



MALDEN CATHOLIC

School for Boys

**COURSE CATALOG
2019 - 2020**

GENERAL INFORMATION**COURSE SCHEDULING PROCESS**

- In early February students will have access to Course Catalogues and course selection information.
- In conversation with Guidance Counselors and teachers through February, students will determine courses appropriate to abilities and elective interests.
- School Administration will assess course requests and staffing through March.
- Tentative course assignment will be made in Spring 2020.
- Following completion of the School year, review of final academic performance, and assessment of class enrollments, final course assignments will be made.
- Final Schedules will be e-mailed by 3rd week of July.

School on-line Bookstore will open following the mailing of schedules

WHOM TO CONTACT – COURSE REQUEST QUESTIONS

Inquiries about placement should be discussed initially with current teacher, then Department Chair.

Chairp	Email & Voicemail	Department
Mr. Dustin Batista	batistad@maldencatholic.org 781.475.5388	Theology
Mrs. Marie Crotty	crottym@maldencatholic.org 781.475.5355	Foreign Languages
Mr. Timothy Endicott	endicottt@maldencatholic.org 781.475.5381	Social Studies
Ms. Angela Lee	leea@maldencatholic.org 781.475.5366	English
Dr. Diane Perito, PhD	peritod@maldencatholic.org 781.475.5382	STEM - Science - Engineering & Computing - Math

Students Served	School Counselor	Email	Office Phone
Freshmen	Br. Dan Cremin, C.F.X.	cremind@maldencatholic.org	781.475.5229
Upperclassmen	Mr. Matthew Lee-Masiello	leemasiellom@maldencatholic.org	781.475.5325
Upperclassmen	Mrs. Caitlyn Oates (Director)	oatesc@maldencatholic.org	781.475.5324
Upperclassmen	Ms. Kelly Scimone	scimonek@maldencatholic.org	781.475.5326

COURSE REQUIREMENTS

Students must earn at least the minimum credits listed here as constants during their four years:

Department	Credits Earned
Theology	4.0
English	4.0
Mathematics	4.0
Social Studies	3.0
Science	3.0 (Biology & Chemistry are required)
Foreign Language.....	3.0 (2.0 for CP Level Spanish)
Technology & Engineering	0.5 (Freshman Year)
Physical Education/Health	1.0
Arts.....	1.0
Electives.....	2.5 (Upperclassmen)

Physical Education/Health credits are not included in consideration of Honor Roll, cumulative average, nor National Honor Society eligibility.

To graduate, seniors must pass all subjects including electives, regardless of the number of credits, and fulfill all other obligations to the school. If a student has failures, before returning to Malden Catholic in the fall, the student must make up all failed courses in an approved summer school or tutoring program. These students will be on academic probation upon their return to Malden Catholic. Students who have failing grades and who show insufficient effort and progress during the school year may be asked to withdraw at any time.

LEVELS OF INSTRUCTION

Every effort is made to provide students with courses commensurate with their ability, intelligence, and record of achievement. Accordingly, students, rather than be limited to a single track, may be enrolled in courses with varying levels of difficulty, as follows:

1. Advanced Placement (AP)

College-level courses prescribed and audited by The College Board, following College Board-approved curriculum, and requiring an AP Test, taken in place of final examination. Students taking an AP course are required to take the AP exam in May, with a per-test fee of \$100 charged by the College Board and billed by MC. The A.P. Capstone fee is \$142.00 (Prices may change by College Board through the year). Students in AP English, Math, and Sciences are also required to take the mid-year (Saturday) practice exam offered by *Mass. Insight* and are very strongly encouraged to participate in the two Saturday-enrichment mornings offered by *Mass. Insight*. Malden Catholic underwrites the \$75 fee for *Mass. Insight* participation, which require pre-registration. Students who register, then fail to attend sessions, must reimburse Malden Catholic \$25 per session.

2. Honors (Hon)

Typically, for students whose Entrance Test profiles range from the 80th percentile upward and who, as upperclassmen, have demonstrated superior performance, Honors courses presume essential skills mastery and move at a faster pace and with greater depth than Accelerated or College Preparatory courses.

3. Accelerated (Acc)

For students whose Entrance Test profiles range broadly from the 35th-75th percentile, Accelerated courses continue essential skills mastery, move with a faster pace and at greater depth than College Preparatory courses, and develop habits of study for later success in a challenging college program.

4. College Preparatory (CP)

For students whose Entrance Test profiles range below the 35th percentile and who are still developing essential skills, College Preparatory courses teach fundamental understandings required for college success.

NOTE: A student wishing to move to a higher level at the end of the year should have a minimum average of 93% in his current level and Department approval. Students not maintaining a 76% average in a given course or students in the lowest 10% of any course may be placed in a lower section.

PROGRAM OF STUDY [FRESHMEN ENROLLED IN THE BR. KEVIN PROGRAM]
FRESHMAN YEAR

<i>Course</i>	<i>Credits</i>
1112 Theology 1	1.0
1213 English 1 CP	1.0
1215 Language Arts 1.....	1.0
1412 World History 1	1.0
1614 Biology 1	1.0
1713 Into to Technology	0.5
180x Algebra 1	1.0
1915 PE/Health 1	0.5

..... **TOTAL 7.0**

CAMPUS MINISTRY

Community Service	15 Hours
Retreat.....	1

JUNIOR YEAR

<i>Course</i>	<i>Credits</i>
1132 Theology 3	1.0
1233 English 3	1.0
1313 Spanish 1 or	
1323 Spanish 2	1.0
1432 US History.....	1.0
1653 Physics 1	1.0
182x Algebra 2	1.0
Elective (Refer to p.7 & 8 for Options)	0.5

..... **TOTAL 6.5**

CAMPUS MINISTRY

Community Service	35 Hours
Retreat.....	1

SOPHOMORE YEAR

<i>Course</i>	<i>Credits</i>
1122 Theology 2	1.0
1224 English 2 and 1225 Language Arts 2 or	
1223 English 2 and 1313 Spanish 1	2.0
1422 World History 2	1.0
1634 Chemistry 1	1.0
181x Geometry	1.0
1925 PE/Health 2.....	0.5
Elective (Refer to p.7 & 8 for Options)	0.5

..... **TOTAL 7.0**

CAMPUS MINISTRY

Community Service	25 Hours
Retreat.....	1

SENIOR YEAR

<i>Course</i>	<i>Credits</i>
114x Theology 4	1.0
1243 English 4	1.0
1828 Analysis or 183x Pre-Calculus.....	1.0
----- and -----	
Electives (Refer to p.8 for Options).....	3.0
----- or -----	
1323 Spanish 2 (If not taken in Junior year)	1.0
Electives (Refer to p.7 & 8 for Options)	2.0

..... **TOTAL 6.0**

CAMPUS MINISTRY

Community Service	90 Hours
Retreat.....	1

PROGRAM OF STUDY

FRESHMAN YEAR - NO AP COURSES

<i>Course</i>	<i>Credits</i>
1112 Theology 1	1.0
121x English 1	1.0
131x Spanish 1, Italian 1 or Latin 1	1.0
141x World History1.....	1.0
161x Biology 1	1.0
180x Algebra 1 or 181x Geometry.....	1.0
--- and 1 Credit of either ---	
1713 Intro to Technology	0.5
1915 PE/Health 1	0.5

----- or -----

131x 2nd Foreign Language 11.0

..... **TOTAL 7.0**

CAMPUS MINISTRY

Community Service	15 Hours
Retreat.....	1

SOPHOMORE YEAR - NO AP COURSES

<i>Course</i>	<i>Credits</i>
1122 Theology 2	1.0
122x English 2	1.0
132x 2 nd Year of Spanish, Italian or Latin	1.0
142x World History 2.....	1.0
162x Chemistry 1	1.0
181x Geometry or 182x Algebra 2.....	1.0
----- and -----	
1925 PE/Health 2.....	0.5
Elective (Refer to p.7 & 8 for Options)	0.5
----- or -----	
131x Year 2 of 2 nd Foreign Language.....	1.0

..... **TOTAL 7.0**

CAMPUS MINISTRY

Community Service	25 Hours
Retreat.....	1

FRESHMAN YEAR - 1 AP COURSE

<i>Course</i>	<i>Credits</i>
1112 Theology 1	1.0
121x English 1	1.0
131x Spanish 1, Italian 1 or Latin 1	1.0
1410 AP World History	1.0
161x Biology 1	1.0
180x Algebra 1 or 181x Geometry.....	1.0
----- and -----	
1713 Intro to Technology	0.5
----- or -----	
131x 2 nd Foreign Language 1	1.0

