WESTERN BEAVER HIGH SCHOOL - PROGRAM OF STUDIES
FOR THE 2023-2024 SCHOOL YEAR

Western Beaver High School Students and Parents:

This Program of Studies has been developed to assist you in scheduling courses for the 2023-2024 school year, in addition to helping you to plan your coursework throughout your high school years. It is very important that you understand the following items:

- Students must accumulate 24 credits in order to graduate. Please see the next section for specific course/credit requirements.

- In order to be promoted to the next grade level, students must have accumulated 6 credits at the end of their freshman year, 12 at the end of their sophomore year, and 18 credits at the end of their junior year.

- Core subject teachers will review student choices to ensure that students have taken the most appropriate and challenging courses.

- Students will request their courses through their student account. (Parent accounts cannot access the course request system.)

It is necessary for students to plan ahead and discuss scheduling with those who are in a position to provide helpful information about appropriate course selection. In most cases, this includes: parents/ guardians, teachers, and the school counselor. Every student should take advantage of the opportunity to discuss scheduling with as many of these individuals as possible, prior to selecting their classes for next year.

Should a parent wish to discuss a student's intended schedule, please call (724) 643-8500, ext. 1001, to make an appointment or speak with the school counselor or a classroom teacher.

We are looking forward to another great year in 2022-2023. The academic experience for all students begins with course selections. Please plan and make your selections carefully.

-Mrs. Kelly Fortner, Guidance Counselor
-Mr. David Brandon, Principal

PROGRAM OF STUDIES – TABLE OF CONTENTS

Introductory Information

Course Descriptions and Pre-requisites

GRADUATION REQUIREMENTS

1. Students must successfully complete twenty-four (24) credits including:

4	English	1	Physical Education
4	Social Studies	0.5	Health/Driver's Education
4	Math	1	Senior/Graduation Project
3	Science	6.5	Electives *(See notes below)*

**1. Elective credits must include 1.0 "technology" elective credit*

**2. Passing a Vo-Tech program is counted as four (4) elective credits per year*

**3. Juniors and seniors also receive a science (grade 11) or math (grade 12) credit waiver for successful completion of a Vo-Tech course*

2. All students must score proficient on the following Keystone Assessments or demonstrate proficiency on another local assessment (or PDE approved Project-Based assessment) based on Keystone competencies in: Algebra 1, Literature/Composition, and Biology

3. A student must successfully complete a culminating, senior/graduation project

GENERAL SCHEDULING RULES AND PROCEDURES

- Students will register for all courses online, through Skyward. Students must have an active student account in order to register--*parent accounts cannot be used to select courses*. Students will be given course verification letters. These letters must be reviewed and signed by a parent and returned to the guidance office.
- Students cannot register for a class if they lack the course pre-requisite. Please check the course description booklet carefully to ensure that students are eligible for the courses they select.
- Schedule changes can only be made during the ***ten*** days before the school year begins. Schedules will not be changed once the school year has begun. Students requesting second semester changes must do so within the first three (3) days of the second semester.
- Students cannot drop a class once the school year begins. If a parent insists a student's class be dropped, the parent must sign the appropriate form, acknowledging that the student will receive a "WF" grade for the course. This "WF" grade will appear on the student's permanent transcript and will be factored as an "F" into a student's grade point average.
- Students are responsible for completing requirements for graduation and for making up any failed courses. It is very important that class selection is approached seriously. A student's future will likely depend on his/her high school background.
- Students who fail or do unsatisfactory work are encouraged to attend summer school as retaking courses during the next school year often limits opportunities and scheduling options.

SPECIAL EDUCATION SERVICES AND PROGRAMS

Parents who suspect that their child is exceptional may request a multidisciplinary evaluation of their child at any time. The request should be in writing. If a parental request is made orally to school personnel, the personnel will ask the parents that the request be made in writing or through email. Parents of exceptional children should be aware that learning support and gifted support in the form of support classes/enrichment/acceleration opportunities are available as supplements to their child's schedule. For information regarding protected handicapped students, please contact Mrs. Elizabeth Altenhof, Director of Special Education Services at 724-643-9310.

WESTERN BEAVER ONLINE ACADEMY

Western Beaver students who are not succeeding in the traditional classroom may be able to complete their coursework through the Western Beaver Online Academy. Students may have the opportunity to take advantage of flexible scheduling that includes online core coursework (social studies, math, science and English) and classroom electives. Students may be able to complete their coursework here at school, from home or a combination of both. Again, this program will help to serve the academic needs of students who are not succeeding in the traditional classroom environment. Please see Mrs. Fortner or Mr. Brandon for additional information on this program.

TITLE IX STATEMENT

Western Beaver County School District is an equal opportunity education institution and will not discriminate on the basis of race, color, national origin, sex or handicap in its activities, programs or employment practices as required by Title VI, Title IX and Section 504.

PROTECTED HANDICAPPED STUDENTS

The Western Beaver County School District will not discriminate against protected handicapped students as defined in Chapter 15 or the regulations of the State Board of Education. The Western Beaver County School District will provide each protected handicapped student enrolled in the district, without cost to the student or family, those related benefits of the school program and extracurricular activities without discrimination and to the maximum extent of the student's ability. For information regarding civil rights, grievance procedures or handicapped students, please contact: The Title IX, Section 504 and support programs coordinator, 216 Engle Road, Industry, PA, 15052, Phone (724) 643-8500; Fax: (724) 643-8504.

COLLEGE/ UNIVERSITY CREDIT AND DUAL ENROLLMENT OPPORTUNITIES

There are fees associated with taking AP exams, dual enrollment and for electing to take CHS courses for college credit. Please see the subject teacher or guidance office for specific fee information.

A.P. Courses Available

Students will have the opportunity to take A.P. (Advanced Placement) designated courses including: AP Literature, and/or AP Language and AP US Government and Politics and AP Spanish. Other A.P. courses are available to be taken as elective credit through the Western Beaver Online Academy. Students who sign up to take an AP course must take the AP exam at the end of the year. Students will be responsible for half of the cost of the test. Students who score a 3, 4, or 5 on the exam will be refunded his/her money.

Community College of Beaver County

Juniors and seniors can take CCBC courses on campus at CCBC through the dual enrollment program. This dual enrollment program tuition is the responsibility of the parent/guardian. Students can earn college credits; however, these courses will not take the place of Western Beaver course requirements. Announcements and updates will be made through the Guidance Department.

Juniors and seniors have the opportunity to participate in one of the CCBC Academies—Aviation, Construction, Criminal Justice, Education, Health Services, and STEM. Eligibility is based upon GPA, attendance and character.

Duquesne University

Duquesne University authorizes CHS (College in High School) Environmental Science II here at Western Beaver. Students will be able to earn both Duquesne and Western Beaver credits at the same time, during the regular school schedule. Students desiring the college option will be responsible for covering the cost. Space may be limited, with seniors having scheduling priority.

Penn State University (Beaver Campus)

Juniors and seniors can take Penn State courses on campus at Penn State, Beaver. This dual enrollment program tuition is the responsibility of the parent/guardian. Students can earn college credits and Western Beaver elective credit at the same time. Announcements and updates will be made through the Guidance Department.

Pittsburgh Technical College

Juniors and seniors can take PTC dual enrollment courses here at Western Beaver. This dual enrollment program tuition is the responsibility of the parent/guardian. Students can earn college credits and Western Beaver elective credit at the same time. Announcements and updates will be made through the Guidance Department. Currently we partner with them for Accounting I, Office Applications and Photoshop.

University of Pittsburgh

The University of Pittsburgh authorizes CHS (College in High School) Statistics (STAT 0200), CHS Chemistry (CHEM 0110), and CHS Calculus here at Western Beaver. Students will be able to earn both Pitt credits and Western Beaver credits at the same time, during the regular school schedule. Students desiring the college option will be responsible for covering the cost. Space may be limited in both courses, with seniors having scheduling priority. A mathematics placement assessment will be required for enrollment in CHS Calculus I (Math 0220). Students who do not earn the required minimum score will not be permitted to enroll in the University of Pittsburgh course.

