

KENNEDY CATHOLIC HIGH SCHOOL COURSE CATALOG
2019 – 2020



2120 Shenango Valley Freeway
Hermitage, PA 16148
724.346.5531

<http://kcfs.k12.pa.us/>



KENNEDY CATHOLIC HIGH SCHOOL COURSE CATALOG

2019 – 2020

English	1
Mathematics	6
Science	12
Social Studies	17
Theology	22
World Languages	23
Jesuit Virtual Learning Academy	27
Electives	32

Program Levels

- Honors & Advanced Placement Courses (HN / AP)

These classes are designed for the academically gifted, high-above-average and very highly motivated student. Admission to honors and advanced placement courses are by invitation based on standardized testing, performance and recommendation of the department. Advanced placement courses have been approved by the national Advanced Placement program and participating students will have the opportunity to qualify for college credit.

- College Preparatory Courses (CP)

The college preparatory level is for the strong-average to above-average student. It is designed to challenge and prepare the student for admission to and success in college. It is a well-rounded liberal arts education on the secondary level.

- General Academic Studies Courses (GS)

The general academic courses include all courses not designated as CP, HN, or AP and would include many general elective classes. These courses have a goal to provide the student with basic and fundamental knowledge, information and skills necessary to pursue a career, technical or trade education, or further education at a junior college level.

Study Halls

Study halls are only scheduled for students who receive instructional services through the Intermediate Unit or have a written request from a parent with appropriate reasoning. Study hall is to be used as a time to work on assigned material, study for exams, or conduct research.

Instructor Signature

To ensure appropriate academic placement for our students, math courses, AP courses and some electives require a subject instructor's signature for course placement. Course placement will be based on current academic progress and demonstrated mastery of content.

Schedule Change Policy

Students may change courses during the first five days of school. After the first five days, changes are not permitted. If a schedule change is made due to an extenuating circumstance and the student subsequently withdraws from a scheduled course, it will appear on the student's official transcript with a "W" noting that the student withdrew from the course. The grade will remain visible on the report card and transcript from the time the "W" is placed.

Courses listed in this catalog are subject to change based on student interest or lack of interest. Courses with less than 15 students may not be offered. Course offerings are determined by course requests received the prior spring.

Graduation Requirements

Minimum credits required per year for advancement to next grade: 7

Minimum credits required for graduation: 28

Theology – 4 credits & 4 years

English – 4 credits & 4 years

Social Studies – 4 credits & 4 years

Science – 4 credits & 4 years

Mathematics – 4 credits & 4 years

Foreign Languages – 2 credits of the same language (3-4 strongly encouraged)

Other Required Courses and Electives – 6 credits

Graduating with Honors

Students who display outstanding academic achievement are eligible to graduate with honors from Kennedy Catholic High School. This honor is bestowed upon our hardest-working students who continually strive to perform with excellence.

The rank of graduating with honors is awarded to students who achieve a cumulative average of 94.5 or better.

Grading

Grades are calculated using a weighted scale that reflects the difficulty of each course. The weighted values of the four curricular categories are:

Advanced Placement (AP): 1.05

Honors (HN): 1.03

College Preparatory (CP): 1.00

General Studies (GS): 1.00

A	100 – 94.50	A+ / A- 98 / 94
B	94.49 – 84.50	B+ / B- 91 / 85
C	84.49 – 71.50	C+ / C- 82 / 72
D	71.49 – 64.50	D+ / D- 71 / 65
F	64.49 and below	

ARRUPE VIRTUAL LEARNING INSTITUTE Policies

Our partnership with the Arrupe Virtual Learning Institute, formerly JVLA allows KCHS students to experience a variety of online learning opportunities which are not offered in our classrooms. These classes are intended as advanced options and require students to work in an independent manner as they explore challenging content. AVLI courses are generally taken as electives.

In order to be considered for enrollment in AVLI courses, students must:

- Possess a minimum cumulative GPA of 3.0 in prior high school coursework.
- Demonstrate discipline, initiative and an ability to work independently to meet deadlines, as assessed by KCHS faculty.
- Demonstrate a functional knowledge of internet communication.

Sophomores, juniors and seniors are eligible to be considered for these classes.

During each academic year, students are permitted a maximum course load of two (2) year-long courses or four (4) semester courses (two classes taken concurrently, each semester). Students will not be permitted to enroll in online courses in subjects already offered in our classrooms.

Some AVLI courses are considered Advanced Placement (AP) offerings; students who pass these courses will still be subject to passing the national AP exam prior to earning potential college credit.

AP courses taken through AVLI receive the standard weight of 1.05 awarded to all AP-level courses at KCHS. AVLI courses not listed as AP are considered College Prep (CP) and in turn receive a weight of 1.00.

AVLI Payment Policy

Students who enroll in AVLI courses are obligated to pay for the course(s). Books and other materials may need to be purchased by the student.

A drop fee will be sent to students who do not fully complete a scheduled AVLI course. This fee covers the cost of the course and materials needed for the course.

Gannon University Articulation Agreement with Kennedy Catholic High School



Kennedy Catholic High School

Students must complete the prescribed Articulation-Evaluation Credits

- Students must complete 4 full years (4 credits) of honors or Advanced Placement courses as identified in Attachment A.
- All courses must have been completed at Kennedy Catholic High School with a grade of B or better
- Articulation credits are not able to be transferred to other institutions.
- Articulation credits will not be used in determining a student's Gannon grade point average.
- Some articulation credits may be used as elective credits and may not be used to fulfill program requirements
- Kennedy Catholic will determine if students are required to take the AP examination for courses approved for articulation credit.
- Students cannot use AP examinations to add articulation credits to the agreement
- The articulation agreement will be reviewed annually by both Gannon University and Kennedy Catholic High School and any curricular changes will need to be approved.

Dual Enrollment Credits

- Grades below a C in a dual enrollment course will not be accepted.
- Each transcript will be evaluated individually by the assistant for student records and the appropriate chair/ program director.
- Dual enrollment credits are eligible to be transferred to other institutions.
- Students who have completed the required 24 credits will not be required to take the Gannon First Year Seminar.

ARTICULATION-EVALUATION OF CREDITS

Name: _____ Major: _____ Gannon

ID: _____

ENGLISH

- ____ HN English 9
9th grade (1 year, 1 credit)
- ____ HN English 10
10th grade (1 year, 1 credit)
- ____ HN English 11
10th or 11th grade (1 year, 1 credit)
- ____ HN English 12
11th or 12th grade (1 year, 1 credit)
- YES NO LENG 111 College Composition

MATHEMATICS

- ____ HN Geom.
9th or 10th grade (1 year, 1 credit)
- ____ HN Alg. II
9th or 10th grade (1 year, 1 credit)
- ____ HN Precalc
11th grade (1 year, 1 credit)
- ____ HN Calc or HN Stats
12th grade (1 year, 1 credit)

Math 140

- ____ HN Geom
9th or 10th grade (1 year, 1 credit)
- ____ HN Alg. II
9th or 10th grade (1 year, 1 credit)
- ____ HN Precalc
11th grade (1 year, 1 credit)
- ____ AP Calc
12th grade (1 year, 1 credit)
- YES NO MATH 135 Pre Calculus
- YES NO MATH 140 Calculus I

SOCIAL STUDIES

- ____ World History
9th grade (1 year, 1 credit)
- ____ American History I
10th grade (1 year, 1 credit)
- ____ American History II
11th grade (1 year, 1 credit)
- ____ Honors Western Traditions or AP US History

11th or 12th grade (1 year, 1 credit)
YES NO LHST 111 History without Borders

SCIENCE

- ____ HN Biology
9th grade (1 year, 1 credit)
- ____ HN Chemistry
10th grade (1 year, 1 credit)
- ____ HN Physics I
11th grade (1 year, 1 credit)
- ____ AP Chemistry
11th or 12th grade (1 year, 1 credit)
- ____ HN Anatomy
11th or 12th grade (1 year, 1 credit)
- ____ AP Biology
10th or 11th grade (1 year, 1 credit)
- ____ AP Physics II
11th or 12th grade (1 year, 1 credit)
- YES NO BIOL 139

FOREIGN LANGUAGES

SPANISH

- ____ CP Spanish I
9th, 10th, 11th, or 12th grade (1 year, 1 credit)
- ____ CP Spanish II
9th, 10th, 11th, or 12th grade (1 year, 1 credit)
- ____ HN Spanish III
10th, 11th, or 12th grade (1 year, 1 credit)
- ____ HN Spanish IV
10th, 11th, or 12th grade (1 year, 1 credit)
- YES NO SPAN 111 Introductory Spanish

FRENCH

- ____ CP French I
9th, 10th, 11th, or 12th grade (1 year, 1 credit)
- ____ CP French II
9th, 10th, 11th, or 12th grade (1 year, 1 credit)
- ____ HN French III
9th, 10th, 11th or 12th grade (1 year, 1 credit)
- ____ HN French IV

9th, 10th, 11th, or 12th grade (1 year, 1 credit)

YES NO FREN 111 Introductory French

CORE CURRICULUM 2019-2020

	Freshman	Sophomore	Junior	Senior
<i>Theology</i>	Theology 9	Theology 10	Theology 11	Theology 12 HN Western Traditions
<i>English</i>	CP English 9 HN English 9	CP English 10 HN English 10	CP English 11 HN English 11 AP English 11	CP English 12 HN English 12 AP English 12
<i>Social Studies</i>	CP World History	CP American History I	CP American History II AP U.S. History	CP Government HN Western Traditions AP Psychology
<i>Science</i>	CP Biology HN Biology	CP Chemistry HN Chemistry	CP Environmental Science CP Forensics HN Physics HN Anatomy/Physiology AP Biology AP Chemistry	CP Environmental Science CP Forensics HN Anatomy/Physiology HN Organic Chemistry AP Biology AP Physics II AP Chemistry
<i>Mathematics</i>	CP Algebra I CP Algebra II HN Algebra II Integrated Math I	CP Algebra II HN Algebra II CP Geometry HN Geometry Integrated Math II	CP Geometry CP Algebra II HN Algebra II CP Algebra III HN Precalculus HN Statistic Integrated Math III	CP Algebra III HN Precalculus HN Statistics HN Calculus AP Calculus AB Integrated Math IV Consumer Math
<i>Language</i>	CP French I CP Spanish I	CP French II CP Spanish II	HN French III HN Spanish III	HN French IV HN Latin IV HN Spanish IV
<i>Electives</i>	Freshman Phys. Ed. Freshman Cycle			Senior Phys. Ed. Humanities Applied Mathematics

