

Johnsonburg Area High School Course Guide



7-12

“Expect, enable, and encourage”

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Math

Pre Algebra 7

Credits: 2

- Grades: 7

Pre Algebra 7 is a double period class designed for students who have successfully completed sixth grade math, scored advanced or proficient on their 6th grade PA CORE state test, acquired teacher recommendation, and scored proficient on the placement test given at the end of their 6th grade year. This course covers introductory Algebra and Geometry topics. In addition to reviewing math basics such as decimals, fractions, ratios, percents, and probability, the students will learn to perform operations using exponents and integers. Students will learn how to write and analyze algebraic expressions, solve multi-step equations, and inequalities, and graph linear equations. Geometric topics will include computing area and volume, similarity, and the Pythagorean Theorem. Although calculators will be permitted in this course, it is very important that the student become proficient and confident in their computational skills.

Math 7

Credits: 2

- Grades: 7

Math 7 is a double period class designed for students who have successfully completed sixth grade math. Students will explore such topics as integers, rational numbers, expressions, equations, inequalities, ratios and proportions, percents, and various topics in geometry. Emphasis is placed on paper and pencil calculations, and the application of these concepts to realistic situations.

Math 8

Credits: 1

- Grades: 8

This course is designed for those students who have successfully completed the seventh grade mathematics course. Although we will be further mastering the concepts taught in the seventh grade course, emphasis will be placed on the development of algebraic concepts and the use of abstract reasoning. Students will learn how to simplify algebraic expressions, write and solve linear equations and inequalities, write and solve systems of equations, determine if a number is rational or irrational, convert between fractions and decimals, solve equations by using either a square or cube root, use and apply the Pythagorean Theorem, compute the volume of cylinders, cones, and spheres, identify and complete

transformations of two-dimensional objects on a coordinate plane, create and interpret scatter plots, interpret and create two-way tables, and write and graph linear equations and inequalities.

Algebra 1 & Algebra 1 8th

Credits: 1

- Grades: 8, 9

Algebra 1 is a Keystone Preparation Course. Students will be required to take the Algebra 1 Keystone at the end of the year. This course is a continuation of either Pre-Algebra or Math 8 (teacher recommendation) where fundamental algebraic skills will be further developed and mastered. The students will become proficient at writing and solving equations and inequalities (including absolute-value inequalities), writing and graphing linear equations and inequalities, writing and solving systems of linear equations and inequalities, using the properties of exponents to simplify expressions, simplifying rational expressions, computing probabilities, analyzing the graphs of functions, and using operations (including factoring) with polynomials.

Algebra 2

Credits: 1

- **Grades: 9-12**

This course is a review and an extension of Algebra 1. Many of the same topics will be discussed and expanded upon. By the end of the course, the students should be able to: 1) Write, solve and graph linear equations and inequalities; 2) Write and solve systems of linear equations and inequalities; 3) Simplify and evaluate expressions containing integer and/or rational exponents; 4) Simplify and perform operations with polynomials and rational expressions; 5) Write and solve quadratic, polynomial, rational, and exponential equations; 6) Analyze and interpret the graphs of polynomial, rational, logarithmic, and exponential equations. Time permitting, we will discuss series and patterns and discuss and use the trigonometric functions. A graphing calculator will be used to enhance certain topics. We will be covering the required material at a fast pace.

Algebra 1A

Credits: 1

- Grades 9 and 10
Is a Keystone Preparation Course. The course covers introductory Algebraic, Geometric and Statistical topics. Emphasis is placed on the application of math to solve real world application problems. The course is structured to accommodate students who have trouble mastering concepts and may need more practice. Material is introduced more slowly than in Algebra 1. By the end of the course students should be able to write and analyze algebraic expressions and equations, perform all operations on rational numbers, solve and graph linear equations

and inequalities, find probabilities, compute area and volume, use applied statistics, create and interpret graphs and plots. Upon completion students will have the opportunity to take Algebra 1B.

Algebra IB

Credits: 1

- Grades: 10

Algebra IB is a Keystone Preparation Course. Algebra IB is the second part of a two year Algebra course. It is designed for students who have successfully completed Algebra IA. Students will explore such topics as real numbers, solving and graphing systems of linear equations and inequalities, properties of exponents, polynomials, radicals, rational expressions, and data analysis. Students will take the Algebra I Keystone Exam upon completion of this course.

Advanced Math/Trigonometry

Credits: 1

- Grades: 11, 12

Advanced Math/Trigonometry is designed for students who have successfully completed Algebra I, Algebra II and Geometry. Students will explore such topics as exponential and logarithmic functions, right triangle trigonometry, radian measure, inverse functions, proving trigonometric identities, and triangles. Students will demonstrate the ability to develop the general skills of effective thinking, including imagination, abstraction, persistence, and active learning.