WESTERN BEAVER H.S. CAREER PATHS

Course recommendations linked to career aspirations

S.T.E.M. CAREER PATHS

SCIENCE

Course Recommendations:	Biology, Environmental Science, Chemistry, Physics, Biology 2, CHS Chemistry, Foundations of Organic Chemistry, Environmental Science 2, Algebra 2, Geometry, Trigonometry, Calculus, Statistics, MS Excel, MS PowerPoint, three years of a foreign language, Composition/Lit 1, 2 & 3
Career Paths to:	Chemistry, biology, medicine, physical therapy, nursing, pharmacy, dental, scientific research, computer science, aviation science, environmental safety/policy, agriculture and natural resource management

TECHNOLOGY

Course Recommendations:	Biology, Environmental Science, Chemistry, Astronomy, Algebra 1, Algebra Geometry, MS Word, MS Excel, MS PowerPoint, Multimedia Design, Web Page, Beaver Country Career and Technology Center
Career Paths to:	HVAC-R, automotive technology, carpentry, business information systems, logistics/materials management, cosmetology, electrical occupations, food service technology, greenhouse/landscaping, health-related support technology, machine tool technology, masonry, plumbing & heating, welding, computer network management, engineering technologies, robotics, web page design, web programming, healthcare technologies, medical technicians, secretarial, clerical, data entry, emergency medical services

ENGINEERING

Course Recommendations:	Biology, Environmental Science, Chemistry, Physics, Biology 2, CHS Chemistry, Foundations of Organic Chemistry, Environmental Science 2, Astronomy, Algebra 2, Geometry, Trigonometry, Calculus, Statistics, MS Excel, three years of a foreign language, Composition/Lit 1, 2 & 3
Career Paths to:	Civil, mechanical, chemical, architectural, software, transportation, nuclear and other engineering careers, drafting technology, geology, anthropology

MATH

Course Recommendations:	Biology, Environmental Science, Chemistry, Physics, Algebra 2, Geometry, Trigonometry, Calculus, Statistics, MS Excel, three years of a foreign language, Composition/Lit 1, 2 & 3
Career Paths to:	Applied mathematics, actuarial science, risk analysis, math/scientific research, computer software design, computer systems analysis

LIBERAL ARTS CAREER PATHS

EDUCATION

Course Recommendations:	Biology, Environmental Science, Chemistry, Algebra I, Algebra 2, Geometry, Trigonometry, AP Lang, AP Lit, Sociology, Psychology, 3 years of a foreign language, MS Word, MS Excel, MS Power Point, Multi Media Design, Web Design, additional coursework in student's area of interest (adv. Science, Math, or English Language Arts, etc.)
Career Paths to:	Elementary education, secondary education, higher education, educational research and policy development, educational administration

BUSINESS

Course Recommendations:	Biology, Environmental Science, Chemistry, Algebra I, Algebra 2, Geometry, Trigonometry, Statistics, Sociology, Psychology, three years of a foreign language, Composition/Lit 1, 2 & 3, Practical Grammar for Business and College, Accounting, MS Excel, Web Design, Yearbook
Career Paths to:	Business, international business, accounting, finance, economics, public relations, advertising, real estate, human resource management, news media, journalism

THE ARTS

Course Recommendation:	Biology, Environmental Science, Chemistry, Algebra 1, Algebra 2, Geometry, Sociology, Psychology, three years of a foreign language, Multimedia Design, Web Design, Music electives, Media Art electives, Web Page Design
Career Paths to:	Commercial art design, graphic arts, digital media design, visual/ performing arts, related arts, humanities, languages, culinary arts,

LEGAL / GOVERNMENT

Course Recommendation:	Biology, Environmental Science, Chemistry, Algebra 1, Algebra 2, Geometry, Trigonometry, Sociology, Psychology, MS Word, MS Excel, three years of a foreign language, Composition/Lit 1, 2 & 3, AP Government
Career Paths to:	Criminal justice, law enforcement, armed services, pre-law, political science, ethics, foreign relations, social services, paralegal

There are many more career/college careers and clusters available. Please make an appointment with your guidance counselor to discuss course selections for these careers and additional choices that are not listed.

COURSE OFFERINGS (Required Graduation Credits)

ENGLISH (4 cr.)
AP Literature and Composition*
Composition and Literature I
Composition and Literature II
Composition and Literature III*
English 9
English 10
English 11
English 12
Yearbook I, II, III, IV^

SCIENCE (3 cr.)
Astronomy
Biology A
Biology B
Biology I
Biology II*
Chemistry I (Lab)
CHS Chemistry* (Lab)
Foundation of Organic Chemistry* (Lab)
Environmental Science
Environmental Science II* (Lab)
Physics* (Lab)

ARTS/HUMANITIES ELECTIVES
AP Spanish*
Band I, II, III, IV
Chorus I, II, III, IV
Drawing - *sem*
Family Dynamics - *sem*
French I, II, III, IV*
Fundamentals of Ceramics - *sem*
International Foods - *sem*
Spanish I, II, III

CAREER AND TECHNOLOGY ELECTIVES
Please see the BCCTC course descriptions.

MATHEMATICS (4 cr.)
Algebra I
Algebra II
Algebra A
Algebra B
Basic Geometry
Calculus*
Consumer Math
Plane Geometry
Statistics*
Trigonometry / Analytic Geometry

SOCIAL STUDIES (4 cr.)
AP U.S. Government and Politics*
P.O.D./Economics
Psychology^
United States History I
United States History II
Sociology^
World Cultures

HEALTH/PHYS ED (1.5 cr.)
Driver's Education/Health 10 – *sem.*
Physical Education – *sem.*

BUSINESS/TECHNOLOGY ELECTIVES
Accounting I, II – *sem.*
Alice/Scratich Programming – *sem*
APPlications – *sem*
Communications and Technology
Construction I, II, III, IV – *sem.*
Manufacturing I, II, III, IV – *sem.*
Multi Media Studio I, II – *sem.*
Office Applications - *sem*
Photoshop - *sem*
Robotics 1 - *sem*
Technical Drawing I (*sem.)*, II, III
Web Page Design

NON-TRADITIONAL ELECTIVES (RCI)
WB Online Electives *(Please stop in guidance)*

All Courses are full-year unless noted (sem. = 1 semester, ½ credit)

**Courses that receive an extra quality point add-on, based on final grades, as follows: A=.1, B=.09 and C=.08*

^Courses are offered within the academic core departments, but only count towards elective credits

COURSE DESCRIPTIONS AND PRE-REQUISITES

ENGLISH

General English 9 **Course Code: 110** **1 Credit** **Grade 9**

In English 9, the study of literature is genre based, focusing on the characteristics of the short story, the novel, poetry, drama, and nonfiction selections. Reading and analysis of all fiction and nonfiction is based on the standards required for the Pennsylvania Keystone Exam. Writing emphasis is on the essay, with review of grammar, usage, and conventions to support good writing skills. *Pre-requisite: None*

General English 10 **Course Code: 120** **1 Credit** **Grade 10**

The goal of English 10 is to improve the students' skills of communication. The development of language skills is directly related to the many educational activities: reading, writing, speaking and listening. Through the study of short stories, nonfiction selections, poetry, and drama, students will develop critical thinking and writing skills in preparation for the PA Literature Keystone Exam. *Pre-requisite: None*

General English 11 **Course Code: 130** **1 Credit** **Grade 11**

This general course focuses on the study of literature and language. Both fiction and non-fiction selections, which cover current issues, popular culture, and political/governmental topics are explored. Writing emphasizes informational and persuasive essays with a stress on both the writing and research process. The understanding of language skills and rhetoric is explored in addition to sharing information orally and effectively. This course also includes a daily implementation of a vocabulary/grammar study, as well as career readiness skills embedded within lessons. *Pre-requisite: None*

General English 12 **Course Code: 141** **1 Credit** **Grade 12**

In English 12, students read, discuss, and interpret various selections drawn from literature and nonfiction sources. Writing includes literary responses and standard forms of real-world communications including the resume. English 12 also includes vocabulary study and public speaking practice. *Pre-requisite: None*

Composition and Literature I **Course Code: 145** **1 Credit** **Grades 10**

This course is the first step in a writing program for college-bound students. It is designed for the student who has mastered grammar, usage, and mechanics and who wishes to develop writing skills and gain a deeper understanding of literature. The literature selections deal with dramatic literature and nonfiction literature. Poetry, short stories, and novels and a unit on Shakespeare are also studied and prepared for the Pennsylvania required Keystone exam. The Literature Keystone will be given in May. Students write in response to literature with a focus on literary analysis. Some independent reading assignments may be required. *Pre-requisite: A grade of B or better in English 9 or recommendation from previous English teacher.*

Composition and Literature II **Course Code: 147** **1 Credit** **Grade 11**

Composition and Literature II is the second step in a sequential program for college-bound students. The course focuses specifically on various types of American literature along with critical/expository writing. The literature aspect of the course is a study of the philosophies and genres of American literature from inception through the various manifestations in the modern period. While integrating grammar and vocabulary skills throughout the literature study, composition revolves around the formats, techniques and skills needed for various types of writing including essays and papers. Pre-requisite: A grade of C or better in Composition/Literature I .