ELECTIVES

Freshman	Sophomore	Junior	Senior
Broadcast Journalism	Broadcast Journalism	Broadcast Journalism	Broadcast Journalism
Chorus	Chorus	Chorus	Chorus
Concert Band	Concert Band	Concert Band	Concert Band
Drama	Drama	Drama	Drama
Engineering I	Engineering I and II	Engineering I and II	Engineering I and II
General Business Business Law* Sales and Marketing	General Business Business Law* Sales and Marketing	General Business Business Law* Sales and Marketing	General Business Business Law* Sales and Marketing
Multimedia Art	Multimedia Art	Multimedia Art	Multimedia Art
Publications	Publications	Psychology	Psychology
World Religions	World Religions	Publications	Publications
		World Religions	World Religions
<i>Business Law – 2019-2020 Sales and Marketing & General Business are not offered this year.</i>			

JVLA

	Sophomore	Junior	Senior
<i>Full Year</i>	Arabic Level 1 Chinese Mandarin Level 1 Italian Level 1 AP Statistics	<i>All Sophomore, plus:</i> AP Art History AP Calculus BC AP Computer Science AP Environmental Science AP Human Geography AP Music Theory	<i>All Soph./Junior</i>
<i>Fall</i>	C++ Programming Digital Photography AP Microeconomics Principles of Engineering	Bioethics Multimedia Authorship	

ENGLISH DEPARTMENT

CP English 9

Course Number: ENG100

Level: Freshman

Credits: 1 **Weight:** 1.00

Prerequisites: 8th-grade English and 8th-grade exam scores

Summer Reading: Will be assigned as required

Textbook: *Understanding English Literature, Arrangements in Literature, Vocabulary Workshop Level D*, novels

Course Rationale and Description: Students will be instructed in grammar, literature, and writing.

Grammar – sentence elements, punctuation mechanics and usage, capitalization, diagramming

Literature – introduction to literary genres including Shakespeare, novels

Writing – sentence structure, development of topic sentence and paragraphs, essay (descriptive, creative, and expository), research paper, MLA format

Course Topics:

- Short stories
- Poetry
- Drama
- Nonfiction
- Novels
- Shakespeare
- Vocabulary

HN English 9

Course Number: ENG101

Level: Freshman

Credits: 1 **Weight:** 1.03

Prerequisites: 8th-grade English and 8th-grade exam scores

Summer Reading: Will be assigned as required

Textbook: *Understanding English Literature, Arrangements in Literature, Vocabulary Workshop Level D*, novels

Course Rationale and Description: Students will be instructed in grammar, literature, and writing.

Grammar – sentence elements, punctuation mechanics and usage, capitalization, diagramming

Literature – introduction to literary genres including Shakespeare, novels

Writing – development of topic sentences and paragraphs, essays (descriptive, creative, and expository), research paper, MLA format

Course Topics:

- Short stories
- Poetry
- Drama
- Nonfiction
- Novels
- Shakespeare
- Vocabulary

CP English 10

Course Number: ENG200

Level: Sophomore

Credits: 1 **Weight:** 1.00

Prerequisites: English 9

Summer Reading: Will be assigned as required

Textbook: *Appreciating Literature, Vocabulary Workshop Level E*

Course Rationale and Description: This course is designed to upgrade and supplement 9th-grade study of genres: short stories, nonfiction, drama (including one Shakespeare play), novels and poetry. Vocabulary is studied in 20-word units with emphasis on vocabulary for SAT and ACT (meanings, spelling, and usage). Students practice writing in various forms using correct format, spelling, punctuation and grammar. Worksheets and interactive lessons re-enforce grammar and reading comprehension. A research paper (MLA format) and oral presentations are required.

Course Topics:

- Literature – short stories, nonfiction, drama (Julius Caesar), novels, poetry
- Writing – essays (descriptive, persuasive, expository, etc.), research paper
- Grammar – emphasis on correct usage, speaking, and writing
- Vocabulary
- Research methods
- Speech

HN English 10

Course Number: ENG201

Level: Sophomore

Credits: 1 **Weight:** 1.03

Prerequisites: English 9

Summer Reading: Will be assigned as required

Textbook: *Appreciating Literature, Vocabulary Workshop Level E*

Course Rationale and Description: This course is designed to upgrade and supplement 9th-grade study of genres: short stories, nonfiction, drama (including one Shakespeare play), novels and poetry. Honors English challenges students beyond the usual course of study, requiring in-depth interpretive reading, additional and more lengthy reading selections, a three-unit vocabulary grouping of 20 words each, and additional writing assignments, projects, and oral presentations. The Honors student is expected to write with correct grammar, spelling and punctuation and to write a more detailed research paper.

Course Topics:

- Literature – short stories, nonfiction, drama (Julius Caesar), novels, poetry
- Writing – essays (descriptive, persuasive, expository, etc.), research paper
- Grammar – emphasis on correct usage, speaking, and writing
- Vocabulary
- Research methods
- Speech

CP English 11

Course Number: ENG300

Level: Junior

Credits: 1 **Weight:** 1.00

Prerequisites: English 10

Summer Reading: Will be assigned as required

Textbook: *American Literature, Vocabulary Workshop Level F*

Course Rationale and Description: This course is designed to give students an understanding of the chronological development of American Literature from the Native Americans to modern times. Prominent American authors and significant documents of American history are studied for understanding and interpretation. Career shadowing is required for primary sources for paper, which is written in MLA format. Periodic writing assignments require correct grammar, spelling, and format. Independent reading of novels requires interpretive skills. Fifteen vocabulary units (20 words per unit)

Course Topics:

- Literature – chronological selection of American writers and documents
- Writing – essays (descriptive, expository, etc.), research paper on a career
- Grammar – review of correct usage for speaking and writing
- Vocabulary
- Research methods
- Careers
- Speech

HN English 11

Course Number: ENG301

Level: Junior

Credits: 1 **Weight:** 1.03

Prerequisites: English 10

Summer Reading: Will be assigned as required

Textbook: *American Literature, Vocabulary Workshop Level F*

Instructional Material: Textbook, novels, study guides, worksheets, videos

Course Rationale and Description: This class is more rigorous than the CP level, requiring more in-depth reading and complex writing assignments. Students are expected to understand the development of American Literature from the writings of the Native Americans to writings of modern authors. Students are expected to understand and interpret complex texts and write competently in classes across the curriculum. Students will write in a variety of forms (expository, persuasive, etc.) with correct grammar, spelling, punctuation and appropriate vocabulary. Students are required to do research (including career shadowing) and write a research paper in MLA format.

Course Topics:

- Literature – chronological selection of American writers and documents
- Writing – essays (persuasive, narrative, etc.), research paper
- Grammar – review of correct usage for speaking and writing
- Vocabulary – 15 units of 20 words each, words in context, literary terms
- Research Methods – shadowing, note-taking, documenting sources, expository writing, proof-reading, MLA format

AP English 11

Course Number:ENG500

Level: Junior

Credits: 1 **Weight:** 1.05

Prerequisites: Honors English 10 or special permission and instructor approval

Summer Reading: Will be assigned as required

Textbook: *American Literature, Vocabulary Workshop Level F*

Course Rationale and Description: The AP class is more demanding and rigorous than Honors; its controlling purpose is to enable students to read complex texts with understanding and to write effectively and competently in all courses across the curriculum, as well as their personal and professional lives. Students are required to write regularly in a variety of forms (descriptive, expository, etc.) with correct grammar, spelling, punctuation and mature vocabulary. Students will write a research paper on a chosen career using MLA format.

Course Topics:

- Literature – chronological selection of American writers and documents
- Writing – essays (persuasive, narrative, etc.), research paper on a career
- Grammar – review of correct usage for speaking and writing
- Vocabulary
- Research Methods
- Speech
- Careers

CP English 12

Course Number: ENG400

Level: Senior

Credits: 1 **Weight:** 1.00

Prerequisites: CP English 11

Summer Reading: Will be assigned as required

Textbook: *English Literature with World Masterpieces, Vocabulary Workshop Level G*

Course Rationale and Description: Students will be instructed in grammar, literature, and writing.
Grammar – mechanics reviewed in conjunction with compositions
Literature – study of the development of British literature, along with excerpts from French, German, Italian and Spanish literature, four novels and two Shakespeare plays
Writing – research paper, MLA format and college/SAT writing

Course Topics:

- British and World literature – epics, plays, short stories, poetry, sonnets, essays and novels

HN English 12

Course Number: ENG401

Level: Senior

Credits: 1 **Weight:** 1.03

Prerequisites: AP or HN English 11

Summer Reading: Will be assigned as required

Textbook: *English Literature with World Masterpieces, Vocabulary Workshop Level H*

Course Rationale and Description: Students will be instructed in grammar, literature, and writing.

Grammar – elements of style rather than basic elements taught in conjunction with writing

Literature – literary works of every genre read and analyzed with emphasis on literary criticism; British and World literature

Writing – themes about literature concerned with the analytical process in literary interpretation, argumentative research paper, MLA format, writing journals for weekly directed essays

Course Topics:

- British and World literature – epics, plays, short stories, poetry, sonnets, essays and nine novels

AP English 12

Course Number: ENG501

Level: Senior

Credits: 1 **Weight:** 1.05

Prerequisites: AP English 11

Summer Reading: Will be assigned as required

Textbook: *English Literature with World Masterpieces, The Norton Anthology of World Masterpieces, Vocabulary Workshop Level H*

Course Rationale and Description: Students will be instructed in grammar, literature, and writing. Instructor signature is required for placement in this course.

