehearsal and performance in small and large ensemble settings.

Orchestra is offered to students who play violin, viola, cello, or double bass. Students playing other instruments may only join orchestra with the approval of the high school orchestra director.

Performances in the school and community will be scheduled throughout the year. Only students who are enrolled in Orchestra are eligible to audition for County and District Orchestra, as well as for select string ensembles. Participation in the orchestra includes required after-school and/or evening rehearsals and performances as determined by the director.

Prerequisite: Participation in the middle school orchestra program or the equivalent, by audition, and/or approval of the high school orchestra director.

8667 Music Theory

(18 weeks, A/B schedule .5 credit)

Music Theory develops the basic rudiments of music and introduces functional harmony studies. This course is designed for music performers who wish to further their musical understanding. This course is also intended to prepare students for Advanced Placement Music Theory.

8620 Music Technology

(18 weeks, A/B schedule .5 credit)

This course allows students to explore music technology applications and techniques, by utilizing MIDI workstations. Students will learn in a hands-on environment, developing skills with music sequencing, music notation, and audio production software. Although not a prerequisite, it is suggested that a student take Music Theory prior to taking Music Technology to fully appreciate the opportunities of this course.

Prerequisite: Some knowledge of basic rhythm and pitch music notation.

8600 Advanced Placement Music Theory

(18 weeks, everyday, 1 credit)

AP Music Theory provides an in-depth study of the processes of music performance, composition, and analysis by focusing on the development of (1) complex aural skills, (2) skills in written analysis of functional harmony, (3) sight singing techniques, (4) musical composition skills, (5) keyboard skills, and (6) understanding of musical form and history. Students who take this course should have acquired basic skills in vocal or instrumental performance.

Students taking this course should plan to take the Advanced Placement Music Theory Test given in May.

AP weighted-Grade Course.

Prerequisite: Successful completion of Music Theory OR a passing score on the Elective Placement Test.

NOTE: AP Music Theory will be offered every other year. At CB East and CB South it will be offered for 2017-2018, etc. At CB West it will be offered for 2016-17, 2018-2019, etc. Music students should plan accordingly.

PEN (Gifted Program)

9600 PEN–Grades 10–12

(9 weeks, .5 credit)

This course provides students identified as gifted with the opportunity to dialogue with others of similar abilities and to pursue areas of mutual and individual interest. Students are involved in readings, discussions, lectures, and other activities designed to foster critical thinking skills and the exchange of ideas. At the beginning of the course, students may choose to take PEN for a grade as a pass/fail course. In either case, credit will be awarded if the course is passed.

SCIENCE

SCIENCE SEQUENCES			
Grade 9	Grade 10	Grade 11	Grade 12
MOST RIGOROUS PROGRAM For college-bound students planning a career in scientific research, medicine, engineering, or in another scientific field. This is especially recommended if the student is applying to a college defined as most competitive.*			
Advanced Science	All students are required to take a Biology courses in 10th grade. For the Most Rigorous Program, Honors Biology is recommended. A student in this program may also consider taking any of these additional courses based upon future academic goals: Honors Chemistry Honors Physics AP Environmental Science	Choose from AP Biology; AP Chemistry; AP Physics: Newtonian Mechanics; AP Physics: Electricity and Magnetism; Organic and Equilibrium Chemistry; AP Environmental Science; and/or select earth science electives as they apply to your career goals; Human Anatomy and Physiology should be taken for health-care related fields.	
ACADEMIC PROGRAM College-bound students are required to take Biology to graduate, and Central Bucks also recommends at least one course in Chemistry and Physics.*			
Academic Science	All students are required to take a Biology courses in 10th grade. For the Academic Program, Academic Biology is recommended. A student in this program may also consider taking either of these additional courses based upon future academic goals: Academic Chemistry Academic Physics	Academic Chemistry or Academic Physics	Academic Chemistry or Academic Physics
	A student could also consider Practical Biology rather than Academic Biology	Astronomy, Environmental Science, Geology and Environment, Oceanography, Practical Biology, Conceptual Chemistry	
* All Students are required to take a Biology course in Grade 10. Courses that qualify for this requirement are: <ul style="list-style-type: none">3010 Honors Biology3020 Academic Biology3040 Practical Biology			

Biology Courses

[3010 Honors Biology](#)

[3020 Academic Biology](#)

(18 weeks, 1 credit)

A biology course is required for all 10th graders. The Honors/Academic course will also help the student understand that biology is a human endeavor with social consequences and responsibilities. Major topics are cell physiology, genetics, cell energy, embryology, microbiology, and bioengineering. The honors course will explore more topics and complete additional readings, including the nonfiction book, *The Hot Zone*. This course is intended for students to meet college entrance requirements.

Honors weighted-grade course for 3010.

Prerequisite for Honors: Teacher approval required.

