

**NORTHGATE
MIDDLE/HIGH SCHOOL**

COURSE CATALOG



Northgate

School District

2019-2020

STUDENT RIGHTS

The Northgate School District does not discriminate on the basis of race, color, age, creed, religion, gender, sexual orientation, ancestry, national origin, marital status, pregnancy or handicap/disability, or limited English proficiency in its educational programs, services, facilities, activities or employment policies as required by Title IX of the 1972 Educational Amendments, Titles VI and VII of the Civil Rights Act of 1964 as amended, Section 504 Regulations of the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, Section 204 Regulations of the 1984 Carl D. Perkins Act or any applicable federal statute.

COMPLIANCE STATEMENT

The Board declares it to be the policy of this District to provide an equal opportunity for all students to achieve their maximum potential through the programs offered in the schools regardless of race, color, age, creed, religion, gender, sexual orientation, ancestry, national origin, marital status, pregnancy or handicap/disability. The district shall provide to all students, without discrimination, course offerings, counseling, assistance, employment, athletics and extracurricular activities. The district shall make reasonable accommodations for identified physical and mental impairments that constitute handicaps and disabilities, consistent with the requirements of federal and state laws and regulations.

The Board encourages students and third parties who have been subject to discrimination to promptly report such incidents to designated employees.

The Board directs that complaints of discrimination shall be investigated promptly, and corrective action be taken when allegations are substantiated. Confidentiality of all parties shall be maintained, consistent with the district's legal and investigative obligations.

No reprisals nor retaliation shall occur as a result of good faith charges of discrimination.

For information regarding civil rights or grievance procedures, or information regarding services, activities and facilities that are accessible to and usable by disabled persons, contact Dr. Caroline Johns, 589 Union Avenue, Pittsburgh, PA 15202.

OUR SHARED MISSION, VISION, AND VALUES

The mission of the Northgate School District is to provide each student with the opportunities to acquire knowledge and skills to the maximum of his or her potential through a challenging comprehensive program administered in a safe, caring environment so that each person will succeed and contribute as an ethical, responsible citizen in a rapidly changing global society.

The Northgate School District vision statement is to provide exemplary educational opportunities to its students in the pursuit of excellence.

All segments of the Northgate School District; the community, the School District, the students and their families, should be mutually supportive. Each member has value as an independent individual as well as a contributor to the success of the District. Every member has a right to, and a responsibility for lifelong learning, and the District should support that process to the greatest extent possible.

- Meaningful partnerships should be formed between the school and family because both share the responsibility for providing an environment where effective education can take place.
- The Northgate School District serves as the keystone of the communities Avalon and Bellevue, and as such it is vital to build and sustain the existing partnerships with local business and community leaders.
- All segments of the School District should share the responsibility for ethical and moral leadership and for setting high standards of individual and institutional achievement.
- The School District should provide broad-based and flexible programs of study that prepare the student to accept the responsibility of being a contributing member of society.
- Students should prepare for lifelong learning by developing, within the scope of their abilities, skills in independent thinking, critical thinking, observation, communication, organization, technology and information processing.
- The School District should be proactive in establishing effective and continuous communication among all segments of the District.
- Parents/guardians are the first and primary educators of their children and entrust a portion of this responsibility to the School District.
- School facilities should be available to public organizations to promote positive school and community relationships.
- The School District values the expertise of the School District staff and should provide the opportunity and incentive for continued growth and development.

- Learning is both an individual and cooperative process and students should be active contributors to their own and other students' successes.
- For both students and staff, the School District should establish performance standards, provide effective instruction, develop varied means of assessment, evaluate the process and implement necessary actions for improvement.
- The School District should help individuals develop a positive self-image as well as an appreciation of diversity and differences in others.

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NORTHGATE MIDDLE/HIGH SCHOOL PERSONNEL
412-732-3300

Principal.....	Mr. Bryan J. Kyle bkyle@northgate.k12.pa.us X1001
Principal/Attendance Secretary.....	Ms. Dana Bloom dbloom@northgate.k12.pa.us X1001
Dean of Students.....	Mr. Jon Nikolajski jnikolajski@northgate.k12.pa.us X1000
Attendance Officer.....	Mr. Keith Walters X1000
Guidance Counselor-grades 7, 8 & 9	Ms. Stacy Gallagher sgallagher@northgate.k12.pa.us X1014
Guidance Counselor-grades 10, 11 & 12.....	Mr. Brian Talbert btalbert@northgate.k12.pa.us X1013
Guidance Secretary.....	Ms. Diane Burns dburns@northgate.k12.pa.us X1012
Nurse.....	Malla Mizikowski X1020
English Chairperson	Ms. Nicole Smith
Mathematics Chairperson	Mr. Brian Veshio
Science Chairperson	Ms. Julia Coughenhour
Social Studies Chairperson	Mr. Brandon Hogle
Arts and Wellness Chairperson	Mr. Clayton Berwick
Special Education Chairperson	Ms. Missy Stone

**NORTHGATE MIDDLE/HIGH SCHOOL
GRADUATION REQUIREMENTS
CLASS OF 2018 TO 2021**

Current Grade Level	9th	10th	11th	12th
Class	2023	2022	2021	2020
English	4.0	4.0	4.0	4.0
Social Studies, including Government	4.0	4.0	4.0	4.0
Mathematics, including Algebra*	3.0	3.0	3.0	3.0
Science, including Biology	3.0	3.0	3.0	3.0
Computer Applications II	--	--	--	0.5
Computer Science Principles	1.0	1.0	1.0	--
Personal Finance	--	--	--	0.5
Business Communications	0.5	0.5	0.5	--
Physical Education	1.0	1.0	1.0	1.0
Health	0.5	0.5	0.5	0.5
Total	17.0	17.0	17.0	16.5
Electives	7.5	7.5	7.5	8.0
TOTAL	24.5	24.5	24.5	24.5

*Students may satisfy the Algebra requirement in 8th grade. These students are still required to complete a minimum of 3.0 credits of mathematics coursework during grades 9-12.

COLLEGE IN HIGH SCHOOL PROGRAM

In partnership with the Northgate School District, the Community College of Allegheny County (CCAC) is excited to offer eligible high school students an opportunity to earn a 30-credit General Education Certificate as part of a rigorous college program. Additionally, students will have the chance to earn a 60-credit associate degree should they wish to pursue more advanced courses at one of the college's multiple locations.

This remarkable opportunity could not have been possible without the collaborative work of faculty at both Northgate High School and CCAC's North Campus. Throughout the 2017–2018 academic year, high school course syllabi were analyzed and re-worked to ensure that Northgate High School students would have the opportunity to engage in coursework that prepares them for college and career readiness.

This opportunity will be available beginning with the class of 2021. These students will take placement exams during the summer between their freshman and sophomore years, ensuring that they are prepared for the rigorous expectations of college-level work. Students needing additional support or remediation may register for developmental coursework over the summer, re-test at the beginning of their sophomore year, and may then, given satisfactory placement test scores, enroll in the College in High School (CIHS) program courses.

The cost of taking advantage of this opportunity is currently \$110 per community college course, regardless of the number of credits associated with the course. Students will also pay a one-time-only \$25 matriculation fee. Costs cover all registration fees and access to CCAC's technology and academic support resources. Please note that this discounted pricing is available only to students enrolled in the CIHS program and for classes earmarked for the CCAC General Education Certificate and taught onsite at Northgate.

Obtaining a General Education certificate, or even an associate degree, remains possible for the Classes of 2020 and 2019, with additional non-CIHS coursework completed on campus at one of several CCAC locations.

Of special note is the transferability of credits awarded to students by CCAC. While Advanced Placement exams provide students with advanced standing at certain colleges and universities across the country, students are awarded credits based solely on their AP scores. Credits awarded by CCAC are fully transferable, and they could easily save students nearly \$60,000 in tuition and room and board costs. The Pennsylvania Transfer and Articulation Center, for example, outlines a series of 10 associate degrees that are almost wholly transferable. As such, a Northgate High School student could enter postsecondary study as a junior at one of the 33 colleges or universities participating in the Pennsylvania Transfer and Articulation Center's consortium of schools.

The relationship between Northgate School District and the Community College of Allegheny County offers exceptional access to top-notch college-level academics, and it is our hope that all eligible Northgate High School students will take advantage of this exciting opportunity!

Sincerely,

Dr. Caroline Johns
Superintendent of Schools
Northgate School District

Dr. Gretchen Mullin-Sawicki
North Campus & West Hills Center President
Community College of Allegheny County

COLLEGE IN HIGH SCHOOL PROGRAM COST SAVINGS

Northgate/CCAC Dual Enrollment Costs

Registration and Matriculation Cost	\$25
Cost per Course (not credit)	\$110

Sophomore Courses	Sophomore Credits	Sophomore Costs
CIHS Biology	4.0	\$110
CIHS English 10	3.0	\$110
CIHS Algebra II	4.0	\$110
CIHS CS Principles*	3.0	\$110
TOTAL	14.0	\$440

Junior Courses	Junior Credits	Junior Costs
CIHS Trig Pre-Calculus	7.0	\$220
AP Calculus	4.0	\$110
AP Statistics	3.0	\$110
CIHS Physics	4.0	\$110
CIHS English 11	3.0	\$110
CIHS Business Comms*	3.0	\$110
AP Language	6.0	\$220
CIHS Human Geography	3.0	\$110
French III	3.0	\$110
Spanish III	3.0	\$110
AP Chemistry	8.0	\$220
AP Biology	8.0	\$220
AP Physics-C	4.0	\$110
TOTAL	13.0-24.0+	\$440-\$770+

Senior Courses	Senior Credits	Senior Costs
AP Calculus	4.0	\$110
AP Statistics	3.0	\$110
CIHS English 12	3.0	\$110
AP Literature	6.0	\$220
CIHS US Government	3.0	\$110
AP US History	6.0	\$220
AP European History	3.0	\$110
French IV	3.0	\$110
Spanish IV	3.0	\$110
AP Chemistry	8.0	\$220
AP Biology	8.0	\$220
AP Physics-C	4.0	\$110
TOTAL	6.0-27.0+	\$220-\$770+

3-year TOTAL **33.0-66.0+** **\$1,100-\$1,980+**

*CS Principles and Business Communications can be taken during a student's sophomore, junior, or senior year.

Non-Dual Enrollment Costs at CCAC

Sophomore Year (14.0 Credits)	\$2,093	
Junior Year Core (13.0 Credits)	\$2,100	
Junior Year Advanced (24.0 Credits)	\$3,018	
Senior Year Core (6.0 Credits)	\$855	
Senior Year Advanced (23.0 Credits)	\$2,882	
3-year TOTAL Core Northgate Courses	\$5,048	(Over \$4,000 Saved)
3-year TOTAL Advanced Northgate Courses	\$7,993	(Over \$6,000 Saved)

PA State System of Higher Education School Costs

Full-time Tuition and fees (NOT including room and board)

California University of Pennsylvania		
Year One	\$7,956	
Year Two	\$7,956	
TOTAL	\$15,912	(Over \$14,000 Saved)

Slippery Rock University		
Year One	\$10,225	
Year Two	\$10,225	
TOTAL	\$20,450	(Over \$18,500 Saved)

Clarion University		
Year One	\$10,840	
Year Two	\$10,840	
TOTAL	\$21,680	(Over \$19,500 Saved)

Private Colleges and Universities participating in the PATC Consortium

Full-time Tuition and fees (NOT including room and board)

Geneva College		
Year One	\$26,730	
Year Two	\$26,730	
TOTAL	\$53,460	(Over \$51,500 Saved)

Carlow University		
Year One	\$28,596	
Year Two	\$28,596	
TOTAL	\$57,192	(Over \$55,000 Saved)

****Costs are as of 2018 and are subject to change, per college and university tuition rates.**

CREDIT TRANSFER

The Community College of Allegheny County is a highly respected institution of higher learning, both across the Commonwealth and nationally. The College is accredited by the Middle States Commission on Higher Education- the same quality control body that accredits institutions such as the University of Pittsburgh and Carnegie Mellon University. Because of this, *credits awarded by CCAC are transferable to institutions of higher learning across the Commonwealth, across the country, and internationally.* Students' CCAC transcripts will prove to other institutions that they have completed a rigorous a course of studies- something unique to the Northgate School District and uncommon for students finishing their high school careers.

