

PCS Counseling and Guidance Office

Public education is designed to prepare students to become contributing members of our society. A School Counselor helps students preserve their individuality as they work toward this goal.

A counselor attempts to help each student identify his/her unique strengths, interests and abilities. He aids students in development of the skills necessary to achieve educational and personal success. He encourages students to recognize their potential and to set realistic educational and occupational goals.

At the middle school level, the counselor works with students to develop career goals and tentative four-year plans that will enable each student to fulfill his/her goals.

Throughout middle and senior high school, the counselor meets with students annually to review and update educational and career goals.

The ultimate goal of the school counselor is to prepare our students to experience personal and occupational success and satisfaction.

Please feel free to access the Guidance Department link on the Panama Central School District web site at www.pancent.org. The list of high school courses and their descriptions is available online. Please feel free to peruse the Guidance link and begin exploring all of the courses that are offered to students in grades 9-12. Mr. Simmons will be meeting with 8th grade students to develop a tentative four (4) year plan soon.

PCS Counseling and Guidance Office Staff

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SUMMARY

The Counseling and Guidance Office performs a number of functions that are not covered elsewhere in the curriculum. The counselor helps students with personal problems, suggests new study habits for those who are in need, provides crisis counseling, and makes referrals to appropriate community agencies to help a student or his/her family cope with an issue. The Guidance Office is a busy place and the counselor always welcomes visits from students and calls from parents.

LEARNING STANDARDS FOR HIGH SCHOOL STUDENTS

Students must pass five (5) required State Regents Exams with a 65% in addition to earning 22 credits to receive their New York State High School Diploma:

- English Language Arts: Comprehensive Regents Exam (taken in Grade 11)
- Integrated Algebra Regents Exam (Grades 9 or 10)
- Global History & Geography Regents Exam (taken in Grade 10)
- U.S. History & Government Regents Exam (taken in Grade 11)
- Living Environment or Physical Setting Regents Exam (Grades 9/10)

We realize that these standards could prove to be challenging for a number of our students. In response, our teachers will be expecting a higher level of performance from students on a daily basis. Based on a student's scores on the state assessments and program needs, he/she may be put in an Academic Intervention Service (AIS) class for the appropriate subject. It is vital that students enter high school with a serious attitude and a willingness to put in 100% effort so that they can meet these standards.

REQUIREMENTS FOR GRADUATION

A. Regents Diploma with **Advanced Designation**:

- 4 Units of English
- 4 Units of Social Studies
- 3 Units of Science (2 units must include lab)
- 3 Units of Mathematics
- 1 Unit Art and/or Music
- 1/2 Unit of Health
- 2 Units of Physical Education
- 3 Units of a Foreign Language***
- 1.5 Units of Sequence Courses/Electives

***Or a sequence of 5 units in any of the below Career and Technical Education subjects plus 1 unit foreign language (may be earned in Grade 8 by passing the Proficiency Exam in Spanish)

Occupational Education
Technology
CTE

NOTE: This is the only method of getting a Regents Diploma with Advanced Designation without completing 3 years of Spanish.

In order to obtain a Regents Diploma with Advanced Designation, a student must pass the required Regents examinations as follows:

1. The Regents Comprehensive examination in English Language Arts
2. The Regents Comprehensive examination in Spanish (if completing the sequence)
3. The Regents examination in U.S. History and Government
4. The Regents examination in Global History and Geography
5. The three (3) Regents examinations, Integrated Algebra, Geometry and Algebra II/Trigonometry
6. Science Regents examinations, (1) Living Environment and (1) Physical Setting Course

Students who complete all course work and testing requirements for the Regents Diploma with Advanced Designation in mathematics and/or science and take and pass three Regents examinations in both mathematics and/or science with a score of 85 or better will earn a Regents Diploma with Advanced Designation, with an annotation on the diploma that denotes mastery in mathematics and/or science.

B. Requirements for a **Regents Diploma**:

- 4 Units of English
- 4 Units of Social Studies
- 3 Units of Science (2 units must include a lab)
- 3 Units of Mathematics
- 1 Unit of Art or Music
- 1/2 Unit of Health
- 1 Foreign Language (may be awarded by passing the local exam in 8th grade)

- 2 Units of Physical Education
- 3.5 Units of Sequence Courses/Electives

In order to obtain a Regents Diploma, a student shall pass the following combination of Regents examinations with a minimum grade of 65 as follows:

1. The Regents Comprehensive Examination in English Language Arts
2. The Regents Examination in Integrated Algebra
3. A Regents Examination in Science (Living Environment **or** Physical Setting)
4. The Regents Examinations in Global History & Geography and U.S. History
5. The Regents Examination in U.S. History & Government

ALTERNATIVES TO SPECIFIC AND LOCAL DIPLOMA REQUIREMENTS

A student may earn a maximum of 6 1/2 units of credit for either a Regents or local diploma without completing units of study for such units if:

A. Based on the student's past academic performance, the superintendent of a school district or the chief administrative officer of a nonpublic school, or his or her designee, determines that the student will benefit academically by exercising this alternative;

B. The student achieves a score of at least 85 percent, or its equivalent as determined by the commissioner, on a State developed or State approved examination,

C. The student passes an oral examination or successfully completes a special project to demonstrate proficiency, as determined by the principal, in the subject matter area, and

D. The student attends school, or receives substantially equivalent instruction elsewhere, in accordance with section 3204(2) of the Education Law, until the age of sixteen pursuant to sections 3204 and 3205 of the Education Law.