[3100 Advanced Placement Biology](#)

(27 weeks, 1.5 credits)

The Advanced Placement Biology course is similar to a freshman-level college biology course. It follows a course outline developed by the Advanced Placement organization and uses a college-level textbook. College credit or advanced standing may be obtained from many institutions through scores of 3 or more on the Advanced Placement Test. **Students taking this course should plan to take the Advanced Placement Biology Test given in May. AP weighted-grade course.**

Prerequisite: Honors Biology, B or better and Honors Chemistry or teacher recommendation. Honors Chemistry may be taken concurrently in the first semester

[3040 Practical Biology](#)

(18 weeks, 1 credit)

A biology course is required for all 10th graders. Practical Biology uses a problem-based approach to the biological sciences. In the first half of the course, topics such as cell function, genetics, and microbiology are studied. The second half of the course addresses questions and concerns about natural resources, ecosystems, conservation, and ecology. This course is designed for the student who would like a more general understanding of the biological world.

[3130 Human Anatomy and Physiology](#)

(18 weeks, 1 credit)

The course of study focuses on body systems, such as the skeletal, muscular, cardiovascular, digestive, and nervous systems. A major theme of this course is to examine current issues, technologies, and bioethical questions relating to the curricular topics. Structured lab work, including dissection of specimens, is part of the course.

Human Anatomy and Physiology is designed for college-bound students with an interest in the allied health fields or students with a general interest in the biology of the human body.

Prerequisite: Academic or Honors Biology, C or better.

[3122 Applied Human Anatomy and Physiology](#)

CB-West only

(18 weeks, 1 credit)

This course links biology and physical education to provide students with the opportunity to learn about human anatomy and physiol-

ogy. The concepts and principles are then applied in a student-designed total "wellness" program. A wellness program includes fitness training, nutrition, and stress management.

The class meets every day for one block. Activities include the use of the YMCA as a fitness center, cholesterol screening, student-designed fitness programs, an exhibition of mastery, and dissection labs involving preserved specimens. Active participation is required for all activities.

Prerequisite: Biology, C or better.

Chemistry Courses

[3110 Honors Chemistry](#)

(18 weeks, 1 credit)

Honors Chemistry offers a study of the relationship between matter and energy and the role that each plays in physical and chemical change. Students will learn the scientific methods of problem solving and will be expected to apply them in laboratory work. Students will learn to use laboratory equipment safely and correctly and will learn to record and interpret data from experiments. Laboratory work and assessments will challenge students to be creative and to give evidence of individual study.

Honors Chemistry is intended for students who have distinguished themselves in mathematics and science. The course prepares students to meet course expectations for advanced-level courses such as AP Biology, AP Chemistry, or AP Physics. For this reason, students are expected to be working above grade level in mathematics. Students planning to pursue careers in medicine, engineering, or other science fields should consider taking this course.

Honors weighted-grade course.

Prerequisite: Algebra 2/Trigonometry, B or better. (Note: Algebra 2/Trigonometry course may be taken concurrently with Honors Chemistry)

[3120 Academic Chemistry](#)

(18 weeks, 1 credit)

Academic Chemistry offers a study of the relationship between matter and energy and the role that each plays in physical and chemical change. Students will learn the scientific methods of problem solving and will be expected to apply them in laboratory work. Students will learn to use laboratory equipment safely and correctly and will learn to record and interpret data from experiments. To be successful in Academic Chemistry, students must exhibit strong study skills and daily commitment to course activities.

Academic Chemistry is designed for students who have demonstrated proficiency in mathematics, including satisfactory completion of Algebra 2/Trigonometry. This course meets college entrance requirements.

Prerequisite: Algebra 2/Trigonometry, C- or better. (Note: Algebra 2/Trigonometry course may be taken concurrently with Academic Chemistry)

[3140 Conceptual Chemistry](#)

(18 weeks, 1 credit)

Conceptual Chemistry offers students the opportunity to study topics related to the general structure and behavior of matter. Essential chemistry content is presented within the context of realistic situations and is related to the student's practical experiences.

All units will involve laboratory investigations. The course will help students understand industrial applications of chemistry and how chemistry is used to solve societal problems. Success in the course requires daily, active participation. Although this course meets college entrance requirements, it is recommended that the college-bound student takes Academic Chemistry.

3114 Organic and Equilibrium Chemistry

(9 weeks, .5 credit)

This course is designed for students who plan to take a science or engineering major in college. Topics include equilibrium-related concepts in acid/base chemistry, thermodynamics, and electrochemistry. Atomic and molecular structure as it is related to organic chemistry will also be studied. Organic nomenclature and functional groups in organic molecules will be included, as well as important organic chemistry reactions. This course is intended for students who wish to prepare for the SAT Subject Test in Chemistry or for Chemistry placement exams given by colleges.

Prerequisite: Academic Chemistry, B and teacher approval.

3101 Advanced Placement Chemistry

(27 weeks, 1.5 credits)

Advanced Placement Chemistry differs from Academic Chemistry in respect to the kind of textbook used, the depth of topics covered, the emphasis on calculations, the mathematical formulation of principles, and the type of laboratory work expected. Topics include matter's structure and states, reactions' types, equilibrium, kinetics, thermodynamics, and descriptive chemistry beyond that covered in Academic Chemistry.

Advanced Placement Chemistry provides an opportunity for interested students to engage in an in-depth study of college-level chemical concepts. It is specifically designed to stimulate secondary students to higher achievement and eliminate duplication later in college. College credit or advanced standing may be obtained from many institutions for students who score 3 or higher on the Advanced Placement Test. Students must complete an application to verify course prerequisites. **A summer assignment is required and should be completed before the start of the course.**

Students taking this course should plan to take the Advanced Placement Chemistry Test given in May.