The potential of transferable credits is even greater at one of the 33 colleges and universities participating in the Pennsylvania Transfer and Articulation Center (PA-TrAC) Consortium. Below is a list of participating institutions, as of 2018:

Bucks County Community College	Clarion University of PA
Butler County Community College	East Stroudsburg University of PA
Community College of Allegheny County	Edinboro University of PA
Community College of Beaver County	Indiana University of PA
Community College of Philadelphia	Kutztown University of PA
Delaware County Community College	Lock Haven University of PA
Harrisburg Area Community College	Mansfield University of PA
Lehigh Carbon Community College	Millersville University of PA
Luzerne County Community College	Shippensburg University of PA
Montgomery County Community College	Slippery Rock University of PA
Northampton Community College	West Chester University of PA
Pennsylvania Highlands Community College	Cabrini University
Reading Area Community College	Carlow University
Westmoreland County Community College	Geneva College
Bloomsburg University of PA	Lackawanna College
California University of PA	Lincoln University
Cheyney University of PA	

All of these institutions have agreed to accept course credits from one another on a course-by-course basis. This means that even advanced courses completed at a member institution are fully transferable for credit beyond general studies credit.

PA-TRANSFER AND ARTICULATION CENTER DEGREES

In addition to accepting course-by-course credits, the PA-TrAC Consortium has also collaborated with CCAC to award full transferability to credits associated with the following Associate's Degree Programs:

Degree Program	Degree Awarded
Art	AS
Biology	AS
Business	AS
Chemistry	AS
Criminal Justice and Criminology	AS
Early Education and Child Development	AS
Physics	AS
Psychology	AA
Social Work Technician	AS
Theatre	AS

Though Northgate students will not be able to complete these degrees solely at Northgate High School, they will have full access to on-Campus and online courses during evenings and summer semesters at CCAC. Working through dual-enrollment plans of study while at Northgate High School could provide students significant headway towards completing any of these programs. For example- Should a student pursue an advanced course of study at Northgate High School, he or she could easily complete the majority of credits required of the Business AS degree, simply by taking dual-enrollment courses at Northgate High School. Such a student could then complete the remaining coursework during the summers between his or her sophomore, junior, and senior years.

SUGGESTED CIHS PLAN OF STUDIES

GRADUATING CLASS OF 2020 (Current Juniors)

School Year	Northgate Courses	CCAC Courses
2019/2020 Senior Year	<ul style="list-style-type: none"> • AP Statistics or AP Calculus • English 12 or AP Language • AP Chem, AP Bio, or AP Phys • AP US History or AP Euro History 	<ul style="list-style-type: none"> • MAT-161 [3cr] or MAT-201 [4cr] • TBD • CHM-151&152 [8cr], BIO-151&152 [8cr], or PHY-141 [4cr] • HIS-104&105 [6cr] or HIS-101&102 [6cr]

GRADUATING CLASS OF 2021 (Current Sophomores)

School Year	Northgate Courses	CCAC Courses
2019/2020 Junior Year	<ul style="list-style-type: none"> • Trig/Pre-Calculus • English 11 or AP Language • CIHS Physics or CIHS Chemistry • AP Chem, AP Bio, or AP Physics • CIHS Human Geography 	<ul style="list-style-type: none"> • MAT-147&142 [7cr] • TBD • PHY-100 [4cr] or CHM-109 [4cr] • CHM-151&152 [8cr], BIO-151&152 [8cr], or PHY-141 [4cr] • GEO-101 [3cr]
2020/2021 Senior Year	<ul style="list-style-type: none"> • AP Statistics or AP Calculus • English 12 or AP Literature • AP Chem, AP Bio, or AP Physics • CIHS Government • AP US History or AP Euro History 	<ul style="list-style-type: none"> • MAT-161 [3cr] or MAT-201 [4cr] • ENG-115 [3cr] or 117&115 [6cr] • CHM-151&152 [8cr], BIO-151&152 [8cr], or PHY-141 [4cr] • POL-103 [3cr] • HIS-104&105 [6cr] or HIS-101&102 [6cr]

GRADUATING CLASS OF 2022 (Current Freshmen)

School Year	Northgate Courses	CCAC Courses
<p>2019/2020 Sophomore Year</p>	<ul style="list-style-type: none"> • Algebra II • English 10 • CIHS Biology • Business Communications • CIHS CS Principles 	<ul style="list-style-type: none"> • MAT-108 [4cr] • ENG-101 [3cr] • BIO-110 [4cr] • SPH-106 [3cr] • CIT-100 [3cr]
<p>2020/2021 Junior Year</p>	<ul style="list-style-type: none"> • Trig/Pre-Calculus • English 11 or AP Language • CIHS Physics or CIHS Chemistry • AP Chem, AP Bio, or AP Physics • CIHS Human Geography 	<ul style="list-style-type: none"> • MAT-147&142 [7cr] • ENG-102 [3cr] or 102 & PHL-103 [6cr] • PHY-100 [4cr] or CHM-109 [4cr] • CHM-151&152 [8cr], BIO-151&152 [8cr], or PHY-141 [4cr] • GEO-101 [3cr]
<p>2021/2022 Senior Year</p>	<ul style="list-style-type: none"> • AP Statistics or AP Calculus • English 12 or AP Literature • AP Chem, AP Bio, or AP Physics • CIHS Government • AP US History or AP Euro History 	<ul style="list-style-type: none"> • MAT-161 [3cr] or MAT-201 [4cr] • ENG-115 [3cr] or 117&115 [6cr] • CHM-151&152 [8cr], BIO-151&152 [8cr], or PHY-141 [4cr] • POL-103 [3cr] • HIS-104&105 [6cr] or HIS-102 [3cr]

*Course credits and cross-listings are subject to change, pending Northgate/CCAC faculty advisement.

COURSE SELECTION PROCESS

COURSE CODES

The following system is used to denote course codes throughout the Course Catalog:

First Number: Indicates course subject area.

- 1= English Language Arts
- 2= Mathematics
- 3= Science
- 4= Social Studies
- 5= Fine and Performing Arts
- 6= Industrial and Allied Arts
- 7= Health and Physical Education
- 8= Business, Computer, and Information Technology
- 9= Special Subjects and Foreign Language

Second Number: Indicates level of study

- 2= 7th grade courses
- 3= 8th grade courses
- 4= 9th grade courses
- 5= 10th grade courses
- 6= 11th grade courses
- 7= 12th grade courses
- 8= Higher-level courses open to students in secondary grade levels
- 9= AP Courses

Third Number: Unique identifier for sequenced courses

REQUIRED COURSES BY GRADE LEVEL

7th Grade

	Required Selections	Semester 1	Semester 2
1	Lunch	Lunch	Lunch
2	Social Studies	College Prep Social Studies 7	College Prep Social Studies 7
3	Reading	College Prep Reading	College Prep Reading
4	Writing	College Prep Writing	College Prep Writing
5	Science	College Prep Science 7	College Prep Science 7
6	Math	College Prep Math 7	College Prep Math 7
7	Advisory	Advisory	Advisory
8	Rotation	7 th Grade Rotation Library, Health, PE, Music	7 th Grade Rotation Library, Health, PE, Music
9	Elective	IA or FCS or Art or Band or Chorus	IA or FCS or Art or Band or Chorus

8th Grade

	Required Selections	Semester 1	Semester 2
1	Lunch	Lunch	Lunch
2	Social Studies	College Prep Social Studies 8	College Prep Social Studies 8
3	Reading	College Prep Reading 8	College Prep Reading 8
4	Writing	College Prep Writing 8	College Prep Writing 8
5	Science	College Prep Science 8	College Prep Science 8
6	Math	College Prep Math 8 or Alg 1	College Prep Math 8 or Alg 1
7	Advisory	Advisory	Advisory
8	Rotation	8 th Grade Rotation Foreign Lang,, Music, Health, and PE	8 th Grade Rotation Foreign Lang,, Music, Health, and PE
9	Elective	IA or FCS or Art or Band or Chorus	IA or FCS or Art or Band or Chorus

Freshman Year

	Required Selections	Semester 1	Semester 2
1	Lunch	Lunch	Lunch
2	Social Studies	College Prep Amer Studies 1	College Prep Amer Studies 1
3	English Language Arts	College Prep English 9	College Prep English 9
4	Science	College Prep Science	College Prep Science
5	Math	College Prep Geom or Alg 1	College Prep Geom or Alg 1
6	Physical Education	Health and Physical Education	
7	Elective		
8	Elective		
9	Elective		

Sophomore Year

	Required Selections	Semester 1	Semester 2
1	Lunch	Lunch	Lunch
2	Social Studies	College Prep Amer Studies 2	College Prep Amer Studies 2
3	English Language Arts	CIHS English 10	CIHS English 10
4	Science	CIHS Biology	CIHS Biology
5	Math	CIHS Alg II or College Prep Geom	CIHS Alg II or College Prep Geom
6	CIHS CS Principles*	CIHS CS Principles	CIHS CS Principles
7	Physical Education	Physical Education	
8	Elective		
9	Elective		

Junior Year

	Required Selections	Semester 1	Semester 2
1	Lunch	Lunch	Lunch
2	Social Studies	CIHS Human Geography	CIHS Human Geography
3	English Language Arts	CIHS English 11 or AP Lit	CIHS English 11 or AP Lit
4	Science	CIHS Physics or Chemistry	CIHS Physics or Chemistry
5	Math	CIHS Trig/Pre Calc or CIHS Alg II	CIHS Trig/Pre Calc or CIHS Alg II
6	CIHS Business Comms*	CIHS Business Comms*	CIHS Business Comms*
7	Elective		
8	Elective		
9	Elective		

Senior Year

	Required Selections	Semester 1	Semester 2
1	Lunch	Lunch	Lunch
2	Social Studies	CIHS Gov	CIHS Gov
3	English Language Arts	CIHS English 12 or AP Lit	CIHS English 12 or AP Lit
4	Science Elective		
5	Math Elective		
6	Elective		
7	Elective		
8	Elective		
9	Elective		

*CIHS CS Principles and CIHS Business Communications can be taken during a student's sophomore, junior, or senior year.

ENGLISH

171 ENGLISH 12

Pre-requisite: Successful completion of English 11

English 12, a survey course of World Literature, challenges students to interpret, analyze and synthesize literature through discussion, creative projects, and critical essays. Students continue to enhance their core communication skills as developed throughout their academic careers. Students in this course will practice their composition skills in response to selected works of literature. Expository writing, persuasive writing, narrative writing and analytical writing serve as the primary modes where students reinforce grammar, sentence structure, diction, and style. English 12 provides a supportive environment including in-class workshops, drafting opportunities and peer-to-peer evaluations so that students may demonstrate proficiency in their reading and writing skills.

World Literature gives students a chance to increase the depth of their global cultural awareness, and provides an examination of global literary perspectives and traditions which gives students an opportunity for discussion and a deeper understanding of other cultures. In an increasingly global society, this opportunity to explore other cultures is extremely valuable. The primary objective of this course is to give students the opportunity to develop an understanding of the richness of global diversity through a study of some of the world's finest literature.