DISTANCE LEARNING

The distance-learning network is a fully interactive, full-motion video and audio system using fiber optic cable and telecommunications equipment to connect specially designed classrooms in participating school districts.

The distance-learning network uses real-time interactive full-motion video and telecommunications technology to enable a teacher and students in a distance-learning classroom in one school to see, hear and talk to students in a comparably equipped classroom in other schools on the network. The simultaneously interactive environment means that the teacher and students remain in visual and verbal communication at all times during a class.

JCC Calculus (Math 1710/1720)

Hosted by: Dunkirk High School

JCC Calculus is a college level class that consists of an in-depth look at objectives including analytic geometry, functions, graphs, limits and continuity, derivatives, and integrals. This is an intense class that focuses on the rules of calculus, the applications of these rules, and the use of technology with these applications. In the second semester, topics will include applications of the definite integral such as volume, surface area and arc lengths, logarithmic and exponential functions, trigonometric and hyperbolic functions, techniques of integration, polar coordinates, parametric equations, improper integrals, and sequences and series including power series and Taylor series. An approved graphing calculator is required. A computer algebra system such as DERIVE is incorporated into the course.

8 College Credits (2 semesters)

JCC Final Exam

Prerequisite: PreCalculus

JCC Accounting (Bus 1410)

Hosted by: Dunkirk High School

Student will gain an understanding of the accounting principles and procedures used to record, classify and summarize financial data. Students will become familiar with accounting terminology and many of the financial records, forms and statements used in an electronic environment.

3 College Credits

Final Exam

1 Credit

ART

Studio Art

This is the high school art course that students take for their art requirement for graduation, or their first art course towards their art major.

Studio Art involves working with various materials, objectives and problems. It is designed to introduce students to Art at the High School Level. Example materials students are exposed to: pencil, pastels, ink, clay, watercolors, tempera paint, and acrylics. Sketchbooks are a part of the Studio Art curriculum, and sketchbook drawings will be assigned regularly as homework. Projects are expected to be handed in on the date that they are due. Credit is lost with each late day.

1 Unit or ½ Unit

Studio Art II

Studio Art is a prerequisite for this course. Some of the mediums are the same as they were in Studio Art, but taken to a higher level. Some of the mediums are new. Many of the assignments include personal problem solving.

Sketchbooks are a part of the Studio II curriculum, in the form of Visual Journaling.

Visual Journal assignments will be assigned regularly as homework.

Some students will desire to take Independent Advanced Art their Senior Year. Taking and passing Studio Art II is a prerequisite for Independent Advanced Art.

1 Unit or ½ Unit

Publication Design

The main source of this curriculum comes from *A Guide to Yearbook Journalism* by Herff Jones. The yearbook serves as the main project for the class; however, it is not the only project. This course involves design basics within publication, including theme, coverage, copy, design and photography. The students will learn about photography basics, which include resolution, composition, point of view and rule of third. Photography and Design concepts are applied to the current year's Panorama Yearbook. In addition to the Yearbook, students will learn editing techniques using Photoshop Elements, and they will create various design projects with this knowledge.

1 Unit or ½ Unit

Independent Advanced Art

Studio Art and Drawing and Painting are prerequisites for this course. This is a course where the student makes up his/her curriculum. Each project must be approved. A student may strengthen his/her strong points, or work on weak points. A student may use materials and processes they are familiar with from past Art courses, or they may wish to work in an area not normally covered in the typical classroom environment.

1 Unit or ½ Unit

Photography

This is a ½ year black and white film course and a ½ year digital color course. Students will learn to:

- Compose good pictures
- Manipulate the camera
- Incorporate a flash where needed
- Develop black and white film
- Make prints
- Use filters
- Mount photographs
- Use Photoshop Elements

Students do not need their own 35 mm film camera or digital camera, but it can be helpful and allow them more flexibility as to when they take pictures as compared to sharing a camera. Students are given film and paper for each film assignment.

1 Unit

TECHNOLOGY

The technology program at Panama Central School is designed to provide students with an opportunity to develop a sense of self while they grow as individuals. Technology courses are set up to spend the majority of time learning through hands-on activities helping students discover their talents and interests. The program also provides occupational education. Students gain knowledge of occupations and the specific needs for further education and training in the area they are studying. Technology courses include basic learning related to becoming an employable individual. Students are taught about desirable work habits and classes foster attitudes and understandings that reflect the discipline of the work place. Technology courses are intended to encourage individuals to develop a long-range plan in pursuing an educational or occupational goal.

High School Technology Courses

"Foundational" Technology Courses: Design and Drawing for Production serves as a foundation for later Technology courses. This course is often taken in the 9th grade.

Design and Drawing for Production (DDP)

Design and Drawing for Production is the foundational technology course to prepare students for future technology electives. The course content is a combination of Manufacturing and Technical Drawing concepts where a student will design graphically in the technical drawing lab then move into the manufacturing lab to convert the drawing into a product. To learn about drawing project plans and safe operation of machines, the course begins with a specific product. When the student completes the required product, they will implement problem-solving techniques to design and construct products of individual design. Due to the artistic nature of the course, the State recognizes DDP as an option to fulfill the art or music requirement for graduation.