Composition and Literature III **Course Code: 140** **1 Credit** **Grades 12**

College-bound students will explore British and World literature including Ancient Worlds, Latin/Central America, Europe, India, China, Africa, and the Middle East. There will be a heavy focus on writing composition and its process in order to garner deeper insight and understanding of the literature they read. Both fiction and non-fiction texts will be explored highlighting representative authors, dramatic structure, theme, literary devices, and literary lenses. Grammar and vocabulary will also be integrated daily/weekly. An emphasis on writing and the writing process will be implemented, and frequent practice and implementation will take place, as students work collaboratively to provide insight to one another as claims are developed and evidence is used for support. Students will develop a growth mindset as they write and explore literature with an understanding that any interpretation of literature is valid depending on what literary lens an individual decides to explore it with. *Pre-requisite: A grade of C or better in Composition/Literature II*

AP Literature and Composition **Course Code: 143** **1 Credit** **Grades 11, 12**

This course engages students in careful reading and critical analysis of imaginative literature. Students will deepen their understanding of the ways writers use language to provide both meaning and pleasure for their readers. Consideration of a work's structure, style, themes, imagery, symbolism, and tone are emphasized, and critical reading perspectives are introduced. Students will write literary analysis essays of poetry and fiction. All students are required to take the end of year AP exam. It is the responsibility of both the parent/guardian and the district to split the $92 exam fee. Each party will pay $46. *Pre-requisite: A grade of B or better in a Composition course*

Yearbook I, II, III, IV **Course Code: 150** **1 Credit** **Grades 9 - 12**

In this elective course, students will learn how to assemble and publish a yearly publication, improve writing techniques with an emphasis on style for narrative and informational pieces as well as editing techniques, improve time management skills by preparing weekly plans and meeting deadlines. Students will learn the basics of camera use and photography and will be responsible for photography at all school events. Students enrolled in subsequent yearbook courses will take on a supervisory role for students entering the program. Yearbook, II, III, IV students will continue working on writing copy, creating layouts and photo-taking techniques. Students will also be responsible for organizing and running yearbook fundraisers. Only students in Yearbook III & IV will be considered for editor positions. Class will be limited to no more than 20 students. *Pre-requisite: None*

MATHEMATICS

Algebra A **Course Code: 321** **1 Credit** **Grades 9 - 11**

This is the first part of a two-year Algebra I course. Topics covered include: Linear equation and inequalities and systems of equations and inequalities. There is a strong emphasis on the reinforcement of topics. The student is encouraged to develop his or her ability to think and work in a systematic manner. The student learns to incorporate algebra into problems common to everyday life situations. *Pre-requisites: A grade of C or below in previous math with and/or teacher recommendation*

Algebra B **Course Code: 322** **1 Credit** **Grades 10 - 12**

This is the second part of a two-year Algebra I course. This is an extension of the topics covered in Algebra A. Topics covered will include: Linear equations and inequalities, systems of equations and inequalities, exponential, quadratic, radical and rational functions. There is a strong emphasis on the reinforcement of topics. The student is encouraged to develop his or her ability to think and work in a systematic manner. The student learns to incorporate algebra into problems common to everyday life situations. *The Pre-requisites: A grade of D or better in Algebra A and/or teacher recommendation*

Basic Geometry **Course Code: 324** **1 Credit** **Grades 10 - 12**

Geometry helps the student develop the ability to: explore and solve mathematical problems, think critically, work cooperatively with others, and communicate ideas clearly. Topics will have an emphasis on geometric properties (including circles and polygons), logical reasoning, coordinating geometry and measurement (including two-and three-dimensional shapes). *Pre-requisites: A grade of D or better in Algebra B or teacher recommendation*

Consumer Math **Course Code: 325** **1 Credit** **Grade 12**

This course is designed to teach students how to apply mathematics in a practical way. Students will focus on mathematic skills necessary for everyday activities. *Pre-requisites: A grade of D or better in Basic Geometry and teacher recommendation*

Algebra I **Course Code: 311** **1 Credit** **Grades 9 - 12**

This is a study of the basic concepts and laws of algebra. Topics covered include: Linear equations and inequalities, systems of equations and inequalities, exponential, quadratic, radical, and rational functions. The student is encouraged to develop his or her ability to think and work in a systematic manner. The student learns to incorporate algebra into problems common to every day life situations. *Pre-requisite: A grade of B or better in Pre-algebra and/or teacher recommendation*

Algebra II **Course Code: 312** **1 Credit** **Grades 9 - 12**

This is a continuation of Algebra I. It includes a review of basic Algebra skills such as: solving of linear equations and inequalities, factoring, and graphing. Other topics include complex numbers, matrices, non-linear expressions, polynomial equations, functions and data analysis. A good background in Algebra I is essential. *Pre-requisite: A grade of D or better in Algebra I or Plane Geometry*

Plane Geometry **Course Code: 323** **1 Credit** **Grades 10 - 12**

This course is designed to create logical thinking and to increase reasoning ability. On the basis of a few definitions, postulates, and algebraic assumptions, the student is able to develop a logical structure of established truths (theorems) that can be used to discover and prove new facts. Algebraic properties are applied in the study of angles, triangles, and other geometric figures. Geometry develops the reasoning and maturity required in higher mathematics. *Pre-requisites: A grade of C or better in Algebra I or Algebra II and teacher recommendation*

Trigonometry/Analytic Geometry **Course Code: 333** **1 Credit** **Grades 10 - 12**

This is a study of trigonometric function, angular and circular, and their relations and the solution of triangles. Analytic Geometry deals with the analytic approach to the discussion and application of the circle, parabolas, ellipses, and hyperbolas, and all the conic sections. This course is needed to study calculus and any other advanced mathematics courses. Other topics may include linear relations and functions, systems of linear equations and inequalities, the nature of graphs, polynomial and rational functions, and exponential and logarithmic functions. *Pre-requisites: A grade of D or better in Algebra I, Algebra II and Plane Geometry and teacher recommendation*

Calculus **Course Code: 343** **1 Credit** **Grades 11, 12**

This course is the same course taught at the University of Pittsburgh. It is called Scientific Calculus, Calculus 0220. Students may receive four college credits for this course, which are transferable to most colleges. The tuition for this course, if college credit is desired, is approximately $300 (subject to change per University of Pittsburgh); whereas if the same course would be taken at Pitt, the cost would be approximately $545 per credit. Students desiring the college option will be responsible for covering the cost. Students will learn to both differentiate and integrate various functions and also learn applications of Calculus. Main topics covered are: limits, chain rule, implicit differentiation, differentiation of trigonometry functions, related rate problems, mean value theorem, Newtons method, Riemann Sums, areas of revolution, mass and moments, functions *l*n x and e^x and many other topics. A mathematics placement assessment is required for enrollment in CHS Calculus I (MATH 0220). Students who do not earn the required minimum scores will not be permitted to enroll in the University of Pittsburgh course. There will be an additional fee of approximately $25 that the students desiring the college option will be responsible for covering. *Pre-requisites: A grade of C or better in Trigonometry Analytic/Geometry and teacher recommendation and students wanting a credit from the University of Pittsburgh must pass a mathematics placement assessment.*

Statistics **Course Code: 344** **1 Credit** **Grades 11, 12**

This course is offered through the University of Pittsburgh, College in High School program. Students may elect to receive four (4) Pitt credits upon successful completion. The tuition for this course, if college credit is desired, is approximately $300. The goal of Statistics is to sensitize the students to the role statistics plays in studies that affect daily lives and to provide the student with tools for handling data and performing statistical inference. Topics covered include: single categorical and quantitative variables, probability distributions, confidence intervals, hypothesis testing, chi square testing and ANOVA testing. *Pre-requisite: A grade of C or better in Trig Anal/Geometry*

SCIENCE

Biology I **Course Code: 420** **1 Credit** **Grade 9**

Biology as a science and its relationship to other sciences is introduced in this course. Students are exposed to major biological concepts with an emphasis on developing scientific thinking skills. The science of Biology, the chemistry of life, cell structure and function, photosynthesis, cellular respiration, cell growth and division, introduction to genetics, and DNA and RNA are among the topics covered throughout the year. *Pre-requisite: None – This course is required for all 9th grade students*

Biology A **Course Code: 423** **1 Credit** **Grade 9/10**

This is the first part of a two-year course of Biology 1. The science of biology, the chemistry of life, cell structure and function are among the topics covered throughout the year. There is a strong emphasis on the review, reinforcement and retention of concepts through various modalities. Pre-requisite: Teacher/Guidance Counselor recommendation only.