AP weighted-grade course.

Prerequisite: Honors Chemistry with a B or Academic Chemistry with an A; and Pre Calc/Trig 3, B-.

Physics Courses

It is recommended that all college-bound Central Bucks students participate in a physics course.

3224 Academic Physics

(18 weeks, 1 credit)

Why is the sky blue? Have you ever wondered how the world works? If so, then Academic Physics is the course for you. Students will learn some of the most foundational concepts in all of the sciences: motion, forces, energy, electricity & magnetism, wave motion, and the behavior of light. Classroom instruction will emphasize hands-on learning. Students will have the opportunity to apply basic mathematical techniques to real-world situations. Students will learn the scientific method of problem-solving and learn to apply it successfully through laboratory experimentation.

It is recommended that all college-bound Central Bucks students participate in a physics course.

Prerequisite: Completion of Algebra 1.

3225 Honors Physics

(18 weeks, 1 credit)

Honors Physics is the study of motion, forces, energy & momentum. Experimentation, demonstrations, problem-solving and associated readings are all part of the course. Students will learn the scientific method of problem-solving and learn to apply it successfully in the laboratory.

Honors Physics is intended for students who have distinguished themselves in mathematics and science. It is a particularly math-intensive course; and consequently, students are expected to be working above grade-level in mathematics. Students planning to pursue careers in medicine, engineering, or other science fields should take this course.

Honors weighted-grade course.

Prerequisite: Completion of Algebra 2/Trigonometry.

3102 Advanced Placement Physics: Newtonian Mechanics

(18 weeks, 1 credit)

This AP course is designed to address the areas of kinematics, Newton's laws of motion, energy and power, systems of particles, circular motion and rotation, oscillations, and gravitation. This is a typical first-semester college physics course taken by students majoring in science, math, or engineering. High motivation and an above-average ability in math are important because the course will move at a fast pace and is calculus based.

Students taking this course should plan to take the Advanced Placement Physics: Newtonian Mechanics Test given in May.

AP weighted-grade course.

Prerequisite: Completion of Pre-Calculus.

3103 Advanced Placement Physics: Electricity & Magnetism

(18 weeks, 1 credit)

This AP course addresses the following content areas: electrostatics, electric circuits, magnetostatics, electromagnetism, and conductors, capacitors, and dielectrics. Use of calculus in problem solving and in derivations will increase as the course progresses. This is a typical second-semester college physics course.

Students taking this course should plan to take the Advanced Placement Physics: Electricity and Magnetism Test given in May.

AP weighted-grade course.

Prerequisite: AP Physics: AP Newtonian Mechanics or Honors Physics and Calculus 1.

Earth Science Courses

3640 Astronomy/Space Exploration

(9 weeks, .5 credit)

The astronomy course provides a descriptive study of the universe and the place that our solar system occupies within the universe. The motion of our solar system and the instruments used to study our galaxy are explored, along with travel, work, and exploration in space.

3646 Geology and Environment

(18 weeks, 1 credit)

This project based and inquiry-lab driven course creates a learning environment that allows students to explore the interconnections between biology, chemistry, physics, and the earth sciences. This course illustrates the relevant connections between the daily lives of students and the key concepts in geology. Topics in the course will include rocks and minerals, map interpretations, plate tectonics, earthquakes and volcanoes, weathering and erosion, pollution, climate change, population dynamics, sustainability and more.

3643 Oceanography

(9 weeks, .5 credit)

Oceanography is for students interested in the ocean and its effects on man and nature. Recent concern about ocean pollution has increased the need for basic understanding of the sea environment. Students will learn about the physical features of the oceans, chemical makeup, tides, currents, topography of the sea floor, and shorelines. The biological requirements of the ocean community will also be studied.

Environmental Courses

3121 Environmental Science

(9 weeks, .5 credit)

Environmental Science provides students with opportunities to investigate real environmental problems such as water quality, waste disposal, and energy sources and conservation. Students participate in activities centering around both natural and man-made environments.

The course helps students develop the conflict-resolution skills needed for community environmental problem-solving. Students examine different facets of environmental issues and are encouraged to make sound decisions based on fact. Topics include the ecosystem concept, terrestrial ecology, soil ecology, water ecology, energy sources, and pollution. This course is designed for a broad range of students with a high interest in environmental conditions and problems.

3108 Advanced Placement Environmental Science

(18 weeks, 1 credit)

The goal of AP Environmental Science is to provide students with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze both natural and human-made environmental problems, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving and/or preventing them.

The course focuses on the “real science” behind environmental problems and issues. Laboratory and field study are important elements of the course. Topics include scientific analysis, interdependence of the Earth’s systems, human population dynamics, renewable and nonrenewable resources, environmental quality, and the environment and society.

Because of the quantitative analysis that is required in the course, students should also have taken at least one year of Algebra.

Students taking this course should plan to take the Advanced Placement Environmental Science Test given in May.

AP weighted-grade course. Prerequisite: Academic Biology or Academic Chemistry.

3213 Forensic Science

(18 weeks, 1 credit)

The course will involve the application of chemical, physical, and biological principles for the investigation of physical evidence in criminal cases. It will entail analytical reasoning, laboratory testing, possible field trips, and provide technical expertise (qualified speakers who will present and help us to analyze evidence from criminal cases).