1 unit

Residential Structures/Architectural Drawing

Residential Structures is a course designed to present concepts and hands on application of home construction. Lessons and films will focus on the resources and processes of home construction, financial aspects, zoning, and other concerns. Activities will include scale model framing techniques, full size framing exercises, plumbing and electrical activities, computer assignments, etc. Upon completion, students will be familiar with modern home building techniques. The course is intended to flow into a second semester of Architectural Drawing and Design.

1 unit

Product Design

This course involves research of product design and production for the purpose of manufacturing. Through the construction of prototypes, students will identify suggestions for the manufacturing of those products. Field trips will be taken to local industries to broaden the manufacturing perspective. The course is an elective that will serve as an upper level course. It is preferred that Manufacturing Systems and Technical Drawing are taken as a foundation to the course.

1 unit

Media Production Technology

Media Production is a form of electronic communication. Students will become involved in the production of media assisted presentations with the predominate medium being video production. Using analog and digital camcorders, computer graphics, and electronic editing (using i movie software) students will create a number of video productions. Productions will be produced individually as well as part of a team. Students must be able to participate and contribute as a member of a production team to reach a common goal. As a result of this class, students will have the ability to develop presentations, have a working knowledge of different media equipment, and understand the appropriate technology and terminology as it applies to media communication.

1/2 Unit

Energy and Power

The Energy and Power course, designed as a half –unit, 18 week course, is intended to acquaint students with the sources and forms of energy available now and what may be available in the future. Students will learn that there are often choices to be made about the most appropriate energy form to use. The energy conversion systems, which change energy forms to meet human needs, will also be studied. This course stresses the importance of identifying the issues and problems associated with the use of each energy form and conversion system. Identifying the consequences of choices is also an important aspect of the course. The first module identifies the forms of energy, the conversion techniques used to make energy more useful, the availability of each type of energy and the uses made of each type in each major sector (residential, commercial, industrial, and transportation). Historical conversion systems and power use, measurement, and the theory are included. The second module deals with the major sources of energy and the problems and issues surrounding their use. Module three explores internal combustion, external combustion, and fluid power theory and systems. Module four emphasizes the conversion processes that make energy available in more usable forms. Module five provides opportunities for students to make decisions about the most effective use of energy in each sector of society.

1/2 Unit

Communication Studio

This class will produce the PCS Announcements for broadcast throughout the school building. Students will demonstrate mastery in the use of a variety of equipment, including video cameras, microphones, computers, audio mixer, video mixer and character generator. Students will also demonstrate mastery in video editing, script writing, graphics production and public speaking. This class will meet 1st period for a full year.

1 unit

CAREER AND TECHNICAL EDUCATION PROGRAMS

When a student enters the 11th grade, he/she will be given the opportunity to attend a career and technical program. Students would spend half a day at Panama and half a day at the Career and Technical Center. Participation in this program would limit the courses taken at Panama to the required subjects: English, Social Studies, Math, Science and Physical Education.

COURSES OF INSTRUCTION AT THE CAREER AND TECHNOLOGY CENTER

Diesel/Heavy Equipment
Repair

Small Animal Science

Information Tech./
Computer Systems

Auto Body Repair

Culinary Arts

Auto Technology

Health Careers

Construction Technology

Cosmetology

Criminal Justice/Public
Private Security

Conservation/Natural Resource Mgmt.

English

English 9

The 9th grade English Language Arts course includes integrated studies of literary and informational reading, language, writing, speaking and listening, collectively aimed toward college and career readiness for the student as detailed in the Common Core State Standards for NYS Grades 9-10. Students will read from a variety of genres and cultures, designed to introduce elements of structure and style that will be reinforced as the student progresses through high school, and to prepare the student to comprehend and evaluate complex text of different types. Students will produce written and spoken communication with regard to audience, task and purpose, and be able to apply text-based support for that communication when applicable. Vocabulary and conventional standards of English grammar and usage are also integrated into each year's course of study. Students will also engage in active research and will compose a three to four page MLA style paper based on a chosen topic. Research will enable students to comprehend, analyze, evaluate, and communicate complex information.

1 Unit

Local Exam

English 10

The 10th grade English Language Arts course includes integrated studies of literary and informational reading, language, writing, speaking and listening, collectively aimed toward college and career readiness for the student as detailed in the Common Core State Standards for NYS Grades 9-10. Students will read from a variety of genres and cultures, designed to introduce elements of structure and style that will be reinforced as the student progresses through high school, and to prepare the student to comprehend and evaluate complex text of different types. Students will produce written and spoken communication with regard to audience, task and purpose, and be able to apply text-based support for that communication when applicable. Vocabulary and conventional standards of English grammar and usage are also integrated into each year's course of study.

1 Unit

Local Exam

ENGLISH 11

English 11 prepares students not only for the Common Core Regents Exam in ELA, but also for college and career readiness. Lessons focus on learning strategies, techniques, and processes to help students gain life-long learning tools. A chronological study of American literature explores a rich heritage found in the writings of American authors. Writing focuses on various rhetorical modes with an emphasis on writing modes found on the regents exam.

All units incorporate speaking and listening skills. Students will also engage in active research and will compose a five to six page MLA style paper based on a chosen topic. Research will enable students to comprehend, analyze, evaluate, and communicate complex information. This major analytical research paper is required in order to complete this course.