..... **TOTAL 6.5**

CAMPUS MINISTRY

Community Service	15 Hours
Retreat.....	1

SOPHOMORE YEAR - 1 AP COURSE

<i>Course</i>	<i>Credits</i>
1122 Theology 2	1.0
122x English 2	1.0
132x 2 nd Year of Spanish, Italian or Latin	1.0
1420 AP European History	1.0
162x Chemistry 1	1.0
181x Geometry or 182x Algebra 2.....	1.0
----- and -----	
1925 PE/Health 2.....	0.5
----- or -----	
131x Year 2 of 2 nd Foreign Language	1.0

..... **TOTAL 6.5**

CAMPUS MINISTRY

Community Service	25 Hours
Retreat.....	1

PROGRAM OF STUDY [CONTINUED]

JUNIOR YEAR - NO AP COURSES

<i>Course</i>	<i>Credits</i>
1132 Theology 3	1.0
123x English 3	1.0
133x 3 rd Year of Spanish, Italian or Latin.....	1.0
143x U.S. History	1.0
16xx Science	1.0
18xx Math.....	1.0
Elective (Refer to p.7 & 8 for Options)	0.5
.....	TOTAL 6.5

CAMPUS MINISTRY

Community Service	35 Hours
Retreat.....	1

SENIOR YEAR – 0 TO 2 AP COURSES

<i>Course</i>	<i>Credits</i>
114x Theology 4*	1.0
124x English 4*	1.0
18xx Math*	1.0
Electives* (Refer to p.7 & 8 for Options).....	3.0
.....	TOTAL 6.0

*AP Courses offered to Seniors are listed on p.7 & 8.

CAMPUS MINISTRY

Community Service	90 Hours
Retreat.....	1

JUNIOR YEAR - 1 OR MORE AP COURSES

<i>Course</i>	<i>Credits</i>
113x Theology 3*	1.0
123x English 3*	1.0
133x 3 rd Year of Spanish, Italian or Latin.....	1.0
143x U.S. History*	1.0
16xx Science*	1.0
18xx Math*	1.0
.....	TOTAL 6.0

*AP Courses offered to Juniors are listed on p.7 & 8.

CAMPUS MINISTRY

Community Service	35 Hours
Retreat.....	1

SENIOR YEAR – 3 OR MORE AP COURSES

<i>Course</i>	<i>Credits</i>
114x Theology 4*	1.0
124x English 4*	1.0
18xx Math*	1.0
Electives* (Refer to p.7 & 8 for Options).....	2.5
.....	TOTAL 5.5

*AP Courses offered to Seniors are listed on p.7 & 8.

CAMPUS MINISTRY

Community Service	90 Hours
Retreat.....	1

Elective Courses Offered

Department	Course # & Description	Level (see p.3)	Prerequisites	Credit Hours	Course Length	Grade Level			
						9	10	11	12
Theology	1151 Philosophy	Hon	--	0.5	Semester				X
English	1291 VHS - Creative Writing	Hon	--	0.5	Semester			X	X
	1292 VHS - Film & Literature	Acc	--	0.5	Semester			X	X
Foreign Language	1314 Latin 1	Hon	--	1.0	Full Year	X	X	X	X
	1324 Latin 2	Hon	Yes	1.0	Full Year		X	X	X
	1334 Latin 3	Hon	Yes	1.0	Full Year			X	X
	1350 AP Latin	AP	Yes	1.0	Full Year				X
	1318 Italian 1	Hon	--	1.0	Full Year	X	X	X	X
	1328 Italian 2	Hon	Yes	1.0	Full Year		X	X	X
	1338 Italian 3	Hon	Yes	1.0	Full Year			X	X
	1348 Italian 4	Hon	Yes	1.0	Full Year				X
	1340 AP Spanish Language & Culture	AP	Yes	1.0	Full Year				X
	1341 Spanish 4	Hon	Yes	1.0	Full Year				X
Social Studies	1450 AP US Government & Politics	AP	Yes	1.0	Full Year				X
	1451 US Government & Current Issues	Hon	--	0.5	Semester				X
	1452 Psychology	Hon	--	1.0	Full Year				X
	1453 Mock Trial	Hon	Yes	0.5	Semester				X
	1490 VHS - AP Human Geography	AP	--	1.0	Full Year			X	X
	1491 VHS - Criminology	Acc	--	0.5	Semester			X	X
	1492 VHS - Psychology of Crime	Acc	--	0.5	Semester			X	X
	1493 VHS - The Holocaust	Acc	--	0.5	Semester			X	X
Business	1511 Accounting	Acc	--	1.0	Full Year			X	X
	1523 Economics	Acc	--	1.0	Full Year				X
	1591 VHS - Entrepreneurship	Acc	--	0.5	Semester			X	X
	1592 VHS-Investing in the Stock Market	Acc	--	0.5	Semester			X	X
Arts	1502 Speech & Debate 1	--	--	0.5	Semester	X	X	X	X
	1503 Choir 1	--	--	0.5	Semester	X	X	X	X
	1531 Digital Art 1	CP	--	0.5	Semester		X	X	X
	1532 Digital Art 2	CP	Yes	0.5	Semester			X	X
	1541 Studio Art 1	CP	--	0.5	Semester		X	X	X
	1542 Studio Art 2	CP	Yes	0.5	Semester			X	X
	1543 Studio Art 3	CP	Yes	0.5	Semester				X
	1583 Music Appreciation & Theory	CP	--	0.5	Semester		X	X	X
	1590 VHS - AP Music Theory	AP	Yes	1.0	Full Year			X	X

Elective Courses Offered (cont.)

Department	Course # & Description	Level (see p5)	Prerequisites	Credit Hours	Course Length	Grade Level			
						9	10	11	12
Science	1620 AP Biology	AP	Yes	1.5	Full Year				X
	1640 AP Chemistry	AP	Yes	1.5	Full Year				X
	1660 AP Physics 2	AP	Yes	1.0	Full Year				X
	1671 Anatomy & Physiology	Hon	--	1.0	Full Year				X
	1672 Marine Biology	Acc	--	0.5	Semester				X
	1673 Environmental Science	CP	Yes	0.5	Semester				X
	1690 VHS - AP Environmental Science	AP	Yes	1.0	Full Year			X	X
	1691 VHS - Oceanography	Hon	--	0.5	Semester			X	X
	1692 VHS - Astronomy	Acc	--	0.5	Semester			X	X
	1693 VHS - Forensic Science	Acc	--	0.5	Semester			X	X
Technology and Engineering	1721 Web Design	Acc	--	0.5	Semester		X	X	X
	1722 Java Programming	Hon	--	0.5	Semester		X	X	X
	1723 Intro to Computer Science with Python	Hon	--	0.5	Semester		X	X	X
	1725 Introduction to Engineering	Acc	--	0.5	Semester		X	X	X
	1726 Introduction to Mobile Robotics	Acc	Yes	0.5	Semester		X	X	X
	1727 Engineering Design Concepts	Acc	Yes	0.5	Semester		X	X	X
	1731 PLTW 1: Introduction to Engineering	Hon	Yes	1.0	Full Year		X	X	X
	1740 AP Computer Science A	AP	Yes	1.0	Full Year			X	X
	1791 VHS - Video Game Design	Acc	--	0.5	Semester			X	X
Math	1890 VHS - AP Statistics	AP	Yes	1.0	Full Year			X	X
	1891 VHS - Differential Calculus	Hon	--	0.5	Semester			X	X
	1892 VHS - Number Theory	Hon	--	0.5	Semester			X	X
Physical Ed.	1935 Physical Education 3		--	0.5	Semester			X	X

Note: Based on course subscription and total school needs, Malden Catholic School for Boys Academic Administration determines whether courses will run.

VIRTUAL HIGH SCHOOL

VIRTUAL ELECTIVES

OPEN TO JUNIORS AND SENIORS, PRIORITY GIVEN TO SENIOR PLACEMENT

Malden Catholic is pleased to be a member of **The Virtual High School** (VHS), a global nonprofit collaborative offering high-quality online courses. On a limited basis, the following elective courses are open to seniors and juniors, with priority given to senior placement. Except for the three Advanced Placement choices, these courses are half-year electives worth .5 credit at the level designated. Candidates must have a cumulative average of at least 80% and Administrative approval. After assignment, courses may be dropped only for serious reason and if other options are available. Malden Catholic assumes course fees, but after August 10 there is a withdrawal fee of \$135 for semester courses, \$270 for full-year courses assumed by Student. Course descriptions may be found at <https://my.vhslearning.org/PublicStudentCourseList.aspx>.