Grammar – elements of style rather than basic elements taught in conjunction with writing

Literature – literary works of every genre read and analyzed with emphasis on literary criticism; British and World literature

Writing – themes about literature concerned with the analytical process in literary interpretation, argumentative research paper, MLA format, writing journals for weekly directed essays

Course Topics:

- British and World literature – epics, plays, short stories, poetry, sonnets, essays and 12 novels

MATHEMATICS DEPARTMENT

Integrated Math I

Course Number: ALG101

Level: Freshmen

Credits: 1 **Weight:** 1.00

Prerequisites: Pre-Algebra

Textbook: *Basic Algebra*

Instructional Material: Textbook, worksheet, reviews, supplemental textbooks, calculator, manipulatives

Course Rationale and Description: Integrated Math I develops more concrete mathematical knowledge and applies this knowledge to basic algebra and geometry concepts. It provides a mathematical foundation needed for future success in high school math courses.

Course Topics:

- Real numbers
- Basic algebra
- Solve equations
- Graphing linear equations
- Properties of exponents
- Polynomials
- Basic figures in geometry
- Angles & angle pairs
- Classifying triangles

Teaching Methods and Approaches: Lectures, group activities, differentiation, review sheets, board work, drawing and measuring figures

CP Algebra 1

Course Number: ALG200

Level: Freshman

Credits: 1 **Weight:** 1.00

Prerequisites: None

Textbook: *Algebra I: Common Core*

Course Rationale and Description: This course lays the foundation for all higher math studies. It prepares students to solve problems in Science and Physics. Vocabulary, equations and problem-solving are areas of focus. The course employs a step-by-step approach that enables students to gain the basic knowledge needed to transition to higher-level math classes.

Course Topics:

- Intro to Algebra
- Real numbers
- Solving equations
- Polynomials
- Factoring
- Fractions and problems
- Linear Equations
- Graphing Lines
- Systems of linear equations
- Inequalities
- Rational and irrational numbers
- Functions

CP Geometry

Course Number: GEO300

Level: Sophomore or Junior

Credits: 1 **Weight:** 1.00

Prerequisites: CP Algebra I and CP Algebra II

Textbook: *Glencoe Geometry*

Course Rationale and Description: This course is a study of inductive/ deductive reasoning and the basic elements of plane geometry including. Proof completion enhances the student's ability to think logically.

Course Topics:

- Basic figures of geometry
- Angles and perpendicular lines
- Parallel planes and lines
- Congruent triangles
- Quadrilaterals
- Right triangles
- Circles

HN Geometry

Course Number: GEO400

Level: Sophomore or Junior

Credits: 1 **Weight:** 1.03

Prerequisites: HN Algebra II

Textbook: *Glencoe Geometry*

Course Rationale and Description: This course is an in-depth study inductive/deductive reasoning and elements of plane geometry, including: lines, angles, triangles, circles, volume, area. Proof completion enhances students' ability to think logically.

Course Topics:

- Basic figures of geometry
- Angles and perpendicular lines
- Parallel planes and lines
- Congruent triangles
- Quadrilaterals
- Right triangles
- Circles
- Area/volume of a figure

Integrated Math II

Course Number: ALG102

Level: Sophomore

Credits: 1 **Weight:** 1.00

Prerequisites: Pre-Algebra, Integrated Math I

Textbook: *Basic Algebra/ Geometry book*

Instructional Material: Textbook, worksheets, reviews, supplemental texts, calculator, manipulatives

Course Rationale and Description: Integrated Math II is an enhancement course in secondary mathematics. It provides the foundation in algebra and geometry needed for future success in high school math courses.

Course Topics:

- Real Numbers
- Fractions & problem solving
- Solve equation & inequalities
- Polynomial operations
- Graphing linear equations
- Basic figures in geometry
- Angles and perpendicular lines
- Classifying triangle
- Right triangle

Integrated Math III

Course Number: ALG103

Level: Junior

Credits: 1 **Weight:** 1.00

Prerequisites: Integrated Math II

Textbook: *Business Mathematics*

Instructional Material: Handouts, videos, projects, etc.

Course Rationale and Description: This course will study the application of mathematics as a tool in personal finances. Managing finances is part of our everyday life and it is important to master the mathematical skills involved.

Course Topics:

- Percents
- Gross Pay
- Taxes and Net Pay
- Basic figures in geometry
- Checking Accounts
- Everyday money use and making change

Teaching Methods and Approaches: Lectures, group work, discussions, projects, videos

HN Basic Applied Statistics

Course Number: MTH400

Level: Junior or Senior

Credits: 1 **Weight:** 1.05

Prerequisites: CP Algebra III, HN Pre-Calculus, or HN/AP Calculus

Textbook: *The Practice of Statistics*

Course Rationale and Description: This course teaches methods of descriptive and inferential statistics. Topics include data collection and description, hypothesis testing, correlation and regression, the analysis of variance, and contingency tables (chi square).. Students who take this course have the opportunity to earn college credit through the University of Pittsburgh. Students must register through the course teacher for Pitt credit at the beginning of the school year the course is taken.

Course Topics:

- Descriptive Statistics
- Association and Regression
- Causation and Evidence
- Probability
- Distribution of sample proportion and mean from random samples
- Confidence Intervals
- Tests of Hypotheses
- T-tests

CP Algebra II

Course Number: ALG300

Level: Freshman or Sophomore

Credits: 1 **Weight:** 1.00

Prerequisites: CP Algebra I

Textbook: *Algebra and Trigonometry: Structure and Method*

Course Rationale and Description: This course is designed to build on algebraic and geometric concepts. It develops advanced algebra skills such as inequalities, graphing linear equations, systems of equations, polynomials, quadratics and radical expressions. Course content is important for students' success on both the ACT and SAT.

Course Topics:

- Absolute value Eq. & Ineq.
- Graphing Lines
- Basic algebra concepts
- Solving inequalities
- Linear equations and functions
- Solving systems of equations and inequalities
- Polynomials
- Factoring
- Complex numbers
- Radical expressions

HN Algebra II

Course Number: ALG301

Level: Freshman or Junior

Credits: 1 **Weight:** 1.03

Prerequisites: Grade of A or B in CP Algebra I

Textbook: *Algebra and Trigonometry: Structure and Method – Book 2*

Course Rationale and Description: Problem-solving is emphasized throughout this course. Applications are presented early with interesting and varied word problems. Reasoning skills such as analyzing information, making conjectures and giving convincing arguments are developed. The course is designed to make Algebra accessible as a tool to a wide range of students, without sacrificing complete content and challenge for competent students.

Course Topics:

- Systems of Equations & Inequalities
- Absolute Value Eq. & Ineq.
- Quadratics
- Graphing of lines and other functions
- Polynomials
- Factoring
- Rational expressions
- Radical expressions
- Complex numbers
- Functions

CP Algebra III

Course Number: ATR30

Level: Junior or Senior

Credits: 1 **Weight:** 1.00

Prerequisites: CP Algebra I, CP Algebra II, CP Geometry

Textbook: *Algebra II*

Course Rationale and Description: A thorough review of topics covered in Algebra II with an emphasis on fundamental skills and repetition and building confidence in students' math skills. All topics covered in a standard Algebra II course are presented and built upon. The second semester is an introduction to base definitions and applications of trigonometry. The right triangle will be discussed and students will solve trigonometric equations, graph trig functions, and work with fundamental identities.

Course Topics:

- Algebra Review
- Radical Expressions
- Matrices
- Right Triangle Trig
- Graphing lines and parabolas
- Quadratics
- Factoring
- Polynomials
- Rational expressions
- Complex numbers

HN Pre-Calculus

Course Number: ANL300

Level: Junior or Senior

Credits: 1 **Weight:** 1.03

Prerequisites: Grade of A or B in HN Geometry and HN Algebra II

Textbook: *Trigonometry: Revised Edition, College Algebra: Fifth Edition*

Course Rationale and Description: In-depth use of algebra concepts applied to utilizing trigonometric functions and their properties to find sides, angles, areas and heights of triangles. Also, Applying these concepts to real-life situations. Concepts such as logarithms, exponentials and limits lead into Calculus.

Course Topics:

- Angle measures (degrees/radians)
- Trigonometric applications
- Logarithms/Exponentials
- Graphing trigonometric functions
- Function Review
- Exponential functions
- Trigonometric identities

HN Calculus

Course Number: CLC400

Level: Junior or Senior

Credits: 1 **Weight:** 1.03

Prerequisites: HN Pre-Calculus

Textbook: *Calculus: Sixth Edition*

Course Rationale and Description: This course takes a step-by-step approach to calculus, beginning with a review of the fundamental concepts of college algebra, extending through differential and integral calculus. The course will cover the basics of calculus and emphasize functions, logarithms, limits and derivatives.

Course Topics:

- Limits
- Integration
- Fundamental Theorem of Calculus
- Continuity
- Logarithm & Exponential Differentiation
- Differentiation
- Area under a curve

AP Calculus AB

Course Number: CLC500

Level: Junior or Senior

Credits: 1 **Weight:** 1.05

Prerequisites: Grade of A or B in HN Pre-Calculus and instructor approval

Textbook: *Pearson Calculus AP Edition*

Course Rationale and Description: This course takes a step-by-step approach to calculus, beginning with a review of the fundamental concepts of college algebra, extending through differential and integral calculus. The course utilizes an extensive number of illustrated problems involving applications to real-life situations. This course is faster-paced and more in-depth than HN Calculus. Students will be eligible to take the AP Calculus exam.