UPB PreCalculus

Credits: 1.25

- Grades: 11,12

The topics include functions and graphs; linear, quadratic, polynomial, rational, exponential, logarithmic, and trigonometric, analytic trigonometry, and solving systems of two equations in two variables. Students learn graphing skills and use the aid of the TI-Graphing calculator and techniques which are not only necessary for the calculus sequence but also for other courses. This course provides students with an understanding of the concepts of functions and graphs.

Academic Geometry

Credits: 1

- Grades: 9,10

This course will use geometry to solve problems, both by a conventional and non-conventional approach. Through a formal approach we will look at the properties of geometric shapes and figures and how to apply them to solve problems and make hypotheses. In addition, theorems and postulates for geometry principals will be used with and without the use of proofs. Success in the course will be geared towards meeting and exceeding the Pennsylvania state standards for geometry.

UPB Calculus

Credits: 1.25

- Grades: 11, 12

The UPB Calculus course is designed for students who desire to attain college credit from the University of Pittsburgh at Bradford. Calculus Topics include functions, limits and continuity, differentiation, applications of differentiation, integration, exponential and logarithmic functions, and applications of integration.

Calculus

Credits: 1

- Grades; 11, 12

Calculus is designed for students who have successfully completed the mathematics curriculum sequence through Pre-Calculus. It is offered with two goals in mind. The first goal is to use calculus as a review of the prerequisite course objectives. The second goal is to introduce the basic concepts of Calculus, the limit, differentiation and integration in a precise manner to clearly define and demonstrate some of its applications. Calculus Topics include functions, limits and continuity, differentiation, applications of differentiation, integration, exponential and logarithmic functions, and applications of integration.

Geometry Concepts

Credits: 1

- Grades: 10, 11

This course is an informal approach to basic topics found in a standard plane geometry course. Emphasis will be placed on using geometry to solve everyday problems related to surface areas, volumes, ratios and proportions, special right triangle properties as well as an informal look at the properties of geometric shapes and figures. No proofs will be done; however, theorems are used.

Students who take this course can expect keystone algebra test preparation for almost the entire first half of the year so that they can retake the test.

Consumer Mathematics and Personal Finance

Credits: 1

- Grades 11, 12

This course is designed to develop skills in the four basic mathematics operations in a business-related environment. Problems address such issues as checkbook and savings account records, purchasing, wages and deductions, borrowing and saving money, purchasing used and new cars and home-ownership.

Industrial Math

Credits: 1

- Grades 11, 12

Students will start out by reducing fractions as well as using all operators on fractions with and without common denominators. They will then understand tolerances and use absolute value inequalities to determine acceptable measurements. At this point students will then start studying micrometers and prepare for a test that is furnished by the Sterratt micrometer company who will then certify the students with a certificate of completion after achieving an 80% or better. The pythagorean theorem is used to determine that a wall is square for maximum strength. The betweenness theorem will be used to find missing measurements on a blueprint. Students will determine the amount of concrete will be used as well as the the number of shingles that are required to cover a roof. They will then determine the cost from the business standpoint of doing these jobs.

English/Language Arts

UPB English IV / Academic English

Credits:1 (3 College Credits - \$125)

Grade 12

This course is designed to prepare students for college-level writing. The primary focus of this class is to complete written assignments in response to literature that is read throughout the year. Students will write an argumentative essay, a literary analysis, presentations (using school computers), narrative essays, timed writings, and short prompt responses in order to achieve an academic grade and a UPB grade. Students who pay \$125 will take this course as a UPB course (with a final UPB grade based on the written assignments in class). This class is designed to be

rigorous and challenging. Along with written responses, students will be required to complete tests, quizzes, and vocabulary units in order to improve overall writing and comprehension skills.

Applied English IV

Credits: 1

- **Grade 12**

This course is designed for students who are going to a trade school or directly into the workforce upon graduation. This class is **NOT** geared toward students who plan on attending a 4 year college following graduation. The focus of this class will be the practical application of Standard American English vocabulary and grammar common to everyday situations in the workplace and social situations. Students will learn to correct common usage errors. Students will enhance skills related to practical compositions by effectively communicating critical information such as “who, what, where, when, why, and how. Students will polish reading skills for enjoyment of literature throughout adult life.