Students will be taught the fundamentals of a criminal investigation and how they apply in a court of law. The students will learn by doing — they will isolate and process crime scenes, analyze and interpret lab data, and problem solve. Each student’s experience will culminate with the solving of a crime scene scenario.

Grade Level: 11, 12

Prerequisites: Academic Biology, C or higher.

The study of history rests on knowledge of facts, dates, names, places, events, and ideas. However, true historical understanding requires students to engage in historical thinking: to raise questions and to collect solid evidence in support of their answers; to go beyond the facts presented in their textbooks and examine the historical record for themselves; to consult documents, journals, diaries, artifacts, historic sites, works of art, quantitative data, and other evidence from the past, and to do so imaginatively—taking into account the historical context in which these records were created and comparing the multiple points of view of those on the scene at the time (*National Historical Thinking Standards*). The study of history provides an ordered account of the past and its significance to us.

Sophomores will examine the “modern” world from 1450 C.E. to the present. Juniors will study the importance of civics and examine our American government and its involvement in the US economy. Seniors will focus on how international relations and economics affect our globalized contemporary world.

All students are required to complete the four-year sequence (Grades 9-12) of social studies courses for graduation as prescribed in the chart below. Note that students must take one required social studies course in each year—in grade 9, grade 10, grade 11 and grade 12. Any AP course with 1.5 credits will have 1.0 credits assigned to graduation requirements for social studies credit and .5 credit assigned to electives.

REQUIRED SOCIAL STUDIES SEQUENCES			
Grade 9	Grade 10	Grade 11	Grade 12
MOST RIGOROUS PROGRAM For college-bound students who are applying to colleges designated as most competitive and/or planning to major in history, business, social sciences, or humanities.			
Advanced United States History	AP European History	AP US History	AP Macroeconomics and/or AP Comparative Government
HONORS & ACADEMIC PROGRAM For the majority of college-bound students			
Academic United States History	Modern World History Honors OR Modern World History Academic	American Government and Economic Systems Honors OR American Government and Economic Systems Academic	Global Relations Honors OR Global Relations Academic

Grade 10 Social Studies

[1101 Advanced Placement European History](#)

(27 weeks, 1.5 credits)

This course investigates the development of Western European society between 1450 and the present. The students will become familiar with the principal themes in modern European history and the methods for the analysis of historical evidence.

Students who take this course should plan to take the Advanced Placement European History Test given in May.

AP weighted-grade course.

Prerequisites: B or better in 9th Advanced United States History, or A- or better in 9th Academic United States History, or teacher recommendation.

[1111 Honors Modern World History](#)

[1120 Academic Modern World History](#)

(18 weeks, 1 credit)

This course will concentrate on the history of the modern world, both Western and non-Western, from 1450 CE to the present. Topics will include foreign policy, political systems, social and cultural change, and economic trends. The honors course addresses the same time period and topics but in more depth, with added readings, writing assignments, and projects. **Honors weighted-grade for 1111**

Honors prerequisite: Teacher recommendation.

Grade 11 Social Studies

[1000 Advanced Placement U.S. History](#)

(27 weeks, 1.5 credits)

This course examines the history of the United States in a chronological manner from the Colonial Period through the 1990s. Students complete readings in both factual and interpretive textbooks. Class participants will address more historical material, study history in greater depth, and complete projects and writing assignments other than those assigned in Recent America, Honors or Academic.

Students who take this course should plan to take the Advanced Placement U.S. History Test given in May.

AP weighted-grade course.

Prerequisites: B or better in 10th Honors Social Studies, or A in 10th Academic Social Studies, or B or better in AP European History, or teacher recommendation.

[1012 Honors American Government and Economic Systems](#)

[1022 Academic American Government and Economic Systems](#)

(18 weeks, 1 credit)

This course examines the organization and operations of the political system in the United States. Topics will focus on how the government affects our policies, economies, and social issues while also examining the three branches of our national government, the role of political parties and interest groups, and elections. Economics will

introduce such fundamental economic concepts as scarcity, opportunity costs, supply and demand, competition and incentives, fiscal and monetary policy, forms of business organization, the business cycle, and the economic role of government.

The honors course addresses the same topics but in more depth with added readings, writing assignments, and projects.

Honors weighted-grade for 1012.

Honors prerequisite: Teacher recommendation.

Grade 12 Social Studies

1202 Advanced Placement Macroeconomics

(18 weeks, 1 credit)

This course will examine the behaviors of the entire economy, including the study of employment, inflation, economic growth, and consumer spending.

Students who take this course should plan to take the AP Macroeconomics test in May.

AP weighted-grade course.

Prerequisites: B or better in AP European History or AP U.S. History or A- or better in 11th grade social studies course or teacher recommendation.

1203 Advanced Placement Comparative Government

(18 weeks, 1 credit)

This course will focus on the historical and contemporary development of governmental, political, and social systems in Great Britain, France, Russia, China, and other less developed nations.

Students who take this course should plan to take the AP Comparative Government test in May.

AP weighted-grade course.

Prerequisites: B or better in AP European History or AP U.S. History or A- or better in 11th grade social studies course or teacher recommendation.