Course Topics:

- Limits
- Continuity
- Differentiation
- Maxima/Minima/Optimization
- Area under a curve
- Logarithms and Exponential Differentiation
- Integration and fundamental theorem of calculus

GS Consumer Math

Course Number: CON100

Level: Senior

Credits: 1 **Weight:** 1.00

Prerequisites: None

Textbook: *Business Mathematics*

Course Rationale and Description: This course will study the application of mathematics as a tool in personal and business finances. Managing finances is part of our everyday life and, therefore, it is important to master the mathematical skills involved

Course Topics:

- Percents
- Home and car buying
- Budgeting
- Credit report
- Investments
- Taxes
- Insurance
- Gross and net income
- Recordkeeping
- Checking/Savings accounts
- Credit card

SCIENCE DEPARTMENT

CP Biology

Level: Freshman

Prerequisites: None

Textbook: *Prentice-Hall Biology*

Course Rationale and Description: The course covers various basic principles to build a solid foundation in biology. Students explore a variety of topics, including general science concepts, biological molecules, cells and metabolism, genetics and heredity, and ecological principles, accompanied by laboratory techniques.

Course Topics:

- Fundamental biological principles
- Chemistry of biology
- Biological molecules
- Cell structures and processes
- Genetics
- Ecological principles
- Evolution
- Microorganisms
- Animal kingdom
- Laboratory dissection

Course Number: BIO100

Credits: 1 **Weight:** 1.00

HN Biology

Level: Freshman

Prerequisites: Instructor approval

Textbook: *Glencoe or Prentiss Hall Biology*

Course Rationale and Description: This course will develop a solid foundation in biology and an understanding of basic scientific principles and laboratory methods.

Course Topics:

- Microscopes
- Metabolism
- Life of a cell
- Genetics and heredity
- Evolution
- Microorganisms
- Animal kingdom
- Laboratory dissection

Course Number: BIO101

Credits: 1 **Weight:** 1.03

CP Chemistry

Level: Sophomore

Prerequisites: Biology

Textbook: *Introductory Chemistry: A Foundation (2nd Edition)*

Course Rationale and Description: This course will study the structures of atoms and molecules, the interaction between them, and their resulting chemical reactions. Chemical and physical properties will be investigated, as well as how these properties are measured and can be predicted by a compounds structure. The role of chemistry as the central science and its impact in our daily lives will be discussed.

Course Topics:

- Scientific method
- Scientific notation
- Units
- Significant figures
- Dimensional analysis
- Matter and energy
- Physical / chemical properties and change
- Elements and compounds
- Formulas of compounds
- Natural states of the elements
- Chemical reactions
- Chemical quantities
- Chemical bonding
- Lab safety and equipment

HN Chemistry

Level: Sophomore

Prerequisites: Biology, instructor approval

Textbook: *Chemistry (8th Edition)*

Course Rationale and Description: This course will study the structures of atoms and molecules, the interaction between them, and their resulting chemical reactions. Chemical and physical properties will be investigated, as well as how these properties are measured and can be predicted by a compounds structure. The role of chemistry as the central science and its impact in our daily lives will be discussed.

Course Topics:

- Scientific method
- Scientific notation
- Units
- Significant figures
- Dimensional analysis
- Matter and energy
- Physical / chemical properties and change
- Elements and compounds
- Formulas of compounds
- Natural states of the elements
- Chemical reactions
- Chemical quantities
- Chemical bonding
- Lab safety and equipment

Course Number: CHM200

Credits: 1 **Weight:** 1.00

Course Number: CHM201

Credits: 1 **Weight:** 1.03

HN Organic Chemistry

Level: Senior

Prerequisites: Biology, AP Chemistry and instructor approval

Textbook:

Course Rationale and Description: The Organic Chemistry course is designed to be a year-long introduction to the subject for students planning to major in Chemistry, Biology, Medicine or related fields in college. This course involves an in-depth study of fundamental concepts that will be studied in further great detail in college courses.

Course Topics:

- Nomenclature
- Functional groups
- Stereochemistry
- Chemical reactions and their mechanisms
- Spectroscopy
- Organic laboratory techniques

CP Environmental Science

Level: Junior and Senior

Prerequisites: Biology & Chemistry

Textbook: Amsco Environmental Science and/or Holt Environmental Science

Course Rationale and Description: This course will develop a solid foundation in environmental sciences including ecology and meteorology while building upon a growing understanding of basic scientific principles and laboratory methods.

Course Topics:

- Planet earth
- The living planet
- Cycles of nature
- Human's effect on planet
- Society's use of energy sources
- Environmental adaptation
- Ecosystems
- Biomes

Course Number: CHM 202

Credits: 1 **Weight:** 1.03

Course Number: ENS100

Credits: 1 **Weight:** 1.00

HN Physics I

Course Number: PHY300

Level: Junior

Credits: 1 **Weight:** 1.03

Prerequisites: HN Chemistry or instructor approval

Textbook: *College Physics (6th Edition)*

Course Rationale and Description: This course studies the fundamental laws of nature on which all science is based. It is designed to enable students to appreciate the role of physics in today's society and technology. Physics is the study of matter and its motion through space and time, along with related concepts such as energy and force. Introductory course covers classical mechanics.

Course Topics:

- Kinematics
- Vectors and two-dimensional motion
- Laws of motion
- Energy
- Rotational motion and the law of gravity
- Momentum and collisions
- Rotational equilibrium and dynamics

AP Physics II

Course Number: PHY500

Level: Senior

Credits: 1.5 **Weight:** 1.05

Prerequisites: HN Physics I and instructor approval

Textbook: *Physics (7th Edition)*

Course Rationale and Description: This course is equivalent to most college-level introductory physics courses. It focuses on the following topics: fluid statics and dynamics, thermodynamics, PV diagrams and probability, electrostatics, electrical circuits with capacitors, magnetic fields, electromagnetism, physical and geometric optics, and other topics in modern physics.

Course Topics:

- Electrostatics
- Current
- Resistance
- Circuits
- Electromagnetism and induction
- Light
- Geometric and physical waves
- Optics
- Fluids
- Thermal physics
- Quantum physics
- Nuclear physics

AP Biology

Course Number: BIO500

Level: Junior, Senior

Credits: 1.5 **Weight:** 1.05

Prerequisites: CP or HN Biology and instructor approval; Anatomy-Physiology recommended

Requirements: The student is required to take the College Board AP Biology Exam in May. The cost is approximately \$94.00 and must be paid by the second week of school.

Textbook: Reece, Jane, Lisa Urry, Michael Cain, Steven Wasserman, Peter Minorsky, and Robert Jackson. *Campbell Biology, AP 10th Edition, 2014.*

Course Rationale and Description: The AP Biology course is a college level course that parallels the initial college course for a Biology major. Biochemistry, cell structure and function, genetics (Mendelian and molecular,) energetic along with photosynthesis and respiration are emphasized in the course sequence. The course will examine the processes of evolution that drive the diversity and unity of life as well as the information, energy, and molecular building blocks that operates biological systems. Experiments are coordinated with lectures to reinforce basic theory, and are structured around the four big idea science practices also delineated in the AP Biology curriculum framework provided by the College Board. There will be summer coursework with deadlines. To take this course, the student must be registered for the class by July 1st with their name, phone number, and email address given to the instructor by email from the school administration. Student must agree to attend one required summer meeting in June, date to be established in May so students can schedule accordingly. No make-up meetings will be offered.

Course Topics:

- Origin of life
- Biology of the cell
- Mendelian genetics
- Cellular respiration
- Photosynthesis
- Ecology and behavior
- Animal form and function
- Diversity of life on earth
- Catholic values

AP Chemistry

Course Number: CHM500

Level: Junior, Senior

Credits: 1.5 **Weight:** 1.05

Prerequisites: HN Biology, HN Chemistry, complete a “B” or higher in Algebra II, and instructor approval.

Requirements: The student is required to take the College Board AP Biology Exam in May. The cost is approximately \$94.00 and must be paid by the second week of school.

Textbook: Kotz, John, Paul Treichel, and John Townsend. *Chemistry & Chemical Reactivity, AP 8th Edition, 2012.*

Course Rationale and Description: This AP Chemistry course is a second year course equivalent to a first-year college level general chemistry course. It is structured around the six big ideas detailed in the AP Chemistry curriculum framework provided by the College Board. Fundamental principles presented in first year chemistry are reviewed and applied to more complex problems. More advanced topics are also presented including: chemical kinetics, chemical equilibrium, thermodynamics, electro-chemistry, nuclear chemistry, and an introduction to organic chemistry. Laboratory exercises emphasize qualitative/quantitative analysis and are intended to develop proficiency in classical techniques and critical observation. Experiments are coordinated with lectures to reinforce basic theory, and are structured around the seven science practices also delineated in the AP Chemistry curriculum framework provided by the College Board. There will be summer coursework with deadlines. To take this course, the student must be registered for the class by July 1st with their name, phone number, and email address given to the instructor by email from the school administration. Student must agree to attend one required summer meeting in June, date to be established in May so students can schedule accordingly. No make-up meetings will be offered.

Course Topics:

- Gases
- Chemical bonding
- Acids and bases
- Rates of reaction
- Thermochemistry
- Electron configuration
- Stoichiometry
- Matter/measurements

HN Human Anatomy/Physiology

Course Number: ANA300

Level: Junior or Senior

Credits: 1 **Weight:** 1.03

Prerequisites: Biology, Chemistry, and instructor approval.

Textbook: *Anatomy & Physiology*

Course Rationale and Description: This course is designed for students interested in pursuing a medically-related career. This accelerated course focuses on the biochemistry of cellular processes, as well as the functions of body cells and tissues. The course takes a systems approach to studying physiology and pathology of the body systems. Students will learn the functions and dysfunctions of the human body by studying structures and processes at a variety of levels including molecular, cellular, tissue, organ and organ system. Dissection will be a required part of this course.