English Language Arts

Credits: 2

- **Grade 7**

This course is designed to challenge students to become proficient and independent readers and writers. Using the Pennsylvania Common Core Standards, we will set and assess daily objectives. Based on these Standards, the areas of study are: Reading Literature, Reading Informational Text, Language, Speaking and Listening, and Writing. In 7th grade, students are required to understand this content in order to prepare for the 8th grade Language Arts class and demonstrate growth on the Pennsylvania State Student Assessment

English 8

Credits: 2

- **Grade 8**

This course is designed to challenge students to become proficient and independent readers and writers. Using the Pennsylvania Common Core Standards, we will set and assess daily objectives. Based on these Standards, the areas of study are: Reading Literature, Reading Informational Text, Language, Speaking and Listening, and Writing. In 8th grade, students are required to understand this content in order to prepare for the 9th grade Language Arts class. Keystone Literature Exam, and to demonstrate growth on the Pennsylvania State Student Assessment

English I

Credits: 1

- **Grade 9**

The focus of this class will be the grammar of Standard American English and the practical applications of that knowledge. Students will polish and put into practice the skills learned in previous courses. Students will learn to correct many common usage errors, and will memorize forms of

irregular verbs which are frequently used in communication. Additionally, students will learn to determine word meaning through the use of memorized word roots. Vocabulary expansion will also be taught throughout the course. Students will learn how languages evolve through translation of the Elizabethan English of Shakespeare into modern Standard American English. Skills necessary for accurate research will be taught by step by step instruction of a research paper. All literature covered will be explored through the use of “close reading” in order for the students to discover deeper meaning of the text.

English II

Credits: 1

- Grade 10

Students will accomplish goals in reading mostly British literature based on the current Common Core Standards, including: foundational skills, reading informational texts, reading literature, writing, grammar, and speaking & listening. They will read and comprehend a variety of British literature, learn and use vocabulary, learn and use literary devices, and conduct research. Students will prove understanding of this knowledge primarily through writing assessments.

English III

Credits: 1

- Grade 11

Students will accomplish goals in reading American literature based on the current Common Core Standards, including: foundational skills, reading informational texts, reading literature, writing, grammar, and speaking & listening. They will read and comprehend a variety of American literature, learn and use vocabulary, learn and use literary devices, and conduct research. Students will prove understanding of this knowledge primarily through writing assessments.

Career Readiness

Credits: 0.5

- Grade 10

Students will complete many self-directed activities and learn basic writing and other skills that they will need as they leave high school and begin future endeavors. These activities include a close look at learning styles, aptitude and interest tests, conversational skills, preparing several presentations, writing resumes and cover letters, and participating in a mock interview. Additionally, career awareness and preparation, career

acquisition, career retention and advancement, entrepreneurship, self-awareness and self-management, establishing and maintaining relationships, and decision making and responsible behavior are addressed.

Career Exploration

Credits: 0.5

- Grade 7

Students will complete many self-directed activities and learn basic writing and other skills that they will need throughout high school. These activities include a close look at learning styles, aptitude and interest tests, conversational skills, and preparing speeches. Additionally, career awareness and preparation, career acquisition, career retention and advancement, entrepreneurship, self-awareness and self-management, establishing and maintaining relationships, and decision making and responsible behavior are addressed.

Success 101

Credits: 0.5

- Grade 8

Success 101 will provide students with speaking skills, coping strategies, and general study skills. At the beginning of the semester, students will work on, and present, several speaking assignments in class. As the semester progresses, students will take notes, read articles, and offer responses about typical coping strategies for a variety of situations that everyone will likely face throughout his/her life. While students complete class assignments, and after completing the first two parts of this class, the final focal point will involve student study skills (note-taking, listening, responding).

Science

7th Grade Integrated Science

Credits: 1

- Grade:7

This course is designed for those students who have completed the 6th grade Science curriculum. The curriculum in this class is aligned with the 8th grade Science PSSA standards and anchors and in preparation for the 8th grade Science PSSA. Topics covered in this course are the Nature of Science (Studying Science/ Scientific tools and the Scientific Method) The Diversity of Living Things/Cells and Heredity (Types of Cells, Cell Processes, DNA, Mutations, Heredity, and Biotechnology) and Environment and Ecology (Organization, Interactions, and Human Impact)

8th Grade Integrated Science

Credits: 1

- Grade: 8

This course is designed for those students who have completed 7th Grade Integrated Science. This course will be taken in preparation for the 8th Grade PSSA. The topics covered in this course will include the Nature of Science (Introduction to Science, Scientific Method, Measurement & Tools, Engineering & Technology), Matter & Energy w/ Basic Chemistry (Matter, Energy, Atoms, Periodic Table, Interactions of Matter, Solutions: Acids & Bases). Possible Additional Topics to be included: Cells, Organic Matter, Photosynthesis & Cellular Respiration, Genetics & Heredity, Ecological Relationships, and Ecosystem Interactions. **PreRequisite: 7th Grade Integrated Science**