1 Unit
Regents Exam

ENGLISH 12

English 12 is based on the Common Core State Standards. Students will read, write, listen, and speak for information and understanding, literary response and expression, critical analysis and evaluation, and social interaction. English 12 includes a survey of British and world literature with a focus on writing in preparation for college-level as well as real-world writing. A final project is required in order to complete this course.

1 Unit
Project

Jamestown Community College English 1510/English 11

English 1510 (Composition I) prepares students for future academic work by teaching well-focused, well-structured, and well-developed essays. Emphasis will be placed on critical reading, thinking and writing skills appropriate for college level courses. This is a full year course and is combined with English 11 studies during the Junior year of high school.

3 College Credits
JCC Final Exam and Regents Exam

1 Unit

Jamestown Community College English 1530/English 12

English 1530 (Composition II) emphasizes writing precise, clear, substantial, and logical essays. Students will develop critical thinking and writing skills required in higher education, employment, and life. Students will also learn to conduct research and write a research paper.

3 College Credits

JCC Final Exam

1 Unit

Jamestown Community College English 1540/English 12

Students will explore multicultural forms of literature (novels, short stories, poems, and plays) that speak to issues of identity with regard to race, class, gender, sexual identity, ability, and language. In doing this, students will further develop research skills while being introduced to different critical reading approaches such as feminist, reader response, postmodern, and psychoanalytic criticism. This course serves as both an introduction to literature as well as an opportunity to refine reading and writing skills developed in this composition sequence, concluding in a major paper due in June about an author of the student's choice.

3 College Credits

JCC Final Exam

1 Unit

Jamestown Community College Public Speaking CMM 1610

Public Speaking Students will learn effective strategies for researching, preparing, and delivering informative and persuasive speeches to small groups. Students will be able to demonstrate methods for building confidence in speech delivery, supporting points with evidence, analyzing the audience, using media aids effectively, and refining delivery style.

3 College Credits

1/2 Unit

Jamestown Community College Leadership Engagement LDR 1300

Students will focus on the understanding of leadership theory and elements of self-awareness, understanding personal leadership style, and followership as it applies to the leader/follower relationship. The goal of this course is to focus on students' leadership style and to prepare them for further leadership study and application. Students will be guided through self-exploration exercises to liberate the leader within themselves. No pre-requisites.

Student Learning Outcomes: Students who demonstrate understanding can: 1. Demonstrate awareness of personal leadership style and approach. 2. Demonstrate an understanding of several aspects of leadership theory and practice (including self leadership, followership, and basic leadership practice). 3. Identify opportunities for application of their personal leadership style in their community.

Topics Covered: • Self-awareness and personal leadership style • Personal leadership reflection • Student-leadership development theory • Leadership competencies • Calls to action

3 College Credits
1/2 Unit

Jamestown Community College Leadership Engagement LDR 1660

Students will develop an understanding of leadership theory, an awareness of the moral and ethical responsibilities of leadership, and an awareness of one's own leadership style and abilities. Students will be given an opportunity to develop essential leadership skills and to understand and practice productive leadership behavior. The course will use experiential methods of discussion, film, simulation, and a variety of readings, including some from the humanities. Particularly appropriate for those currently in leadership positions or those wishing to gain skills for leadership roles.

3 College Credits
Prerequisite ENG1510
½ Unit

SOCIAL STUDIES

Global History and Geography I

The Global History and Geography I course involves a comprehensive, interdisciplinary approach to the study of world history and geography. Global History I is the first half of a two-year, chronological survey, course. The scope of Global Studies I is extensive and covers trends, eras, and events from prehistoric times to approximately the political revolutions of the late 1700s. The course is aligned with the New York State Standards for Social Studies and also emphasizes the Common Core Standards for Literacy and Writing through reading and writing activities, assignments, lessons, and assessments. The curriculum content and standards are outlined in detail in the New York State Common Core Grades 9-12 Social Studies Framework.

1 Unit

Local Exam

Global History and Geography II

The Global History and Geography II course involves a comprehensive, interdisciplinary approach to the study of world history and geography. Global History II is the second half of a two-year, chronological survey, course. The scope of Global Studies II is extensive and covers trends, eras, and events from the political revolutions of the late 1700s to modern times. The course is aligned with the New York State Standards for Social Studies and also emphasizes the Common Core Standards for Literacy and Writing through reading and writing activities, assignments, lessons, and assessments. The curriculum content and standards are outlined in detail in the New York State Common Core Grades 9-12 Social Studies Framework. The Global History and Geography Regents Exam will only cover the content learned in Global History and Geography II.

1 Unit

Regents Exam

United States History & Government

Overview Statement

The curriculum is mandated by the State of New York and in June every student must pass the New York State Regents. A student cannot graduate from high school without successfully passing this course and the state examination.

Course Content

Unit I	The Constitutional Foundations	(pre 1776-1865)
Unit II	Industrialization of the U.S.	(1865-1919)
Unit III	The U.S. as a World Power	(1867-1953)
Unit IV	A World in Transition	(1954-Present)

This course requires a substantial amount of subject specific knowledge including actual content and application of the Constitution, Supreme Court cases, Congressional legislation, foreign and domestic policy documents. Modifications are continually made to meet new Board of Regents Standards. The course is aligned with the New York State Standards for Social Studies and also emphasizes the Common Core Standards for Literacy and Writing through reading and writing activities, assignments, lessons, and assessments. The curriculum content and standards are outlined in detail in the New York State Common Core Grades 9-12 Social Studies Framework.