1210 Honors Global Relations

1220 Academic Global Relations

(18 weeks, 1 credit)

Students in this course will study how countries relate to one another, how they work together, and how they sometimes conflict in our world today. A major focus of the course is the impact of international issues on the formulation of American foreign policy. Comparative economic systems and international trade in the evolving global economy will also be considered. The central skill of economics is decision-making; emphasis will be placed on the development of an economic perspective to problem-solving so students can better understand current economic issues such as inflation, unemployment, stagflation, productivity, and the national debt.

The honors course addresses the same topics but in more depth with added readings, writing assignments, and projects.

Honors weighted-grade for 1210.

Honors prerequisite: Teacher recommendation

Social Studies Elective Courses

THESE COURSES PROVIDE GRADUATION CREDITS IN ELECTIVES ONLY. SOCIAL STUDIES ELECTIVE COURSES ARE ONLY OFFERED IF THERE IS SUFFICIENT ENROLLMENT.

1160 Psychology – Grades 11, 12

(9 weeks, .5 credit)

This course introduces students to the factors affecting human behavior and the ideas of the more prominent psychologists. Stages of human development, learning, perception, personality, and the psychological basis of behavior are among the topics investigated. Through readings, discussion, viewing, and experimentation, students achieve a better understanding of human behavior.

1161 Sociology – Grades 11, 12

(9 weeks, .5 credit)

Sociology will enable students to better understand the relationships and influences of social groups upon the individual. The socialization process, social stratification, deviance, social institutions, and cultural change are among the topics explored. A variety of sociological perspectives will be applied throughout this course in order to enable students to analyze social behavior.

1162 Introduction to the Law

Grades 10, 11, 12

(9 weeks, .5 credit)

What are my legal rights and responsibilities as a citizen in the United States, as a juvenile, or as an adult in society? What legal structures and procedures govern and protect me? Introduction to the Law is designed to help students answer these questions by conducting a thorough examination of the political and legal ideals and practices of this country.

1163 Geography

Grades 10, 11, 12

(9 weeks, .5 credit)

This course introduces students to physical, human, and cultural geography. Students will study the physical characteristics of the earth and the tools of geographers. Through case studies and projects, students will answer questions such as: How does geography help us understand our world? In what ways do humans interact with their environment? How can cultural characteristics link or divide regions?

All courses in technology and engineering education are offered only if there is sufficient enrollment.

6360 Exploratory Architectural Design

Offered at CB East

(9 weeks, .5 credit)

This course is for those students wishing to investigate their interest in architecture. Students will gain hands-on experience as they develop a residential design and gain exposure to computer-aided design using AutoDesk, 3-D modeling software and Vector Programs. Model building and portfolio development are also elements of the course. **Students completing this course should next enroll in Architectural Design 2.**

6361 Architectural Design 1

Offered at CB East

(18 weeks, 1 credit)

This course is highly recommended for those students interested in pursuing architecture upon graduation, those wishing to explore the various careers in architecture, and those with an interest in residential home layout. During this course students will study basic structural planning, design, and construction. Class time will be devoted to creating a residential design study and constructing a model of it. Students will utilize computer-aided design (CAD) using AutoDesk, 3-D modeling software and Vector Programs. Students will make use of digital photography and desktop publishing as they begin building their architectural design portfolio.

6362 Architectural Design 2

Offered at CB East

(18 weeks, 1 credit)

This course allows students to explore their interest in Architecture in greater detail. Students will complete a commercial design study utilizing computer-aided design as well as the drawing board using AutoDesk, 3-D modeling software and Vector Programs. Emphasis is placed on three dimensional conceptualization, site development, model building, and time management skills. Level one portfolios will be built upon with college admissions in mind.

Prerequisite: Completion of Architectural Design 1 or Exploratory Architectural Design with a final grade of C- or better, or approval of teacher.

6363 Architectural Design 3

Offered at CB East

(18 weeks, 1 credit)

Students will complete advanced architectural design problems utilizing computer-aided design as well as traditional methods. Emphasis is placed on three-dimensional conceptualization, elements of design, architectural history, color in design, computer generated 3D rendering, advanced model building, and time management skills using AutoDesk, 3-D modeling software and Vector Programs. Previous level portfolios will be built upon with college admissions in mind.

Prerequisite: Completion of Architectural Design 2 with a final grade of C- or better, or approval of teacher.

6560 Exploring Engineering and Architecture

Offered at CB South and CB West

(9 weeks, .5 credit)

This 9 week course is for those students wishing to investigate their interest in Engineering and Architecture. In this course, students will be introduced to the engineering design process and use it to solve problems related to engineering and architecture. Class time will be devoted to CAD (computer-aided design), vinyl cutting, 3D modeling software, robotics, coding and electronics. Students will use a variety of techniques and real-world technologies throughout the course. Students completing this course should next enroll in Engineering and Architecture 2 with a final grade of C- or better, or approval of teacher.

6561 Engineering and Architecture 1

Offered at CB South and CB West

(18 weeks, 1 credit)

This 18 week course is highly recommended for students interested in pursuing engineering or architecture upon graduation. In this course, students will be introduced to the engineering design process and use it to solve problems related to engineering and architecture. Class time will be devoted to CAD (computer-aided design), vinyl cutting, and 3D modeling software, robotics, coding and electronics. Students will use a variety of techniques and real-world technologies throughout the course. Students will begin portfolios of their work.