Biology Concepts**Credits: 1**

- Grade:9

Biology Concepts is a course designed to learn the fundamental topics of Biology. This course has been developed in correlation with Biology I in preparation for success Biology Keystone Exam. The curriculum is aligned with the Pennsylvania Keystone Exam in Biology standards and anchors. Topics covered in the class are as follows: Nature of Science/Scientific Method, Chemistry of Life: Matter Interactions, Water, Carbon Compounds, and Enzymes, Basic Biology Principles: Cell Structure and Function, Cell Transport, and Homeostasis, Bioenergetics: Photosynthesis & Cell Respiration, DNA: Protein Synthesis and Gene Expression, Cell Reproduction: Cell Growth & Division, Genetics: Heredity and Biotechnology, Evolutionary Theory, and Ecological Relationships.

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Biology I: Keystone Course**Credits: 1**

- Grade: 9-10

Biology I is a required course for graduation as well as, the passing of the Biology Keystone Exam at the conclusion of this course. The curriculum is aligned with the Pennsylvania Keystone Exam in Biology standards and anchors. Topics covered in the class are as follows: Nature of Science/Scientific Method, Chemistry of Life: Water, Organic Compounds, and Enzymes, Basic Biology Principles: Cell Structure and Function, Cell Transport, and Homeostatic Mechanisms, Bioenergetics: Photosynthesis & Cell Respiration, DNA: Replication Protein Synthesis, Mutations and Gene Expression, Cell Reproduction: Cell Growth & Division, Genetics: Patterns of Inheritance and Biotechnology, Evolutionary Theory and Evidence, and Ecological Relationships.

PreRequisite: Successful completion of Biology Concepts or meets criteria from 8th Grade Assessments.

Medical Terminology

Credits:1

- Grades: 11, 12

Medical Terminology is a one-year course designed to give students interested in an allied health career, a foundation in the language of medicine. The basic construction of medical words as well as common word roots, prefixes and suffixes and their relationship to the human body, are taught in this course providing a solid base on which to build a larger vocabulary.

UPB Human Biology (BIOL 0112)

Credits: 1.25

- Grades: 11,12

BIOL0112 Human Biology is being offered as a College in High School Course through the University of Pittsburgh-Bradford at Johnsonburg Area High School. Human Biology is primarily designed for the non-major. General principles of genetics, biochemistry, anatomy, and physiology are illustrated with reference to normal human body functions. Topics are structured to allow the student to better appreciate contemporary issues and controversies. Mandatory PreRequisites: Biology 1 and Chemistry; Recommended PreRequisite: Medical Terminology

Organic Chemistry

Credits: 1

- Grades 11, 12

Organic Chemistry is a one credit academic course available to juniors and seniors who have successfully completed Chemistry I and/or UPB Chemistry. In accordance with the Pennsylvania State Standards, this course introduces the fundamentals of organic chemistry, such as molecular structure and nomenclature, proceeds into the cutting-edge field of organic synthesis and biochemistry/pharmacy, and introduces core laboratory skills and methods in organic chemistry. This course is designed to prepare students for an entry-level college organic chemistry course that is a requirement of most science and medical majors. It is recommended, but not necessary, that students complete either Chemistry II or AP Chemistry.

Physics**Credits: 1**

- Grades 11,12

Physics is a one credit academic course open to students in grades eleven and twelve. It is designed to introduce the major concepts and applications of physics according to PA State Standards, and to prepare students for an entry-level college physics course. Instruction primarily involves lecture, inquiry-based activities, and hands-on laboratory experiments. It is recommended that students have successfully completed Algebra II and Geometry.

AP Chemistry**Credits: 1.25**

- Grades 11, 12

AP Chemistry is a 1.25 credit academic course open to students who have successfully completed Chemistry I with a minimum of 86% and plan on taking the AP Chemistry Exam. This course provides a more in-depth investigation of topics in Chemistry I while introducing new concepts and applications according to PA State Standards and The College Board. Instructional techniques involve lecture, inquiry-based activities, and hands-on laboratory experiments. A passing grade on the AP Chemistry Exam at the end of the school year can be shared with colleges and universities in order to earn college credits.

UPB Chemistry

Credits: 1.25

- Grades 10-12

CHEM 0089 Concepts of Chemistry (part of the College in the High School program through the University of Pitt at Bradford) is a 1.25 credit high school course open to students in grades ten through twelve. It is designed to introduce the major concepts and applications of chemistry at the introductory collegiate level. The course emphasizes stoichiometry (chemical calculations), chemical equations, gas laws, elementary atomic structure and periodic properties of elements. A student may earn 3.0 college credits upon successful completion of the course, through UPB. Instruction primarily involves lecture, hands-on laboratory experiments, and inquiry-based activities. Successful completion of Algebra II is recommended.