Biology B **Course Code: 424** **1 Credit** **Grade 9/10**

This is the second part of a two-year course of Biology 1. Photosynthesis and cellular respiration, the cell cycle, genetics, and protein synthesis are among the topics covered throughout the year. There is a strong emphasis on the review, reinforcement and retention of concepts through various modalities. Pre-requisite: Teacher/Guidance Counselor recommendation only.

Environmental Science **Course Code: 442** **1 Credit** **Grade 9**

This course will provide students with scientific principles, concepts, and methodologies required to comprehend the interrelationships of the natural world. Students will sharpen critical thinking, decision making, and problem solving skills. Topics include: Watersheds and Wetlands, Renewable and Non-Renewable Resources, Environmental Health, Agriculture, IPM, Ecosystems and their Interactions, Threatened, Endangered, and Extinct Species, Humans and the Environment, and Environmental Laws. *Pre-requisite: None – This course is required for all 9th grade students*

Chemistry I (Lab) **Course Code: 427** **1 Credit** **Grade 10 - 11**

This course will cover the following topics: laboratory safety, laboratory techniques, laboratory write-ups, scientific measurement, properties and states of matter, elements, compounds, formula writing, chemical equations, atomic structure, stoichiometry, gas laws, chemical bonding, chemical periodicity, acid-base chemistry and water properties. *Pre-requisite: Completed Biology & Environmental Science with a passing grade*

Biology II (Lab) **Course Code: 422** **1 Credit** **Grades 11, 12**

This course is designed to give more laboratory experience to the student by working individually or in groups on various types of biological problems. It consists of studies in the mechanisms of evolution, classification, and phylogeny; a study of viruses, prokaryotes, protists and fungi and, plant and animal physiology, A background in chemistry is necessary for the physiology section of this course. *Pre-requisites: Completed Biology and Chemistry with a passing grade, and teacher recommendation*

CHS Chemistry (Lab) **Course Code: 428** **1 Credit** **Grades 11, 12**

College in High School (CHS) Chemistry is designed to provide a continuation of the study of chemistry. CHS Chemistry may be taken for college credit through the University of Pittsburgh. Labs will be completed on the Pitt campus. The tuition for this course, if college credit is desired, is approximately $370 (subject to change per University of Pittsburgh); whereas if the same course would be taken at Pitt, the cost would be approximately $545 per credit. Areas of study shall include: review of laboratory safety and techniques, review of Chemistry I, a more in-depth look at chemical bonding, atomic structure and acid-base chemistry, thermochemistry, equilibrium systems, redox chemistry. *Pre-requisites: Completed Chemistry I with a passing grade, and teacher recommendation*

Environmental Science II (Lab) **Course Code: 445** **1 Credit** **Grades 11, 12**

Environmental Science II provides students with an appreciation and understanding of the fundamental and theoretical background and concepts in environmental science. The impact of population growth on ecosystems, fossil and nuclear energy, resources and resource management, and population and risk assessment are among the topics to be discussed. The course will also deal with such issues as global warming, deforestation, biodiversity, and ozone depletion. The course involves a number of field trips during the year. Students can elect to receive three credits from Duquesne University upon successful completion of requirements and a satisfactory grade. The tuition for this course, if college credit is desired, is approximately $290. *Pre-requisites: Biology and Environmental Science I required, Chemistry recommended*

Foundations Of Organic Chemistry (Lab) **Course Code: 447** **1 Credit** **Grades 11, 12**

Foundations of Organic Chemistry will aid students who plan to enter fields in which a strong background in chemistry would be required. Foundations of Organic Chemistry will give these students the extra boost they need to prepare for college. The primary method of instruction will be lecture. Labs may be used—time permitting. The course will be an extension of Chemistry I with a focus on organic chemistry. *Pre-requisites: Chemistry I, with a passing grade, and teacher recommendation*

Physics (Lab) **Course Code: 441** **1 Credit** **Grades 11, 12**

The emphasis of the course is the study of the principles of the fundamental laws upon which all science is based. Math skills are used to help explain these principles. Basic experimental examples are used throughout the year. The cultural value of the history of physics is made appropriate to the main goal. *Pre-requisites: A grade of C or better in both Algebra II and Plane Geometry*

Astronomy **Course Code: 450** **1 Credit** **Grades 10 - 12**

Astronomy is a full year course that considers the universe and Earth's place in it. Students will explore mankind's understanding of the universe from the time of the ancients through the present. The contributions of classical astronomers, such as Copernicus, Kepler, and Galileo, will be emphasized, as well as the work of Newton and Einstein. Students will apply the discoveries made by these scientists (and others) to their study of the solar system, stars, and galaxies. In addition, students will gain a working knowledge of the tools and techniques used to locate objects in the night sky. An overview of man's exploration of space and its interpretation in science fiction literature and film will be included. *Pre-requisite: Successful completion of Biology is required and successful completion of Chemistry is recommended. Students in grade 9 must have teacher's approval.*

SOCIAL STUDIES

United States History I **Course Code: 220** **1 Credit** **Grade 9**

This course is designed to survey the political, social and economic history of our nation from the Age of exploration through the Civil War and its subsequent reconstruction. Special emphasis is placed on the role of minority groups, the significance of the frontier, the friction with England and our subsequent struggle for independence, the Constitution and its interpretation, the westward movement, growing sectionalism and disunion and discontent. Some effort is made at achieving a new objectivity by examining varying interpretations. *Pre-requisite: None – This course is required for all 9th grade students*

United States History II **Course Code: 225** **1 Credit** **Grade 10**

United States History II is concerned with our American heritage, the growth and economic development of our nation, the development of our democratic form of government, and the problems of living, which will confront the students as future citizens. The greatest emphasis is placed upon the period since the Civil War. Also, the course stresses interpretations at this level, which go beyond the pupil's previous learning in American History. *Pre-requisite: None – This course is required for all 10th grade students*

World Cultures **Course Code: 230** **1 Credit** **Grade 11**

World Cultures approaches, in a systematic way, the study of Non-Western cultures throughout the world. Key concepts serve as an organizational framework. These concepts are as follows: setting and origin of the culture, region, family organization, religion, economic life, political trends, and relations with the rest of the world. These concepts are very important because they enable the student to have a more thorough understanding and a better knowledge of the world and a greater sense of the humanity of other people. Emphasis is on applying acquired knowledge to issues in those regions today. *Pre-requisite: None – This course is required for all 11th grade students*

Problems of Democracy/Economics **Course Code: 240** **1 Credit** **Grade 12**

Problems of Democracy (P.O.D.) attempts to develop an understanding and an increased awareness in the student of the current political, social, personal, and international problems that they, as Americans, are faced with in a democratic society, and to give students the knowledge they need to solve these problems through clear and unbiased thinking.