6562 Engineering and Architecture 2

Offered at CB South and CB West

(18 weeks, 1 credit)

Building upon the experiences and knowledge in Engineering and Architecture 1, students will expand their knowledge in CAD (computer aided design), vinyl cutting, 3D modeling software, robotics, coding, and electronics. Students will work with CNC programming, laser engraving and the programming of microcontrollers. Emphasis is placed on three-dimensional conceptualization, elements of design and applications of technology through engineering. Students will continue to develop portfolios of their work.

Prerequisite: Completion of Engineering and Architecture 1 or Exploring Engineering and Architecture with a final grade of C- or better, or approval of teacher.

6563 Engineering and Architecture 3

Offered at CB South and CB West

(18 weeks, 1 credit)

Building upon the experiences and knowledge in Engineering and Architecture 2, students will select advanced engineering and architectural design problems which they will solve based upon their college and career goals. Computer aided design, vinyl cutting, 3-D modeling software, robotics, coding, electronics and open source programming will be used for accomplishing design challenges. Students will finalize portfolios of their work.

Prerequisite: Completion of Engineering and Architecture 2 with a final grade of C- or better, or approval of teacher.

6460 Exploratory Materials Engineering

Offered at CB South and CB West

(9 weeks, .5 credit)

In this course, students will explore the software employed by the manufacturing industry to operate a variety of machines, including a laser and CNC equipment. Students will explore graphic design and layout as they design and produce their own mantel clock and/or folding stool. In addition to the computer-controlled machinery, Exploratory Materials Processing provides students with the opportunity to interact with traditional machines.

A fee will be charged for materials used in projects kept by the student.

Students completing this course should next enroll in Materials Processing and Design 2 with a final grade of C- or better, or approval of teacher.

6461 Materials Engineering 1

Offered at CB South and CB West

(18 weeks, 1 credit)

In this course, students will use the same software employed in the manufacturing industry to program a variety of machines. Students will explore graphic design and layout as they design and produce their own mantel clock, folding stool, and other projects.

In addition to offering experience with computer-controlled machinery, Materials Processing and Design 1 also provide students with the opportunity to interact with traditional machines as they produce other projects. Students will use problem-solving skills throughout the course.

Digital imaging and desktop publishing techniques are used as students develop an advertisement for one of the products they design and produce.

A fee will be charged for materials used in projects kept by the student.

6462 Materials Engineering 2

Offered at CB South and CB West

(18 weeks, 1 credit)

Building upon experiences in the level 1 course, students in Materials Engineering 2 will engage in a variety of activities. Students will have the opportunity to select their own product as they investigate advanced machining.

A fee will be charged for materials used in projects kept by the student.

Prerequisite: Materials Engineering 1 or Exploratory Engineering, C- or better, or approval of teacher.

6463 Materials Engineering 3

Offered at CB South and CB West

(18 weeks, 1 credit)

This course builds upon the CNC and machining concepts, and handcraft projects from Materials Engineering 2. Students will work with contoured surfaces as they explore the level 3, 3-D capabilities of the software.

Students will independently apply all concepts covered. Digital imaging and desktop publishing techniques are used as students continue to maintain a project portfolio.

A fee will be charged for materials used in projects kept by the student.

Prerequisite: Materials Engineering 2, C- or better, or approval of teacher.

6721 Engineering 1

Offered at CB East

(18 weeks, 1 credit)

This course is only available at East. In this course, students will be introduced to concepts found in the various fields of engineering. Students will be exposed to the engineering design process and then use it to solve problems related to basic engineering concepts. In addition to using computer numerical controlled machines, robotics, and a laser engraver, students will be introduced to high level 3-dimensional design software, and expected to use a variety of techniques and real-world technologies throughout the course.

6722 Engineering 2

Offered at CB East

(18 weeks, 1 credit)

This course is only available at East. Building upon the experiences and knowledge garnered in Engineering I, students will engage in a more elaborate study of robotics and electronics. Students will explore robotics by designing small robots that can navigate an obstacle course and complete several functions. Control logic and robot components will be introduced in this section of the course. Students will further their exploration of robotics using a more advanced system of engineering and design; additionally, students will read and develop schematics and create their own robots. Students will also continue to explore computer numerical control by designing and building a prototype in a product design challenge using the CNC equipment.

Prerequisite: Engineering 1, C or better, or approval of teacher.

World language courses are offered only if there is sufficient enrollment.

World Language Quick Guide to Course Sequences				
Grade 8	Grade 9	Grade 10	Grade 11	Grade 12
French 1	French 2	French 3	French 4 Honors (or French 4 if numbers permit)	AP French
		Latin 1	Latin 2	Latin 3
		Chinese 1	Chinese 2	Chinese 3
		Spanish 1	Spanish 2	Spanish 3
	Spanish 1	Spanish 2	Spanish 3	Spanish 4
	Spanish 1	Spanish 2	Spanish 3/4 in 1 year	Spanish 4/5 in 1 year
Spanish 1	Spanish 2	Spanish 3	Spanish 4	Spanish 5
Spanish 1	Spanish 2	Spanish 3	Spanish 4/5 in 1 year	AP Spanish
Spanish 1	Spanish 2	Spanish 3 Honors	Spanish 4 Honors	AP Spanish

[4101 Chinese 1](#)

(18 weeks, 1 credit)

The goal of this first-year language is to enable students to use fundamental expressions and vocabulary in oral and written context while integrating cultural elements. This course will focus on tones, rules of phonetic spelling, and pronunciation. Students will also learn Chinese characters: stroke order, structure, the writing systems, and calligraphic techniques (simplified characters will be taught). Students will learn basic sentence pattern analysis, and development of language skills in listening, speaking, reading, and writing.