172 CIHS ENGLISH 12

Pre-requisite: Successful completion of English 11 3.0 CIHS Credits

CIHS English 12, a survey course of World Literature, challenges students to interpret, analyze and synthesize literature through discussion, creative projects, and critical essays. Students continue to enhance their core communication skills as developed throughout their academic careers. Students in this course will practice their composition skills in response to selected works of literature. Expository writing, persuasive writing, narrative writing and analytical writing serve as the primary modes where students reinforce grammar, sentence structure, diction, and style. English 12 provides a supportive environment including in-class workshops, drafting opportunities and peer-to-peer evaluations so that students may demonstrate proficiency in their reading and writing skills.

World Literature gives students a chance to increase the depth of their global cultural awareness, and provides an examination of global literary perspectives and traditions which gives students an opportunity for discussion and a deeper understanding of other cultures. In an increasingly global society, this opportunity to explore other cultures is extremely valuable. The primary objective of this course is to give students the opportunity to develop an understanding of the richness of global diversity through a study of some of the world's finest literature.

192 AP LITERATURE & COMPOSITION

Pre-requisite: Successful completion of English 10 6.0 CIHS Credits

AP Literature & Composition course is an accelerated program designed for students who are passionate about literature. It is an intensive study of literature and composition intended to simulate freshman college English courses and, in doing so, better prepare the student to meet the requirements of college work. The literature segment of the course draws materials from the entire range of world literature and develops the student's critical and analytical skills. The composition segment familiarizes the student with the various modes of discourse and the techniques and disciplines needed to write on a college level. Students must complete a summer assignment. In May of the senior year, students will be expected to take the nationally administered Advanced Placement Test.

191 AP LANGUAGE AND COMPOSITION

Pre-requisite: Successful completion of English 10 6.0 CIHS Credits

As stated by the College Board, “English and Language Composition engages students in becoming skilled readers of prose written in a variety of periods, disciplines, and rhetorical contexts, and in becoming skilled writers who compose for a variety of purposes” (English Language and Composition, Course Description, 6). This course is an accelerated program designed to meet the needs of the college-bound junior or senior. The goal of this course is to teach students to write for mature audiences using proper forms of research, reading, and writing. Students are expected to have and apply an understanding of Standard English grammar. The majority of works covered will be nonfiction prose, but there will be a place for fiction and poetry specifically to “aid students in understanding rhetorical and linguistic choices” (English Language and Composition, Course Description, 8). The course will be taught as a seminar for students who enjoy writing and do not view it and its finer nuisances as chores. There will be a rigorous reading schedule as well as extensive writing assignments.

Students explore the art and craft of writing including poetry, short story, essay, memoir, and drama. The class will be driven by material gathered from imagination, the senses, memory, readings, and the world around us. We will look at the various types of literature that have spawned from current trends such as the graphic novel, song lyrics/poetry, comics, and graphics as word, etc. and debate their value, function, and place in literature as well as speeches, essays, letters, advertisements, documentaries, and other types of nonfiction. All written and spoken word has rhetorical value and recognizing the rhetoric and how it works is what creates better writers in terms of purpose, audience, subject, etc. Emphasis is placed on the craft of writing and revision. One of the goals for the class will be to bring a consciousness to what and how we write. The student will analyze precise diction, language structures, and writing techniques in literature and strive to recognize the agenda in it all.

Students will be required to complete summer reading and writing as a prerequisite for the course. In May, students will be expected to take the nationally administered Advanced Placement Exam.

161 ENGLISH 11

Pre-requisite: Successful completion of English 10

The 11th grade English course explores humanity and psychology/sociology through the study of British literature – past and present. Rather than the traditional chronological flow of this course, the concepts of human nature are analyzed in various methods. The literature selections include classic literature to modern literature in various genre: poetry, short stories, dramas, novel excerpts, and nonfiction pieces, all of varying length. Each unit of study has an overarching essential question which the students examine intensely with a formal writing assignment and a creative, competitive project at the conclusion of each unit. The purpose of the course is to prepare the students for college and careers. While the students have plenty of class time to complete tasks, the course is demanding in the areas of critical thinking, collaboration, time management, reading skills, writing skills, and speaking and listening skills. A final examination is a required part of completing the course.

162 CIHS ENGLISH 11

Pre-requisite: Successful completion of English 10 3.0 CIHS Credits

The 11th grade English CIHS course explores humanity and psychology/sociology through the study of British literature – past and present. Rather than the traditional chronological flow of this course, the concepts of human nature are analyzed in various methods. The literature selections include classic literature to modern literature in various genre: poetry, short stories, dramas, novel excerpts, and nonfiction pieces, all of varying length. Each unit of study has an overarching essential question which the students examine intensely with a formal writing assignment and a creative, competitive project at the conclusion of each unit. The purpose of the

course is to prepare the students for college and careers. While the students have plenty of class time to complete tasks, the course is demanding in the areas of critical thinking, collaboration, time management, reading skills, writing skills, and speaking and listening skills.

151 ENGLISH 10

Pre-requisite: Successful completion of English 9

The student will develop the discipline and techniques necessary for effective writing through concentration on the development of ideas, clarity of expression, and correct grammar. Stress will be placed on learning to respond orally and in writing to all genres of American literature, including several novels within the course of the year. A final examination is mandatory for the course.

152 CIHS ENGLISH 10

Pre-requisite: Successful completion of English 9 3.0 CIHS Credits

The student will develop the discipline and techniques necessary for effective writing through concentration on the development of ideas, clarity of expression, and correct grammar. Stress will be placed on learning to respond orally and in writing to all genres of American literature, including several novels within the course of the year. A final examination is mandatory for the course.

141 ENGLISH 9

English 9 will provide a foundation for skills that will be built upon in the 10th grade, 11th grade and 12th grade English courses. The students will experience and work with various genres of literature (fiction, non-fiction, and poetry), literary elements, and media related to the literature. The students will also be responsible for reading at least nine novels through the Accelerated Reader Program during the school year, which will count as part of the students' class grades. Approximately three to four research-based projects and presentations, including a formal research paper, are required. These projects are done in coordination with the American Studies 9 class. Students will be assessed through quizzes/tests, assignments, projects, writings, class participation, and final exam.

142 COLLEGE PREPARATORY ENGLISH 9

College Preparatory English 9 will provide a foundation for skills that will be built upon in the 10th grade, 11th grade and 12th grade English courses. The students will experience and work with various genres of literature (fiction, non-fiction, and poetry), literary elements, and media related to the literature. The students will also be responsible for reading at least nine novels through the Accelerated Reader Program during the school year, which will count as part of the students' class grades. Approximately three to four research-based projects and presentations, including a formal research paper, are required. These projects are done in coordination with the American Studies 9 class. Students will be assessed through quizzes/tests, assignments, projects, writings, class participation, and final exam.

131 COLLEGE PREPARATORY READING 8

Students in 8th grade Reading will demonstrate thorough comprehension of literary and informational texts by using key textual evidence to effectively summarize and/or analyze texts. They will thoroughly analyze how elements of literature or informational text develop and influence the text. Eighth graders will determine and thoroughly analyze how the author uses organization, structure, and/or word choice to achieve a purpose. They will thoroughly analyze the effect of points of view in texts, and they will thoroughly analyze how the author responds to conflicting evidence or viewpoints in informational text. The students will analyze the influence

that patterns of events and character types found in traditional literature have on modern text, including describing how the material is rendered new. Additionally, students will clearly delineate and effectively evaluate an argument, recognizing relevant and irrelevant evidence and sound reasoning and identifying where texts disagree. The students will use context and word structure to determine the meanings of words, interpret figurative language, and understand nuances in word meanings. Finally, students are required to read multiple novels during the school year to increase reading stamina and to show the ability to engage in longer texts.

132 COLLEGE PREPARATORY WRITING 8

Students in 8th grade Writing will use logical reasoning and effective evidence to develop a cohesive argumentative/informational essay on a topic in a formal style for an intended audience. In an argumentative essay, the students will acknowledge and address counterclaims. They will also thoroughly organize a narrative that engages the reader with a controlling point, using precise words, phrases, and narrative techniques. The students will write a text-dependent analysis essay that responds to a text or texts and demonstrates an organized and thorough analysis that cites substantial and relevant evidence to support its intended purpose. They will use a variety of appropriate transitional words, phrases, and clauses. Finally, students will recognize and demonstrate a thorough command of the conventions of Standard English grammar, usage, and mechanics to convey ideas precisely and for effect.

121 COLLEGE PREPARATORY READING 7

Students in 7th grade Reading will demonstrate thorough comprehension of literary and informational texts by using key textual evidence to effectively summarize and/or analyze a text. They will thoroughly analyze how elements of literature or informational text develop and influence the text. Seventh graders will determine two or more central ideas in an informational text, and they will determine and thoroughly analyze how the author uses organization, structure, form, text features, figurative language, and/or word choice to achieve a purpose. The students will thoroughly analyze the effect of points of view in texts and determine how the author's position is distinguished from others. They will also compare and contrast a fictional portrayal and a historical account of the same period to understand how authors of fiction use or alter history. Reading students will evaluate arguments and claims, assess reasoning and evidence, and thoroughly analyze the differences in how two or more authors present key information on the same topic. Additionally, they will use context and word structure to determine the meanings of words, interpret figurative language, and understand nuances in word meanings. Finally, students are required to read multiple novels during the school year to increase reading stamina and to show the ability to engage in longer texts.

122 COLLEGE PREPARATORY WRITING 7

Students in 7th grade Writing will use logical reasoning and effective evidence to develop a cohesive argumentative/informational essay on a topic in a formal style for an intended audience. In an argumentative essay, students will acknowledge an opposing viewpoint. Additionally, students will thoroughly organize a narrative with a controlling point, using precise words, phrases, and narrative techniques. The students will write multiple text-dependent analysis essays that respond to a text or texts and demonstrate organized and thorough analysis that cite substantial and relevant evidence to support the intended purposes. They will use a variety of appropriate transitional words, phrases, and clauses. Finally, writing students will recognize and demonstrate a thorough command of the conventions of standard English grammar, usage, and mechanics to convey ideas precisely and for effect.

181 YEARBOOK

Prerequisite: Successful completion of English 10

Primarily, students will explore many facets of digital print production in the class including writing, photography, layout and design, desktop publishing, business and advertising. Producing the *Torch*, Northgate Middle/High School's yearbook, is an extensive project. Students of in this class learn valuable, real world experiences such as meeting deadlines, working as members of a team, and dealing with the public.

The course is designed for any student looking to improve his or her editing skills, and for any student interested in digital media production. The class will evaluate the local and national media (including yearbooks) and discuss the role of the media in society today. Students will learn journalism basics such as interviewing and news writing before working on pieces for the *Torch*. Students will learn to write various types of articles and captions, both of which are crucial to a successful yearbook. The students will also learn layout principles in designing the printed page.

MATHEMATICS

220 MATH 7

We will explore the algebraic topics of integer, exponential, and rational expressions, functions and inequalities, and how to solve them. Combinatory topics include proportionality, probability, and percentages. Visual display topics include graphing functions and inequalities, polygons, statistical displays, two and three-dimensional figures, such as triangles circles, quadrilaterals, spheres, prisms, pyramids, conic and cylindrical solids.

221 COLLEGE PREPARATORY MATH 7

Seventh grade College Preparatory Math is a course aligned to the PA Core standards. There are five major units of study including the Number System, Expressions and Equations, Functions, Geometry, and Statistics and Probability. Due to this being a college preparatory course, we will cover topics not covered in Math 7, as students prepare for subsequent study in the District's College in High School Program. The course will move at a rapid pace, while still meeting all the standards necessary prior to beginning College Preparatory Math in 8th Grade.