ENGLISH ELECTIVES [0.5 Credit]

1291 VHS - Creative Writing (Honors)

1292 VHS - Film and Literature (Accelerated)

SOCIAL STUDIES ELECTIVES [0.5 Credits, Unless Noted]

1490 VHS - AP Human Geography [1.0 Credit]

1491 VHS - Criminology (Accelerated)

1492 VHS - Psychology of Crime (Accelerated)

1493 VHS - The Holocaust (Accelerated)

BUSINESS ELECTIVES [0.5 Credit]

1591 VHS - Entrepreneurship (Accelerated)

1592 VHS - Investing in the Stock Market (Accelerated)

FINE ARTS ELECTIVE [1.0 Credit]

1590 VHS - AP Music Theory

SCIENCE ELECTIVES [0.5 Credit]

1691 VHS - Oceanography (Honors)

1692 VHS - Astronomy Principles (Accelerated)

1693 VHS - Forensic Science (Accelerated)

COMPUTER SCIENCE ELECTIVE [0.5 Credit]

1891 VHS - Video Game Design Using Game Maker (Honors)

MATHEMATICS ELECTIVES [0.5 Credit, Unless Noted]

1890 VHS - AP Statistics [1.0 Credit]

1891 VHS - Differential Calculus (Honors)

1892 VHS - Number Theory (Honors)

THEOLOGY

REQUIRED COURSES

All students are required to take four years (4 credits) of Theology to meet their graduation requirements.

FRESHMAN YEAR

1112, 1114 THEOLOGY 1

Accelerated, 1.0 Credit

Prerequisite: Administrative placement.

Students will be given a general knowledge and appreciation of Sacred Scripture. They will be introduced to key figures, events, vocabulary, and doctrine in a study of both the Old and New Testament.

SOPHOMORE YEAR

1122 THEOLOGY 2

Accelerated, 1.0 Credit

Prerequisite: Administrative placement. Successful completion of Theology 1 (1112 or 1114).

This course reveals the sacraments as the definitive way that Jesus remains present to the Church and the world today. Students will explore concrete ways to understand the sacraments, participate in their rites, and benefit from their graces. This course is constructed around key definitions that help students to formulate an understanding of ecclesiology. Each definition has a historical component that traces its meaning through major periods of Church history, helping students understand how the Church reflects the light of Christ today.

JUNIOR YEAR

1130 THEOLOGY 3: AP CAPSTONE SEMINAR

Advanced Placement, 1.0 Credit

Prerequisites: Departmental approval. Strong success in language-based Honors level courses, strong reading skills, suitable AP Potential and enrollment in other AP courses.

The Theology AP Capstone Program consists of two courses -- AP Seminar and AP Research -- taken in sequence in the Junior and Senior years. Students taking the Junior course should intend also to take the Senior one. These yearlong courses will take the content typically associated with our Junior and Senior Theology courses and focus on developing the critical thinking, research, collaboration, time management, and presentation skills students need for college-level work. In AP Seminar students learn to consider an issue from multiple perspectives, identify credible sources, evaluate strengths and weaknesses of arguments, and make logical, evidence-based recommendations. Students investigate a variety of topics through various viewpoints of personal choice. During the course, students complete a team project and an individual paper and presentation, as well as take a written end-of-course exam. These components contribute to the overall AP Seminar score. AP Seminar is a prerequisite for AP Research (Senior year). In AP Research, using Theology topics, students explore various research methods and complete an independent research project. This can build on a topic, problem, or issue covered in AP Seminar or on a brand new topic. At the end of the project, students submit an academic paper and present and defend their research findings. These components contribute to the overall AP Research score.

Students will use a Digital Portfolio for assessments. College Board fee for assessments: \$142.

If a student earns scores of 3 or higher in AP Seminar and AP Research and on four additional AP Exams of one's choice, the student receives the AP Capstone Diploma™. Students earning scores of 3 or higher in AP Seminar and AP Research will receive the AP Seminar and Research Certificate™.

THEOLOGY

REQUIRED COURSES

JUNIOR YEAR [CONTINUED]

1132 THEOLOGY 3

Accelerated, 1.0 Credit

Prerequisite: Administrative placement. Successful completion of Theology 2 (1122).

This course introduces to students the Church's rich body of social teaching that comes to us from the essential writings of the popes, highlighting the works from Pope Leo XIII onward while exploring how societies work. An overarching theme of the text is a discussion of the foundational values that ought to govern a just society. This course focuses on the essential message of Christ's moral teaching and the importance of love of God and neighbor. Students will study nine essential steps for living a Christian moral life in the Catholic tradition.

SENIOR YEAR

1140 THEOLOGY 4: AP CAPSTONE RESEARCH

Advanced Placement, 1.0 Credit

Prerequisite: Departmental approval. Successful completion of Theology 3: AP Capstone Seminar (1130).

While working with a teacher / expert advisor, students will explore an academic topic, problem, or issue within the scope of senior Theology that interests them and design, plan, and conduct a year-long research-based investigation to address it. The course culminates in an academic paper of 4,000-5,000 words and a presentation, with an oral defense; during which the student will answer 3-4 questions from a panel of evaluators. AP Research is the second course in the AP Capstone™ program. AP Seminar is a prerequisite for AP research. Students who earn scores of 3 or higher in AP Seminar and AP Research and on four additional AP Exams of their choosing will receive the AP Capstone Diploma™. This signifies outstanding academic achievement and attainment of college-level academic and research skills. Alternatively, students who earn scores of 3 or higher in AP Seminar and AP Research only will receive the AP Seminar and Research Certificate™

1145 THEOLOGY 4: WORLD RELIGIONS

Accelerated, 1.0 Credit

Prerequisite: Faculty approval. Successful completion of Theology 3 (1132).

This course allows students to build on their understanding and experience of the Catholic Christian faith by studying different religious traditions. The course includes a study of Judaism, Islam, Hinduism, Buddhism, Confucianism, Shintoism, Taoism as well as a focus on Protestant traditions. It helps develop an understanding of these different faiths with a view towards elaborating on Christian faith and comparing the similarities and differences that exist within each faith tradition.

1146 THEOLOGY 4: CHRISTIAN SPIRITUALITY

Accelerated, 1.0 Credit

Prerequisite: Faculty approval. Successful completion of Theology 3 (1132).

The purpose of this course is to explore vocations with an invitation to each student to explore his spiritual life. We will place a particular emphasis on the study of Theodore James Ryken, the Xaverian Brothers, Associates, Collaborators and other holy men and women. It will emphasize the various vocations spiritual practices, personal development. The course looks in a particular way at the call to discipleship as exhibited by the Xaverian Brothers now and in the past. We will explore this subject through group discussions, projects, prayer and journaling so that students are able to better recognize and develop their own spiritual journey.

THEOLOGY

REQUIRED COURSES

SENIOR YEAR [CONTINUED]

1148 THEOLOGY 4: CHURCH MISSION, GOD & MEDIA

Accelerated, 1.0 Credit

Prerequisite: Faculty approval. Successful completion of Theology 3 (1132).

Mission and Ministry: This course will guide the students in exploring and understanding the missionary aspect of the Catholic Church from both a historical aspect as well as a contemporary view towards the role of the Church today. The course stresses the responsibilities of the hierarchy, the religious life and the laity in supporting the mission of the Church. Particular attention is paid to the global presence of Christ in the Church as a light to all people and preparation for the service component of the senior year.

God and Media: This course allows students to see how the media, in its many forms, can play a role in understanding God and faith in today's world. By looking how it has historically been used, students will see the pros and cons of using media, how radio, TV, movies, music and the internet affect and are affected by the Catholic understanding of God and humanism, as well as how they can use the media to evangelize to the world.

ELECTIVES

OPEN TO SENIORS ONLY

1151 PHILOSOPHY

Honors, 0.5 Credit

Prerequisite: Faculty approval. Enrolled in Theology 4 (1140, 1145, 1146 or 1148).

This course will explore more than 100 big ideas on topics as diverse as the nature of existence, knowledge, ethics, politics, language, and religion. We will journey through the history of philosophy, from the influential ideas of ancient Greece and Asia to modern concepts voiced by today's brightest thinkers.

ENGLISH

REQUIRED COURSES

All students are required to take four years (4 credits) of English to meet their graduation requirements.

FRESHMAN YEAR

1211 ENGLISH 1

Honors, 1.0 Credit

Prerequisite: Administrative placement.

This honors course is designed for advanced students. In this course, students will learn writing skills to prepare them for high school, college, and a career. Through an intense study of literature, including a familiarization with formal literary terms, teachers hope to instill an enthusiasm for good literature. Quality works in the four major genres--short story, novel, drama and poetry--will be assigned. The course also includes the study of grammar, vocabulary and PSAT/SAT/ACT preparation.