[4102 Chinese 2](#)

(18 weeks, 1 credit)

The goal of the Chinese 2 course is to enable students to communicate effectively in the target language, to read, write, interpret and speak basic Chinese. Students will continue to use fundamental expressions and vocabulary in oral and written context while integrating cultural elements. This course will also continue the focus on tones, rules of phonetic spelling, and pronunciation. Upon completion of this course, students will be able to express their basic thoughts and ideas in writing and speaking. Students registering for this course must have a solid foundation in tones and pronunciation, as well as a working knowledge of basic vocabulary (i.e. greetings, simple sentences).

Prerequisite: Chinese 1, C or better.

[4103 Chinese 3](#)

(18 weeks, 1 credit)

Students enrolled in Level 3 will begin the course proficient in basic Mandarin. The same text series and supplemental materials are used and the students continue practicing reading, writing, speaking and listening as they become more proficient in the language.

Prerequisite: Level 2, C- or better

[4501 Spanish 1](#)

(18 weeks, 1 credit)

The goal of first-year language is to enable students to use fundamental expressions and vocabulary in verbal and written context while integrating cultural elements. This course emphasizes communicative skills, relevant grammar concepts, and reading comprehension. CDs, videos, online resources, workbooks, and a variety of supplementary materials are used to help achieve this goal.

Prerequisite: The department recommends a C or better in the previous year's English course.

[4502 Spanish 2](#)

(18 weeks, 1 credit)

Level 2 continues language study in the same patterns as Level 1. Students experience opportunities for more advanced verbal and written self-expression and related cultural elements. More advanced grammatical concepts, vocabulary, and expressions are taught in complete sentences with an emphasis on speaking and writing. CDs, videos, online resources, workbooks, and supplementary materials are essential parts of these classes.

Prerequisite: Level 1, C- or better.

[4203 French 3](#)

[4503 Spanish 3](#)

(18 weeks, 1 credit)

These courses continue earlier study with an increasing emphasis on speaking and writing. Students will review all previously studied concepts and be introduced to more advanced grammatical points. Culture is integrated throughout the curriculum. CDs, DVDs, online resources, workbooks, and supplementary materials are essential parts of these classes.

Prerequisite: Level 2, C- or better.

4513 Spanish 3, Honors

(18 weeks, 1 credit)

Spanish 3, Honors is a rigorous course designed to accelerate the student's proficiency and achievement in the skills of listening, speaking, reading, and writing. Reading will include literary works by well-known authors with literary analysis. Students will review all previously studied grammatical concepts and will study more advanced structures and their applications. A thematic based text is used as a primary resource.

The students recommended for this course should strongly consider taking Spanish 4, Honors, followed by AP Spanish Language.

Honors weighted-grade course.

Prerequisite: Level 2, B+ average and the recommendation of the Spanish 2 teacher.

4204 French 4

4504 Spanish 4

(18 weeks, 1 credit)

These courses continue emphasis on listening, speaking, reading, and writing. Students will review previously studied grammatical points and be introduced to more advanced grammatical concepts. Selected readings and culture are infused throughout the curriculum. CDs, DVDs, online resources, workbooks, and supplementary materials are an essential part of these classes.

Prerequisite: Level 3, C- or better.

4514 Spanish 4, Honors

(18 weeks, 1 credit)

This course, which is a continuation of the Honors 3 sequence, is designed to accelerate the student's proficiency and achievement in the skills of listening, speaking, reading, and writing. Continued emphasis will be placed on reading and writing skills. Reading will include literary works by well-known authors with literary analysis. Students will complete the study of grammatical concepts and their applications. Increased emphasis will be placed on verbal and aural discrimination. A thematic based text is used as a primary resource.

The students recommended for this course should strongly consider taking AP Spanish Language as the culmination of the sequence.

Honors weighted-grade course.

Prerequisite: Level 3, Honors, B average and the recommendation of the Spanish 3 Honors teacher. Level 3 students may take Spanish 4 Honors only with teacher recommendation.

4214 French 4, Honors

(18 weeks, 1 credit)

This rigorous course is designed to accelerate the student's proficiency and achievement in the skills of listening, speaking, reading, and writing. Emphasis will be placed on reading and writing skills. Readings will include literary works by well-known authors with literary analysis. Students will complete the study of grammatical concepts and their applications. Increased emphasis will be placed on verbal and aural discrimination. The student electing this course should strongly consider taking the AP Language course the following year as the culmination of the sequence.

Honors weighted-grade course.

Prerequisite: Level 3, B average and recommendation of French 3 teacher.