Course Topics:

- Skin, bones and muscles
- Digestion
- Nervous system
- Cardiovascular system
- Lymphatic system
- Excretory system

CP Forensics

Level: Sophomore, Junior, Senior

Prerequisites: None

Textbook: *Forensic Science: Fundamentals & Investigations*

Course Rationale and Description: Forensic Science is a course designed to introduce the student to practical applications of chemistry, physics, psychology, earth science, and biology in the study of forensics. This course will provide students with an introduction to the theoretical understanding and practical application of forensic science techniques from the crime scene investigation to the laboratory and courtroom. The culmination of the course will include the analysis of a mock crime scene.

Course Topics:

- Observation skills
- Crime scene investigation
- Evidence collection
- Study of hair, fibers, and textiles
- Pollen and spore examination
- Fingerprints
- DNA fingerprinting
- Blood and blood spatter
- Drug identification and toxicology
- Handwriting analysis and forgery
- Death and anthropology
- Impressions and tool marks
- Ballistics

SOCIAL STUDIES DEPARTMENT

CP World History

Level: Freshman

Prerequisites: None

Textbook: *World History: The Human Journey*

Course Rationale and Description: This course studies the development of civilization in the Europe from 1500 to present.

Course Topics:

- Revolutions in Europe and America
- World War I
- World War II
- The Great Depression
- World since 1944

Course Number: FOR401

Credits: 1 **Weight:** 1.00

Course Number: WHI100

Credits: 1 **Weight:** 1.00

CP American History I

Course Number: AHH200

Level: Sophomore

Credits: 1 **Weight:** 1.00

Prerequisites: None

Textbook: *Call to Freedom: Beginnings to 1877*

Course Rationale and Description: This course will introduce students to the time period 1500-1877, beginning with New Empire in America through post- Civil War Reconstruction.

Objectives:

Students will be able to analyze the causes and effects of America's founding as a nation.

CP American History II

Course Number: AHH300

Level: Juniors

Credits: 1 **Weight:** 1.00

Prerequisites: CP American History I

Textbook: *Call to Freedom: 1865 to the Present*

Course Rationale and Description: This course will introduce students to the time period of American History that has come to define our modern political and social era. From the end of World War II and the ensuing Cold War, up to our present-day history in the years of the War on Terror after September 11th. Along the way, students will consider important movements that define who we are, notably those involving Women's and Civil Rights for all Americans. Through examining great successes and tragedies, students will better understand their own role in America's unfolding narrative.

CP American Government

Course Number: AMG300

Level: Senior

Credits: 1 **Weight:** 1.00

Prerequisites: None

Textbook: Holt: *American Government*

Course Rationale and Description: This course is a practical study of the features and functions of U.S. government and political systems. All levels of government will be studied in order to familiarize students with their rights and responsibilities as citizens.

Objectives:

Students will be able to evaluate the purpose and role of each component of the system of government in America.

Course Topics:

- Government systems
- Economic systems
- Foundations of American government
- Citizenship in the United States
- The law
- Congress
- The President
- The courts
- State governments
- Local governments

AP U.S. History

Course Number: HIS500

Level: Junior

Credits: 1 **Weight:** 1.05

Prerequisites: World History II or U.S. History and instructor approval

Summer Assignments: Historical Period 1 Readings and Evidence-Based Essay Assignment

Textbook: *The Unfinished Nation: A Concise History of the American People, 7th Edition*

Instructional Material: Textbook, materials created by AP/College Board, primary/secondary sources from online sources

Course Rationale and Description: This course will take students along the entirety of the history of the United States, from pre-Columbian native societies to the present day. The course will prepare students for the spring AP exam by examining content and skills vital to historians at the early collegiate level.

Objectives:

Students will analyze the themes proposed by the College Board in order to evaluate the links between historical time periods spanning the entirety of American history.

Course Topics:

- Evaluate the political development of the United States, from pre-colonial-societies to the modern-day
- Identify and critique key American figures and their influence on American society
- Assess the connection between economics and geography to the development of the American nation
- Utilize research and writing to create historical narratives that follow sources in a methodical manner
- Explain the basis and development of a uniquely “American culture”

AP Psychology

Course Number: PSY500

Level: Senior

Credits: 1 **Weight:** 1.05

Prerequisites: None

Summer Assignments : As Required

Textbook: Myers, David G. (2014). *Psychology for AP*, (2nd ed.) New York: Worth Publishers.

Course Rationale and Description: The AP Psychology course introduces students to the systematic and scientific study of human behavior and mental processes. While considering the psychologists and studies that have shaped the field, students explore and apply psychological theories, key concepts, and phenomena associated with such topics as the biological bases of behavior, sensation and perception, learning and cognition, motivation, developmental psychology, testing and individual differences, treatment of abnormal behavior, and social psychology. Throughout the course, students employ psychological research methods, including ethical considerations, as they use the scientific method, analyze bias, evaluate claims and evidence, and effectively communicate ideas.

Course Topics:

- History and Approaches
- Research Methods
- Biological Bases of Behavior
- Sensation and Perception
- States of Consciousness
- Learning
- Cognition
- Motivation and Emotion
- Developmental Psychology
- Personality
- Testing and Individual Differences
- Abnormal Behavior
- Treatment of Abnormal Behavior
- Social Psychology

THEOLOGY DEPARTMENT

Theology 9 / Scripture and Christology

Course Number: THE100

Level: Freshman

Credits: 1 **Weight:** 1.00

Prerequisites: None

Textbook: *The Bible*

Course Rationale and Description: This course offers an in-depth study of the Bible and the person of Jesus Christ. It explores the meanings, compositions, genres, and importance of biblical texts, beginning with the Old Testament and the course of salvation history – the history of God’s covenant with Israel, and ending with the New Testament, with particular attention to the life and impact of Jesus, and the implications of Jesus’ identity as fully God and fully human.

Objectives: By the end of the course, students should be able to recognize major themes and meanings in biblical literature and have a better understanding of how to interpret them. They should also develop a strong familiarity with prominent biblical stories and figures.

Course Topics:

- What is the Bible?
- The books of the Bible
- The Old Testament
- The New Testament
- Covenant relationship
- Introduction to soteriology

Theology 10 / Introduction to Moral Theology

Course Number: THE200

Level: Sophomore

Credits: 1 **Weight:** 1.00

Prerequisites: None

Textbook: *The Bible, Christian Morality: Our Response to God's Love*

Course Rationale and Description: This course offers an introduction to traditional Catholic moral teaching. From the intrinsic dignity of the human person to the Ten Commandments, from the Beatitudes to a life of virtue, this course presents the human condition according to the teachings of the Magisterium. The instructor will encourage conversation and discussion among peers with the intention to foster a well-informed conscience and sense of morality.

Course Topics:

- Freedom and the moral act
- Ethical norms and laws
- The Ten Commandments
- The moral conscience
- Sin and conversion
- Theology of the Body

Theology 11/ Sacramental Theology & Ecclesiology **Course Number:** THE300

Level: Junior

Credits: 1 **Weight:** 1.00

Prerequisites: Theology 9, Theology 10

Textbook: *The Church: Christ in the World Today, The Sacraments: Encounters with Christ*

Course Rationale and Description: This course offers a detailed study of the Sacraments and the role of the Church in Christian practice. It explores the meaning and practice of the Sacraments and the celebration of the Mass and additional rituals that contribute to Christian life by examining their historical origins and development.

Objectives:

By the end of this course, students should be able to name the seven Catholic Sacraments, and describe their meaning in Christian life and how they are to be performed. Additionally, students should be able to give an overview of the Church history and practice throughout the centuries.

Course Topics:

- The Papacy
- Images of the Church
- The Second Vatican Council
- The Divine Life
- The Sacraments

Theology 12 / The Question of God

Course Number: THE400

Level: Senior

Credits: 1 **Weight:** 1.00

Prerequisites: None

Textbook: *The Bible*

Course Rationale and Description: The word *apologetics* is derived from a Greek verb which means “to defend.” This course offers a systematic introduction to Catholic apologetics, an intellectual defense of Catholicism (in particular, the Judeo-Christian understanding of God). The application of natural reason will principally guide the structure and form of classroom discussion, demonstrating a harmony with faith. Outlined specifically for students with a theological foundation, the course nurtures a holistic and scholarly learning experience.

Course Topics:

- Introduction to logic
- Philosophy: Theology’s handmaid
- Proof of the existence of the soul
- Proof of the existence of God
- The necessity of religion

HN Western Traditions

Course Number: THE401

Level: Senior

Credits: 1 **Weight:** 1.03

Prerequisites: CP Theology 11 and instructor approval

Textbooks: Reading handouts

Course Rationale and Description: This course offers an in-depth study of major texts and developments in thought from ancient to contemporary Western culture. It offers a steady introduction to philosophy, both in terms of major philosophers and the activity of doing philosophy, by covering the major periods of philosophy in history (ancient, medieval, modern and post-modern.) By examining major texts and connecting ideas and systems of thought, the course provides an insightful and sophisticated look at the meaning of nature, life, knowledge, politics, and other universally important realities.

Objectives: By the end of this course, students should be able to describe various philosophical systems of thought as developed by prominent philosophers. Students should be equipped to critically assess the fundamental questions they face in their lives.

World Religions

Level: Freshmen-Senior (elective)
1st year non-Catholic international students

Course Number: THE101
Credits: 1 **Weight:** 1.00

Prerequisites: None

Textbook: *The Bible*

Course Rationale and Description: This course is a detailed study of various major religions practiced throughout the world, most notably Hinduism, Buddhism, Judaism, Christianity, and Islam, as well as others. It examines the beliefs and practices of these religions, as well as their historical development. Looking at this development and reading important religious texts provides insight into the commonalities and differences between religions.

Objectives:

By the end of this course, students should be able to describe the fundamental belief systems of Hinduism, Buddhism, Judaism, Christianity, and Islam. Students should also gain a sense of the importance of religious practice in human life and an appreciation for religions they do not practice.