1212 ENGLISH 1

Accelerated, 1.0 Credit

Prerequisite: Administrative placement.

This accelerated course is designed for the college-bound student. In this course, students will study vocabulary, literature, grammar, writing, and PSAT/SAT/ACT preparation. Representative works in the four major genres-- short story, novel, drama, and poetry--will be assigned. Writing skills will emphasize the expository, descriptive, narrative and comparative paragraphs.

1213 ENGLISH 1

College Preparatory, 1.0 Credit

Prerequisite: Administrative placement.

This college preparatory course is designed to help students develop those learning tools essential to succeed in high school and beyond. Here, students will study grammar, vocabulary, literature, writing, and PSAT/SAT/ACT preparation. This course will not only strengthen students' grammatical and vocabulary skills through drill and practice, but it will also work to improve students' writing, reading, and study skills.

1214 ENGLISH 1 & 1215 LANGUAGE ARTS 1

College Preparatory, 2.0 Credits

Prerequisite: Administrative placement.

This college preparatory double English course helps students develop those learning tools essential to success in their continuing education. Students explore approaches to improved reading and writing, while they identify strengths and weaknesses in their methods of study. Through a focus on grammar, vocabulary, and composition, and standardized testing strategies, students will work toward a mastery of basic learning and study skills. Varied activities will allow for both small-group and large-group interaction. Students assigned to this college preparatory level course are exempt from the study of foreign language in their freshman year.

ENGLISH

REQUIRED COURSES

SOPHOMORE YEAR

1221 ENGLISH 2**Honors, 1.0 Credit**

Prerequisite: Departmental placement. Successful completion of English 1 Honors (1211).

This honors course is designed for highly motivated students who are capable of handling a challenging course of studies that emphasizes both literature and writing. Students are directed in a more intense examination of the various elements of genre study in an attempt to make them more proficient in the reading and analysis of a number of significant literary works. In the sophomore year, students hone their writing skills by expanding upon basic paragraph structure and essay writing taught in the freshman year. Solid grammar techniques are strengthened through a review of grammatical rules, corrective exercises, and writing practice. Vocabulary skills are cultivated through workbook exercises in conjunction with literature study and supplementary texts. This course also familiarizes the students with PSAT/SAT/ACT methods, stressing the study of vocabulary, sentence completion, analogy, and critical reading.

1222 ENGLISH 2**Accelerated, 1.0 Credit**

Prerequisite: Departmental placement. Successful completion of English 1 Accelerated (1212).

This accelerated course is designed to meet the needs of the college-bound student. This course serves to strengthen students' use of language through the study of vocabulary, grammar, and the reading and discussion of writing in the four literary genres -- short story, drama, poetry and novel. Students further their writing/vocabulary skills by expanding upon the basic paragraph structure taught in the freshman year, frequently incorporating vocabulary words in their essays and writing on a variety of topics drawn from a variety of areas such as science, history, biography, art, and literature. English II also includes PSAT/SAT/ACT skills: study of methods, vocabulary, sentence completion, and critical reading.

1223 ENGLISH 2**College Preparatory, 1.0 Credit**

Prerequisite: Departmental placement. Successful completion of English 1 CP (1213).

This college preparatory course is designed to strengthen the students' grammatical and vocabulary skills through constant drill and practice and to clarify their perception of writing and literary techniques encountered in reading. This course also familiarizes students with PSAT/SAT/ACT methods, stressing vocabulary, analogies, sentence completion and critical reading.

1224 ENGLISH 2 & 1225 LANGUAGE ART 2**College Preparatory, 1.0 Credit**

Prerequisite: Departmental placement. Successful completion of English 1 (1214), Language Arts 1 (1215).

This college preparatory course is a continuation of the freshman double English course. This course serves to help students develop those learning tools essential to success in their continuing education. Students explore approaches to improved reading and writing, while they identify strengths and weaknesses in their methods of study. Through a focus on grammar, vocabulary, composition, and standardized testing strategies, students will work toward a mastery of basic learning and study skills. Varied activities will allow for both small-group and large-group interaction.

ENGLISH

REQUIRED COURSES

JUNIOR YEAR

1230 AP ENGLISH LANGUAGE & COMPOSITION

Advanced Placement, 1.0 Credit

Prerequisites: Departmental approval. Successful completion of English 2 Honors (1221) with a grade of 90 or higher.

The AP English Language and Composition course aligns to an introductory college-level rhetoric and writing curriculum, which requires students to develop evidence-based analytic and argumentative essays that proceed through several stages or drafts. Students evaluate, synthesize, and cite research to support their arguments. Throughout the course, students develop a personal style by making appropriate grammatical choices. Additionally, students read and analyze the rhetorical elements and their effects in non-fiction texts, including graphic images as forms of text, from many disciplines and historical periods. Students taking an Advanced Placement course are required to take the AP Exam in May.

1231 ENGLISH 3

Honors, 1.0 Credit

Prerequisite: Departmental placement. Successful completion of English 2 Honors (1221).

This honors course is designed for students with the consistently motivated diligence to achieve. It covers a chronological approach to American Literature from 1650 to the present, the study of vocabulary, grammar drills, work with SAT preparation, analysis of outside reading selections, and further development of writing skills. The student is also expected to engage in in-depth discussion, to present material in public speaking format and to complete an MLA documented research paper. The course employs the use of critical thinking in its methods.

1232 ENGLISH 3

Accelerated, 1.0 Credit

Prerequisite: Departmental placement. Successful completion of English 2 Accelerated (1222).

This accelerated course is designed to motivate the student to understand the workings of American literature from 1650 to the present, to incorporate writing skills within the curriculum, to work with grammar drills in order to incorporate better writing, to work with SAT/ACT preparation, and to discuss and interpret outside reading selections. The students are also expected to write a term paper and to engage in public speaking.

1233 ENGLISH 3

College Preparatory, 1.0 Credit

Prerequisite: Departmental placement. Successful completion of English 2 CP (1223).

This college preparatory course is designed to enable the student to understand the workings of American literature in conjunction with the junior study of American history. The work follows the same curricula as the above-mentioned junior courses, but works at a rate consistent with the ability of students in the level. Students also work to improve their writing, their vocabulary, and their SAT/ACT skills. Expectations include writing a term paper and public speaking.

ENGLISH

REQUIRED COURSES

SENIOR YEAR

1240 AP ENGLISH – LITERATURE & COMPOSITION

Advanced Placement, 1.0 Credit

Prerequisites: Departmental approval. Successful completion of AP English Language & Composition (1230), or English 3 Honors (1231) with a grade of 90 or higher.

The AP English Literature and Composition course aligns to an introductory college-level literary analysis course. The course engages students in the close reading and critical analysis of imaginative literature to deepen their understanding of the ways writers use language to provide both meaning and pleasure. As they read, students consider a work's structure, style, and themes, as well as its use of figurative language, imagery, symbolism, and tone. Writing assignments include expository, analytical, and argumentative essays that require students to analyze and interpret literary works. Students taking an Advanced Placement course are required to take the AP Exam in May.

1241 ENGLISH 4

Honors, 1.0 Credit

Prerequisite: Departmental placement. Successful completion of English 3 Honors (1231).

The English 4 Honors Course is designed for the advanced student who is capable of a rigorous course in both literature and composition based on a survey of the chronology of English literature, supplemented by historical and cultural input. Students are expected to attain a high degree of proficiency in reading and writing. The class studies selections from the four main literary genres as a means of preparation for success in all phases of a college English course, including literary analysis, written composition, and class discussion. Students are required to write at least one well-documented research paper.

1242 ENGLISH 4

Accelerated, 1.0 Credit

Prerequisite: Departmental placement. Successful completion of English 3 Accelerated (1232).

This accelerated course is designed to meet the needs of the college-bound student. The course concentrates on a close textual analysis of the major works and periods of British literature. Writing assignments reinforce not only the literary analysis but also the skills required in business writing (letters and resumes). Additionally, students are expected to complete at least one well-documented research paper.

1243 ENGLISH 4

College Preparatory, 1.0 Credit

Prerequisite: Departmental placement. Successful completion of English 3 CP (1233).

The college preparatory course is designed to develop an interaction of the four basic communication skills: listening, speaking, reading, and writing. This course stresses these skills as students learn to apply them to their study of the four major genres -- poetry, novel, drama, and short story -- in British literature. In addition to writing compositions, which will exercise students in writing clearly and creatively, students will be required to produce a well-documented research paper.

ENGLISH

ELECTIVES

OPEN TO JUNIORS AND SENIORS

1291 VHS - CREATIVE WRITING

Honors, 0.5 Credit

Prerequisites: Administrative approval. Comfort and proficiency with the English language. Experience writing poems and stories.