1 Unit/Regents Exam

United States History and Government JCC HIS 1530 & 1540

Panama Central School is participating in a college level distance-learning course in United States History. This course is offered in conjunction with Jamestown Community College via the Erie-2-Chautauqua-Cattaraugus Board of Cooperative Education Distance Learning Network. The distance-learning classroom is an interactive environment with full motion video and audio utilizing fiber optic cable and telecommunications technology. Students at Panama and other receiving school sites will communicate with each other in a real time technological environment.

First Semester: HIS 1530: U.S. History to 1877 – Will focus on the roots and growth of the American nation in a world setting. Begins with the original settlement of the Western Hemisphere and ends by stressing the westward movement, industrialism and the Civil War era in the 19th century.

Second Semester: HIS 1540: U.S. History 1877 to present – Studies the making of modern American in the 20th century. Events such as the two world wars, the Cold War, the Great Depression and contemporary happenings since Watergate, in relation to future trends in the country will be covered.

Text: *"A Nation of Nations"*

Supplementary text: *"The American Spirit,"* Vol. I and II
Thomas Bailey and David Kennedy

Publisher: D.C. Heath and Company

1 Unit

6 College Credits (two semesters)

JCC Final Exam

Government/Economics

Participation in Government is traditionally given to students in their senior year of school. The course begins with looking at the need for governments in general. The course then moves into an examination of the political system established by the United States. This includes an emphasis on the Constitution and the Supreme Court of the United States. Time will also be taken to look at other established forms of government. As in the title of the course, participation in the United States government will be stressed. Constant reminders are given as to how students can become involved as citizens of the United States. Lastly, a large portion of the material for this class will be drawn from topics affecting us today at the local, state, national, and global levels. Many of the lessons will reflect on our need to know what is happening to the world so watching the news, reading the paper, and using the computer to find news stories are highly encouraged and at times required.

The other semester of Grade 12 will be a course in economics and economic decision-making. This course will include the basic economic concepts and understandings which all persons will need to function effectively and intelligently as citizens and participants in the economy of the United States and of the world. Some of

the major concepts which will be dealt with are scarcity, productivity, opportunity, cost, supply and demand, inflation, profit interdependence, capital, competition and the market. The course will not be one in consumer education, but will emphasize a rational decision- making process which should be applied to all economic decisions. The major focus will be on the economy of the United States, but other economic systems will be treated. The course will include topics that examine the basic principles of economics, the elements of an economic system (micro- economics), the overall operation of an economic system (macroeconomics), and the world economy and international trade.

The course is aligned with the New York State Standards for Social Studies and also emphasizes the Common Core Standards for Literacy and Writing through reading and writing activities, assignments, lessons, and assessments. The curriculum content and standards are outlined in detail in the New York State Common Core Grades 9-12 Social Studies Framework.

Two 1/2 Units/Local Exams

MATHEMATICS

Algebra 1 Next Generation

This is a one year course preparing students for the Next Generation Algebra Regents exam. The topics include quantities and reasoning with equations and their graphs, descriptive statistics, linear and exponential functions, polynomial and quadratic expressions, equations and functions, and a synthesis of modeling with equations and functions. The Next Generation Algebra Regents will be given at the end of the year. Students **MUST** pass this course to move on to Next Generation Geometry. Students must take the Next Generation Algebra Regents exam this June. Students must pass the Next Generation Algebra Regents exam to earn a NYS Regents diploma.

1 Unit

Regents Exam (must pass for a Regents diploma)

Algebra 1A/Algebra1B Next Generation

The content of this course is the same as Algebra 1 (one year) but is spread out over a 2 year period. The intent of this course is to give students a better foundation of Algebra before taking the regents examination.

2 Units

Year 1: Local Exam

Year 2: Regents exam (must pass for Regents diploma)

Algebra 2 Common Core

This is a one year course preparing students for the Common Core Algebra 2 Regents exam. The topics include polynomial, rational, and radical relationships, trigonometric functions, functions, and inferences and conclusions from data. Students must pass Common Core geometry to take this class. The students will take the Common Core Algebra 2 Regents examination at the end of this Course.

1 Unit

Regents Exam

Prerequisite: Geometry

Geometry

This is the second of three Regents level courses that present a unified approach to secondary school mathematics. Arithmetic, algebra, geometry and trigonometry are studied in this course, which expands upon what was covered in Algebra. There is a heavy emphasis on proving geometric relationships in a variety of scenarios. This course is an extension of the basic geometric principles studied in 8th grade mathematics with an emphasis on applications of algebra to geometry. A major focus of the course is to prove geometric relationships for triangles, quadrilaterals, and circles. Transformations will be studied in depth and used as alternate methods for proving congruence of shapes. Trigonometry of right triangles is also studied and expanded to other types of triangles. There is a strong emphasis on vocabulary, properties, and theorems that are needed to solve multi-step problems that incorporate multiple concepts learned throughout the year.

1 Unit

Regents Exam

Prerequisite: Algebra

Pre-Calculus

This Pre-Calculus course is an advanced algebra, analytic geometry, and trigonometry class with an emphasis on those areas that lay foundation for calculus such as continuity of functions, summation of intervals and limits of polynomial functions. Considerable concentration is given to graphing, including the use of graphing calculators and computer graphing software.