Chemistry I

Credits: 1

- Grades 10-12

Chemistry I is a one credit academic course open to students in grades ten through twelve. It is designed to introduce the major concepts and applications of chemistry according to PA State Standards, and to prepare students for an entry-level college chemistry course. Instruction primarily involves lecture, inquiry-based activities, and hands-on laboratory experiments.

Chemistry II

Credits: 1

- Grades 11,12

Chemistry II is a one credit academic course open to students who have successfully completed Chemistry I. This course provides a more in-depth investigation of topics introduced in Chemistry I while exploring new concepts and applications in chemistry according to PA State Standards. Instructional techniques involve lecture, inquiry-based activities, and hands-on laboratory experiments.

UPB Environmental Science

Credits: 1.25

- Grades 11,12

Environmental Science is an elective course designed to endow students with the necessary knowledge and skills that will enable them to apply scientific skills and processes on major environmental science concepts. Mathematical concepts will be integrated into the curriculum to help identify and explain the needs of humans and how they need to be balanced with environmental needs. Environmental Science is a curriculum that is designed to introduce students to major ecological concepts and the environmental problems that affect the world in which we live. The class is mostly text and discussion based, as students will earn 3.0 college credits upon successful completion of the course. Prerequisites include Biology 1 and Chemistry 1. Successful completion of Algebra 2 is recommended.

Environmental Science**Credits: 1**

- Grades 11,12

Environmental science is a one credit academic course that investigates the environment as how our surroundings affect us as well as how we affect our surroundings. Upon successful completion of this course, students should be able to use the scientific skills and processes and major environmental science concepts to understand the interrelationships of the natural world and to analyze environmental issues and their solutions. The curriculum focuses on concepts that are real-life issues. The Environmental Science curriculum is designed to continue student investigations of science that began in grades K-8 and provide students the necessary skills to be proficient in Environmental Science. It promotes awareness and understanding of practical everyday problems that affect their lives. It also relates important environmental issues to the lives of students and their families. Students will understand the global human impact on the environment and the natural world we live in. Students will take part in assigned readings, classroom discussions, field-based activities and labs to reinforce concepts and apply them to everyday life as well as developing technologies.

General Science**Credits: 1**

- Grades 11,12

This course focuses on the natural physical environment, physical and chemical laws, astronomy, and biological principles. The course is a survey course that is intended to cover a wide range of topics and content.

Innovation and Invention 1**Credits: 1**

Innovation and Invention explores the different types of engineering fields that students could potentially pursue as a career after high school. We study what someone in each of these fields is required to have in education, possible jobs, salary, and the outlook for the career. Within each field we complete hands-on projects using the engineering design process that allow the students to see what they may do if they were to pursue this career. The students will be responsible for keeping an engineering notebook that captures their progress as they move through this course. Students in this course are required to work in groups and develop leadership skills to complete the large projects that are required for this course. This course also gives an introduction into CAD software which will be required in later courses.

Innovation and Invention 2

Credits: 1

Innovation and Invention 2 is a continuation of Innovation and Invention 1. Students will continue to develop their knowledge of the engineering design process, engineering fields, knowledge of CAD software, and leadership skills.

CAD

Credits: 1

CAD explores two different types of computer aided design softwares; Tinkercad and Solid Edge. Students will learn the basics of 3D designs on tinkercad and will be able to use the 3D printers. Once they are proficient on Tinkercad, the students will learn how to use Solid Edge, a more advanced program. This class will be on computers all year long with some hands-on projects using the 3D printers. Students will learn how to load, unload, clean, and fix the 3D printers as well.

Computational Problem Solving

Credits: 1

Computational Problem Solving is a class for seniors who are interested in pursuing an engineering career after high school. The students will be completing their own research, contacting professionals in the career they are interested in, teaching lessons, and completing a passion project. Students in this class will also be working with Contact technologies, learning how to use Solid Edge, and completing a project with team leaders from Contact Technologies.

Social Studies

World Geography

Credits: 1

- Grade 7

World Geography takes an in-depth look at our world's continents and their basic geographic features. Using the Five Themes of Geography, the class begins by learning the basic geographic skills and then using those skills to take a deeper look at the world's continents, countries, people, and cultures.

History/Civics

Credits: 1

- 8th Grade

This course is subdivided into two parts. The history content covers American History (emphasis PA History) from the Native American civilizations to the Civil War. The Civics content emphasizes the legislative, executive and judicial branches.