The semester will begin with thought, reading, on-line discussion and writing about WHY people write. Why bother to do imaginative writing when we can just turn on our TVs or access the Internet? The class will explore these questions: What is the fundamental impulse behind poems and stories? How are they constructed, and what techniques do particular writers use effectively? What kinds of work do we most admire and why? How can a piece of fiction or a poem speak to us across, years, genders, and cultures?

1292 VHS - FILM & LITERATURE

Accelerated, 0.5 Credit

Prerequisite: Administrative approval.

In this course, students will become movie critics, readers of some of the world's finest 20th century novels, and work on unique projects with students around the world. Participants will explore the momentous events of the 20th century as they were depicted in literature and on film.

The course focuses on three pivotal changes. 1) WWI and the Russian Revolution; 2) 1920's - WWII; 3) the Cold War. The course will bring students through those periods through the literature of the time. In addition to reading literary works (from Pasternak's "Dr. Zhivago" to Forsyth's "The Odessa File"), students will also view the film adaptations that portray the lives of the people living during this fascinating time.

REQUIRED FOR INTERNATIONAL STUDENTS

1201 LITERARY ELEMENTS & COMPOSITION

Accelerated, 1.0 Credit

Prerequisite: Departmental placement.

This course provides interactive, project-based, real-world enrichment of language skills through development of speaking, reading, listening, and writing competencies. This course is offered to students in a two-year series.

FOREIGN LANGUAGE

COURSES OFFERED

Students that take Course 1313 Spanish 1 (College Preparatory) will be required to take only two years (2 credits) of Spanish. All other students are required to take three years (3 credits) of Spanish, Italian or Latin to meet their foreign language requirement. Students can elect to take a 2nd foreign language as long as they meet their graduation requirements for electives.

SPANISH 1

1311 SPANISH 1

Honors, 1.0 Credit

Prerequisites: Departmental placement. Spanish Placement Exam and previous Spanish experience.

This course is designed for the student who has a strong background in elementary Spanish. Spanish 1 Honors introduces basic grammatical structure, vocabulary, and verb forms reinforced by fast-paced review. Readings from the text material introduce students to various elements of Hispanic culture and regularly assigned compositions develop writing skills. Conversational skills are strengthened through the use of audio selections and the instructor's use of Spanish as the primary language in the classroom.

1312 SPANISH 1

Accelerated, 1.0 Credit

Prerequisites: Departmental placement. Spanish Placement Exam and/or previous Spanish experience.

This course is designed for a student with good language learning capability. It provides a medium-paced, strong introduction to the Spanish language as a means of communication. Special emphasis is placed on conversational skills. Cultural readings and exercises in writing will be included. Spanish becomes the primary language of the instructor as the student progresses.

1313 SPANISH 1

College Preparatory, 1.0 Credit

Prerequisites: Departmental placement. Open to all students except those enrolled in English 1 (1214) and Language Arts 1 (1215).

This level of Spanish introduces very basic grammatical structure, vocabulary, and verb forms at an appropriate pace for the students. Teachers provide numerous language drills along with additional reinforcements such as regular worksheets and constant oral review. Readings from the text acquaint students with Spanish culture. **Students in this course will be required to take only two years of Spanish.**

FOREIGN LANGUAGE

COURSES OFFERED

SPANISH 2

1321 SPANISH 2**Honors, 1.0 Credit**

Prerequisites: Departmental approval. Successful completion of Spanish 1 Honors (1311).

This second year honors course emphasizes fast-paced oral communication and the grammatical essentials of the Spanish language. Emphasis is placed on the mastery of all nine tenses of the indicative mood, the imperative mood, and the formation of the present subjunctive tense, and its use in noun and adjective clauses. In order to reinforce the use of these grammatical concepts, the students will read various selections that stress the cultural aspects of the Hispanic world. Journal writing is required and the students and the instructor will use Spanish exclusively in the classroom. Audio and video selections will continue to strengthen student oral and aural proficiency.

1322 SPANISH 2**Accelerated, 1.0 Credit**

Prerequisites: Faculty approval. Successful completion of Spanish 1 Accelerated (1312).

This second year Spanish accelerated class stresses oral communication and the essentials of Spanish grammar. Emphasis is placed on the study of regular and irregular verbs in the nine indicative tenses, the formation and use of the present subjunctive in noun clauses, and the imperative mood. The course introduces many important cultural aspects of the Hispanic world through various reading selections, audio materials, videos and the continued use of the target language by the instructor, which will expand the student's communicative abilities.

1323 SPANISH 2**College Preparatory, 1.0 Credit**

Prerequisites: Faculty approval. Successful completion of Spanish 1 CP (1313).

The college preparatory level of Spanish 2 begins with a review of the grammatical structures and verb forms introduced in Spanish 1, at a pace appropriate to the students. In addition, students learn new structures and verb forms while they continue to develop vocabulary skills. Teachers provide constant review and steady reinforcement through worksheets and oral language practice.

FOREIGN LANGUAGE

COURSES OFFERED

SPANISH 3

1331 SPANISH 3**Honors, 1.0 Credit**

Prerequisites: Successful completion of Spanish 2 Honors (1321) and work of superior quality as determined by the Spanish 2 teacher.

This advanced course stresses oral communication, grammar, literature, and composition. Its objective is threefold: to acquaint students with important authors of Spain and Spanish America through Spanish literature and poetry, to demonstrate the use of advanced Spanish grammatical structure, and to enable the students to employ this advanced grammar in expanding their speaking, listening, reading, and writing abilities.

1332 SPANISH 3**Accelerated, 1.0 Credit**

Prerequisites: Successful completion of Spanish 2 Accelerated (1322) and work of excellent quality as determined by the Spanish 2 teacher.

This is an intermediate level class whose aim is to strengthen listening and speaking skills and to improve reading and writing ability. Spanish 3 introduces the student to important authors of Spain and Spanish America and exposes the student to differences and similarities among the peoples of the Spanish-speaking world. In addition, the instructor will employ accompanying tapes and videos to expand student oral and aural abilities. Teachers use Spanish almost exclusively in their instruction.

1333 SPANISH 3**College Preparatory, 1.0 Credit**

Prerequisites: Successful completion of Spanish 2 CP (1323) with a grade of 85 or above, and qualified and motivated student achievement as determined by the Spanish 2 teacher.

The college preparatory level of Spanish 3 begins with a review of the grammatical structures and verb forms introduced in Spanish 3 at a pace appropriate to the students. Additionally, students learn new structures, vocabulary and verb forms as they further strengthen their listening comprehension and speaking skills. Teachers provide constant review and steady reinforcement through written and oral practice.

FOREIGN LANGUAGE

COURSES OFFERED

SPANISH 4

1340 AP SPANISH LANGUAGE AND CULTURE

Advanced Placement, 1.0 Credit

Prerequisites: Successful completion of Spanish 3 Honors (1331) with a grade of 90 or above, work of superior quality, and recommendation of Spanish 3 teacher.

The AP Spanish Language and Culture course emphasizes communication (understanding and being understood by others) by applying the interpersonal, interpretive, and presentational modes of communication in real-life situations. This includes vocabulary usage, language control, communication strategies, and cultural awareness. The AP Spanish Language and Culture course strives not to overemphasize grammatical accuracy at the expense of communication. To best facilitate the study of language and culture, the course is taught almost exclusively in Spanish.

The AP Spanish Language and Culture course engages students in an exploration of culture in both contemporary and historical contexts. The course develops students' awareness and appreciation of cultural products (e.g., tools, books, music, laws, conventions, institutions); practices (patterns of social interactions within a culture); and perspectives (values, attitudes, and assumptions). Students taking an Advanced Placement course are required to take the AP Exam in May.

1341 SPANISH 4

Honors, 1.0 Credit

Prerequisites: Successful completion of Spanish 3 Honors (1331) with a grade of 85 or above, work of excellent quality, and recommendation of Spanish 3 teacher.

This course is an intensive examination of Spanish language, literature, and culture. The major points of grammar are reviewed through reading, writing, listening, and speaking activities. Cultural and literary readings introduce various themes including education, the arts, family life, and heroism.

FOREIGN LANGUAGE

COURSES OFFERED

ITALIAN

1318 ITALIAN 1**Honors, 1.0 Credit**

Prerequisites: Departmental approval. Open to all students except those enrolled in English 1 (1214) and Language Arts 1 (1215). May be taken in lieu of, or in addition to, Spanish.