WORLD LANGUAGES DEPARTMENT

CP French I

Course Number: FRE100

Level: Freshman

Credits: 1 **Weight:** 1.00

Prerequisites: None

Textbooks: *Bon Voyage, Level 1*

Course Rationale and Description: This course introduces students to communication in French in real-life situations by teaching fundamental vocabulary and structure and utilizing realistic conversations in natural, colloquial French. Students will also read and learn in French.

Course Topics:

- Friends
- Family and home
- Grammar and verb structures
- Courses and before/after school
- At the café and restaurant
- Food and shopping

CP French II

Course Number: FRE200

Level: Sophomore

Credits: 1 **Weight:** 1.00

Prerequisites: CP French I

Textbooks: *Bon Voyage: Level 1*

Course Rationale and Description: This course builds upon the foundations established in French I. Students are enabled to communicate in French in real-life situations by learning fundamental vocabulary and structure and utilizing realistic conversations in natural, colloquial French. Students will also read and learn in French.

Course Topics:

- Clothing
- Sports
- Grammar and verb structure
- Airport and airplane travel
- Trains and train travel
- Summer and winter
- Daily routines

HN French III**Course Number:** FRE300**Level:** Junior**Credits:** 1 **Weight:** 1.03**Prerequisites:** CP French II and instructor approval**Textbooks:** *Bon Voyage: Level 2*

Course Rationale and Description: This course builds upon the foundations established in French I and II. Students are enabled to communicate in French in real-life situations by learning fundamental vocabulary and structure and utilizing realistic conversations in natural, colloquial French. Students will read and learn in French about the culture of France and the Francophone world. Students will also communicate in written French.

Course Topics:

- Leisure activities
- Health and medicine
- Telecommunications
- Travel
- Banking and post office
- Food
- Cars and directions
- Grammar and verb structures

HN French IV**Course Number:** FRE400**Level:** Senior**Credits:** 1 **Weight:** 1.03**Prerequisites:** HN French III and instructor approval**Textbooks:** *Bon Voyage: Level 2, Un Coup d'oeil sur la France; Le Petit Prince*

Course Rationale and Description: This course builds upon the foundations established in French III. Students are enabled to communicate in French in real-life situations by learning fundamental vocabulary and structure and utilizing realistic conversations in natural, colloquial French. Students will also read and learn in French about the culture of France and the Francophone world. The student will also communicate in written French. The student will read excerpts from French literature. Students may be able to complete this course through a college credit program.

Course Topics:

- Upper-level verb tenses
- French history
- French geography
- *Le Petit Prince*, novel

CP Spanish I

Course Number: SPN100

Level: Freshman

Credits: 1 **Weight:** 1.00

Prerequisites: None

Textbooks: *Dime! Uno*

Summer Assignment: *Babbel, Rosetta Stone*

Course Rationale and Description: This course provides students with a love of the Spanish language.

Objectives:

Students will be able to use fundamental vocabulary and verbs in the present tense.

CP Spanish II

Course Number: SPN200

Level: Sophomore

Credits: 1 **Weight:** 1.00

Prerequisites: CP Spanish 1.2

Textbooks: *Dime! Uno, Dime! Dos*

Course Rationale and Description: This course provides students with opportunities to develop their listening, speaking, reading and writing skills within the five standards of Foreign Language Learning: Communities, Connection, Communication, Comparisons and Cultures. Students will function at mid-novice moving to mid-level proficiency. Students will use memorized words and phrases to communicate about familiar topics related to home and community.

Course Topics:

- Asking for and giving directions
- Affirmative *tu* commands
- Numbers 100 – 1,000,000
- Stem-changing verbs in present tense
- Clothing
- Preterite tense of regular verbs
- Preterite of *ir, ser, dar, hacer* and *ver*
- Demonstrative adjectives
- Reflexive pronouns and verbs
- Direct and indirect object pronouns
- Food and daily routines

HN Spanish III

Course Number: SPN300

Level: Junior

Credits: 1 **Weight:** 1.03

Prerequisites: CP Spanish I & II and instructor approval

Textbooks: *Dime! Dos, Dime! – Part 1*

Summer Assignment: *Babbel, Rosetta Stone*

Course Rationale and Description: The students will continue to enhance and further develop their Spanish skills in a variety of modalities.

Course Topics:

Students will be refining their Spanish using the present, preterit and imperfect tenses

HN Spanish IV

Course Number: SPN400

Level: Senior

Credits: 1 **Weight:** 1.03

Prerequisites: CP Spanish I & II, HN Spanish III and instructor approval

Textbooks: *Dime! Dos, Dime!* – Part 2

Summer Assignment: *Babbel, Rosetta Stone*, verb list

Course Rationale and Description: This course provides students with opportunities to develop their listening, speaking, reading and writing skills within the five standards of Foreign Language Learning: Communities, Connection, Communication, Comparisons and Cultures. Students will function at an advanced level of proficiency. Students will use memorized words and phrases in present, past, subjunctive and future conditional tenses.

Objectives: The students will add new verb tenses – the subjunctive, conditional, and future tenses. Adding reading and cultural experiences as well. The students will have a very strong Spanish foundation, being able to read, write, and converse.

ARRUPE VIRTUAL LEARNING INSTITUTE (Formerly JVLA)

WORLD LANGUAGES

Arabic Level I

Department: AVLI World Languages

Full Year

Level: Sophomore – Senior

Credits: 1 **Weight:** 1.00

Prerequisites: AVLI electives are offered to students who show academic initiative in their prior courses and are able to work independently online.

Course Description: This yearlong course (for students with little or no prior knowledge of Arabic) combines the study of the Arab language with an introduction to Arab-speaking cultures. Students will gain practical experience in speaking Arabic with proper pronunciation to acquire basic conversational skills on topics such as greetings, shopping and travel. Moving the English language-centered to an Arabic-centered class, students will learn basic vocabulary and sentence patterns used in daily life and social interaction. Cultural notes will be given along with speaking practice necessary for interpersonal communication.

Chinese Mandarin Level I

Department: AVLI World Languages

Full Year

Level: Sophomore – Senior

Credits: 1 **Weight:** 1.00

Prerequisites: AVLI electives are offered to students who show academic initiative in their prior courses and are able to work independently online.

Course Description: This course combines the study of the Chinese language with an introduction to Chinese culture. Students will gain practical experience speaking Mandarin with proper pronunciation using the pinyin system to acquire basic conversational skills. Students will learn basic vocabulary and sentence patterns used in daily life and social interaction. Culture notes will be given along with speaking practice necessary for interpersonal communication. In addition, a certain amount of Chinese written characters are studied with a fun approach.

Italian Level I

Department: AVLI World Languages

Full Year

Level: Sophomore – Senior

Credits: 1 **Weight:** 1.00

Prerequisites: AVLI electives are offered to students who show academic initiative in their prior courses and are able to work independently online.

Course Description: Introduction to the basics of conversational Italian, including nouns, regular and irregular verbs, and basic conversations from Italian to English and English to Italian. This course will be team-taught by an Italian teacher in the United States and an English teacher in Italy. Students will communicate in Italian with native speakers in Italy. Successful completion of Italian 1 is a prerequisite for admission into Italian 2, 3 and AP Italian.

THEOLOGY

Bioethics

Department: AVLI Theology

Fall Semester

Level: Junior – Senior

Credits: 0.5 **Weight:** 1.00

Prerequisites: AVLI electives are offered to students who show academic initiative in their prior courses and are able to work independently online.

Course Description: This course is a general introduction to ethical theory and reasoning and its application to a number of hot current world issues, with particular emphasis on bioethics (moral dilemmas of modern biological and medical fields). It begins by addressing the question, why do ethics and moral decision making matter at all in a world we see operation so frequently without them? It surveys major ethical paradigms (common-good ethics, rights ethics, virtue ethics, and ethical relativism) and considers how each can help and hinder our pilgrimage to responsible, life giving choices for us and for our larger human family. Respectful consideration of opposing viewpoints, including the official teachings of the Catholic Church, is a hallmark of the course. By the end of the course, students should be able to manage some real cases on a committee of fellow ethicists using the vocabulary germane to ethicists in hospitals today.

SCIENCE

AP Environmental Science

Department: AVLI Science

Full Year

Level: Junior – Senior

Credits: 1 **Weight:** 1.00

Prerequisites: Chemistry and Biology, AVLI electives are offered to students who show academic initiative in their prior courses and are able to work independently online

Course Description: The goal of the AP Environmental Science course is to provide students with the scientific principles, concepts and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving and/or preventing them. Labs will be coordinated with the student's brick-and-mortar school. In the spring, students will be eligible to take the AP Environmental Science Exam offered by the College Board at their school. This class will take up a lot of time, so it is recommended that students have room for it in their schedule.

Astronomy: An Introduction

Department: AVLI Science

Spring Semester

Level: Junior – Senior

Credits: 0.5 **Weight:** 1.00

Prerequisites: AVLI electives are offered to students who show academic initiative in their prior courses and are able to work independently online.

Course Description: At some point in our lives, each of us has gazed at the night sky in awe of its sheer magnitude. While we have learned much about our planet and its relationship to other celestial bodies, in many ways, the cosmos is the last great frontier. But how did it come to be? How large is it? How much do we know about the universe versus what remains to be discovered? This course provides an introduction to the solar system, stars, the interstellar medium, the galaxy and the universe. It is also designed to force students to think like scientists—separating facts from theory, studying relationships between objects in search of patterns, and more. Please note that Astronomic principles are grounded in Physics (which is largely grounded in Mathematics). Though students need not have studied Physics previously, they should be prepared to work within this discipline.

MATHEMATICS

AP Calculus BC

Department: AVLI Mathematics

Full Year

Level: Junior – Senior

Credits: 1 **Weight:** 1.05

Prerequisites: AVLI electives are offered to students who show academic initiative in their prior courses and are able to work independently online.