U.S. History II

Credits: 1

- Grade 9

This course begins with the mid 19th century (Civil War era) and ends with the mid 20th century (Great Depression era). The course takes an extensive look at the social, economic, and political changes of the time.

US History III

Credits: 1

- Grade 10

This course of study is a continuation of United States History that begins in eighth grade with the discovery period. This course is designed for the tenth grade student with prerequisites of United States History I and United States History II. United States History III is a topically covered course which begins with the WW II era and continues to current times.

World Cultures

Credits: 1

- Grade 11

World Cultures is a survey course covering world history beginning in the 16th century and continuing into modern time. Topics will be presented so that students can see relationships among people and nations rather than a composite of isolated events. The course is designed for students in the eleventh grade.

POD/ECON

Credits: 1

- 12th Grade

This course is subdivided into two parts. In POD, the class reviews the three branches and levels of government. In addition, there is extensive debate and discussion on political and constitutional issues. From the economic standpoint, the course covers supply and demand, inflation and the circulation of money throughout the economy.

UPB Psychology

Credits: 1.25

- Grades 10-12

This course is based on the scientific study of behavior and the mental processes in animals and humans. When discussing humans, the course covers everything that people think, feel, and do. While this course is being taught in the Johnsonburg Area School District, it is a college course through the University of Pittsburgh at Bradford that offers three (3) credits for prospective college students.

Computer Science

Computer Applications 9

Credits: 0.5

- Grade 9

Computer Applications 9 is an introductory computer science course that empowers students to create authentic artifacts and engage with computer science as a medium for creativity, communication, problem solving, and fun. The class centers on the immediately observable and personally applicable elements of computer science, and asks students to look outwards and explore the impact of computer science on society. Students will see how through user-centered design produces a better application, how data is used to address problems that affect large numbers of people, and how physical computing with circuit boards allows computers to collect input and return output in a variety of ways.

Python

Credits: 1

- Grades 9, 10, 11,12

This course is designed to offer an introduction to computer science. Students will learn the basics of computer programming along with the basics of computer science. The material emphasizes computational thinking and helps develop the ability to solve complex problems.

This course covers the basic building blocks of programming along with other central elements of computer science. It gives a foundation in the tools used in computer science and prepares students for further study in computer science, including AP Computer Science Principles and AP Computer Science A courses

Computer Applications for Management (PITT CAM)

Credits 1.25

- Grades 11,12

Computer Applications for Management (part of the College in the High School program through the University of Pitt at Bradford) is an introductory exploration of microcomputing and its application to core business functions. Topics include software operating systems, the world-wide web, spreadsheet applications, database management systems and presentation software. Students will develop computer proficiency with a variety of applications, use cloud computing and online file management services, use Google classroom, understand different types of software operating systems, explore online research used for business-Creative Commons, create and format documents and publications, use collaboration tools to create a presentation, create and manage a database, use formulas and functions for a variety of business applications, and complete data manipulation and analysis.

AP Computer Science Principles (AP CSP)

Credits: 1.25

- Grades 11,12

Computer Science Principles (CSP) curriculum is a full-year, rigorous, entry-level course that introduces high school students to the foundations of modern computing. The course covers a broad range of foundational topics such as programming, algorithms, the Internet, big data, digital privacy and security, and the societal impacts of computing. The course is designed for typical school settings with teachers in classrooms. All teacher and student materials are provided for free online. Computing affects almost all aspects of modern life and all students deserve access to a computing education that prepares them to pursue the wide array of intellectual and career opportunities that computing has made possible. This course is not a tour of current events and technologies. Rather, it seeks to provide students with a “future proof” foundation in computing principles so that they are adequately prepared with both the knowledge and skills to live and meaningfully participate in our increasingly digital society, economy, and culture.

FAMILY CONSUMER SCIENCE

Culinary Science

Credits: 1

- Grades: 9,10,11,12

If you want to take your love of cooking to the next level, a career in Culinary Arts might be right for you. You will learn how to prepare soups, meats, vegetables, and desserts, as well as, sauces, side dishes, and salads. This course also includes instruction in recipe and menu planning, the management of food supplies and kitchen resources, aesthetics of food presentation, and familiarity of a variety of cuisines and culinary techniques. The Students will rotate through all the jobs in the kitchen lab. Emphasis will be on quality food preparation, teamwork, food sanitization, equipment functions, and kitchen cleanliness.