Italian 1 introduces basic Italian grammatical structure, vocabulary, and verb forms at an appropriate pace for the students. Teachers provide numerous language drills along with additional reinforcements such as regular worksheets and constant oral review. Readings from the text acquaint students with Italian culture.

1328 ITALIAN 2**Honors, 1.0 Credit**

Prerequisites: Faculty approval. Successful completion of Italian 1 Honors (1318).

Italian 2 continues the study of basic Italian grammatical structure, vocabulary, and verb forms at an appropriate pace for the students. Teachers provide numerous language drills along with additional reinforcements such as regular worksheets and constant oral review. Readings from the text acquaint students with Italian culture.

1338 ITALIAN 3**Honors, 1.0 Credit**

Prerequisites: Faculty approval. Successful completion of Italian 2 Honors (1328).

Italian 3 is a continuation of the study of the language and culture of Italy at a more accelerated level. Students will expand their knowledge of grammatical structures and vocabulary, with more advanced verbal structures and tenses introduced. The class, almost exclusively taught in Italian, will provide students with practice in speaking, reading, listening and writing on a daily basis. The study of Italian culture is an essential component of the course.

1348 ITALIAN 4**Honors, 1.0 Credit**

Prerequisites: Faculty approval. Successful completion of Italian 3 Honors (1338).

Italian 4 is a continuation of the study of the language and culture of Italy at a more accelerated level. Students will expand their knowledge of grammatical structures and vocabulary, with more advanced verbal structures and tenses introduced. The class, almost exclusively taught in Italian, will provide students with practice in speaking, reading, listening and writing on a daily basis. The study of Italian culture is an essential component of the course.

FOREIGN LANGUAGE

COURSES OFFERED

LATIN

1314 LATIN 1**Honors, 1.0 Credit**

Prerequisites: Departmental approval. HPST Test Profile: 50th percentile or above in Verbal & Language. May be taken in lieu of, or in addition to, Spanish, and in lieu of Fine Arts Elective.

This course provides an introduction to the Latin language with an emphasis on basic reading. Much effort is made to strengthen both the students' grammatical and vocabulary ability. The basic Latin sentence form is taught. Daily assignments and quizzes are an integral part of the course.

1324 LATIN 2**Honors, 1.0 Credit**

Prerequisites: Faculty approval. Successful completion of Latin 1 Honors (1314).

This course will continue the study of the Latin language with an emphasis on vocabulary and grammatical structures and their application to English. Our reading will focus on Medieval and early modern Latin, concluding with the unadapted text of Nepos' Life of Atticus., Daily assignments and quizzes are an integral part of the course.

1334 LATIN 3**Honors, 1.0 Credit**

Prerequisites: Faculty approval. Successful completion of Latin 2 Honors (1324).

This course will begin with an intensive review of all grammatical constructs from the first two years, and will continue with a chronological survey of Latin authors including Caesar, Catullus, Cicero, Ovid, Vergil, Horace, Ovid & Erasmus, covering the various genres of History, Commentary, Elegy, Epiz, Law, Philosophy, Satire and Biography.

1350 AP LATIN**Advanced Placement, 1.0 Credit**

Prerequisites: Faculty approval. Successful Completion of Latin 3 Honors (1334) and sufficient enrollment.

The AP Latin course focuses on the in-depth study of selections from two of the greatest works in Latin literature: Vergil's Aeneid and Caesar's Gallic War. The course requires students to prepare and translate the readings and place these texts in a meaningful context, which helps develop critical, historical, and literary sensitivities. Throughout the course, students consider themes in the context of ancient literature and bring these works to life through classroom discussions, debates, and presentations. Additional English readings from both of these works help place the Latin readings in a significant context. Students taking an Advanced Placement course are required to take the AP Exam in May.

SOCIAL STUDIES

REQUIRED COURSES

All students are required to take three years (3.0 credits) of Social Studies courses to meet their graduation requirements.

FRESHMAN YEAR

1410 AP WORLD HISTORY

Advanced Placement, 1.0 Credit

Prerequisite: Administrative placement.

AP World History is designed to be the equivalent of a two-semester introductory college or university world history course. In AP World History students investigate significant events, individuals, developments, and processes in six historical periods from approximately 8000 B.C.E. to the present. Students develop and use the same skills, practices, and methods employed by historians: analyzing primary and secondary sources; making historical comparisons; utilizing reasoning about contextualization, causation, and continuity and change over time; and developing historical arguments. The course provides five themes that students explore throughout the course in order to make connections among historical developments in different times and places: interaction between humans and the environment; development and interaction of cultures; state building, expansion, and conflict; creation, expansion, and interaction of economic systems; and development and transformation of social structures. Students taking an Advanced Placement course are required to take the AP Exam in May.

1411 WORLD HISTORY 1: ANCIENT TO PRE-MODERN

Honors, 1.0 Credit

1412 WORLD HISTORY 1: ANCIENT TO PRE-MODERN

Accelerated, 1.0 Credit

Prerequisite: Administrative placement.

Intro to World History is designed to provide students with knowledge and understanding of the history, way of life and important issues facing the great civilizations from the dawn of humankind through to the Industrial Revolution. The main questions of this course will be what leads to the rise and development of civilization and what leads to the downfall of civilizations. The course will follow historical, social, religious, economic and geographic developments of the world prior to the Modern Era. Students will look at a variety of the great civilizations including the Egyptians, Mesopotamians, Greeks, Romans, Chinese Dynasties, Muslim empires and European monarchies. The course is also designed to develop critical thinking abilities, and requires primary and secondary source analysis, critical reading, critical writing, and research utilizing an abundance of technological resources.

1414 WORLD HISTORY 1: ANCIENT TO PRE-MODERN

College Preparatory, 1.0 Credit

Prerequisite: Administrative placement.

Intro to World History is designed to provide students with knowledge and understanding of the history, way of life and important issues facing the great civilizations from the dawn of humankind through to the Industrial Revolution. The main questions of this course will be what leads to the rise and development of civilization and what leads to the downfall of civilizations. The course will follow historical, social, religious, economic and geographic developments of the world prior to the Modern Era. Students will look at a variety of the great civilizations including the Egyptians, Mesopotamians, Greeks, Romans, Chinese Dynasties, Muslim empires and European monarchies. The course is also designed to develop critical thinking abilities, and requires primary and secondary source analysis, critical reading, critical writing, and research utilizing an abundance of technological resources.

SOCIAL STUDIES

REQUIRED COURSES

SOPHOMORE YEAR

1420 AP EUROPEAN HISTORY

Advanced Placement, 1.0 Credit

Prerequisites: Departmental approval. Successful completion of AP World History (1410).

AP European History is designed to be the equivalent of a two-semester introductory college or university European history course. In AP European History students investigate significant events, individuals, developments, and processes in four historical periods from approximately 1450 to the present. Students develop and use the same skills, practices, and methods employed by historians: analyzing historical evidence; contextualization; comparison; causation; change and continuity over time; and argument development. The course also provides six themes that students explore throughout the course in order to make connections among historical developments in different times and places: interaction of Europe and the world; poverty and prosperity; objective knowledge and subjective visions; states and other institutions of power; individual and society; and national and European identity. Students taking an Advanced Placement course are required to take the AP Exam in May.

1421 WORLD HISTORY 2: MODERN TO CURRENT

Honors, 1.0 Credit

Prerequisites: Departmental placement. Successful completion of World History 1 Honors (1411).

Modern World History and Current Events is designed to provide students with knowledge and understanding of the history and important issues that have occurred in the world over the past 250 years. The course will follow the historical, social, religious, economic and geographic developments of the world in the Modern Era. Key events that will be analyzed include the Russian Revolution, Rise of Communism, World War I, World War II, the Cold War and Globalization. Special attention will be paid to analyzing how our world today has become so globalized and tracing the roots of our global problems today. This course is designed to develop sequencing and causation skills, helping students understand why the world is the way it is today by looking back over the key events of the past 250 years that shaped and influenced our world.

1422 WORLD HISTORY 2: MODERN TO CURRENT

Accelerated, 1.0 Credit

Prerequisites: Departmental placement. Successful completion of World History 1 Accelerated (1412) or CP (1414).

Modern World History and Current Events is designed to provide students with knowledge and understanding of the history and important issues that have occurred in the world over the past 250 years. The course will follow the historical, social, religious, economic and geographic developments of the world in the Modern Era. Key events that will be analyzed include the Russian Revolution, Rise of Communism, World War I, World War II, the Cold War and Globalization. Special attention will be paid to analyzing how our world today has become so globalized and tracing the roots of our global problems today. This course is designed to develop sequencing and causation skills, helping students understand why the world is the way it is today by looking back over the key events of the past 250 years that shaped and influenced our world.