Economics endeavors to explain the basic principles behind our capitalistic (free enterprise) system through explanation of how goods and services are produced and distributed to fulfill the wants and needs of our society. In the course, students study such things as: an analysis of our monetary system, both past and present; what determines prices; the place and use of credit in our economy; how business cycles affect us; and the role of government forces in our economy today and in the past. *Pre-requisite: None*

AP U. S. Government and Politics **Course Code: 241** **1 Credit** **Grade 12**

This college-level course includes both the study of general concepts used to interpret U.S. politics and the analysis of specific examples. The topics explored in depth in the course will include the Constitutional Underpinnings of United States Government; Political Beliefs and Behaviors; Political Parties, Interest Groups; and Mass Media; Three Branches of Government; and Civil Rights and Civil Liberties. All students are required to take the end of year AP exam. It is the responsibility of both the parent/guardian and the district to split the $92 exam fee. Each party will pay $46. *Pre-requisite: A grade of B or better in previous social studies classes*

Psychology **Code: 250** **1 Credit** **Grades 11, 12**

This course is designed to introduce the study of psychological foundations of behavior, adolescence and social problems. This includes motivation, perception, learning, memory, personality, psychotherapy, social development and abnormal psychology. Emphasis will also be on understanding socialization, gender roles, race and ethic relations, collective behavior and social movements. *Pre-requisites: None*

Sociology **Code: 251** **1 Credit** **Grades 11, 12**

The class offers an introduction to the basic nature of society and the relationship between society and the individual. This course focuses on how society functions and is organized, and how society impacts and influences individual motivation, understanding, action, and well-being. Basic sociological ideas regarding social relations, social interaction, social structure, and social change are examined. Students are introduced to key issues addressed by contemporary sociologists; class, race, gender, sexuality, religion, globalization, education, health care, crime, the media, and the environment. The knowledge gained in this course will aid students in future studies within a variety of fields and careers, and encourage the development of critical thinking about important issues. *Pre-requisite: None*

HEALTH/DRIVER'S EDUCATION AND PHYSICAL EDUCATION

10th Grade Health/Driver's Education **Course Code: 961** **½ Credit** **Grade 10**

The senior high program offers units in the following areas of development and enrichment: (1)CPR Training, (2)First Aid Training, (3)Drugs, (4)Childbirth/Sexuality, and (5)Driving Procedures. Drivers' Education attempts to develop in each student a desirable pattern of behavior in our total traffic environment. Much emphasis is placed upon the ability to recognize, analyze, and respond to traffic situations in a manner that indicates some degree of proficiency in the driving situation. Behind-the-wheel driving is available through a partnership with Blackhawk and by appointment only. Please make arrangements with our Driver's Education instructor. *Pre-requisite: None – This course is required for all students in 10th grade*

Physical Education **Male PE Code: 940** **½ Credit** **Grades 9 - 12**

Female PE Code: 941

The Physical Education Program is developed around the concept of basic physical fitness for all individuals, a feeling of being accepted as a team member, and lifetime carry-over sports. The concepts of fun and participation in all areas are regarded as essential parts of the Physical Education Program. Co-educational units are offered where appropriate. *Pre-requisite: None*

ARTS/HUMANITIES (RELATED ARTS) ELECTI VE

ART EDUCATION

Drawing **Course Code: 5810** **½ Credit** **Grades 9 - 12**

Students explore a variety of drawing tools, techniques, and subjects. Emphasis on improving observational skills through the introduction of the elements of design (line, shape/form, value, color, space, & texture) and the principles of deign (balance, variety, unity, emphasis, proportion, movement, & rhythm) using a variety of media. Students will be required to keep a sketchbook that includes numerous studies and assignments such as figurative works, portraits, landscapes, still life, illusions, perspective drawings, and designs. This class is recommended prior to Painting. . *Pre-requisite: None*

Exploring Clay
This course engages students in the artmaking process through the medium of clay**.** Students will be introduced to the basic hand building techniques including slab, coil, pinching, and the pottery wheel. Students will be tasked with a creative challenge through a specific theme or purpose. Students will approach each artwork through a guided process including research including key ceramicists, sketches/drawings, building methods of choice, and choice decoration. As a result, every student will experience a unique solution**.** Students will attend a field trip to Standard Ceramics in Carnegie, Pa where they will participate in a Raku firing workshop. *Pre-requisite: None*

FAMILY AND CONSUMER SCIENCE

International Foods **Course Code: 5717** **½ Credit** **Grades 9 - 12**
This course is designed to allow students to explore foods, diet, etiquette and customs of different cultures. Students will study the cultures and food from the United States as well as France, Mexico, China, Germany, Italy, India and Japan. Course evaluation will be based off of assessments. Labs and class participation. *Pre-requisite: None*

Family Dynamics **Course Code: 5718** **½ Credit** **Grades 9 - 12**

Family Dynamics is a course that develops skills related to personal, family and social issues. It includes instruction in dimensions of adolescent development, family decisions and responsibilities, social decisions and responsibilities and management of family systems (consumerism and building healthy relationships with a family) in today's society. *Pre-requisite: None*

FOREIGN LANGUAGES

French I **Course Code: 611** **1 Credit** **Grades 9 - 12**

The French I course is designed to teach the basic concepts of French by means of vocabulary building and fundamental grammar points. All four language skills--listening, speaking, reading, and writing--are stressed. Meaning and communication are emphasized from the beginning and grammar points are related to their use in communication. Cultural insights provide information into different ways of thought and life in French-speaking areas of the world. Realistic activities make learning enjoyable. *Pre-requisite: None*

French II **Course Code: 622** **1 Credit** **Grades 9 - 12**

The emphasis of the French II course is also on meaning and communication. Students continue to demonstrate their skills in conversation and written expression. Grammar points relate to their use in communication. A wide variety of activities facilitate mastery of each concept. All four language skills are used. Students also gain cultural awareness of the French people of the world. *Pre-requisite: A grade of C or better in French I*

French III **Course Code: 637** **1 Credit** **Grades 10 - 12**

This course provides the means for further development of communication and writing skills. New vocabulary related to topics is presented in a variety of reading passages and conversations. Continued study of grammar-related topics will increase the student's ability to express himself/herself in many different areas. Realistic settings for activities make learning relevant. *Pre-requisite: A grade of C or better in French II*

French IV **Course Code: 638** **1 Credit** **Grades 11, 12**

This course continues the on-going process of building all language skills. At this level, students should be able to use their acquired knowledge from the three previous years in developing additional proficiency in the language skill areas. *Pre-requisite: A grade of C or better in French III*

Spanish I **Course Code: 610** **1 Credit** **Grades 9 - 12**

The curriculum in Spanish I is designed around the five areas addressed by the National Foreign Language Standards: Communication (speaking, listening, reading, writing), Cultures (gaining knowledge and understanding of other cultures), Connection (making connections with other disciplines and using Spanish to acquire new information), Comparisons (developing insight into the nature of Language and Culture), and Communities (participating in multilingual communities at home, in the community and around the world). There is a heavy focus on understanding the grammar and structure of the Spanish language. There is also a large emphasis on pronunciation and speaking. Students who enroll in the course are expected to actively participate in speaking activities, role-playing and many other communicative activities. Students who enroll in Spanish should have a good grasp of English grammar. The Spanish I curriculum focuses on the present indicative tense. It is recommended that only students who have earned a “C” or above in English enroll in this course. *Pre-requisite: None*

Spanish II **Course Code: 621** **1 Credit** **Grades 9 - 12**

The curriculum in Spanish II builds on what was learned in Spanish I. The curriculum is also designed around the five National Foreign Language Standards. Students will continue to enhance their Spanish vocabulary while mastering the Present Indicative tense. The students will learn to use the Present Progressive tense and be introduced to the Preterite Past tense. Students will also begin to learn how to give directions and informal commands. Time will be spent developing speaking skills, writing skills, reading comprehension, vocabulary development, and listening skills. Students will strengthen their ability to understand contextual speaking, writing and communicating. *Pre-requisite: A grade of C or better in Spanish I*

Spanish III **Course Code: 635** **1 Credit** **Grades 10 – 12**

Spanish III will build upon the content learned in Spanish I and II while providing more applications of the language through interpretive and communicative activities. Students will strengthen their understanding their understanding of the Preterit Past tense and compare it with the Imperfect Past tense. Speaking about future plans will be explored through the use of the Future tense. The ability to use and apply the language will be practiced using various media, such as video creation, creative writing and viewing of authentic resources. *Pre-requisite: A grade of C or better in Spanish II*

AP Spanish **Course Code: 640** **1 Credit** **Grade 11 -12**

AP Spanish Language and Culture is equivalent to an intermediate level college course in Spanish. Students cultivate their understanding of Spanish language and culture by applying interpersonal, interpretive, and presentational modes of communication in real-life situations as they explore concepts related to family and communities, personal and public identities, beauty and aesthetics, science and technology, contemporary life, and global challenges. *Pre-requisite: A grade of C or better in Spanish II, III, and/or teacher recommendation*

MUSIC EDUCATION

Band I	**Course Code: 5951**	**1 Credit**	**Grades 9 - 12**
Band II	**Course Code: 5952**	**1 Credit**	**Grades 10 - 12**
Band III	**Course Code: 5953**	**1 Credit**	**Grades 11, 12**
Band IV	**Course Code: 5954**	**1 Credit**	**Grade 12**

The Band is a year long course, which includes concert band, pep/jazz band, and marching band. The band is a musical organization open to any student who possesses the talent to play or the ability to learn a band instrument. Music instruction will be provided as scheduling permits.

HIGH SCHOOL BAND is a scheduled class that consists of members in grades 9, 10, 11, & 12. This is a performance-oriented ensemble, which provides students with instruction in the creative and analytical elements of music. Participation in High School Band is granted one credit per year.