Culinary Science II

Credits: 1

- Grades: 10,11,12

Take your love of cooking a little farther. After you complete Culinary Science I and want to learn more, this class is for you. You will learn what it takes to coordinate and direct the work of kitchen staff, menu planning, buying supplies, and presentation of the final product. In addition, you will manage budgets, learn about food nutrition, and participate in farm to table projects and food science activities. The course will cover career opportunities, employable skills, customer service, food costs, and inventory controls. Emphasis on quality food preparation, teamwork, developing a critical palate, and researching current culinary trends.

Physical Education

Credits: 0.5

- Grades: 7,8,9,10,11,12

The student will engage in physical activities that are developmentally/individually appropriate and support achievement of personal fitness and activity goals that promote life-long participation. The student will analyze factors that affect the responses of body systems during moderate to vigorous physical activity such as; healthy fitness zones, individual fitness status including cardiorespiratory fitness, muscular endurance, muscular strength and flexibility. The student will analyze the interrelationships among regular participation in physical activity, motor skill improvement and the selection and engagement in lifetime physical activities. The student will demonstrate competency in a variety of motor skills and movement patterns, apply knowledge of concepts, principles, strategies, and tactics related to movement and performance, demonstrate the knowledge and

skills to achieve and maintain a health-enhancing level of physical activity and fitness, exhibit a responsible personal and social behavior that respects self and others, and recognize the value of physical activity for health, enjoyment, challenge, self-expression and/or interaction.

8th Grade Health

Credits: 0.5

- Grades:8

This course is designed to integrate current health science and social concepts to direct students toward responsible, healthy behavior and positive relationships.

11th Grade Health

Credits: 0.5

- Grades: 11

The student will evaluate factors that impact growth and development, evaluate factors that impact the body system and how to apply protective preventive strategies, analyze factors that impact nutritional choice, evaluate issues relating to the use/non-use of drugs, identify and analyze factors that influence the prevention and control of various health problems, evaluate health care products and services that impact health practices, assess factors that impact health consumer choices, compare and contrast the positive and negative effects of the media relating personal health and safety, examine and apply a decision-making process to develop short and long-term health goals. Analyze the interrelationship between environmental factors and community health, assess the personal and legal consequences of unsafe practices in the home, school or community, analyze and apply strategies for the management of injuries, analyze the impact of violence on a victim and the impact it causes for the surrounding community, evaluate the benefits, risks and safety factors associated with self-selected long-life physical activities.

Art

Three Dimensional (3D) Art

Credits: 1

- Grades: 11, 12

This course is a combination of hands-on opportunities, art history, appreciation, and criticism of three dimensional media and techniques. The class will investigate, explore, and produce work reflective of complex concepts related to Linear Form, Planar Form, Additive/Reductive Sculpture,

Molding / Casting, and Assemblage. Students will keep a sketch journal in which they will complete drawing assignments, record items for future projects, written assignments and self-evaluation. Prerequisites: Intro, 2D

Two Dimensional (2D) Art

Credits: 1

- Grades: 10, 11, 12

Students in Two-dimensional Art will learn new skills that build upon their knowledge and experiences provided in Introduction to Art. This course will include a concentration on drawing and a variety of two-dimensional media. The course is designed for those students who wish to continue to study art for personal growth as well as students planning a career in art. Students will keep a sketch journal in which they will complete drawing assignments, record items for future projects, written assignments and self-evaluation. Prerequisite: Intro to Art

Digital Arts and Media Production

Credits: 1

- Grades: 10, 11, 12

Digital media refers to any media experiences made possible by the advent of primarily computer-mediated digital technologies. Such media includes digital art, digital photography, and digital video production. This course will provide an overview for programs related to the creation of digital imagery/art, digital photography/photo manipulation, and digital film editing.

Introduction to Art

Credits: 1

- Grades: 9, 10, 11, 12

This is an introductory course in the visual arts, covering history, appreciation, criticism, and production. The basic elements, principles, and vocabulary of art will be presented and manipulated through the use of a variety of two and three dimensional media and techniques. An understanding of how history affected art, a working artistic vocabulary, and an ability to verbalize about the visual arts will also be covered.

8th Grade Art

Credits: 0.5

- Grades: 8

This project-based course presents an overview of the visual arts, beginning with an introduction to the elements and principles of art continuing with hands-on experimentation of the elements and principles. Art history and cultural diversity will be addressed with appropriately designed units.

Independent Study / Advanced Studio Art

Credits: 1.0

- Grades: 11, 12

A concentration specific study for students looking to independently further their skill set and develop a portfolio, which is required for admission into an art program at many post-secondary educational institutions, in any of the following areas...