1 Unit

Local Exam (Regents difficulty)

Prerequisite: Adv./Algebra Trig

JCC Statistics Math 1540

Students will investigate various topics in both descriptive and inferential statistics including measures of central tendency and spread, graphical analysis of data, probability, random sampling, correlation and regression, hypothesis testing and confidence intervals. Practical applications are emphasized throughout the course. A significant part of the course is taught in a laboratory setting using a software package such as Excel or Minitab.

3 College Credits

Required - Two years of High School Math and JCC Placement Exam

JCC Final Exam or Project

1/2 Unit

JCC PROBLEM SOLVING (MATH 1500)

Students will develop problem solving skills through a detailed study of topics such as financial mathematics, linear and exponential modeling, and geometry, in concert with specific problem-solving strategies such as drawing diagrams, making systematic lists, looking for patterns, identifying sub-problems, and working backwards. Solution presentations and communication are emphasized.

3 College Credits

Required – Two years of High School Math

JCC Final Exam or Project

1/2 Unit

JCC Algebra/Trigonometry MAT 1590

Students will learn algebra and trigonometry topics necessary to prepare them for the study of pre-calculus. Topics include one-to-one functions and their inverses and graphs, polynomial and rational functions and their applications, radicals and exponents, complex numbers, and trigonometric functions, including graphs and basic identities. Problem-solving and applications are emphasized. An approved graphing calculator is required.

3 College Credits

Prerequisite: Two years of high school algebra/geometry

1/2 Unit

JCC Pre-Calculus MAT 1600

Students will learn topics necessary for studying calculus and discrete mathematics. Algebra topics include rational and polynomial functions. Trigonometry topics include graphs, identities, half and double-angle identities, and inverse trig functions. Other topics include exponential and logarithmic functions, and an introduction to limits.

3 College Credits

Prerequisite: Three years of high school algebra/geometry and MAT 1590

1/2 Unit

JCC Calculus MAT 1710/1720

JCC Calculus is a college level class that consists of an in-depth look at objectives including analytic geometry, functions, graphs, limits and continuity, derivatives, and integrals. This is an intense class that focuses on the rules of calculus, the applications of these rules, and the use of technology with these applications. In the second semester, topics will include applications of the definite integral such as volume, surface area and arc lengths, logarithmic and exponential functions, trigonometric and hyperbolic functions, techniques of integration, polar coordinates, parametric equations, improper integrals, and sequences and series including power series and Taylor series. An approved graphing calculator is required. A computer algebra system such as DERIVE is incorporated into the course.

8 College Credits (2 semesters)

JCC Final Exam

Prerequisite: MAT 1590 and MAT 1600

1 Unit (1/2 Unit each semester)

The Introduction to Programming EV3 Curriculum is a curriculum module designed to teach core computer programming logic and reasoning skills using a robotics engineering context. This course will cover basic robotics: problem-solving, design, construction, and programming. It contains a sequence of 10 projects (plus one capstone challenge) organized around key robotics and programming concepts. Students will also participate in STEM Wars and other robotics competitions, as they are made available. Students will create a digital portfolio using Google Sites as a way to document the work from this project-based learning environment.

Each project comprises a self-contained instructional unit in the sequence, and provides students with:

- An introduction to a real-world robot and the context in which it operates
- A challenge that the robot faces
- A LEGO-scale version of the problem for students to solve with their robots
- Step-by-step guided video instruction that introduces key lesson concepts (e.g. Loops)
by building simple programs that progress toward the challenge task
- Built-in questions that give students instant feedback on whether they understood each step correctly, to aid in reflection and self-pacing
- Semi-guided “Try It!” exploration activities that expose additional uses for and variants on each behavior
- Semi-open-ended Mini-Challenges which ask students to use the skill they have just learned to solve a relevant small portion of the final challenge
- The Unit Challenge based on the original robot’s problem, for students to solve in teams as an exercise and demonstration of their mastery of the concept
- Students will begin to explore the engineering design process as they compete in class sessions of Battle Bots.

Prerequisite: Successful completion of Algebra I
1 Unit

Robotics II

This course will be a continuation of Intro to Robotics. It will be considered an independent study course. Students will focus more on the design aspect of robotics to solve problems. Students will work through four different modules, each one focusing on different aspects of engineering design, programming with the EV3 Lego Mindstorm Software. Depending on the number of students enrolled in the class, coursework may be done on an individual basis or with a partner.

- Make It Move
- Make It Smarter
- Make a System
- Space Exploration

Students will also be able to participate in LEGO Robotics challenges and competitions, as they are available. Students will create a Robotics Website using Google Sites to showcase their design process and programming skills. This portfolio will be the main grade of the class each marking period.

Prerequisite: Successful Completion of Intro to Robotics
1 Unit

Spanish I

This is a one year class to meet the language requirement for graduation. The course emphasis is on the four domains of listening, speaking, reading and writing. There is greater emphasis on written expression, basic reading for understanding and on the student's ability to incorporate new grammar structures into the four components for a communicative approach in the classroom. The student will learn to express him/herself in the present and in the past tense. Spanish is stressed through the use of a variety of resources that will enhance the students' ability to slowly transfer and internalize the material for the following year.

1 Unit

Local Cumulative Exam or Project

Spanish II

This is the first of two high school level courses with a prerequisite of Spanish I (granting Spanish I credit), or a passing grade on a locally designed assessment exam.