JUNIOR HIGH and HIGH SCHOOL BANDS combine for winter and spring concert performances and after school rehearsals. Band rehearsals meet daily, and practice at home is strongly recommended. In addition, there are scheduled "after-school" rehearsals and performances. Band members must own their primary instrument and be responsible for the maintenance of their own instrument and music. School instruments are issued on an as-needed and availability basis, and only after the student has demonstrated a track record of responsibility, dependability, and musicianship.

PARTICIPATION IN MARCHING BAND is required for students in grades 9 - 12. Musicians in grades 7 & 8 who possess the ability and desire to participate must satisfactorily complete an audition in order to participate in Marching Band. The Marching Band will attend band camp in August and perform at Varsity Football games, parades, and other events.

All members are required to attend all after school rehearsals and performances, as part of the grade. Members are encouraged to participate in Jazz Band, Pep Band, and Brass and Woodwind Ensembles, and other groups which exist at different times during the year, not as part of the Band credit. Extra rehearsals may be called at the discretion of the Band Director. *Pre-requisite: Ability to perform with a band instrument*

Chorus I	**Course Code: 5901**	**1 Credit**	**Grades 9 - 12**
Chorus II	**Course Code: 5902**	**1 Credit**	**Grades 10 - 12**
Chorus III	**Course Code: 5903**	**1 Credit**	**Grades 11, 12**
Chorus IV	**Course Code: 5904**	**1 Credit**	**Grade 12**

The Senior High Chorus at Western Beaver is a performance based vocal ensemble. This ensemble performs two primary concerts “Winter” and “Spring” in addition to other secondary concerts and performing opportunities. While this class is performance based and mainly rooted in experience, it is also part academic as it challenges students to conceptualize musical language, foreign language, understand culture, develop problem solving skills, both musically and non-musically, work together as an ensemble, develop vocal technique as it pertains to the physics of sound and the anatomy of the body, and develop a fluency in music theory. Last but not least, this class is designed to nurture the entire musician, not just the vocal musician. This means that some instructional days will be used as repertoire intensive days as well as musicianship training days. *Pre-requisite: None*

BUSINESS, COMPUTERS AND TECHNOLOGY ELECTIVES

BUSINESS AND COMPUTER ELECTIVES

Accounting I **Course Code: 534** **½ Credit** **Grades 9 - 12**

This course introduces the basic principles and procedures of accounting. Emphasis is placed on analyzing business transactions, cataloging journal entries, posting to the general ledger, and preparing financial statements (income statement, owner's equity statement, and balance sheet). Junior and seniors can opt to take this course for Pittsburgh Technical College credit. The approximate cost is $250. Accounting may count as ½ math credit during the student's senior year only. *Pre-requisite: None*

Accounting II **Course Code: 537** **½ Credit** **Grades 9 - 12**

This course is designed for students to build upon and enrich the basic principles learned in Accounting 1 and apply them to various accounting systems and methods. The student will also utilize computerized accounting software in this course. Accounting 2 will count as a ½ math credit during the student's senior year only. *Pre-requisite: A grade of D or better in Accounting I*

Alice/Scratch Programming **Course Code: 546** **½ Credit** **Grades 9 - 12**

This course explores animation software created by Carnegie Melon University and Massachusetts Institute of Technology. This introduction to coding covers a basic introduction to the principles of programming, including algorithms and logic. Students engage in hands-on programming tasks in the Alice/Scratch programming languages as they write and test their own code. Students will program with variables, functions, and arguments, and lists and loops to create animations and video games.. *Pre-requisite: None*

Robotics 1 **Course Code: 547** **½ Credit** **Grades 9 - 12**

This course incorporates KNEX, Lego Mindstorms and Hummingbird Duo Robotics Kits and Vex Robotic Design System to explore the basic concepts of robotics. Robotics is a lab-based course that uses a hands-on approach to introduce concepts such as: exploring the broad scope of robotic applications, learning the basic components and building blocks of robots, developing the robot construction skills, learning to program various robots, and programming autonomous mobile robots to achieve challenging tasks. Students will work in groups to build and test increasingly more complex mobile robots, culminating in an end-of-semester project. P*rerequisite: None*

Photoshop **Course Code: 548** **½ Credit** **Grades 9 - 12**

This course will explore photography using point and shoot and DSLR cameras and introduces the concepts, techniques, procedures, and application of photography. Photos will be uploaded into various editing software such as Microsoft Paint 3D and Photoshop Elements software in a lab-based setting. This course utilizes techniques associated with designing computer graphics and page make-up for desktop publishing. Emphasis is on the exploration of illustration, photo retouching and manipulation, and working toward finished results primarily for print and Web. Juniors and seniors have the opportunity to earn college credits through Pittsburgh Technical College for successful course completion. The approximate cost is $250. *Pre-requisite: None*

Office Applications **Course Code: 549** **½ Credit** **Grades 9 - 12**

This course provides the student with an introduction to multiple office-based applications. The student will use the knowledge gained in this course as a foundation for implementing and developing projects in various Microsoft applications including spreadsheets, word processing and presentation software. Juniors and Seniors have the opportunity to earn college credits through Pittsburgh Technical College for successful course completion. The approximate cost is $250. *Pre-requisite: None*

APPlications **Course Code: 551** **½ Credit** **Grades 9 - 12**

This course will explore App creation using several technological devices. The student will research, plan, design, test and implement mobile apps of their choosing. *Pre-requisite: None*

Web Page Design **Course Code: 529** **½ Credit** **Grades 9 - 12**

This course introduces the processes of designing web pages for publishing on the World Wide Web. Students learn to apply their visual design skills within the constraints and limits specific to this medium. Students gain an understanding of the Internet environment and the process of website design and development and web design applications. This course explores html coding and exposes the students to basic computer programming skills and languages. A history of the internet and computer evolution are also introduced. *Pre-requisite: None*

Multi-Media Studio 1 **Course Code: 544** **½ Credit** **Grades 9 - 12**

This course will introduce the student to various media applications. Students will learn to use various video equipment, photo and video editing software and digital output creation. *Pre-requisite: None*

Multi-Media Studio 2 **Course Code: 545** **½ Credit** **Grades 9 - 12**

This course is a continuation of Multimedia 1 and will review various media applications. In it, students will learn to use various video equipment, photo and video editing software and digital output creation. *Pre-requisite: A grade of "C" or better in Multimedia 1 and/or teacher recommendation*

Communications and Technology **Course Code: 552** **1 Credit** **Grades 9 - 12**

In this course, students will acquire the knowledge and skills needed to effectively share information and tell a story using various forms of technology. In this workshop style course, students will explore communication technologies through various forms including news writing, broadcasting, photography, public relations, marketing, video production, and mass communication avenues. Students will create content for the Comm Tech YouTube channel, and become fluent in district provided technologies in order to provide services, support, and trainings across the district.

TECHNOLOGY EDUCATION (INDUSTRIAL ARTS) ELECTIVES

Construction I **Course Code: 5611** **½ Credit** **Grades 9 - 12**

This course is for students who have a special interest in woodworking. Students will begin with a brief review of reading and executing accurate measurements and technical drawings from 7th and 8th grade Technology Education. Safety and correct operating procedures for hand tools and machines will also be emphasized and reviewed at all times. Students will be exposed to proper use of hand, machine, and power tools necessary to shape and construct wood. In this course, a specific project chosen by the instructor will be required to demonstrate basic mastery of the tools and techniques necessary to manipulate the material into a finished product. Students will be evaluated on their attainment of skills for each machine or technique, demonstration of progress in their skills and workmanship, and evidence of time management in the completion of their projects. There will be a fee for project materials. *Pre-requisite: None*

Construction II **Course Code: 5612** **½ Credit** **Grades 9 - 12**

In this extension of the level one course, students will continue to develop the basic skills necessary to manipulate wood into a finished project. Proper use of hand, machine and power tools as well as safety is emphasized. Specific projects chosen by the instruction are required to demonstrate a mastery of the tools and techniques discussed. Students will be evaluated on their attainment of skills for each machine or technique, demonstration of progress in their skills and workmanship, and evidence of time management in the completion of their projects. There will be a fee for project materials. *Pre-requisite: A grade of "D" or better in Construction I*