- *2-Dimensional Art*
- *3-Dimensional Art*
- *Digital Art & Media Production*

Environment Technologies I

Credits: 1

- Grades 9-12

Vocational Agriculture I is the introductory class to all vocational agriculture classes. There is a major emphasis on FFA, a nationally recognized, student oriented organization. Students will have insight into careers related to forestry, conservation, aquatics, and wildlife. The students will participate in various team building activities and projects including safe operation of the Bobcat Skid-steer. This is a “hands-on” class!

* This class has open enrollment, there are no prerequisite classes.

Environment Technologies II

Credits: 1

- Grades 10-12

Vocational Agriculture II encompasses forestry and logging practices, chainsaw safety and operation, tree identification, wood project construction, welding. Students will have the opportunity to explore various careers in the forest industry, learn basic welding skills and explore in more detail the production of lumber from tree to finished board. Students will work as individuals, as well as a team member in a variety of sawmill operations. *Prerequisite*; successful completion of Vocational Agriculture I.

Environment Technologies III

Credits: 2

- Grade: 11

Vocational Agriculture III involves the exploration of concrete masonry, carpentry and construction, basic home electrical wiring, small gas engines, and linesman climbing. Students will have the opportunity to explore the building trades in preparation for an occupation or continuing education in one of the building trades fields. There will also be a continuation of forestry, sawmill and skid-steer operations and a continued emphasis on safety. *Prerequisite*; successful completion of Vocational Agriculture II.

Environment Technologies IV

Credits: 2

- Grade: 12

Vocational Agriculture IV students will utilize the skills and techniques they have learned from their previous Vocational Agriculture classes to successfully develop and construct projects of their own design. *Prerequisite*; successful completion of Vo Ag III

Electives

Independent Study

Credits: 1

- Grades 12

Independent study is a series of learning experiences, activities, and/or projects by self-motivated students who are eager to learn on their own with the supervision of a professional staff member. The student interested in independent study must be willing to accept responsibility, be intellectually curious, and have goals that extend beyond meeting minimum requirements in and out of school. Independent study is utilized when a student has exhausted the available course offerings within the requested content area. By providing for the interests and needs of individuals, independent study allows students the opportunity to pursue topics, interests, or experiences beyond the present course offerings. In addition, independent study should broaden the students' horizons and offer them the opportunity to make valuable independent decisions. This course is offered to Seniors only.

Foreign Language I

Credits: 1

- Grades 9-12

World language courses offered in French, Spanish, German, Italian, and Mandarin.

First year content, offered to students 9-12, within the Foundation Program includes the following- building a foundation of fundamental vocabulary and essential language structure. Vocabulary and skills emphasizing:

- Greetings and Introductions
- Simple questions and answers
- Shopping
- Listening comprehension skills
- Basic reading and writing skills
- Giving and getting directions
- Using transportation
- Telling time
- Dining out
- Enjoying basic social interactions
- Working life
- Academic subjects
- Arts and culture
- Past, present, and future tense

Foreign Language II

Credits: 1

- Grades 10-12

Second year content within the Advantage Program includes the following- Building on level 1 language fundamentals and conversational skills.

Prerequisite of Foundations Rosetta. Offered to 10-12 student. Vocabulary and skills emphasizing:

- Ideas and opinions
- Feelings about everyday life
- Interests
- Work
- Current events
- Birth, marriage, death, and concerns related to one's health and body

- Complementary terms indicating frequency, duration, and degree
- Navigating the workplace
- Caring for health
- Arranging repairs
- Moving abroad
- Driving

- Planning adventures
- Health and emotional states for themselves and others
- Expressing personal taste in terms of material and sensory preferences

Wood 1-4

Grades 9-12

Credits: 1 per class

Wood design instruction focuses on processes, techniques, safety, methodologies, and approaches in regards to wood design construction. Wood 1 in an entry level course, Wood 2 novice, Wood 3 intermediate, and Wood 4 advanced. Each course builds upon information taught within the previous.

Metal 1-4

- **Grades 9-12**

Metal design instruction focuses on processes, techniques, safety, methodologies, and approaches in regards to wood design construction. Metal 1 in an entry level course, Metal 2 novice, Metal 3 intermediate, and Metal 4 advanced. Each course builds upon information taught within the previous.

Credits: 1 per class

Yearbook

- **Grades 9-12**

Welcome to Yearbook! Being in Yearbook at Johnsonburg Junior/Senior High is a very special opportunity to grow as a student that no other class allows for in the same way. Yearbook, in a nutshell, is a student-run business. Being in Yearbook allows students expansive experience in photography, computer design, personnel management, money management, advertising experience, sales/distribution, layout and design, writing, and editing that come together to form a book that captures the spirit and emotion of JAHS. This class is different from any other class offered in high school and comes with more responsibility than any other class.

Credits: 1 per class