230 MATH 8

Prerequisite: Successful completion of Math 7

This course is designed to align with the current PA Core expectations for 8th grade mathematics. The focus of the course will be: formulating and reasoning about expressions, equations and functions, solving equations and systems of equations. Geometrically we will analyze two and three dimensional space figures utilizing concepts of distance, angle, similarity, congruence and understanding and applying the Pythagorean Theorem.

Homework is an integral and necessary component for successful completion of this course. Total points may be based upon any of the following: homework, quizzes, exams, projects, and class activities. Students will begin to become proficient with a graphing calculator and its use throughout this course.

231 COLLEGE PREPARATORY MATH 8

Prerequisite: Successful completion of Math 7

This course is designed to align with the current PA Core expectations for 8th grade mathematics and the PA Core Algebra 1 expectations. The focus of the course will be: formulating and reasoning about expressions, equations and functions, solving equations and systems of equations, operations with real numbers and

expressions, linear equations, linear inequalities, functions, factoring algebraic expressions, coordinate geometry, and data analysis.

Should students successfully complete College Preparatory Math 8 *and* earn a passing score on the Algebra Keystone Exam, they will be encouraged to enroll in College Preparatory Geometry in 9th grade.

241 ALGEBRA I

Prerequisite: Successful completion of Math 8

Algebra I is a standards-based algebra course including the following topics: Operations with Real Numbers and Expressions, Linear Equations, Linear Inequalities, Functions, Factoring Algebraic Expressions, Coordinate Geometry, and Data Analysis. Students will also learn to model real-world situations using functions in order to solve problems arising from those situations. Students will begin to become proficient with a graphing calculator and its use throughout this course. The course is structured to prepare students for the Keystone Algebra I Exam.

242 GEOMETRY

Prerequisite: Successful completion of Algebra 1

In geometry, students will develop reasoning and problem solving skills as they study topics such as congruence and similarity, and apply properties of lines, triangles, quadrilaterals, and circles. You will also develop problem solving skills by using length, perimeter, area, circumference, surface area, and volume to solve real-world problems. Technology support for both learning geometry and preparing for standardized tests will be available in the form of online and multimedia content.

243 COLLEGE PREPARATORY GEOMETRY

Prerequisite: Successful completion of Algebra 1

In Geometry, students will begin by exploring fundamental aspects such as points, lines and planes. Properties of logical reasoning will be used to extend into deductive reasoning and proof-writing. As new geometric theorems and postulates are presented, the class will formally prove them and then apply them in real-world situations. These geometric application problems will often be interwoven with concepts of algebra. Students will get hands-on experience by creating constructions that illustrate many of the geometric properties and concepts.

251 ALGEBRA II

Prerequisite: Successful completion of Algebra 1

The main focus in this course is on mathematical functions. Linear functions, linear systems, and matrices will be covered in the first quarter. Quadratic, polynomial, exponential, and radical functions are covered in the second quarter. Conic sections, probability, and statistics are the topics covered in the third quarter. Sequences, series, and trigonometric functions are covered in the fourth quarter.

252 CIHS ALGEBRA II

Prerequisite: Successful completion of Algebra 1 4.0 CIHS Credits

Algebra II will begin with an introduction to functions. This will be followed by an in-depth study of eight different types of functions including linear, quadratic, polynomial, exponential, logarithmic, rational, radical and piecewise functions. The next topic to be explored will be solutions of systems of equations in two and three variables. The course will conclude with a study of probability and statistics and an exploration of sequences and series. Students must be able to apply what they have learned in class to various types of word problems.

281 CIHS TRIGONOMETRY/PRE-CALCULUS

Prerequisite: Successful completion of Algebra II 7.0 CIHS Credits

This course is designed for students that seek to take a calculus course in the future. Pre-calculus topics include the real number line, absolute value equations and inequalities, rational functions, exponential and logarithmic functions, polynomial functions, inverse functions, and binomial expansion. Trigonometry topics include trigonometric functions, identities, equations, multiple and half-angle formulas, graphs, oblique triangle, inverse trigonometric functions and complex numbers.

The purpose of the course is to draw together all previous disciplines of algebra, geometry, and interpreting graphs in order to prepare the students for the complexities of college mathematics. Extensive use of the TI-84 graphing calculator is necessary along with manual graphing of translations of periodic functions.

The course requires the student to complete homework outside of the class nightly to practice the skills presented in class. Oral and written reports, research and other projects may be components of this course. A final examination is required of this course.

291 AP STATISTICS

Prerequisite: Successful completion of Algebra II 3.0 CIHS Credits

In this course, students will examine statistical data from a number of different sources- their textbook, newspapers, magazines, the Internet and even data that they will collect on their own. Students will then learn to apply different statistical models to the data and analyze the results. Thus, this course combines both mathematical skills and analytical skills. Technology will be a major part of the course, with graphing calculators and MiniTab statistical computer software being used. Students will gain proficiency on accuracy and communication of four broad statistical themes:

1. Exploring Data: Describing patterns and departures from patterns
2. Sampling and Experimentation: Planning and conducting a study
3. Anticipating Patterns: Exploring random phenomena using probability and simulation
4. Statistical Inference: Estimating population parameters and testing hypotheses

The class will be structured to allow students greater independence in class work and homework. Projects and activities that illustrate the statistical concepts and that stress collaboration and analysis will be a major part of the class. Students that are thinking of taking this course should be prepared to:

- work more independently than usual,
- think through large-scale problems and make appropriate decisions and
- share their questions and conclusions with other students in a variety of different forms

292 AP CALCULUS

Prerequisite: Successful completion of Trig and Pre-Calculus..... 4.0 CIHS Credits

The Advanced Placement Calculus course consists of a full high school academic year of work that is comparable to Calculus courses in colleges and universities. The primary concern is with developing the students' understanding of the concepts of Calculus and providing experience with its methods and applications. The course emphasizes a multi-representational approach to Calculus. Students will learn to work with functions, represented in a variety of ways: graphical, numerical, analytical and verbal. The derivative will be presented in terms of a rate of change and a local linear approximation. The definite integral will be approached

both as a limit of Riemann sums and as the net accumulation of a rate of change. The relationship between the derivative and the definite integral, as expressed in both parts of the Fundamental Theorem of Calculus will be explored. Students will learn to use technology to help solve problems, experiments, interpret results and verify conclusions. Students enrolling in this course must be committed and motivated to study and learn at the college level. In May of the senior year students will be expected to take the nationally administered Advanced Placement Test.

SCIENCE

321 COLLEGE PREPARATORY SCIENCE 7

For scientists and nonscientists alike, discovering the scientific principles underlying everyday things makes science fun. Science 7 is an integrated study of physical science using the universal laws of science as a basis for an understanding of our surroundings.

Qualitative, as well as quantitative aspects of the laws will be discussed as they relate to the human body and our surroundings. Thus, the students will be able to make connections between the natural sciences and their everyday experiences.

The physics strand of the course includes topics such as energy, motion, force, electricity, magnetism, sound, and light. The chemistry strand of the course includes topics such as atoms, elements, chemical bonding, and chemical reactions.

331 COLLEGE PREPARATORY SCIENCE 8

For scientists and nonscientists alike, discovering the scientific principles underlying everyday things makes science fun. Science 8 is an integrated study of life science using the universal laws of science as a basis for an understanding of our surroundings.

Qualitative, as well as quantitative aspects of content from cells to ecosystems will be explored. Thus, the students will be able to make connections between the natural sciences and their everyday experiences.

341 COLLEGE PREPARATORY SCIENCE 9

Prerequisite: Successful completion of Science 8

This course will be taken by all incoming 9th grade students.

The course will examine physical, chemical, and life sciences through connected themes and concepts. All students will study for twelve weeks in each content area with a focus on laboratory skills, inquiry, and scientific writing. Students will rotate through a sequence of Physics, Chemistry, and Biology in a trimester system to be introduced to a variety of interconnected content, and to prepare for future opportunities and courses.

352 CIHS BIOLOGY

Prerequisite: Successful completion of College Preparatory Science 9.....4.0 CIHS Credits

Biology is designed for students who plan to accelerate their science skills and are interested in college in some field of biological sciences. Areas of study will include Cell Biology, Molecular Biology, Biochemistry, Evolution, Genetics, and the Diversity of Life among Kingdoms. Lab investigations will be used to reinforce key topics. Group and individual projects that stress critical thinking will be required. Every quarter a project will be assigned. Scientific writings and readings are required. Class periods are devoted to labs, inquiry observations, and scientific methodology. Final examination is required.

361 CIHS PHYSICS

Prerequisite: Successful completion of College Preparatory Science 9.....4.0 CIHS Credits

Physics covers the concepts of motion, force and energy. Topics include Newtonian mechanics, the Conservation Laws, rotational dynamics, fluid dynamics, sound, light, optics, electricity and magnetism. This class focuses on developing a conceptual understanding of physics. Students will be assessed based on their ability to conceptually problem solve (use words to make predictions), complete project work and many hands-on in-class activities. Students are not assessed on their ability to quantitatively problem solve (applied mathematics). This course requires a final examination.

362 CIHS CHEMISTRY

Prerequisite: Successful completion of College Preparatory Science 9.....4.0 CIHS Credits

This is an introductory Chemistry course, incorporating the concepts of chemical periodicity, reactivity, and structure. Using a combination of lecture, laboratory, and discussion sections, students will be exposed to the following fundamental concepts in Chemistry: dimensional analysis, the classification of matter, the periodic table, molar and stoichiometric relationships, nuclear chemistry, aqueous chemistry, and organic chemistry. This course is highly recommended for students who are interested in taking AP Chemistry.

391 AP CHEMISTRY

Prerequisite: Successful completion of CIHS Chemistry.....8.0 CIHS Credits

This course meets the requirements set by the College Board for their Advanced Placement Program. Students completing this course are encouraged to take the Advanced Placement test given by the College Board which, if the student scores high enough, will give him/her college credit at many universities/colleges.

The course will include topics in the structure of matter, kinetic theory of gases, chemical kinetics, chemical equilibrium, oxidation and reduction, acids and bases, molecular geometry, solutions, basic thermodynamics, nuclear and electrochemistry. Laboratory work is an important part of the course and students will work individually rather than in pairs. This course will include a final examination.

392 AP BIOLOGY

Prerequisite: Successful completion of CIHS Biology.....8.0 CIHS Credits

The course is taught in a lecture/discussion format. Students are encouraged and expected to discuss the material being presented. The discussion most frequently takes the form of questions of clarification and contributions the students have to the subject being discussed.

This year we will meet for a double session once or twice a week. The other days will have single sessions. Typically, the double sessions will involve the introduction of new material. While the single sessions provide the opportunity to develop more deeply into the material introduced the previous day. During these discussion sessions the student can and should expect a short quiz on the previous day's material.

Laboratory sessions will be scheduled at the appropriate times, allowing a double period for completion. Please note that the occurrence of double class sessions is not always strictly adhered to, they provide a flexible framework that can and will be changed occasionally. This also provides a time to make up missed quizzes, finish labs, etc.

393 AP PHYSICS C

Prerequisites: Successful completion of Trigonometry and Pre-Calculus and CIHS Physics

Co-requisite: Enrollment in or successful completion of Calculus.....4.0 CIHS Credits

This course is designed to meet the demands of the calculus-based AP Physics syllabus as published by the College Board. The goal of this class is to provide students with an experience equivalent to an introductory university-level physics course. Students taking AP Physics are expected to have a firm understanding of algebra and a working knowledge of Trigonometry. The principle mode of instruction for the course will be inquiry based investigations and problem solving activities. Class discussions will be integrated to support concepts covered during investigations. Advanced Placement Physics requires a serious commitment from students. The course content is presented as four units at the college level: Kinematics, Newtonian Mechanics, Circular Motion and gravitation, Torque and rotational motion, Work – Energy Theorem (includes power and momentum), Simple Harmonic Motion, Mechanical waves and sound, and Electrostatics and Simple Circuits. Students are to be prepared to devote a significant amount of time to working on laboratory reports, problem sets, and working on projects outside of class.