Construction III **Course Code: 5613** **½ Credit** **Grades 11, 12**

In this more advanced course, students will continue to build on their experiences and knowledge in woodworking. Proper use of new tools and machines as well as more advanced techniques will be introduced to add to the students' abilities to manipulate wood. One or more projects chosen by the instructor will be required to demonstrate mastery of these tools and techniques. Safety and proper operating procedures will continue to be stressed. Students will be evaluated on their attainment of skills for each machine or technique, demonstration of progress in their skills and workmanship, and evidence of time management in the completion of their projects. There will be a fee for project materials. *Pre-requisite: A grade of "D" or better in Construction II*

Construction IV **Course Code: 5614** **½ Credit** **Grades 11, 12**

In this extension of the third level course, students will continue to expand their knowledge base of new tools and machinery as well as the ability to execute more advanced techniques. Proper use of hand, machine, and power tools as well as safety will continue to be emphasized. Specific projects chosen by the instructor are required to demonstrate a mastery of the tools and techniques discussed. Time permitting, independent projects of a small scale may be incorporated. Students will be evaluated on their attainment of skills for each machine or technique, demonstration of progress in their skills and workmanship, and evidence of time management in the completion of their projects. There will be a fee for project materials. *Pre-requisite: A grade of "D" or better in Construction III*

Manufacturing I **Course Code: 5601** **½ Credit** **Grades 9 - 12**

This course is for students who have a special interest in metalworking. Students will begin with a brief review of reading and executing accurate measurements and technical drawings from 7th and 8th grade Technology Education. General safety in the shop and tool and machine safety will be emphasized and reviewed at all times. During this one semester course, the student will complete two main metalworking projects. The first will be a sheet metal tool tray and the second will be an aluminum nameplate and hanger. Through these projects, the student will be exposed to the proper use of hand, machine, and power tools that are necessary to shape and form metal. The student will be assessed not only on participation, but on their ability to use the tools and techniques to manipulate the material into a finished project. There will be a fee for project materials. *Pre-requisite: None*

Manufacturing II **Course Code: 5602** **½ Credit** **Grades 9 - 12**

In this course, students will continue to build on their experiences and knowledge of metalworking. General safety in the shop and tool and machine safety will be emphasized and reviewed at all times. Proper use of additional tools and machines as well as more advanced techniques will be introduced to add to the students' abilities to work with metal. During this one semester course, the student will complete two main metalworking projects. The first will be a sheet metal project and the second will be an aluminum foundry project. The student will be assessed not only on participation, but on their ability to use the tools and techniques to manipulate the material into a finished project. There will be a fee for project materials. *Pre-requisite: A grade of "D" or better in Manufacturing I*

Manufacturing III **Course Code: 5603** **½ Credit** **Grades 11, 12**

This advanced course is for students who show a serious interest in developing their skills in metalworking. General safety in the shop and tool and machine safety will be emphasized and reviewed at all times. Emphasis will also be placed on demonstrating the ability to produce quality work that shows further development of their skills. In this one semester course, the student will either be involved in a class project that necessitates teamwork to complete or will develop and execute a project independently. The development and progress of all projects will be monitored by the instructor. The number of projects will be discussed with the instructor and determined by the difficulty of the projects to be completed. There will be a fee for project materials. *Pre-requisite: A grade of "D" or better in Manufacturing II*

Manufacturing IV **Course Code: 5604** **½ Credit** **Grades 11, 12**

This advanced course is for students who show a serious interest in developing their skills in metalworking. General safety in the shop and tool and machine safety will be emphasized and reviewed at all times. Emphasis will also be placed on demonstrating the ability to produce quality work that shows further development of their skills. In this one semester course, the student will either be involved in a class project that necessitates teamwork to complete or will develop and execute a project independently. The development and progress of all projects will be monitored by the instructor. The number of projects will be discussed with the instructor and determined by the difficulty of the projects to be completed. There will be a fee for project materials. *Pre-requisite: A grade of "D" or better in Manufacturing III*

Technical Drawing I **Course Code: 5501** **½ Credit** **Grades 9 - 12**

Young men and women enrolled in Technical Drawing I will be exposed to numerous exercises designed to strengthen their abilities to visualize and think in three dimensions. Students who anticipate a career in any of the engineering fields or those who have an interest in design work are encouraged to enroll in this course. Course material will cover a thorough exposure to instrument drawing techniques in order to produce concrete examples of the visualization process. Units will include: multi-view projections, isometric projections, oblique projections and dimensioning. Coursework will begin with execution of these skills by hand and will progress into Computer Aided Drafting execution of the same skills. *Pre-requisite: None*

Technical Drawing II **Course Code: 5502** **1 Credit** **Grades 10 - 12**

Technical Drawing II is designed for the student who has successfully completed Technical Drawing I and has an interest in further refining his/her skills as well as more in-depth techniques. Additionally, students will have an emphasis on self motivation and time management at this level. Units will include threads and fasteners, sectional views, auxiliaries, intersections, and pattern developments. Coursework will be completed entirely on the computer beginning with Computer Aided Drafting programs and progressing into Parametric Drafting programs. . *Pre-requisite: A grade of C or better in Technical Drawing I*

Technical Drawing III **Course Code: 5503** **1 Credit** **Grades 11, 12**

Technical Drawing III is for the further development of skills acquired in Technical Drawing I and II while focusing exclusively on Residential Architectural Drawing. Students must have successfully completed Technical Drawing I and II. A continued emphasis on self motivation and self management is expected for this level. Drawing for this course will be completed entirely using Computer Aided Drafting programs. The culmination of this course work will be the execution of a re

VOCATIONAL EDUCATION (Formerly Vo-Tech)

If a student wishes to attend the Beaver County Career & Technology Center, he/she must have successfully completed all ninth and tenth grade required courses. There will be no class time to "make-up" failed courses since students are only at the High School for three (3) class periods during their junior and senior year and must fulfill junior and senior requirements during that time. If a student wishes to go to college after attending the Career & Technology Center, he/she must plan course selection very carefully, or he/she may lack required courses necessary for college entrance.

Interested students must apply for the Career & Technology Center acceptance during their sophomore year. All sophomores will see a presentation on the school and will be permitted to take a field trip to tour the Career & Technology facilities. Applicants will not be considered if they have missed more than 10 days of school in the first semester. Students will usually be informed of acceptance into the program by April of the year in which they apply.
Area schools are allotted positions in the programs ("shops") according to their enrollment. Because Western Beaver is very small, we generally are allotted limited positions for each of the 19 shop areas listed below. Oftentimes, good candidates are disappointed because of ineligibility (e.g., they have not fulfilled graduation requirements during 9th and/or 10th grade; they exceed the number of absences allowed for application; they have missed the application deadline, etc.). Competition is very strong for many shop areas. When more than one candidate applies for a specific shop, attempts will be made by the Vo-Tech counselor to seek additional positions. If additional positions are not available, positions will be awarded on a first-come, first-served basis based on the date of submission of the Vo-Tech application and/or reviewing the grades and attendance history of candidates.

The following shops are available at Vo-Tech:

Automotive Technology - pe
Business Information Systems - pe
Carpentry - pe
Collision Repair Technology - pe
Commercial Art & Design
Cosmetology - he
Culinary Arts - pe
Electrical Occupations - pe
Graphic Arts & Printing - pe
Greenhouse/Landscaping - pe
Health Occupations - he
HVAC-R - pe
Logistics & Materials Management - pe
Machine Tool Technology - pe
Masonry/Bricklaying - pe
Veterinary Assistant - he
Welding - pe

he – indicates a ½ credit health credit waiver per successful year in the program
pe – indicates a ½ credit physical education waiver per successful year in the program

Passing a Vo-Tech program is counted as four (4) elective credits per year.

Juniors and seniors also receive a science (gr.11) and math (gr. 12) credit waiver for successful completion of a Vo-Tech course.

Course information is listed at the end of this booklet.