4505 Spanish 5

(18 weeks, 1 credit)

This course allows students to apply all the skills they have learned in their previous years of study. The practical aspects of using the foreign language will be emphasized and expanded. Student involvement in class activities plays a major part in the course. Students will learn historical and cultural information about Spain and the Americas in Spanish. Compositions, conversations and debates in Spanish are an integral part of this course. Grammar will be thoroughly reviewed but will not be the main focus of the class.

Fifth year foreign language does not prepare students for Advanced Placement examinations. Academic-level students may take AP Language courses after completing level 5 with an A- average or better.

Prerequisite: Level 4, C- or better.

4500 Advanced Placement Spanish

4200 Advanced Placement French

(18 weeks, 1 credit)

Advanced Placement Language is designed to prepare students for the AP Examination. Acceptable scores on this annual exam can result in college credit and/or advanced placement status at many of the nation's colleges.

In AP Language, students will continue to increase their proficiency in all four language skills: listening, speaking, reading, and writing. Students will integrate these skills and concepts using authentic resources, as well as literary works. Advanced grammatical concepts continue to be introduced and refined. Students will become proficient in recording software.

Students selecting this course should plan to take the Advanced Placement Language Examination given in May.

AP weighted-grade course.

Prerequisite: AP Spanish: Level 4 Honors, B or better; Level 5, B or better. AP French: Level 4 with teacher recommendation; Level 4 Honors, C or better or teacher recommendation

4401 Latin 1

(18 weeks, 1 credit)

Latin 1 emphasizes the skills needed to read, comprehend, and translate the language while practicing grammar usage, vocabulary, with written and verbal work. In addition, emphasis is placed on Latin-English word derivations, mythology, Roman life and cultural influences, with special attention given to the city of Pompeii and its subsequent destruction.

4402 Latin 2

(18 weeks, 1 credit)

Latin 2 continues the work of Latin 1. Advanced grammatical concepts and vocabulary allow the student to continue reading, comprehending, and translating Latin passages. These passages, filled with cultural content, begin with Roman Britain and the city of Alexandria, and explore the arts and sciences of the regions, including travel and communication. Special focus continues to be given to Latin-English word derivations.

Prerequisite: Latin 1, C- or better.

4403 Latin 3

(18 weeks, 1 credit)

Latin 3 continues the work of Latin 2, by using new and advanced grammatical concepts, more subject-specific vocabulary, and figures of speech. Roman life and culture will be emphasized while exploring Roman religion, entertainment, architecture, and military camps of various Roman colonies. Special emphasis continues to be given to Latin-English word derivation.

Prerequisite: Latin 2, C- or better.

4522 Study Abroad: France

4521 Study Abroad: Spain

(.25 elective credit)

Study Abroad courses are designed to provide the student with an immersion experience and the opportunity to use a world language in an authentic culture where the target language is spoken. Participants will experience the art, music, history and customs of the country as well as carry out tasks to improve their oral proficiency. Each study abroad course contains five elements; pre-travel sessions (attendance at these sessions is mandatory), research project, class-work abroad, travel, and reflection.

While abroad, students must adhere to all school board policies, including those regarding drugs, alcohol and weapons. An application form is available in each school through the World Language Department. The cost of the course will vary from year to year and is the sole financial responsibility of parents or guardians.

Enrollment is limited. Travel for these courses will occur in the summer, rotating between languages. Travel is dependent upon world conditions and travel alerts.

Prerequisites: Teacher recommendations, essay, application. Students must have completed Spanish or French 2 with a grade of C or better prior to departure; they must also be enrolled in the next level of the sequence.

YEARBOOK

9568 Yearbook Production

(9 weeks every day or 18 weeks, A/B, .5 credit, elective)

This course is designed to provide yearbook staff with instruction in the various phases of yearbook production: yearbook journalism, layout and design, digital imaging, business management, advertising, and public relations. Students in this course design and produce the school's yearbook.

Note: A student may be on the yearbook staff without being enrolled in this course. Students may enroll in this course more than once only with prior permission from the teacher.

Prerequisites: Grade B or better in English, and experience in at least one of these areas: photography, digital imaging, or business, or recommendation of the teacher/yearbook advisor.

THREE-YEAR PLANNING WORKSHEET

Grade 10

First Marking Period	Second Marking Period	Third Marking Period	Fourth Marking Period

Grade 11

First Marking Period	Second Marking Period	Third Marking Period	Fourth Marking Period

Grade 12

First Marking Period	Second Marking Period	Third Marking Period	Fourth Marking Period

THREE-YEAR PLANNING WORKSHEET

Grade 10

First Marking Period	Second Marking Period	Third Marking Period	Fourth Marking Period

Grade 11

First Marking Period	Second Marking Period	Third Marking Period	Fourth Marking Period

Grade 12

First Marking Period	Second Marking Period	Third Marking Period	Fourth Marking Period



Central Bucks Mission Statement

The Central Bucks Schools will provide all students
with the academic and problem-solving skills
essential for personal development,
responsible citizenship, and life-long learning.

Statement of Equal Opportunity

Central Bucks School District is an equal-opportunity institution which does not discriminate on the basis of race, religion, color, sex, age, national origin, or disability in its programs and services or in its hiring and employment practices.

For information regarding your civil rights, grievance procedures, or programs and services accessible to the handicapped, please contact the Superintendent's office at the address below.

Central Bucks School District~20 Welden Drive~Doylestown, PA 18901~(267) 893-2000