381 FORENSICS

Prerequisite: Successful completion of College Preparatory Science 9

Forensic Science is an upper level science semester course which is designed to be hands-on, and lab activity driven. It will provide an introduction to the analysis of crime scenes by collecting and analyzing physical evidence. The course integrates multiple scientific disciplines (biology, chemistry, and physics) and gives students the theory and hands-on experience to develop the skills and knowledge that would be required as a forensic scientist. Additionally, this course would prepare the student for many possible avenues for career paths in the fields of law, criminal justice, anthropology, pathology, biology, chemistry, toxicology, and more. Throughout the course, topics that will be highlighted include, but are not limited to observation skills, crime scene analysis, fingerprinting, hair and fiber analysis, blood and DNA analysis, ballistics, and forensic anthropology.

382 PENNSYLVANIA BIOLOGY I

Semester Course

Prerequisite: Successful completion of CIHS Biology

This course introduces the student to Pennsylvania wildlife biology, ecology, and management. It includes the study of basic structure and function, as well as life histories and classification. Students will also study the basic morphology and population dynamics. Game laws and the Endangered Species Act will give the students a perspective on the local and global ramification of wildlife biology. An emphasis will be placed on the identification and classification of Pennsylvania wildlife species and their habitats. Classroom studies are combined with labs and field studies. Classes will be conducted outside at different times throughout the year. Proper clothing is required on those days. The following topics will be covered, Wildlife and Man, Pennsylvania Trees, Selected Wildlife Species and their Biology (Deer, Elk, Bears, Insects), Wildlife Management and Game Laws.

383 PENNSYLVANIA BIOLOGY II

Semester Course

Prerequisite: Successful completion of CIHS Biology

This course introduces the student to Pennsylvania wildlife biology, ecology, and management. It includes the study of basic structure and function, as well as life histories and classification. Students will also study the basic morphology and population dynamics. Game laws and the Endangered Species Act will give the students a perspective on the local and global ramification of wildlife biology. An emphasis will be placed on the identification and classification of Pennsylvania wildlife species and their habitats. Classroom studies are combined with labs and

field studies. Classes will be conducted outside at different times throughout the year. Proper clothing is required on those days. The following topics will be covered, Wildlife Research Techniques, Survivorship, Wetlands, Marshes and Swamps, Freshwater Streams and Lakes, Selected Wildlife Species and their Biology (Turkey, Birds of Prey, Reptiles and Amphibians, Freshwater Fish).

384 Astronomy

Semester Course

Prerequisite: Successful completion of College Preparatory Science 9

This course is an upper level semester long science that introduces the student to the field of Astronomy. It will integrate multiple disciplines (biology, chemistry, and physics) and show how all three together begin to shape our universe. The topics in this class will cover both theoretical and observational astronomy allowing students to have a better understanding of the cosmos. The content covered in this class will include but not limited to stellar astronomy, galactic astronomy, planetary science, and astrobiology,

385 MARINE BIOLOGY

Semester Course

Prerequisite: Successful completion of College Preparatory Science 9

Marine Biology is a semester long, introductory course offered to seniors to gain a greater understanding of ocean science. This course will provide students an opportunity to explore an environment that is not in our backyard but accounts for 80% of the biodiversity on the planet. Through and integrated study of chemistry, biogeography, biology, ecology and other areas of science, students will learn to appreciate and understand the diverse and intricate science of the oceans and their inhabitants. Students will be expected to develop connections between the sciences as well as develop critical thinking skills and appropriate academic language.

386 GENETICS

Semester Course

Prerequisite: Successful completion of College Preparatory Science 9

Genetics is a semester long, introductory course offered to seniors. This course will provide seniors with a review of basic genetic principles from Mendelian Genetics to the impact on human health and society. Students will gain a greater understanding of the structure and function of DNA and its role in heredity. In addition to learning basic genetics students will also learn to think critically concerning science's impact on our society through connections to current events in the world of genetics

387 ANATOMY/PHYSIOLOGY

Prerequisite: Successful completion of CIHS Biology

Anatomy and Physiology is a course designed to better familiarize the student with bodily functions and the cause and effect of these functions. The content includes the body as a whole; skeletal, connective tissue, muscular, nervous, digestive, excretory, circulatory, endocrine, reproductive, immune and sensory systems; plus growth and development. The material at times becomes very detailed and technical. Students who have in mind future plans that relate to the medical field should consider this course. Others who have a keen interest in learning about themselves and how the basic processes of life proceed are encouraged to consider this demanding program.

Scientific inquiry studies are incorporated into dissection labs including sheep's eye, bovine heart, sheep's nervous system and various other investigative studies are undertaken in the laboratory including, but not limited to, blood pressure, blood typing, detailed microscope activities and many others. The computer lab will also be utilized for research projects and to access information on an as-need basis.

SOCIAL STUDIES

421 SOCIAL STUDIES 7

World history is a chronological-topical history of the world from the Renaissance period to modern times. It focuses on past political, social, economic and cultural developments. This is a required social studies course. Current event topics are discussed weekly and homework is assigned periodically.

422 COLLEGE PREPARATORY SOCIAL STUDIES 7

World history is a chronological-topical history of the world from the Renaissance period to modern times. It focuses on past political, social, economic and cultural developments. This is a required social studies course. Current event topics are discussed weekly and homework is assigned periodically.

431 SOCIAL STUDIES 8

Pennsylvania History is a chronological-topical history of the state of Pennsylvania from the settlement period to the current time. Topics to be covered include: William Penn and the founding of PA constitution, the Quakers, the national constitutional convention, industrial and ethnic history, and the geography and topography of the state. Current events and study skills to be discussed bi-weekly.

U.S. Geography is a comprehensive study of the subject of geography of our country. Topics to be covered include: the “five” themes of Geography. The “five” distinct regions of the United States, these are: The Northeast, The Southeast, The Midwest, The Mountain West and The Pacific West Coast. The following topics will be covered in each of these geographic regions: maps, climate, history, industry and culture. The students will be assigned a cumulative project in this course requiring research, writing and creative design combining the English 8 and Social Studies 8 curriculum.

432 COLLEGE PREPARATORY SOCIAL STUDIES 8

Pennsylvania History is a chronological-topical history of the state of Pennsylvania from the settlement period to the current time. Topics to be covered include: William Penn and the founding of PA constitution, the Quakers, the national constitutional convention, industrial and ethnic history, and the geography and topography of the state. Current events and study skills to be discussed bi-weekly.

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441 AMERICAN STUDIES 9

This course serves as a foundation to the entire Social Studies program. Beginning with the age of exploration, the student will be expected to reflect a suitable degree of understanding of the early settlement of North America by Europeans; the development of the thirteen colonies; the era of the American Revolution; the political, social and cultural development in early 19th century America and the Civil War. A variety of media

will be used and the development of reading, writing and interpretive skills will be emphasized. Special attention will be given to the study of the Constitution of the United States. A final examination will be administered.

442 COLLEGE PREPARATORY AMERICAN STUDIES 9

This course serves as a foundation to the entire Social Studies program. Beginning with the age of exploration, the student will be expected to reflect a suitable degree of understanding of the early settlement of North America by Europeans; the development of the thirteen colonies; the era of the American Revolution; the political, social and cultural development in early 19th century America and the Civil War. A variety of media will be used and the development of reading, writing and interpretive skills will be emphasized. Special attention will be given to the study of the Constitution of the United States. A final examination will be administered.

451 AMERICAN STUDIES 10

Prerequisites: Successful completion of American Studies 9

American Studies 10 is a study of the development of the United States from 1865 to the present. By studying our nation's past, the course will impart an understanding of our democratic ideals and develop an appreciation of the uniqueness of the political, economic, social and cultural-intellectual institutions as they evolved in the United States. The course will afford students an opportunity to prepare themselves for active citizen participation in our nation's democratic processes. This is a required course, and a final examination will be administered.

452 COLLEGE PREPARATORY AMERICAN STUDIES 10

Prerequisites: Successful completion of American Studies 9

American Studies 10 is a study of the development of the United States from 1865 to the present. By studying our nation's past, the course will impart an understanding of our democratic ideals and develop an appreciation of the uniqueness of the political, economic, social and cultural-intellectual institutions as they evolved in the United States. The course will afford students an opportunity to prepare themselves for active citizen participation in our nation's democratic processes. This is a required course, and a final examination will be administered.

462 CIHS HUMAN GEOGRAPHY

Prerequisite: Successful completion of American Studies 10.....3.0 CIHS Credits

This course is to be taken during a student's eleventh grade year. This class will explore the meaning of culture, different cultures around the world (both in historical and present times), and the effects of different cultures within themselves and with other cultures. Areas of study include Asia with a focus on China, Africa, Latin America and The Middle East. Geography, history, government, economics, and religions will be examined for each area. There will be many different ways this class will operate. You will be asked to take notes, draw maps, identify countries, capitals, give presentations, create projects, participate in class discussions, take quizzes and tests, read articles and texts, answer and ask questions, write journals, short papers, research papers, find and share current events. The grading system for this class will be completely point and percentage based. A final cumulative exam will be administered.

471 CIHS GOVERNMENT

Prerequisite: Successful completion of American Studies 10.....3.0 CIHS Credits

This class will include the basics of government, formation of government, branches of government, the Constitution, Articles, and Amendments of the Constitution. In addition, Government will include the ideas of Federalism, the different types of government throughout the world, conflict in the government and how the government is able to adjust to current times. In addition, Government will also do an in depth study of the election process concentrating on the different types of elections and political parties.

491 AP EUROPEAN HISTORY

Prerequisite: Successful completion of American Studies 10.....3.0 CIHS Credits

The course consists of an ambitious survey of European History from the Fourteenth Century to the present. Due to the volume of material to be covered, student success requires disciplined reading habits and excellent study skills. In addition to the standard methods of evaluation, such as exams, identifications, and essays, students are required to complete two book evaluations and a term paper. Class time will be divided between lecture, discussion, formal debates, oral presentations, and examinations. All students are expected to participate in the College Board Advanced Placement European History examination in May.

492 AP U. S. HISTORY

Prerequisite: Successful completion of American Studies 10.....6.0 CIHS Credits

AP US History is an accelerated course with a format similar to those offered to college freshmen, consisting of a survey of the history of the United States from the time of the discovery of the western hemisphere to the present. The major forces, events, and personalities that affected the evolution of our nation's unique political, economic, social, and cultural character are examined. In depth supplemental readings and lectures provide students with opportunities to enhance their knowledge and refine their critical thinking skills of analysis, synthesis and evaluation. In May, students will be expected to take the nationally administered Advanced Placement Test

481 PSYCHOLOGY

Semester Course, 0.5 Social Studies Credit

Prerequisite: Successful completion of CIHS Human Geography

Psychology is an introductory elective course in the social studies program offered to students in the upper grades. An above-average reading ability or a special interest in psychology is suggested. A variety of topics will be presented to meet the needs and aspirations of students. Some outside reading is required.

482 SOCIOLOGY

Semester Course, 0.5 Social Studies Credit

Prerequisite: Successful completion of CIHS Human Geography

Sociology is an elective course in the social studies program offered to students in the upper grades. Students are expected to develop the ability of thinking like a sociologist, to develop a sociological imagination and to appreciate the wide diversity in social life as found in our nation and its many cultural influences.