The course emphasis is on the four domains of listening, speaking, reading and writing. There is greater emphasis on written expression and reading for understanding and on the student's ability to incorporate new grammar structures into the four components for a communicative approach in the classroom. The student will learn to express himself in present, past, future and conditional tenses, with an introduction to the subjunctive tense. Spanish is stressed through the use of a variety of resources that will enhance the student's ability to slowly transfer and internalize the material for the following year.

1 Unit

Local Cumulative Exam or Project

Spanish III

This is the continuation of Spanish II in a high school level course with a prerequisite of Spanish I & II or Spanish II and a passing grade on a locally designed assessment exam (granting Spanish I credit). This course is for students who wish to major in Spanish. This course utilizes background vocabulary and grammar of the first and second years of study broadening the students' abilities to read, write, speak and listen the Spanish language through readings from important Hispanic and Spanish literature, videos, geography, newspapers, magazines and culture. Oral and written work is more complex; students are expected to perform at a higher level with more complex discussions in the target language of the readings, compositions and oral reports. The students learn to write and express themselves in Spanish equal to their abilities in English.

1 Unit

Intermediate Spanish I JCC SPA 2510/2520

This course expands on the language skills mastered in Spanish I, II & III and is taught in conjunction with Jamestown Community College. Prerequisites are passing grades in prior levels. This course is for students who wish to continue their study of Spanish and receive college credit. All students enrolled in this course are official JCC students and as such an official transcript is created and a grade will be recorded on a transcript at the end of the course.

There will be a review of basic and complex grammatical and pronunciation patterns, intensive vocabulary expansion through literary and cultural readings, and extensive conversation practice. At the end of the course the students should demonstrate at 65% proficiency or better the ability to:

- Converse on topics related to personal relations, leisure activities, daily routines, health and welfare, travel and nature within the social, political, cultural differences and through literature.
- Understand and respond to discourse on socio-cultural and literary topics.
- Read and understand main and secondary ideas of longer prose, like descriptions and narration, short stories as well as poetry.
- Write comparison essays on topics related to personal experiences, cultural issues, and literary interpretations.

In Spanish 2510, the students will review and develop mastery in the use of morphological and grammatical structures learned in elementary Spanish. Among the structures emphasized are:

- The present tense
- Ser vs. estar
- Progressive forms
- Object pronouns
- Gustar and similar verbs
- Reflexive verbs
- The preterite vs. the imperfect
- The subjunctive in noun clauses
- Negative and positive expressions
- Commands
- The subjunctive in adverbial clauses

SCIENCE

Living Environment (Biology)

This course is offered to 9th grade students. It is a full year course and involves laboratory work both in the lab and the field. The process by which the organisms in nature carry on life functions such as respiration, digestion, growth and reproduction, are investigated. Also included are the recent areas of concern, which are biochemistry, environmental science, genetics, and ecology. An effort is also made to make the student aware of current discoveries and theories in related areas of science. Thirty laboratory periods are required during the year in order for the student to be admitted to the Regents exam.

1 Unit

Regents Exam (Labs will require an additional class period per week)

Earth Science (Physical Setting)

Earth Science focuses on the earth and related earth problems. Heavy emphasis is placed on laboratory investigations. Utilizing the principles of chemistry, physics and biology, the course content will also involve topics such as energy, motion, gravity, heat flow and environmental balance. Each student must show proof of thirty (30) hours of laboratory experience required before being admitted to the Regents Exam. One science Regents Exam must be passed with a score of 65% to fulfill graduation requirements.

1 Unit

Regents Exam (Labs will require one additional class period per week.)

Chemistry

This course of study presents an approach to the study of chemistry that is most useful to those students desiring to pursue an academic career in advanced science. The objectives of this course should extend beyond a minimal comprehension of basic facts and principles. The laboratory approach is stressed and understandings should come out of laboratory experiences whenever possible. In addition, the course helps to provide pupils with an increased understanding of the work of the chemist. Thirty (30) laboratory periods are required during the year in order for the student to be admitted to the Regents exam.

1 Unit

Regents Exam (Labs require one additional class period per four day rotation)

Physics

This course presents a modern view of physics with major emphasis placed on the fundamental concepts underlying this basic science. The objectives of the course should extend beyond a minimal comprehension of basic facts and principles. The

appreciation of the scientific method, the ability and willingness to change beliefs and opinions after careful weighing of new evidence are the intangible, but most important outcomes of the study of this science. Thirty (30) laboratory periods are required during the year in order for the student to be admitted to the Regents exam.

1 Unit

Regents Exam (Labs will require on additional class period per week)

Environmental Science

This course is offered to 11th and 12th grade students. It is a full year course that incorporates work in the class and in the field. Students will leave this course with an understanding of how the various science disciplines including biology, earth science, and chemistry effect our environment. Throughout the course, students will explore the various topics of wildlife, aquatics and fisheries, soils, forestry, current issues, human impact on the environment and environmental conservation. No laboratory requirement.

Prerequisites: Successfully passed living environment and earth science or can be taken congruently with earth science students have earned mastery (85%) or higher on the Living Environment Regents.

Recommended Grade Level: 11th and 12th grade.

1 credit

Anatomy and Physiology

This is a course is recommended for students who are interested in pursuing a career in the health sciences. Through this rigorous course, students will learn about the structure and function of the human biology including the study of biological molecules; biochemical processes common to living organisms; cellular structures and functions; tissue structure and function; and a comprehensive study of the structure and function of the integumentary, skeletal, muscular, neurological, endocrine, cardiovascular, immune, lymphatic, respiratory, digestive, urinary, and reproductive systems. Although there is no laboratory requirement, students will conduct hands-on learning, experiments, and dissections.