Course Description: AP Calculus BC will cover all of the topics associated with AP Calculus AB, including the study and application of differentiation and integration, and graphical analysis including limits, asymptotes and continuity. In addition, AP Calculus BC includes the study of convergence tests for series, Taylor and/or Maclaurin series, the use of parametric equations, polar functions (including arc length in polar coordinates), calculating curve length in parametric and function equations, L'Hôpital's rule, integration by parts, improper integrals, Euler's method, differential equations for logistic growth, and using partial fractions to integrate rational functions.

SOCIAL STUDIES

AP Human Geography

Department: AVLI Social Studies

Full Year

Level: Junior – Senior

Credits: 1 Weight: 1.05

Prerequisites: AVLI electives are offered to students who show academic initiative in their prior courses and are able to work independently online.

Course Description: AP Human Geography focuses on the spatial variations among cultural groups with an emphasis on analyzing geographic differences in language, religion, economy and government. In this course, students will discern patterns of land usage, internal structures of cities, size and spacing of human settlements, as well as interpret maps, graphs and tables. Units of study include culture, population, migration, language, religion, ethnicity, political geography, economic development, industry, agriculture and urban geography.

AP Macroeconomics

Department: AVLI Social Studies

Spring Semester

Level: Sophomore – Senior

Credits: 0.5 Weight: 1.05

Prerequisites: AVLI electives are offered to students who show academic initiative in their prior courses and are able to work independently online.

Course Description: How should faithful Catholics think about economics? This course integrates selected themes from the Neoscholastic School of economics with the content of the AP Economics syllabus in macroeconomics. The course prepares students to do well on the AP Macroeconomics exam, as well as offer a way to view our redeemed creation through the prism of social science. The economic way of thinking does not begin with Adam Smith. It is based on insights from Aristotle, St. Augustine, St. Aquinas, the Jesuit and Franciscan theologians at the University of Salamanca in Spain during the sixteenth and seventeenth centuries, and on the Popes' social encyclicals. We develop our understanding of basic economic concepts and analytic tools by anchoring them to our faith's moral traditions and foundations.

AP Microeconomics

Department: AVLI Social Studies

Fall Semester

Level: Sophomore – Senior

Credits: 0.5 Weight: 1.05

Prerequisites: AVLI electives are offered to students who show academic initiative in their prior courses and are able to work independently online.

Course Description: How should faithful Catholics think about economics? This course integrates selected themes from the Neoscholastic School of economics with the content of the AP Economics syllabus in microeconomics. The course prepares students to do well on the AP Microeconomics exam, as well as offer a way to view our redeemed creation through the prism of social science. The economic way of thinking does not begin with Adam Smith. It is based on insights from Aristotle, St. Augustine, St. Aquinas, the Jesuit and Franciscan theologians at the University of Salamanca in Spain during the sixteenth and seventeenth centuries,

and on the Popes' social encyclicals. We develop our understanding of basic economic concepts and analytic tools by anchoring them to our faith's moral traditions and foundations.

COMPUTER SCIENCE

AP Computer Science

Department: AVLI Computer Science

Full Year

Level: Junior – Senior

Credits: 1 **Weight:** 1.05

Prerequisites: At least one course in a programming language such as C++, Visual Basic .Net, or Java. Students should know how to edit, compile and run a program.

Course Description: This course is a college-level introduction to object-oriented programming in Java. Students will focus on a problem-solving approach designed to focus attention on programming algorithms and data structures. Students will be fluent in the syntax and logic structures of the Java programming language, as well as familiar with the Java API. Students will attempt difficult programming challenges, reflect on these exercises and share their discoveries with their peers. In the spring, students will be eligible to take the AP Computer Science A Exam offered by the College Board at their school. This class will take up a lot of time, so it is recommended that students have room for it in their schedule.

C++

Department: AVLI Art

Fall Semester

Level: Sophomore – Senior

Credits: 0.5 **Weight:** 1.00

Prerequisites: AVLI electives are offered to students who show academic initiative in their prior courses and are able to work independently online.

Course Description: This course will introduce students to computer programming using the C++ programming language. C++ is a programming language used in many applications, across many different industries. Through this course, students will learn the basic syntax necessary to write a computer program. They will learn how to attack a problem using the proper planning techniques. Students will learn about control structures, loops, procedures, arrays and much more. Another important aspect of this course is learning how to collaborate with other students. Each student will be put in a group of 3 and will work together to meet the objectives of the module. Collaborating with other students is essential to the success of students in this course, as well as a much needed life skill.

ART

AP Art History

Department: AVLI Art

Full Year

Level: Junior – Senior

Credits: 1 **Weight:** 1.05

Prerequisites: AVLI electives are offered to students who show academic initiative in their prior courses and are able to work independently online.

Course Description: This survey course will cover the history of art from prehistory to the present. Students will study historically significant works of art, including architecture, painting, sculpture and mixed media. Through this course, students will learn to identify, analyze and discuss artworks from a variety of cultures and stylistic periods. Students who complete this course will be prepared to take the AP examination in the spring. Strong organization and time management skills would be helpful. This class will take up a lot of time, so it is recommended that students have time for it in their schedule.

Digital Photography

Department: AVLI Art

Full Year

Level: Sophomores – Senior

Credits: 1 **Weight:** 1.00

Prerequisites: AVLI electives are offered to students who show academic initiative in their prior courses and are able to work independently online.

Course Description: Digital Photography is a semester course designed for beginning photographers. Students will learn the basics of photography and fine-tune their camera skills. The course will also cover composition and the principles of design that work to create an aesthetically pleasing photo. The course will not cover photo editing and retouching, but will focus on getting good images that don't need editing. **Students must have a Digital SLR camera.

ADDITIONAL REQUIRED COURSES

Freshmen Cycle *

* Public Speaking

Course Number: ACS101

Level: Freshman

Credits: 0.25 **Weight:** 1.00

Prerequisites: None

Course Rationale and Description: This class is a practical course designed to offer the novice speaker a number of opportunities to organize and prepare public speaking assignments. Students are required to research, prepare, and present one speech per quarter.

Course Topics:

- Personal Information
- Declamation
- How to Speeches/
Demonstration
- Extemporaneous
- Oral Interpretation

*Academic Skills

Course Number: ACS100

Level: Freshman

Credits: 0.25 **Weight:** 1.00

Prerequisites: None

Textbook: Glencoe, Study Skills: Do I really need this stuff?

Course Rationale and Description: This course will cover effective study skills such as: time management, note taking, effective reading and oral presentation. The students will use Chromebooks to create presentations that will be presented to the class in conjunction with Public Speaking.

Course Topics:

- Goal-setting
- Organization
- Being an effective student in the classroom
- Note-taking and outlining
- Time management
- Test-taking strategies

*Freshman Physical Education

Course Number: PE100

Level: Freshman

Credits: 0.25 **Weight:** 1.00

Prerequisites: None

Textbook: None

Course Rationale and Description: Students will participate in monthly sport units including: Soccer, Flag Football, Team Handball, Basketball, Hockey Dance, Aerobics and Weights, Volleyball, Table Tennis, Badminton, Pickle-ball, Baseball, and Kickball. They will also have a monthly emphasis on a fitness skill, such as September is distance running with

assessments on completing a mile run under 12 minutes. Then we will have skill testing in agility, flexibility, speed, sit-ups, push-ups and vertical jump.

Objectives: To gain the ability for your heart, blood vessels, lungs and muscles to all work together to meet your body's needs. Also to execute a higher level of skill than you possessed previously and to understand the rules of the various sports and games while demonstrating appropriate sportsmanship.

*Health Education

Course Number: HPE100

Level: Freshman

Credits: 0.25 **Weight:** 1.00

Prerequisites: None

Textbook: *Health: Skills for Wellness*

Summer Reading: Health information and news on reputable websites such as John Hopkins Bayview, The National Institute of Health, My Food Advisor, Mayo Clinic, and Heart Hub (American Heart Association.)

Course Rationale and Description: Students will cover: Making Healthy Choices, Self-Esteem and Managing Stress, Mental Disorders and Suicide, Building Healthy Relationships, Violence Prevention, Food and Nutrition, Making Healthy Food Choices, Body Systems, Personal Hygiene, Exercise Importance, Alcohol, Drug and Tobacco Prevention, Reproduction and Heredity, Diseases, Healthy Environment, First Aid and CPR.

Objectives:

To provide a comprehensive program of wellness, safety, disease prevention, and healthy choices while students demonstrate knowledge of healthy skills by deciding to act responsibly and take control of their health and wellness.

Senior Cycle*

Business Math

Course Number: BM100

Credits: .25 **Weight:** 1.00

Level: Required for all seniors (except those taking consumer math)

Prerequisites: None

Textbook: *Business Mathematics*

Course Rationale and Description: This course will study the application of mathematics as a tool in personal finance. Managing finances is part of our everyday life and, therefore, it is important to master the mathematical skills involved.

Course Topics:

- Gross Income
- Checking/Savings Account
- Credit Cards
- Taxes
- Budgeting

Physical Education

Course Number: PE101

Level: Senior
1.00

Credits: 0.25 **Weight:**

Prerequisites: None

Textbook: None

Course Rationale and Description: Students will participate in activities and sport units including Soccer, Flag Football, Team Handball, Basketball, Hockey, Dance, Step Aerobics and Weights, Volleyball, Table Tennis Badminton, Pickleball, Baseball and Kickball. We will also cover fitness skills such as the mile run for cardiovascular fitness, agility skills, flexibility testing, sit-ups, push-ups, vertical jump, speed work, and pull-ups. Other lifetime sports such as Cornhole, Kan Jam, Frisbee golf, and Ultimate Fressbee will be introduced.

Objectives: To improve the ability for your heart, blood vessels, lungs and muscles to work together to meet your body's needs throughout your life. To execute a higher level of fitness than you possessed previously in school and to understand ways to remain physically active throughout your life. To demonstrate knowledge of lifetime sports that can be played throughout life with limited athletic abilities.

Humanities

Course Number: HM100

Level: Senior

Credits: 0.50 **Weight:** 1.00

Prerequisites: None

Textbook: *Discovering Art History*

Course Rationale and Description: This is a two semester course. Humanities is the study of Human Culture; students will explore various forms of human expression and communication.