FOREIGN LANGUAGE

941 FRENCH I

The purpose of the beginning course in French is to learn the language as a means of communication. The students will be introduced all five language-learning skills: reading, writing, listening, speaking and culture. The emphasis will be on how to use these skills in everyday communication. To achieve this, the main language of instruction will be French and the students will be evaluated through both written and oral exams. Students should expect to devote at least 1 ½ to 2 hours of out-of-class time per week.

951 FRENCH II

Prerequisite: Successful completion of French I

To bridge the gap between the elementary and intermediate levels, the introductory lessons are devoted to a review of structures previously studied. The procedures used in the elementary courses have been continued with additional techniques suitable to the more advanced stage. Attention is given to the development of grammar for acquiring greater facility in reading, writing and speaking. There will be both oral and written grades throughout the year and the course will be taught primarily in French.

981 COLLEGE PREPARATORY FRENCH III

Prerequisites: Successful completion of French II

This course is designed for the students to increase their general knowledge of French. They will strengthen their reading skills and will improve their comprehension of spoken French. A segment of the course is also designed to present to the student a picture of the French, their humor, basic values and civilization. The emphasis of this course will be on student output, i.e., using and putting into practice what they have learned previously, in both oral and written fashion. This course will be conducted in the target language.

982 COLLEGE PREPARATORY FRENCH IV

Prerequisite: Successful completion of CP French III

The students at this level will be able to express themselves in both practical, everyday language and on a more abstract level. This will be accomplished by a review of previously studied material and by learning and applying more complex grammatical functions. Students will be evaluated weekly on oral output, aural comprehension and written expression. A segment of this course will also focus on the history and civilization of French culture.

942 SPANISH I

Initial contact with the language and the acquisition of basic language skills is provided. This course consists of an introduction to the basics of the foreign language, vocabulary study and present and preterit verb conjugations. There is an emphasis on oral practice and language usage, complemented by grammatical explanation. In general, the basic concepts of listening, speaking, reading and writing are developed. Students are expected to memorize vocabulary, poems and songs.

952 SPANISH II

Prerequisite: Successful completion of Spanish I

This course builds upon the learning and techniques of introductory Spanish and encompasses the preterit, imperfect, progressive and present subjunctive tenses. Emphasis is placed on building a useful vocabulary, learning more difficult grammatical constructions and increasing facility in listening, speaking, reading and writing. Each year students read a Spanish novel in a simplified version. Students are expected to memorize vocabulary and verb endings.

983 COLLEGE PREPARATORY SPANISH III

Prerequisites: Successful completion of Spanish II

This course is designed to strengthen the students' writing and reading skills. Activities include studying selection of Hispanic literature chosen for style theme. Students will then use the author's style for their own original essays. Also included is a survey of the civilization of the Hispanic world through its history, geography, traditions, customs, music and art, which provide an exposure to and appreciation of the Spanish-speaking countries. Each year students read one or more novels in Spanish. The background of the author is discussed as well as the plot, theme and literary style.

984 COLLEGE PREPARATORY SPANISH IV

Prerequisite: Successful completion of CP Spanish III

This is a year course that consists of three segments. The course is designed to firmly set the pattern of speech. Activities will center around dialogues, impromptu conversations, questions and answers and individual speeches, as well as frequent conversations on a one-to-one basis. Included in this course will be the study of the subjunctive mood. Also included is a survey of the civilization of the Hispanic world through its history, geography, traditions, customs and music and art providing an exposure to and appreciation of the Spanish-speaking countries. Each year students read one or more novels in Spanish. Background of the author is discussed, as also are plot, theme and literary style.

HEALTH AND PHYSICAL EDUCATION

721/722 HEALTH /PHYSICAL EDUCATION 7

Semester course

The semester-long 7th grade Health and Physical Education class is an introductory class designed to expose the students to a variety of sports activities and health concepts. The courses are each 9 weeks long and are intended to help the 7th grade students develop basic skills in the following essential areas:

- *Act in a safe and efficient manner during physical activity
- *Integrate personal safety skills into recreational and competitive sports play
- *Learn to work in groups cooperatively
- *Learn warm up activities to use before physical exertion
- *Increase cardiovascular efficiency, strength and endurance
- *Show respect for the care and safety of themselves and others
- *Develop an interest in their fitness level and a desire to improve it
- *Learn basic sport strategies and game related rules

731/732 HEALTH /PHYSICAL EDUCATION 8

Semester Course

The quarter-long 8th grade health physical education class is a continuation of the 7th grade class. This class is 9 weeks long and will help the students gain a greater understanding of physical movement and sports activities. The 8th grade students will develop basic skills in the following essentials skills areas:

- *Learn to work at their own skill level
- *Learn how to prevent injury during sport and recreational activity
- *Improve performance capacity in sport and recreational activities
- *Maintain a standard level of fitness
- *Learn safety skills when performing sport activities
- *Practice and perform basic sport skills
- *Be proficient at sport strategies and game rules
- *Continue to learn to work in groups cooperatively
- *Continue to learn exercises for strength and endurance and warm-up

741 HEALTH

Semester Course

9th Grade Required Course

Health is the state of total physical, mental and social well-being, not just freedom from sickness of ailments. Health education provides health information in such a way that it influences people to take positive action about their health.

Health education is a high school graduation requirement. The content is covered by lectures, in-class worksheets, Current Health magazines, movies, homework, group projects and library research.

781 PHYSICAL EDUCATION 9, 10, 11 & 12

Semester Course

Physical Education classes are designed to develop sound conditioning and fitness and to enhance skills in a plethora of activities ranging from individual athletic pursuits to team sports. Students are expected to dress and participate actively. Failure to meet this requirement will result in removal from class without credit.

Mandatory dress guidelines are as follows: white or gray T-shirt, red shorts or sweat pants, appropriate athletic shoes and socks.

After warm-up drills, students participate in a variety of individual or team activities, which include flag football, soccer, basketball, volleyball, hockey, badminton, racquet ball, speed ball, swimming, aerobics, weight training, physical fitness testing, softball, high organization games, lifetime sports and other endeavors.

BUSINESS/TECHNOLOGY EDUCATION

841 CIHS Computer Science Principles

Prerequisite: Successful completion of Algebra 13.0 CIHS Credits

This is a general computer literacy course that will engage students in multiple introductory coding and production applications. Students learn computer fundamentals, applications, online research skills, and the

impact of computing and the Internet on society. Students develop skills with common applications to use a computer as a tool, make informed decisions concerning computer generated information, and obtain basic information systems concepts and terminology. The course is aligned with the College Board's AP CS Principles course syllabus.

851 CIHS Business Communications

Semester Course

Prerequisite: Successful completion of English 9..... 3.0 CIHS Credits

This course examines communication knowledge and skills with an emphasis on identification and application of the skills needed to successfully communicate on a personal level, in the workplace, and among different cultures. Throughout the course, students will cover a variety of topics that expose them to college and career readiness standards, in addition to elements of financial literacy.

891 AP Computer Science A

Prerequisite: Successful completion of Computer Science Principles and Algebra I.....3.0 CIHS Credits

This course is an advanced exploration of computer programming. Students will be learning JAVASCRIPT and other coding languages and development environments, in logical stages with the programming problems increasing in sophistication and complexity from beginning to end. Grading in the course is based upon written quizzes, tests, and actual programming performances. Students will be expected to sit for the AP CS A Exam in May.

FINE and PERFORMING ARTS

531 MIDDLE SCHOOL STUDIO ARTS

Semester Course

This course will provide a strong foundation in both two and three-dimensional forms of art making. Students will focus on skill building through the exploration of various art media. Two-dimensional art media will include; painting, color theory, printmaking, collage and a variety of drawing media such as graphite, charcoal, pastel and pen and ink. Three-dimensional art mediums and techniques will include a variety of hand building and sculpture techniques with the use of clay, plaster, wire, wood, paper mache and found objects. This class will provide students with a thorough understanding of the elements of art and principles of design.

541 STUDIO ARTS I

Semester Course

This course will provide a strong foundation in both two and three-dimensional forms of art making. Students will focus on skill building through the exploration of various art media. Two-dimensional art media will include; painting, color theory, printmaking, collage and a variety of drawing media such as graphite, charcoal, pastel and pen and ink. Three-dimensional art mediums and techniques will include a variety of hand building and sculpture techniques with the use of clay, plaster, wire, wood, paper mache and found objects. This class will provide students with a thorough understanding of the elements of art and principles of design.

551 STUDIO ARTS II

Prerequisite: Successful completion of Studio Arts I

Skills learned in Studio Arts I are essential for success in Studio Arts II. Students will explore advanced art techniques in both two and three-dimensional art making. Students will be encouraged to explore conceptually as well as technically through teacher guided assignments. Mediums used in this course will include, but are not limited to; clay, plaster, wire, metal, wood, paper mache, fabric, watercolor, acrylic, oils, charcoal, pastels, graphite, pen and ink, printmaking, photography, computer art, and collage. Studio Arts II students will learn to critique their own work and the work of others in an objective manner using terms related to the elements of art and principles of design. The use of a sketchbook is required from all students to complete homework and research assignments given at the beginning of every lesson to aid in their personal and artistic development.

561 STUDIO ARTS III

Prerequisite: Successful completion of Studio Arts II

Skills learned in Studio Arts II will be essential for success in Studio Arts III. Students will continue to build on advanced art techniques learned in previous course and begin to form an area of concentration. The first semester of this course will focus on advanced art techniques in both two and three-dimensions. The use of a sketchbook is required from all students to complete homework and research assignments given at the beginning of every lesson to aid in their personal and artistic development. The use of the Internet will also be required in this course as students develop and post an online portfolio.

Studio Arts III semester two will focus on the student's academic goals and areas of concentration. The students will be required to choose two areas of concentration to work through independently throughout the remainder of the year. The instructor will assign students an individualized course of study to reflect the students' level of artistic talent in accordance with their chosen areas of concentration. The ability to work independently is a privilege given to those students with advanced art skills and will be taken away at teacher discretion.

571 Studio Arts IV

Prerequisite: Successful completion of Studio Arts III

Students will be expected to work independently as they explore 4 areas of concentration. After a reevaluation of the students' academic goals, as well as progress in Studio Arts III, the instructor will design an individualized course of study to reflect the student's ability. The use of a sketchbook is required from all students to complete homework and research assignments given at the beginning of every lesson to aid in their personal and artistic development. The use of the Internet will also be required in this course as students develop and post an online portfolio. The students will have a large body of work created throughout the advanced courses and will be required to post an online portfolio as well as participate in final portfolio review.

532 MIDDLE SCHOOL CHOIR

The Northgate Middle School Choir is a group of mixed voices singing a wide variety of musical styles. Most rehearsals are held during the school day. The choir presents evening concerts in December and May, participates in Music in Our Schools Night in March, and sings for Baccalaureate in June. Additional performances will be added. *Attendance is mandatory for all performances.*

These groups rehearse in school and after school. Additionally, students are chosen by audition to represent Northgate at district, regional and state choral festivals held at various high schools throughout Western Pennsylvania.

582 CONCERT CHOIR

The Northgate Concert Choir is a group of mixed voices singing a wide variety of musical styles. Most rehearsals are held during the school day. The choir presents evening concerts in December and May, participates in Music in Our Schools Night in March and sings for Baccalaureate in June. Additional performances will be added. Attendance is mandatory for all performances.

Related activities: Members of the Concert Choir and Chamber Singers are eligible to audition for smaller singing groups, such as Girls' Triple Trio, Boys' and Girls' Barbershop Quartets, and Mixed Octet.

These groups rehearse in school and after school. Additionally, students are chosen by audition to represent Northgate at district, regional and state choral festivals held at various high schools throughout Western Pennsylvania.

533 MIDDLE SCHOOL BAND

Middle School Band will focus on concert band repertoire and performances. All students must understand that *participation at all band and band-related events is mandatory*. Additional rehearsals may periodically be required. Progress is monitored through playing tests and performances.