SOCIAL STUDIES

REQUIRED COURSES

JUNIOR YEAR

1430 AP U.S. HISTORY

Advanced Placement, 1.0 Credit

Prerequisite: Departmental approval. Successful completion of AP European History (1420) or World History 2 Honors (1421) with a grade of 90 or higher.

AP U.S. History is designed to be the equivalent of a two-semester introductory college or university U.S. history course. In AP U.S. History students investigate significant events, individuals, developments, and processes in nine historical periods from approximately 1491 to the present. Students develop and use the same skills, practices, and methods employed by historians: analyzing primary and secondary sources; making historical comparisons; utilizing reasoning about contextualization, causation, and continuity and change over time; and developing historical arguments. The course also provides seven themes that students explore throughout the course in order to make connections among historical developments in different times and places: American and national identity; migration and settlement; politics and power; work, exchange, and technology; America in the world; geography and the environment; and culture and society. Students taking an Advanced Placement course are required to take the AP Exam in May.

1431 U.S. HISTORY

Honors, 1.0 Credit

Prerequisite: Departmental placement. Successful completion of World History 2 Honors (1421).

Honors U. S. History is a study of United States history from the period of European colonization to the present. The course emphasizes the political, economic, and social development of the United States. Students will be challenged to develop their reading, writing, and critical thinking skills. Primary source documents and historical essays will be used to supplement the textbook, with special emphasis placed on reading critically. Students will be asked to write interpretive essays and a research paper.

1432 U.S. HISTORY

Accelerated, 1.0 Credit

Prerequisites: Departmental placement. Successful completion of World History 2 Accelerated (1422).

U.S. History is a study of United States history from the arrival of the earliest humans in the Americas to the present. The course emphasizes the political, economic, and social developments in the United States. Students will be challenged to develop their reading, writing and critical thinking skills, as well as presentation skills. Areas of emphasis will include the American Revolution, United States Constitution, the Civil War, World War II, the Cold War, as well as the fundamental principles of the American democratic tradition. Students will utilize technology to analyze current events in the United States and trace their causation to their historical roots.

SOCIAL STUDIES

ELECTIVES

OPEN TO JUNIORS AND SENIORS

1490 VHS - AP HUMAN GEOGRAPHY

Advanced Placement, 1.0 Credit

Prerequisites: Administrative approval. The required summer assignment for AP® Human Geography can be found here: [AP Summer Work](#).

The AP® Human Geography course, designed to meet the needs of highly motivated students, is organized around the major themes of human interactions within a shared world that considers the questions, where and why. Where do people live and why or how do cultures influence human behavior? Students will study the elements of sociology, anthropology, religion, politics, economics, and psychology that help students understand how to make sense of others and themselves in a locality, region and the world. The course is offered at a college level class and will require rigorous work and effort. Students should expect to complete a variety of readings, writings, and practice exams as well as to participate in many discussions and activities. It is expected that students will take the Advanced Placement Human Geography exam in May, as preparation for this exam is one of the major goals of the course.

The course will introduce students to the systematic study of patterns and processes that have shaped human understanding, use, and alteration of Earth's surface. Students will employ spatial concepts and landscape analysis to examine human social organization and its environmental consequences. They will also learn about the methods and tools geographers use in their science and practice. The seven topics include Geography: Its Nature and Perspectives, Population, Cultural Patterns and Processes, Political Organization of Space, Agriculture and Rural Land Use, Industrialization and Economic Development and Cities and Urban Land Use. A significant outcome of the course is students' awareness of the relevance of academic geography to everyday life and decision making. This combination of the academic and the applied gives students a sophisticated view of the world and an understanding of the manifold applications of what they have learned in the course.

1491 VHS – CRIMINOLOGY

Accelerated, 0.5 Credit

Prerequisite: Administrative approval.

How can a person commit unspeakable criminal acts? How can someone who seemingly has everything throw it all away by doing something illegal? Criminology will explore these questions, and many others, in a semester-long exploration into the reasons why people commit crimes.

This course begins with an examination of why laws were created and how they evolve over time in response to society's needs. Then the focus moves to the theoretical perspectives of criminal behavior including biological, psychological and sociological theories. Students will delve into the minds of serial killers, thieves, drug dealers, and even corporate criminals while examining notable and notorious criminals. Finally, the class will explore the treatment of criminals by the correctional system. Students will be asked to design a policy statement for crime prevention and treatment programs for criminals.

1492 VHS - PSYCHOLOGY OF CRIME

Accelerated, 0.5 Credit

Prerequisite: Administrative approval.

Students will learn how psychology applies to questions and issues relating to law and the legal system. The course will include all aspects of the legal system including police, the trial and corrections. Topics will include: recovered memories, children as victims and offenders, violence and murder, strategies for interviewing witnesses, expert testimony, and factors influencing the credibility of witnesses, victims and offenders and insanity. Students will also examine the relationship of psychology and law in the educational and work settings.

SOCIAL STUDIES

ELECTIVES

OPEN TO JUNIORS AND SENIORS [CONTINUED]

1493 VHS - THE HOLOCAUST

Accelerated, 0.5 Credit

Prerequisite: Administrative approval.

The Holocaust is a major event in human history. The murder of six million Jews--as well as millions of other human beings--is a tragedy of such magnitude that it seems impossible for any one person to fully comprehend. But what seemed impossible did, in fact, happen. We are left to try to learn the lessons of this tragic history so that each of us might do our part to help prevent such events from happening in the future.

There are important lessons to be learned in a study of the Holocaust, and this course will introduce students to such concepts as the capacity for some people to hate, stereotype, dehumanize, humiliate and even murder those who are different from themselves; how the vast majority of Germans and others simply stood by and took no action when Jews and other minority groups were being treated unjustly and ultimately taken away to be killed; and how this history also brought out the best in human courage and the will to survive, as well as the compassion some brave individuals displayed to put themselves and their families at risk for the sake of others.

To properly understand the Holocaust, students will become familiar with the long history of antisemitism, as well as engaging in a study of individual identity, group membership, and the targeting of "The Other." The course will examine the rise of Hitler and the Nazi party throughout the 1920s and 1930s. Students will understand the history through primary source documents and personal testimonies, as a way to connect "head and heart" as we grapple with--and try to make sense out of--this tragic history.

OPEN TO SENIORS

1450 AP U.S. GOVERNMENT & POLITICS

Advanced Placement, 1.0 Credit

Prerequisite: Departmental approval. Successful completion of AP U.S. History (1440), or U.S. History Honors (1431) with a grade of 90 or higher.

This course introduces students to key political ideas, institutions, policies, interactions, roles, and behaviors that characterize the political culture of the United States. The course examines politically significant concepts and themes, through which students learn to apply disciplinary reasoning, assess causes and consequences of political events, and interpret data to develop evidence-based arguments. Students taking an Advanced Placement course are required to take the AP Exam in May.

1451 U.S. GOVERNMENT & CURRENT ISSUES

Honors, 0.5 Credit

Prerequisite: Departmental approval.

U.S. Government and Current Issues is designed to provide students with knowledge and understanding of our political structures in the United States and how they work towards resolving National and Global Conflicts. There are two main concepts that will be covered in this one semester course. First, Students will gain civic awareness of our political institutions, election cycles, American ideologies and the role citizen play in our government. The second concept is the understanding of Modern Day Issues and the roots of these issues. We will use 20th Century history to trace back current American Issues such as, Race Relations, U.S. World Relations, U.S. Economic Policy and the emergence of Globalization from U.S. perspective. Throughout the course, the student will be introduced to facts and concepts and encourages to develop an understanding of the reason why the United States and to a lesser degree the World is in its current state. Students will develop their research, writing, speaking and critical thinking skills. In addition, students will develop their skills in reading primary as well as secondary sources.

SOCIAL STUDIES

ELECTIVES

OPEN TO SENIORS [CONTINUED]

1452 PSYCHOLOGY

Honors, 1.0 Credit

Prerequisite: Faculty approval.

The Psychology course is designed to introduce students to the systemic and scientific study of the behavior and mental processes of human beings. Throughout the semester, students will examine the psychology of personality, child development, the brain, drug addiction, sleep, sensation and perception, learning, memory and cognition, sexual identity development, social situations and behavior, psychological disorders, and approaches to treatment and therapy. The purpose of this course is to give students a “taste” of psychology.

1453 MOCK TRIAL

Honors, 0.5 Credit

Prerequisites: Faculty approval. Students must be Seniors actively involved in the Mock Trial program for a minimum of two (2) years prior.