Prerequisites: Can be taken in 12th grade if successfully passed living environment, earth science, and chemistry. Can be offered to 10th or 11th grade students if they have earned mastery (85%) or higher on the Living Environment Regents.

Recommended Grade Level: 10-12

1 credit

Natural Disasters

Geologic processes impact our lives in many ways, and yet many of us pay little attention to them until forced to by a major event. These Earth disasters including earthquakes, volcanic eruptions, landslides, floods, tsunamis hurricanes, meteorite impact and tornadoes are classified as “acts of God” when they impact us negatively, but these same forces are what have shaped our landscape and distributed our natural resources. These disasters have ramifications on the social and economic balance of our society including environmental and land-use management policy. This class emphasizes the evaluation of this relationship between humans and Earth processes, and the complexities of climate change, geologic time, and plate tectonics working simultaneously with multivariable energy sources that provides an overview of the geologic processes that produce the many natural resources and hazards around us. Because our lives are so dependent upon the natural resources Earth provides and are subject to natural hazards, the future of society depends upon our: 1) understanding and planning for natural disasters, 2) understanding the origin, distribution and limitations of our natural resources, 3) appreciating how the planet is affected by our actions locally and globally.

Prerequisites: Regents Earth Science and Regents Biology; can be taken congruently with Earth science if students have earned mastery (85%) or higher on the Living Environment Regents.

1 Credit

JCC Geology (JCC GLG 1510 Physical Geology)

Students will identify and explain the geologic processes operating on and beneath Earth’s surface, including mineral and rock formation, plate tectonics, deformation, orogeny, weathering, erosion, transport, and deposition. Landforms resulting from geologic processes will be interpreted. Laboratory projects and field trips correlate with lecture topics.

JCC Geology is an upper-level course elective offered to junior or seniors upon successful completion of Earth Science and Biology.

1 Unit

Overview Statement

To many people the term "health" simply implies the absence of mental or physical disorders. Actually, our health is influenced by issues such as culture, the level of basic health knowledge, values, attitudes, skills, behaviors, and, the relationship that exists between the home and the community in developing and maintaining a healthful environment. Health Education is, therefore, a multi-disciplinary curricular field that draws upon knowledge obtained from the environmental, biological, social, psychological, physical and medical sciences. Quality health education should attempt to assist the individual to establish a positive balance between the self, the environment, and the universe. Health education should focus on risk reduction, preventive programming, and, effective management of health problems. The ultimate goal of health education should be to help each person to build for him/herself a way of living that would maximize the quality of their lives.

Course Units

Course units are a combination of materials and concepts derived from the New York State K-12 Health Education Syllabus, the selected textbook, and materials developed supplementally by the instructor(s). Units are listed alphabetically below:

- Acquired Immune Deficiency Syndrome
- Alcohol Education
- Assertiveness Skills Training
- The Importance of Physical Fitness and B.A.G.A.
- Philosophy Communicable Diseases
- Drug Education
- Hands-only cardiopulmonary resuscitation and the use of an automated external defibrillator
- Personality Development
- Emotions
- Understanding and Solving Personal and Interpersonal Conflicts
- Mental Health/Stress Transactional Analysis
- Problem Solving
- Self-management contracting
- Tobacco Education
- Heart Disease, Cancer, and Stroke
- Violence Education
- Parenting
- Nutrition-with a concentration on eating disorders.

Grading Procedures:

Grades for each ten-week session will be as follows: exams will count for 50%, 15% will be on a current event topic that must be researched, 15% will come from content worksheets participation and quizzes, and the remaining 20% will be derived from a project that must be completed each quarter. Grades will be based upon a combination of the Class Participation, Guided Independent Study, Group Projects, Homework, Quizzes, Unit Examinations, Notebook Evaluation, Current Event from a selected health theme.

1/2 Unit

Senior Band

Senior Band advances the ability to perform band literature of a variety of styles. Students will develop a repertoire over a large range of band literature. Alongside learning band literature, students will learn important instrumental pedagogy like scales, articulation exercises, and technical passages to improve their tone and technique as instrumentalists. This organization performs in concerts, participates in exchange concerts, plays for school events, marches in community and school parades, and competes in festivals. In addition, students participating in Senior Band will be required to take class instrument lessons that are given during school time. Students are provided an instrument from the school if they do not have their own instrument.

Students may use this course to meet their 1 unit art/music requirement.

1 Unit

Senior Chorus

Senior Chorus allows students to prepare for concert performances of four part arrangements. When possible, major choral works will be developed and students will attend festival competitions and workshops. This group develops sight-reading and vocal performance skills. In addition, students participating in Senior Chorus will be required to take class voice lessons, which are assigned every other week, to develop individual and small group vocal skills and musical understanding.

Students may use this course to meet their 1 unit art/music requirement.

1 Unit

Audition, Acting, and Vocal Skills

In this course, students will have the opportunity to work on and build skills that will help better performances for auditions or solo events, such as NYSSMA, school musicals, variety shows, or any other vocal solo event in or outside of school. Students will also learn some acting skills along with musical skills. There will be a small recital at the end of each semester to display student solos, duets, etc.

½ Unit or 1 Unit