Related activities: Members of the Middle School Band are eligible to participate in smaller ensembles, such as jazz band. These groups rehearse after school. Additionally, students may be chosen to represent Northgate at various district and regional band events and festivals held in the area.

583 MARCHING BAND Q1

Prerequisite: Successful completion of Middle, or High School Band

This course will focus mainly on marching band during the first nine weeks of the school year which coincides with the varsity football schedule as well as other scheduled events, such as parades and band festivals. All students in Marching Band must recognize the fact that participation in all band and band-related events is mandatory. These will include all varsity football games, band festivals, parades, and community events scheduled during the first semester. Marching Band has one evening practice per week as well as a football game each Friday. Saturday events will be announced prior to the start of the season. Attendance at summer band rehearsals and band camp are required in order to participate in the marching band.

584 CONCERT BAND Q2

Prerequisite: Successful completion of Middle, or High School Band

Concert Band will focus on concert band repertoire and performances. All students must understand that participation at all band and band-related events is mandatory except when prior administrative excusal is granted for extenuating circumstances. Concert Band Q2 a nine week long course. Additional rehearsals may periodically be required as needed. Progress is monitored through playing tests and performances.

Related activities: Members of the Concerts Band are eligible to participate in smaller ensembles, such as jazz band. These groups rehearse after school. Additionally, students may be chosen to represent Northgate at various district and regional band events and festivals held in the area.

585 CONCERT BAND Q3 & Q4

Prerequisite: Successful completion of Middle, or High School Band
Semester Course

This course is a continuation of the Concert Band that took place during the second nine weeks. All students must understand that participation at all band and band-related events is mandatory except when prior administrative excusal is granted for extenuating circumstances. Additional rehearsals may periodically be required as needed. Progress is monitored through playing tests and performances.

Related activities: Members of the Concerts Band are eligible to participate in smaller ensembles, such as jazz band. These groups rehearse after school. Additionally, students may be chosen to represent Northgate at various district and regional band events and festivals held in the area.

586 ORCHESTRA

Prerequisite: Successful completion of earlier strings instruction

This course is designed to continue the strings education from the elementary program to the middle school and high school levels. This course gives the students the opportunity to enhance and build upon the fundamentals by providing a daily ensemble rehearsal. All students must understand that participation at all Orchestra and Orchestra related events is mandatory. Additional rehearsals may periodically be required as needed. Progress is monitored through playing tests and performances.

INDUSTRIAL and ALLIED ARTS

631 MIDDLE SCHOOL INDUSTRIAL ARTS

Semester Course

This course is designed to introduce students to the design process through the experience and working knowledge of different materials processing applications. Students will be introduced to various types of wood, how timber is processed and the purposes of wood in the manufacturing and construction fields. This course is designed to show students how to properly select and use hand tools, power tools and machinery. The students will be made aware of various assembly processes through the use of various adhesives and mechanical fasteners. The students will be taught how to make project sketches, develop a set of working plans, create a bill of materials and actively use measurement throughout the course. Safety will be heavily emphasized. There is a nominal fee for lumber associated with this course.

641 WOODWORKING I

Semester Course

This course is designed to introduce students to the design process through the experience and working knowledge of different materials processing applications. Students will be introduced to various types of wood, how timber is processed and the purposes of wood in the manufacturing and construction fields. This course is designed to show students how to properly select and use hand tools, power tools and machinery. The students will be made aware of various assembly processes through the use of various adhesives and mechanical fasteners. The students will be taught how to make project sketches, develop a set of working plans, create a bill of materials and actively use measurement throughout the course. Safety will be heavily emphasized. There is a nominal fee for lumber associated with this course.

651 WOODWORKING II

Prerequisite: Successful completion of Woodworking I

This course builds upon the skills and material covered in Wood and is for students who wish to develop a better understanding of the tools and techniques used in a materials processing shop. Various and more detailed types of wood joints will be covered as well as different finishing techniques. The students must utilize the design process to select the appropriate processing techniques needed to complete various student designed, instructor approved projects. These students must be capable of operating all power tools properly and safely with the proper instruction. Safety will be heavily emphasized. There is a nominal fee for lumber associated with this course.

661 WOODWORKING III

Prerequisite: Successful completion of Woodworking II

This course is intended for those students who have successfully completed Wood II. Students will be given the opportunity to design, construct and produce their own projects with instructor approval. This course will cover more advanced methods of fine woodworking including: precision measurement and cutting, shaping processes, wood and metal inlays and solid joint construction. These students must be able to properly operate all of the tools and machinery in the production area safely and efficiently. There is a nominal fee for lumber associated with this course.

671 WOODWORKING IV

Prerequisite: Successful completion of Woodworking III

Wood IV is designed for the students who have successfully completed Wood III and wish to expand upon the material covered in the previous wood courses. The students will extensively utilize the design process in order to create, develop and produce highly advanced detailed plans and projects of their own choice. The students will utilize tools, materials and fixtures in order to manufacture their projects. These students must be able to properly operate all of the tools and machinery in the production area safely and efficiently. There is a nominal fee for lumber associated with this course.

681 HOME MAINTENANCE AND REPAIR

Prerequisite: Successful completion of Woodworking I

This course is designed for the future home owner. The students will become familiar with methods associated with modern residential construction. They will learn about the various mechanical systems involved in building a home and how to trouble-shoot and problem-solve routine maintenance tasks. All students will learn about measurement scales to read and utilize a working set of blueprints. Activities may include: conventional framing, basic electrical wiring, miscellaneous plumbing repairs, drywall, flooring and trim and casing work. Proper hand and power tool selection function and operation will be applied. Workplace safety will be greatly emphasized.

682 CNC DESIGN AND MATERIAL PROCESSING

Semester Course

Prerequisite: Successful completion of Woodworking I or Home Maintenance and Repair

This course is designed for students are interested in developing technical skills. The class will develop knowledge and skills in the areas of engineering, 2D and 3D modeling, and computer-aided machining. Students will utilize software to design several projects that will then be created using the computer numeric control (CNC) router. Students will sand, paint, and assemble their final machined project into a completely finished product. There will be a nominal fee for lumber and materials used in this course.

632 MIDDLE SCHOOL FAMILY AND CONSUMER SCIENCE

Semester Course

This course promotes healthful eating and physical activity plans by using the Dietary Guidelines for Americans, My Plate, food labels and wise consumer decisions. Students will learn how to choose, purchase, prepare and eat healthful foods. They will be introduced to various ways of combining fresh foods, convenience foods, prepared foods and eating out into a healthful eating plan. This course will combine technology and theory with hands-on practical experiences.

642 FOOD SCIENCE I

Semester Course

This course promotes healthful eating and physical activity plans by using the Dietary Guidelines for Americans, My Plate, food labels and wise consumer decisions. Students will learn how to choose, purchase, prepare and eat healthful foods. They will be introduced to various ways of combining fresh foods, convenience foods, prepared foods and eating out into a healthful eating plan. This course will combine technology and theory with hands-on practical experiences.

652 FOOD SCIENCE II

Semester Course

Prerequisite: Successful completion of Food Science I

This course will address the Pennsylvania Standards in Food Science and Nutrition. Students will continue to utilize skills and information learned in Food Science I while focusing on proper nutrition, meal planning, and using more advanced recipes and equipment. This course will combine theory with practical experiences.

662 FOOD SCIENCE III

Semester Course

Prerequisite: Successful completion of Foods Science II

This course will delve even further into nutrition and maintaining a healthy lifestyle. Students will evaluate the application of nutrition and meal planning principles in the selection, planning, and serving of meal that meet the specific nutritional needs of individuals across the lifespan while aligning choices to the Dietary Guidelines for Americans. An exploration of foreign foods and customs will occur. Students will be encouraged to choose recipes that challenge their culinary skills and to utilize equipment that may not be familiar with.

672 FOOD SCIENCE IV

Semester Course

Prerequisite: Successful completion of Foods Science III

This course is an extension of Food Science III and will delve even further into nutrition and maintaining a healthy lifestyle. Students will evaluate the application of nutrition and meal planning principles in the selection, planning, and serving of meal that meet the specific nutritional needs of individuals across the lifespan while aligning choices to the Dietary Guidelines for Americans. An exploration of foreign foods and customs will occur. Students will be encouraged to choose recipes that challenge their culinary skills and to utilize equipment that may not be familiar with. This course will combine theory and technology with practical hands-on experience.

A.W. Beattie Career Center

A.M. Morning Session
Credits: 3.0

Grades 10, 11, 12

General Information-

A.W. Beattie Career Center offers students an opportunity to prepare for their chosen career field through advanced career preparation during their 10th, 11th and 12th grade years.

Students attending A.W. Beattie Career Center are enrolled in the morning session and then spend the remainder of the day at Northgate. Three credits are awarded each year to students successfully completing career coursework. A.W. Beattie Career Center credits and grades are included in the QPA and class rank.

All of the A.W. Beattie Career Center Programs offer advance college credit upon successful completion. Potential college credits range from three to twenty-two credits

A.W. Beattie Career Center Programs are approved Programs of Study (POS) providing for seamless transition to post-secondary education through rigorous content aligned with challenging academic and relevant career context in a non-duplicative progression of courses aligned to post-secondary education. SOAR is a Pennsylvania program which allows CTE students to earn free college credits. Students earn free credits with a qualifying score from the NOCTI Senior year assessment and confirmation that they have completed the entire CTE program of study. To obtain free credits, students must submit the proper paperwork to the college, as outlined below. This paperwork requires CTE administrative signatures for submittal.

SEE WHICH COLLEGES OFFER FREE CREDITS FOR YOUR CTE PROGRAM OF STUDY (POS)

To determine the free credits offered for Pennsylvania Career and Technical Education Programs of Study (POS) visit the website <http://www.collegetransfer.net/>. After selecting your Program of Study and your high school graduation year, you can view all of the colleges offering free credits for your particular CTE program. Additionally, A. W. Beattie Career Center maintains many college credits articulation agreements with two and four year post secondary institutions, please visit our website www.beattietech.com for additional information.

Students who attend A.W. Beattie's programs require uniforms and equipment. The student and parents assume this cost. Therefore, students should obtain accurate cost information before enrolling for a course. Transportation is provided by the School District.

Applications to attend A.W. Beattie Career Center should be made during the second semester of 9th or 10th grade and will be carefully reviewed. Further information concerning the A.W. Beattie Career Center's program is available in the School Counseling Office.

Course Offerings-

- *Advanced Computer Programming
- *Advertising Design
- *Agile Robotics/Intelligent Systems
- *Auto Body Repair
- *Automotive Technology
- *Carpentry/Building Construction
- *Computer System Technology
- *Cosmetology
- *Culinary Arts
- *Dental Careers
- *Early Childhood Education
- *Emergency Response Technology
- *Health Science Technology
- *Heating, Ventilating and Air-Conditioning Technology
- *Introduction to Pharmacy
- *Networking Engineering Technology
- *Pastry Arts
- *Mandarin Chinese
- *Sports Medicine-Rehab Therapy and Exercise Science (SMART-EST)
- *Sports Medicine-Rehab Therapy and Exercise Science (SMART-EST)
- *Veterinary Sciences Technology (VET-TECH)

Certifications:

Through strategic planning and partnerships with local employers, A.W. Beattie Career Center offers several nationally recognized validated skills certifications (NOCTI).

Training related externships are required for all students wishing to earn a Performance Certificate with honors during their enrollment at A.W. Beattie Career Center. These related externship experiences can be paid or unpaid and fall into one of the following categories: Cooperative Education, Job Shadowing, Clinical Experiences or Internships and Volunteer opportunities.