They will be given the opportunity to express problems, evaluate solutions and discuss social and economic factors. Students will also gain the knowledge and understanding of diverse historical and cultural artwork, artists, and movements through time.

Course Topics:

- Art History
- Aesthetic Structures
- Social/Moral Issues
- Cultural Values and Traditions

ELECTIVES

Broadcast Journalism

Course Number: VID101

Level: Freshman – Senior

Credits: 1 **Weight:** 1.00

Prerequisites: Preferable but not limited to experience with video editing and story boarding

Course Rationale and Description: The study of broadcast media, writing and editing news scripts, video editing, camera operations, and news production. Prepares students to produce the Kennedy News.

Course Topics:

- Write in broadcast style conforming to ethical principles
- Develop reading habits that keep students aware of current news and become media literate
- Branding
- Employ field reporting techniques, write to video, and edit news stories on computers
- Use Final Cut Software
- Operation of a video camera

Chorus

Course Number: MUS101

Level: Freshman – Senior

Credits: .5 **Weight:** 1.00

Prerequisites: None

Textbook: None

Course Rationale and Description: This course meets twice per week all year and provides students with the opportunity to develop their theoretical and vocal musical skills. Students will explore choral literature from many different genre and time periods, all the while strengthening their music theory skills and musical literacy.

Concert Band

Course Number: MUS100

Level: Freshman – Senior

Credits: .5/1 **Weight:** 1.00

Prerequisites: None

Textbook: None

Course Rationale and Description: This course meets three days per week all year and focuses on the teaching of music. Students will explore a variety of music styles including jazz, classical and marches. Students will learn how to play the instrument of their choice.

Course Topics:

- Production
- Rehearsals
- Performance
- Technical skills

- Study of music

Drama

Course Number: THA101

Level: Freshman – Senior

Credits: 1 **Weight:** 1.00

Prerequisites: None

Textbook: None

Course Rationale and Description: Students will gain an understanding of the process of creating and exploring theatre. Through self-evaluation, peer review, and general criticism/coaching from the instructor, students will hone their skills in acting, public speaking, improvisation, creative analysis, creation of character, and screenwriting.

Objectives: By the end of this course, students should be able to identify various elements of drama in terms of structure and performance, as well as to employ basic acting skills.

Business Course Rotation

The following three courses are offered on a 3 year rotation:

General Business *(not offered 2019-2020)*

Course Number: BUS100

Level: Freshman – Senior

Credits: 1 **Weight:** 1.00

Prerequisites: None

Textbook: *Introduction to Business: The Economy and You*

Course Rationale and Description: This course is a general study of economics. Inform students of economic terminology, and prepare them for life involving credit cards, investment in stock and bonds, and savings. The course prepares them for life after high school.

Business Law *(Offered 2019-2020)*

Course Number: BUS101

Level: Freshman – Senior

Credits: 1 **Weight:** 1.00

Prerequisites: None

Textbook: *Understanding Business and Personal Law*

Course Rationale and Description: Offered once every three years; will not be offered 2015-16. This course is a general study of our legal system and how it applies to consumers. Its primary purpose is to heighten the student's understanding of the law and to prepare them to behave responsibly in a business environment.

Course Topics:

- State and federal court systems
- Laws
- Contracts
- Being a consumer

Sales and Marketing *(Not offered 2019-2020)*

Course Number: BUS102

Level: Freshman – Senior

Credits: 1 **Weight:** 1.00

Prerequisites: None

Textbook: *Marketing: Principles and Practices*

Course Rationale and Description: Offered once every three years; will not be offered 2015-16.

This course is a general study of marketing. Its primary purpose is to inform students of the terminology used in product promotion and make them aware of the many career opportunities in the field of marketing.

Course Topics:

- Careers in marketing
- Marketing and economics
- Consumer behavior
- Market segmentation
- Retailing
- Promotion and selling
- Publicity and public relations
- Financial management

Multimedia Art

Course Number:MMA100

Level: Freshman – Senior

Credits: 0.5/1 **Weight:** 1.00

Prerequisites: None

Textbook: None

Course Rationale and Description: This course is designed to give students a background in mixed media. Students will work with pencil, paint, pastels, air-dried clay and crafting material. Students will apply the elements and principles of design to produce creative projects which reflect their understanding of each concept.

Course Topics:

- Portrait drawing
- Watercolor and acrylic painting
- Advertising art
- Clayworks
- Crafts

Psychology

Course Number: PSY101

Level: Junior – Senior

Credits: 1 **Weight:** 1.00

Prerequisites: None

Textbook: *Psychology in the New Millennium*

Course Rationale and Description: This course introduces students to the study of psychology. The course will follow the development of psychology from its beginnings in ancient Greece to the way it is practiced today. Psychology will be explored as an empirical science. Students will learn how the many schools of psychology have merged and explore some of the traditional areas in the study of psychology.

Course Topics:

- What is psychology?
- Research methods in psychology
- Biology and behavior
- States of consciousness
- Learning
- Psychological disorders
- Social psychology

Publications

Course Number: PUB101

Level: Freshman – Senior

Credits: 1 **Weight:** 1.00

Prerequisites: Instructor approval

Textbook: *Journalism: A Handbook for Journalists*

Course Rationale and Description: The students in this course are responsible for the creation and publication of the school yearbook, *Aquila* and the high school newspaper, *The Eagle Eye*. This course is available to self-motivated and mature students due to the independent and sensitive nature of the work required.

Course Topics:

- Design and layout
- Photography
- Photo editing
- Journalistic writing
- Marketing for yearbook sales

Engineering: Design

Course Number: ROB100

Level: Freshmen - Senior

Credits: 1 **Weight:** 1.00

Prerequisites: Algebra I

Course Rationale and Description: This course provides an in-depth exploration of solid modeling using SolidWorks, along with an introduction to the Engineering Design Process. Students will first learn basic drawing concepts in order to understand how objects can be accurately represented through two- and three-dimensional drawings made from standard viewing angles. Students will then apply these concepts to make basic hand drawings before getting started in SolidWorks in order to help students develop the ability to visualize objects from different viewing angles – something that is critical for creating solid models. Students will develop a proficiency in using SolidWorks to model parts of varying complexity, create assemblies to model mechanisms, and produce sets of engineering drawings.

Course Topics:

- SolidWorks
- Introduction to Drawing Concepts
- Introduction to Sketching
- Basic Part Design
- Introduction to Drawings
- Intermediate Part Design
- Introduction to Assembly Design
- Modeling Physical Systems
- Introduction to the Engineering Design Process
- Preparing for the Certified SolidWorks Associate (CSWA)-Academic Exam

Engineering: Programming

Course Number: ROB102

Level: Freshman, Sophomore, Junior, Senior

Credits: 1 **Weight:** 1.00

Prerequisites: Concurrent with Algebra II and Chemistry

Course Rationale and Description: This class utilizes Python and ROBOTC programming languages. The first half of the year, we will be focusing on Python as we were accepted into the Amazon Future Engineer program. We will also be working with the VEX Robotics 4.x. Users learn key skills that easily transfer to the real world, industry standard C-Programming languages used by professional engineers and computer scientists. ROBOTC has a similar look and feel as the programming environments used in the computer science industries but also includes many useful tools that help beginner programmers to get up and running as quickly as possible. Students will develop an understanding of engineering/technical vocabulary.

Course Topics:

- VEX Cortex hardware system
- Robotic movement
- Graphical Natural Language

Course Number Reference

English

Academic Skills	ASC100
CP English 9	ENG100
HN English 9	ENG101
CP English 10	ENG200
HN English 10	ENG201
CP English 11	ENG300
HN English 11	ENG301
AP English 11	ENG500
CP English 12	ENG400
HN English 12	ENG401
AP English 12	ENG501
SAT/ACT Prep	SAT100
Publications	PUB101
ESL	ESL100
Public Speaking	ASC101

Information Technology

Innovative Technologies	CIT100
Engineering	ROB100
Broadcast Journalism	VID100

Mathematics

CP Algebra I	ALG200
CP Geometry	GEO300
HN Geometry	GEO400
CP Algebra II	ALG300
HN Algebra II	ATR301
CP Algebra III	ATR303
HN Precalculus	ANL300
AP Calculus AB	CLC500
HN Calculus	CLC400
GS Consumer Math	CON100
Integrated Math I	ALG100
Integrated Math II	ALG102
Integrated Math III	ALG103
Integrated Math IV	ALG104
HN Statistics	MTH400

Performance and Visual Arts

Humanities	HM100
Chorus	MUS101
Concert Band	MUS100
Multimedia Art	MMA100
Drama	THA102

Physical Education

Freshman Phys. Ed.	PE100
Junior/Senior Phys. Ed.	PE101
Health Education	HPE100

Science

CP Biology I	BIO100
HN Biology I	BIO101
CP Chemistry	CHM200
HN Chemistry	CHM201
CP Environmental Science	ENS100
HN Physics I	PHY300
AP Physics II	PHY500
AP Biology	BIO500
AP Chemistry	CHM500
CP Human Anatomy	ANA300
HN Forensics	FOR401

Social Studies

World History I	WHI100
World History II	WHI200
American History	AHH300
AP U.S. History	HIS500
Economics	ECO100
World Geography	GEG100
CP American Government	AMG300
Psychology	PSY101
AP Psychology	PSY500
General Business	BUS100
Business Law	BUS101
Sales and Marketing	BUS102

Theology

Theology 9	THE100
Theology 10	THE200
Theology 11	THE300
Theology 12	THE400
HN Western Traditions	THE401
World Religions	THE101

World Languages

CP French I	FRE100
CP French II	FRE200
HN French III	FRE300
HN French IV	FRE400
HN Latin IV	LAT400
CP Spanish I	SPN100
CP Spanish II	SPN200
HN Spanish III	SPN300
HN Spanish IV	SPN400