The Beaver County Career & Technical Center (CTC) is an off-campus addition offering training in occupational, vocational and technical programs. This training will develop skills and attitudes that may lead to employment or further education after high school. This is a two-year training program during the student's junior and senior year. The students will spend half a day at the Beaver County CTC and the remainder of the day at Western Beaver High School where they are enrolled in courses required for graduation. The Beaver County CTC student will graduate at his/her home school with a regular Western Beaver Diploma: additionally, the student will also receive a certificate from the Beaver County CTC, showing hours in training and the skills that have been developed. There are 17 programs offered at the Beaver County CTC. Students of all ability levels are eligible to attend. Applications are required and need to be returned to the home school guidance counselor by April 1st. If a student is accepted to the Beaver County CTC and has to repeat a required course during his/her junior year, a schedule conflict may arise whereby the student would not be able to attend the Beaver County CTC. In such cases, students must attend summer school to make up any deficient courses prior to attending the Beaver County CTC. Students may be eligible for post-secondary credits through state and private articulation agreements. More information can be accessed through the website at bcctc.org

BCCTC Course Summaries

Automotive Technology CIP 47.0604
Program provides a systems approach to all aspects of automobile and light truck maintenance and repair. Emphasis is on engine repair/performance, steering and suspension, and brake systems. Seniors may receive the PA Safety Inspection Certification. Related Occupations: Service Station Manager, Automotive Salesman, Automotive Technicians, Service Writer, Parts Counter Technician.

Business Information Systems CIP 52.1201
Prepares students to operate/utilize computer software for solving business related problems. The computer lab has the most current software, PC hardware, notebook computers, PDA's, printer, scanners, and digital cameras. Related Occupations: Spreadsheet Analyst, Desktop Publisher, Word Proc. Supervisor, Database Admin., Multimedia Designer, Website Designer.

Carpentry CIP 46.0201
Students will learn layout, fabrication, assembly, installation and repair to structures. Instruction in power tools and hand tools and equipment used in frame construction will be given. Related Occupations: Carpenters, Job Supervisors, Cabinet Maker, Roofer.

Collision Repair Technology CIP 47.0603
Prepares students for entry level employment in the Auto Body field. Training involves safety, mig-welding, plasma cutting, using torches, body/ fender repair, hand/power tools/jacks. Related Occupations: Collision Repair Technician, Adjuster, Service Mgmt., Sheet Metal Worker, Refinishing/Custom Refinishing.

Commercial Art CIP 50.0402
Students are taught basic skills and development of vocabulary and techniques. This class is geared for advertising artists, computer graphics, air brush, illustration, lettering, drawing, fashion, painting, typography, and desktop publishing. Related Occupations: Silkscreen Artist, Designer, Multi-Media Animator, Signage, Illustrators Cartoonist.

Cosmetology CIP 12.0401
This is a three-year program designed to train students in the beautification of hair, skin, and nails. Facials and massaging are also taught. All salon functions are taught in preparation for State Board Licensing upon graduation. Related Occupations: Manicurist, Beauty School Instructor, Hair Stylist, State Board Inspector, Salon Owner, Vocational Instructor.

Culinary Arts CIP 12.0508
Culinary Arts students learn to cook gourmet meals, wait on tables, and the proper storage of food. They also learn the proper cleaning techniques needed to maintain a safe and sanitary kitchen. The BCCTC has an operational restaurant where students can practice their food service skills. Related Occupations: Waiter/Waitress, Food Sales, Chef/Cook,
Kitchen Inspector, Baker.

Electrical Occupations CIP 46.0399
Students receive a broad background in residential, commercial, and industrial wiring. Instruction for proper use of specialty tools is provided. Related Occupations: Linesman, Wiring specialist, Residential electrician, Commercial/Industrial electrician, Cable technicians.

Graphic Arts & Printing CIP 10.0399
In Graphic Arts & Printing students will learn Graphic Design, Photography, Screen Printing, and Offset Printing. They create products like business cards, senior portraits, class t-shirts, and brochures. Related Occupations: Graphic Designer, Photographer, Offset Press Operator, Bindery Work, Screen Printer, Digital Press Operator.

Greenhouse/Landscaping CIP 01.0601
Students grow and sell a variety of plants, flowers, and vegetables in the greenhouse. They also landscape the CTC grounds using tractors and mowers while completing landscaping projects. The FFA Club is available for students to join/participate. Related Occupations: Turf chemical application, Floral design, Greenhouse labor, Garden center sales, Equipment sales, Landscaping/landscape design.

Health Occupations CIP 51.0899
Students completing the Nurse Aide Program are eligible to take the PA Nurse Aide Competency exam listed on the PA Nurse Aide Registry. Students receive 105 hours of clinical experience. They may also take the Home Care Certification Exam. Related Occupations: Nurse Aide, Home Care Aide, Registered Nurse, Dental Assistant, Clinical Technologist LPN.

HVAC-R CIP 47.0201
A technician installs, services, and repairs equipment used to control circulation, moisture and purity of air. Some of the skills a student will be able to perform are sheet metal fabrication, electrical controls, circuitry, piping, soldering/brazing, gas heating systems, oil heating systems, air conditioning, heat pump technology, psychometrics and blueprint reading. Related Occupations: Heating, Ventilation, Air Conditioning and Refrigeration Mechanic, Bldg. Maintenance, Appliance Technician, General Maintenance Contractor.

Logistics & Materials Management CIP 52.0203
Provides practical experience in receiving, shipping, handling, recording, and storing of supplies and materials for all departments of the technical school. Distribution, logistics and transportation are taught. Related Occupations: Shipping/Receiving, Forklift Operator, Sales Representative, Warehouse Mgr., Inventory Specialist, Marketing Manager.

Machine Tool Technology CIP 48.0501
This program includes machine tool programming/operation, trade theory, and blue print reading in a state-of-the-art machine shop. Higher achieving students have been awarded machinists apprenticeships. Related Occupations: Assembler/Inspector, Millwright, Tool & Die Maker, Machinist, CNC operator, Machine Repair.

Masonry/Bricklaying CIP 46.0101
Masons are individuals who lay building materials to construct or repair walls, fireplaces, stonework, concrete, and block and brick structures. This program provides the student with skills and knowledge for entry-level employment. Related Occupations: Bricklayer, Stonemason, Cement Finisher, Laborer, Construction Supervisor, Union Bricklayer.

Veterinary Assistant CIP 51.0808
Upon completion of the program, graduates will be able to work in animal hospitals, animal clinics, kennels, doggie daycare facilities, grooming facilities, mobile vet services, animal shelters, and laboratories. Topics to be covered include basic first aid, medical terminology professional and ethical standards of Veterinary medicine, handling and restraint, animal anatomy, diseases and treatments, and various related studies. Related Occupations: Animal Caretaker, Veterinary Hospital Technician, Veterinarian Technician, Veterinary Technologist, Animal Lab Technician.

Welding CIP 48.0508
Instructs students in all aspects of fusing metal together by the use of heat and fluxing materials. Instruction is given in the use/maintenance/repair of welding equipment. Blue-print reading is also taught throughout the two years. Related Occupations: Nuclear Welding Burner, Ship Builder, Fitter, Ironworker, Pipefitter.

STUDENT SCHEDULING WORKSHEET

Directions: ***Students should complete this worksheet and use it as reference when scheduling through Skyward.***

Student Name: _____ Current Grade: _____

	Course Codes	Course Titles	Credits
English			
Math			
Science			
Social Studies			
Elective(s)			
		Total Credits:	

Notes / Reminders:

- You must request 7 credits
- Vo-Tech students must request 3 credits in addition to Vo-Tech
- Double-check all requests with our graduation requirements on page 3
- Your academic core teachers will review your choices to ensure that you have scheduled the most appropriate and challenging courses
- If you have questions, please see your subject teacher(s), IEP tracking teacher or guidance counselor
- You can change your course requests in Skyward until **Friday, February 17.** System will be

locked after that date.

LEARNING SUPPORT WORKSHEET (For All IEP Students)

GRADE _____ (Current) NAME _____

IEP / TRACKING TEACHER _____

IEP / TRACKING TEACHER SIGNATURE _____

DIRECTIONS:

- All students who have an IEP must complete this sheet with their IEP tracking teacher prior to completing their online schedule requests
- In order to register for classes, you must have your IEP / tracking teacher's signature on this sheet
- Once scheduling has been completed, please submit this worksheet to Mrs. Halfhill in the guidance office

Inclusion Classes

110A English 9
120A English 10
130A English 11
141A English 12

220A US History I
225A US History II
230A World Cultures
240A POD / Economics

420A Biology I
442A Environmental Science
427A Chemistry I

311A Algebra I
321A Algebra A
322A Algebra B
324A Geometry
325A Consumer Math

Replacement (Pull-out) Classes

0001 English 9
0002 English 10
0003 English 11
0004 English 12

0017 Int Math I – 9th Grade
0018 Int Math II – 10th Grade
0019 Int Math III – 11th Grade
0020 Int Math IV – 12th Grade

Supplemental Classes

0024 HS Support Study Hall
___ ½ year ___ full year

0026 Reading 9-12

Note(s): _____
_____