Learning Center services are open to all students. The Center is designed to facilitate the need of students to help them reach their full potential. Facilitators provide support services through tutoring, study guides, test assistance, and curriculum modification. Facilitators and Instruction Assistants offer support in the classroom and labs.

Contact A.W. Beattie Career Center for more information:

A.W. Beattie Career Center

9600 Babcock Boulevard

Allison Park, PA 15101

Phone: 412-847-1912

Fax: 412- 366-9600

www.beattietech.com

Email: kim.zylinski@beattietech.com

Beattie Course Descriptions:

Advanced Computer Programming-A.W. Beattie Career Center is proud to be one of the few schools nationwide authorized to offer Advanced Computer Programming. Students learn the latest database and Internet technologies utilized by industry leaders to create a dynamic presence on the World Wide Web. Advanced Computer Programming students learn how to design and create Internet databases, develop programs in JAVA and C# that is endorsed by the World Organization of Webmasters, along with integrating databases into WebPages using SQL. Students also develop data modeling, project management, problem-solving, and communication skills. This direct partnership provides students with the necessary skills to jumpstart their career in the high paced world of Internet technology. Students pursuing post-secondary education will have acquired hands-on experience with the latest technologies, providing an expanded foundation for their continued educational success.

Advertising Design-The Advertising Design program at A.W. Beattie Career Center focuses on a wide variety of professional art-related fields, including: Digital Graphic Design, Multimedia, Digital Photography, and Web Design. Students will train in a dual-platform (Mac and PC) environment using the latest in professional graphic design software and equipment, such as: Adobe Photoshop CS5.5, Adobe Illustrator CS5.5, Adobe Premier Pro, Adobe Dreamweaver CS5.5, and many others. Students can achieve advanced standing at local colleges or universities by utilizing college credits you can earn while you are an Advertising Design student working towards your Adobe Certified Associate Certificate.

Agile Robotics/Intelligent Systems-Students interested in the most recent, innovative technology have a unique opportunity for training in the cutting-edge Robotics Industry. Through a partnership with the Technology Collaborative and California University of Pennsylvania, along with guidance and support from Carnegie Mellon University, students will study Robotics using curriculum developed through the Nation Robotics Education Center. They will move through a series of introductory activities into more advanced design and control challenges, using the same state-of-the-art equipment as California University. Students will study robotics technology case studies and participate in hands-on lab experiences. Students can earn up to 17 credits at A.W. Beattie Career Center for use in continuing their education at California University. Because the application of robotics systems is beneficial to many industries, there are numerous employment opportunities for Robotics Technicians in the Pittsburgh area, well as nationally. Students also participate in FIRST Robotics Team Competition.

Automotive Collision Technology-Auto Body Repair trains students in all aspects of the industry including MIG welding, computerized paint, mixing, and spraying techniques. Using the latest technology in our fully equipped auto shop keeps students up-to-date with current standards. Cooperative education experiences in local area dealerships provide authentic educational experiences.

Automotive Technology-The NATEF(National Automotive Technicians Education Foundation) certified Automotive Technology program at A.W. Beattie Career Center meets strict standards, providing students with hands-on experience using up-to-date diagnostic equipment in our state-of-the-art auto shop. Students learn all aspects of the trade, as well as participating Automotive Technology is an AYES (Automotive Youth Education Systems) training facility, providing students during their senior year, with work experience in local area dealerships, allowing for those important career connections. NATEF and AYES certification assure students the best training and preparation to complete their ASE (Automotive Service Excellence) certification in less time, upon graduation. Students will have the opportunity to earn their PA Safety and Emissions Inspection credentials.

Carpentry/Building Construction-The use of hand and power tools, blueprint reading, framing, finishing, roofing, drywall, and insulation are taught through hands-on experience in the Carpentry/Building Construction program. Students have the opportunity to learn skills in the carpentry, masonry, plumbing, and electrical fields. BAMP activities and competitions, as well as community projects challenge students during the year, preparing them for immediate employment. Students have the opportunity to experience live work by taking part in the ongoing project of building a modular home. Students will have the opportunity to earn their OSHA-10 Safety Certification and PA Builder's Certificate.

Computer System Technology-In Computer System Technology, students maintain and operate the Beattie Broadcasting System, an in-house television network. Building, maintaining and troubleshooting computers and peripherals is part of the curriculum. Students will learn the basics of networking and will build Linux and Windows 200 servers. They will also set up and maintain Internet services as well. Students participate in the Cisco approved IT Essentials course created by Hewlett Packard for the Cisco Networking Academy.

Cosmetology-In Cosmetology, the Beattie Salon provides qualified Cosmetology students with the opportunity to use their energy, skills, and imagination on clients from the community, in a state-of-the-art Cosmetology Salon. Students will study care of hair, nails, and skin. They will learn the proper use of cosmetology tools and equipment, as well as techniques in hair cutting, styling, coloring, permanent waving, relaxing, manicuring, pedicuring, and skin care. Students will also focus on professionalism and customer relations, while preparing to test for their Pennsylvania State Cosmetologist License.

Culinary Arts-The culinary Arts department has built a solid reputation as one of the finest programs throughout the State. The Beattie Dining Room, give a three star rating by the Pittsburgh Press, serves breakfast and lunch to more than 150 people a day! Located in the Dining Room, the Bake Shop sells cookies, brownies, pies, cakes, and various pastries. Students learn all aspects of the restaurant business from meal planning, food preparation, baking and carving, top dining room management, and banquet serving. There are many job opportunities within the always growing Culinary Industry as well as scholarships for students provided by prestigious culinary colleges. Students practice their craft in a commercially equipped kitchen and bakery while earning their ServSafe Food Safety Certification.

Dental Careers-Dental Careers students learn the necessary skills for employment in Dental Assisting, Lab Technician, Infections Control Assistant, and many more opportunities within the Dental Industry. Seniors participate in hands-on work experiences in dental offices learning and assisting in four handed dentistry, chair-side assisting, administrative skills, and other techniques. Students will prepare to test for their PA Radiological Certification on the Career Centers state of the art Digital X-Ray System. Upon successful program completion and two years of employment, students will be eligible for their Dental Assisting National Board exam.

Early Childhood Education-Students enrolled in Early Childhood Education experience the opportunity to apply their child development and teaching skills daily, working with children in the on-site Kiddie Tech Day Care Center. In addition to a variety of classroom activities, students learn the industry hands-on with infants, toddlers, and preschool age children. Students present a series of learning and development activities in the day care facility, practicing and refining their creative teaching skills, as well as learning the basics of caring for and managing children. Students will participate in the Childhood Development Association (CDA) Ready/Certification.

Emergency Response Technology- This course challenges students with exciting hands-on training in a fully equipped on-site lab, as well as field trips to the local Police and Fire Academies, throughout the school year. Students study several technical fields including police science, fire science, rescue operation, hazardous

material, and emergency medical services. Certification as an Emergency medical Technician (EMT) at A.W. Beattie Career Center will prepare students for immediate employment in the growing Emergency Response Industry.

Health and Nursing Sciences-This course will show students that today's medical field is rapidly growing and changing. There's never been a better time to pursue a career in the Health Industry. The core curriculum will prepare students for entry level positions, such as Medical Assisting and Nurse Assisting. For those students that have an interest in becoming a Nurse, Radiology Technician, or Physical Therapy Assistant, this program will prepare them for post-secondary education. During the course of study, students will gain valuable hands-on clinical experience in hospitals, nursing homes, physical therapy clinics, and private offices where they will practice and perfect their skills, preparing them for an exciting and rewarding career in healthcare. Pennsylvania Nurse Aide Certification is available to students who successfully complete their clinical rotation and state exam.

Heating, Ventilating, and Air-Conditioning-This is a course that trains students with the necessary skills to become qualified technicians and mechanics. Students learn heating installation and service, air-conditioning installation and service, plumbing, electrical wiring, refrigeration, and sheer metal fabrication. Students will put these skills into use when they participate in the plumbing, ventilating, and wiring of the Beattie modular home. They also test for their EPA certification and OSHA-10 Safety Certification at A.W. Beattie Career Center, helping to ensure immediate employment opportunities along with post secondary opportunities.

Introduction to Pharmacy-The Introduction to Pharmacy Program will provide twelfth grade students the opportunity to jump start their post-secondary training and work towards a career with increased employment opportunities over the next ten years. Students will learn compounding formulas and ratios, laws and regulations of the industry, participate in module lab work, practice sterilization skills with industry equipment, and demonstrate proficiency as required by industry standards. Students will participate in mock simulations and gain hands on experience within the community. Students will be required to pass a physical, TB test and criminal background check. The program is limited to twelfth grade students.

Networking Engineering Technology-Are you interested in knowing how the Internet works, building things, and working with computers? Are you familiar with the components and software aspects of a computer and interested in pursuing a career in computers? Then you may be a potential candidate for the Networking Engineering Technology course at the A.W. Beattie Career Center. Students will construct various types of network cables, install network cards and drivers, set up peer-to-peer networks, and create network neighborhoods for several host computers. Lab exercises include setting up and troubleshooting Netscape and Internet Explorer, as well as participating in online curriculum. Each semester, students completing the two-year program will be eligible to test for the Cisco Certified Networking Associates Certification. Students with CCNA certification received preference when seeking employment.

Pastry Arts-This course provides students with an opportunity to learn all functions of a commercial bakery while perfecting their creative pastry skills. Students keep the bakery cases, located in the Beattie Dining Room stocked full of cases, cookies, pies, brownies, breakfast pasties, and a variety of specialty breads and rolls. Students receive quality training in our fully equipped Pastry Arts lab learning everything from baked goods preparation to merchandising, and dining room service. There are classroom demonstrations from industry professionals throughout the school year, as well as field trips to local bakeries and restaurants. Students will prepare special orders for holidays, weddings, and special events throughout the year. Students have the opportunity to earn their ServSafe Food Safety Certification.

Veterinary Sciences Technology (VET-TECH)-Students enrolled in the Vet-Tech program will experience a wide variety of care and management techniques throughout the program. Students will learn to maintain medical records, schedules, offer client education, explore authentic laboratory procedures, and assist with

nursing and prepare for surgical duties; along with routine exams. Students will gain a solid foundation in the Vet-Tech program on which to build a post-secondary degree. The Vet-Tech Program may lead to additional career pathways such as Animal Trainer, Animal Breeder, Non-Farm and Laboratory Animal Caretaker, Groomer, Animal Control Officer, Veterinary Technician or Technologist, and Veterinarian. Students will have the opportunity to earn the following recognized industry certification: Purina Certified Weight Coach, Pet Tech First Aid and CPR.

Sports Medicine-Rehab Therapy and Exercise Sciences Technology (SMART-EST)-The SMART-EST program is designed for students that are looking towards the fields of: physical therapy, occupational therapy, physical rehabilitation, exercise physiology, and sports medicine. Students will develop valuable skills in diagnosis, differential diagnosis, assessment and prevention, along with prognosis and the rehabilitation of bodily injuries and related health conditions. Students will learn the therapy and application principles of a patient care plan including: assessment, evaluation, interventions of exercise, manual therapy, modalities and neuro re-education. Students will also develop goal setting and discharge plans for patients. Students will participate in nutrition understanding, as they learn how to develop proper diet plans for healthy individuals and they will learn how to tailor diet plans for special populations. Students participating in the SMART-EST program would have the following potential career pathways directly out of the program upon successful completion: Personal Trainer/Coach, and Physical Therapy Aid. In addition, the program provides a core base that a student may build a post-secondary degree of advanced certification upon. Careers available with additional post-secondary studies include: Personal and Athletic Trainer, Physical Therapist or Assistant, Occupational Therapist or Certified Occupation Therapist Assistant, Strength and Conditioning Coach, Medical and Exercise Physiology Researcher, Sports Psychologist, Dietitian, and Exercise Physiologist.



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