In this student-driven independent study course, the student(s) will engage in both practical and theoretical study in preparation for the Massachusetts Bar Association Mock Trial Tournament, to be held from January – March 2019. For this year, theoretical preparation will include study of civil case law in the United States, Massachusetts General Law, the Federal Rules of Evidence, and the 2018-2019 MASSBAR Mock Trial case (Case TBA in October 2019). Practical preparation will incorporate demonstrating leadership on the Malden Catholic Mock Trial Team, taking on critical trial roles, assisting the Mock Trial Team in digesting the rules of evidence, keeping records for the Mock Trial team, summarizing the case and all related affidavits, and writing an opening and/or closing argument to be used in competition in the 2019 season. Satisfactory completion of the course will include fulfillment of all requirements stated above; grades will be based on effort put into both the theoretical and practical facets of the course, and will be given for Quarters 1 and 2 of the academic year.

BUSINESS

ELECTIVES

OPEN TO JUNIORS AND SENIORS

1511 ACCOUNTING

Accelerated, 1.0 Credit

Prerequisite: Faculty approval.

Accounting is a full-year survey of basic accounting principles. Students will gain an understanding of topics, including the preparation of balance sheets, financial statements, as well as, cost accounting methods. The course will focus on business issues related to capital and expense utilization and cover depreciation. This course also emphasizes consumer topics relating to the economics of buying on credit, investment opportunities, and budgeting. Students will experience the stock market by participating in the *Boston Globe*-Stock Market Game (smgww.org).

1591 VHS – ENTREPRENEURSHIP

Accelerated, 0.5 Credit

Prerequisite: Administrative approval.

Entrepreneurship starts to prepare future small business owners to run their own businesses according to the principles of business. It also allows students to experience the entrepreneurial spirit. Students learn how to develop a business idea and write a business plan to promote that idea. Future business people must understand economics, financial statements, marketing and selling techniques, investing, business structures, legal issues, banking, technology and taxation. Entrepreneurship teaches students how to use all of these business principles in order to develop a successful business and kindle an entrepreneurial spirit that will help students follow their dreams and reach their goals.

1592 VHS - INVESTING IN THE STOCK MARKET

Accelerated, 0.5 Credit

Prerequisite: Administrative approval.

In this course, students will learn about the history of the stock market as well as various internal and external influences on the economy that affect businesses and stock prices. Students will experience investing, through a realistic stock market simulation that challenges the student to evaluate companies, the economy, and various investment products that will meet their individual investing goals.

BUSINESS

ELECTIVES

OPEN TO SENIORS

1523 ECONOMICS

Accelerated, 1.0 Credit

Prerequisite: Faculty approval.

Economics 1523 is a full-year course teaching basic economic principles and concepts. The student gains understanding of government economic policy, money and banking issues, the stock market, the law of supply and demand, and international trade and foreign exchange markets. This course also emphasizes consumer topics relating to the economics of buying on credit, investment opportunities, and budgeting. Students will experience the stock market by participating in the *Boston Globe* stock market game.

ARTS

ELECTIVES

All students are required to take 1.0 Credit of Arts courses to meet their graduation requirements.

OPEN TO ALL GRADES

1502 SPEECH & DEBATE 1

0.5 Credit

Prerequisites: Administrative placement.

Speech and Debate is a one-semester introductory course that covers a variety of styles of public speaking and formal debate. Through research and practice students will become familiar with these styles through instruction, research, and practice. Each unit will culminate in performance assignments that require students to demonstrate their abilities within the classroom setting. Opportunities to take their knowledge to competition at the local and state level may be made available to students as well through extracurricular programs.

1503 CHOIR 1

0.5 Credit

Prerequisites: Administrative placement.

This is a semester course explores choral music from a wide variety of cultures and time periods through study and performance. The core curriculum emphasizes the basics of vocal technique, sight-reading, music theory, and music history. Students in Chorale are expected to participate in one evening concert each quarter as a major part of their grade and participate in School liturgies through the year.

OPEN TO SOPHOMORES, JUNIORS AND SENIORS

1531 DIGITAL ART 1

College Preparatory, 0.5 Credit

Prerequisite: Faculty approval.

Digital Art 1 teaches fundamentals of photography and digital imaging. Through personal practice, demonstration, lecture, and critique students will learn the basics of color, composition, camera function, and digital editing. Along the way, students will learn a basic vocabulary as it relates to both contemporary and traditional photography. Through daily assignments, students will develop an eye for interesting, strong composition and hone those editing skills that will result in powerful digital images. There will be a Quarterly term project.

ARTS

ELECTIVES

OPEN TO SOPHOMORES, JUNIORS AND SENIORS

1541 STUDIO ART 1

College Preparatory, 0.5 Credit

Prerequisite: Faculty approval.

Basic drawing is an acquired skill: you can do it! Studio Art 1 guides students through a developmental series of drawing strategies to help them gain the perceptual skills they need to create drawings from observation. Learning to use a variety of pencils, charcoal, pen and ink, colored pencil, oil crayon, and pastels, students will compile their own drawing portfolio. To those who may later be interested in applying to a school of art or architecture, this portfolio could be a valuable foundation. Students will also learn about art from various periods in history.

OPEN TO JUNIORS AND SENIORS

1532 DIGITAL ART 2

College Preparatory, 0.5 Credit

Prerequisites: Faculty approval. Successful completion of Digital Art 1 (1531).

Digital Art 1 is an advanced art course in which students will work extensively with Adobe Photoshop and Illustrator to alter photographs and create their own vector-based digital art. Students will use the techniques of the course and their own ingenuity to create unique type fonts, logos, 3D designs.

1542 STUDIO ART 2

College Preparatory, 0.5 Credit

Prerequisite: Faculty approval. Successful completion of Studio Art 1 (1541).

Basic drawing is an acquired skill: you can do it! Studio Art 2 guides students through a developmental series of drawing strategies to help them gain the perceptual skills they need to create drawings from observation. Learning to use a variety of pencils, charcoal, pen and ink, colored pencil, oil crayon, and pastels, students will compile their own drawing portfolio. To those who may later be interested in applying to a school of art or architecture, this portfolio could be a valuable foundation. Students will also learn about art from various periods in history.

ARTS

ELECTIVES

OPEN TO JUNIORS AND SENIORS [CONTINUED]

1543 STUDIO ART 3

College Preparatory, 0.5 Credit

Prerequisite: Faculty approval. Successful completion of Studio Art 2 (1542).

In Studio Art 3 students strive to gain greater mastery over the methods and materials encountered in Studio Art 1 and 2. Once the student has sampled each of the media, he may choose one or more in which to concentrate. Each student must complete a major final project. Studio Art 3 students will have the opportunity to work with the studio's silkscreen printing equipment and pottery wheels.

1590 VHS - AP MUSIC THEORY

Advanced Placement, 1.0 Credit

Prerequisites: Administrative approval. Proficiency in playing major and minor scales, reading basic tonal melodies, and using proper technique on one or more musical instruments (vocal, orchestral, band).

Strongly Recommended: At least one semester of practice writing traditional music notation with proper technique. At least one semester of keyboard instruction, including scales and triad formation.

This course is designed to give the student an understanding of music theory, sight reading, and aural skills that is equivalent to that of a first-year college music student. It is also designed with the explicit purpose of preparing the student for the AP® Exam in Music Theory. The course content and presentation will adhere to the guidelines set forth by the College Board in the Music Theory Course Description.

The course will cover: the fundamentals of traditional melodic and harmonic composition through the early twentieth century; multiple techniques for melodic, harmonic, and formal analysis; an introduction to two- and four-voice counterpoint; an introduction to jazz, blues, and non-Western techniques; and the basics of orchestration.

In addition, students will be trained to sight-read melodies in major and minor keys, with limited chromatic alteration. They will also perform listening exercises for the purposes of memorizing and notating specific intervals, scales, chords, rhythms, melodies, and progressions.

SCIENCE

REQUIRED COURSES

All students are required to take three years (3 credits) of Science to meet their graduation requirements. These courses must include Biology and Chemistry. **Note: Each science courses offered is considered a laboratory science.**

BIOLOGY

1611 BIOLOGY 1

Honors, 1.0 Credit

Prerequisite: Administrative placement. Required of freshmen not placed in Biology (1612, 1613 or 1614).

Biology 1611 is the study of life with emphasis on molecular biology. Topics include the structure and function of cells, energy processes necessary for life, ecological principles, DNA, genetics, biotechnology, reproduction, and evolution. Laboratory investigations stress qualitative and quantitative measurement, analysis, and problem solving using the scientific method. Laboratory experiments include the use of microscopes, the study of cells, and a variety of other techniques.

1612 BIOLOGY 1

Accelerated, 1.0 Credit

Prerequisite: Administrative placement. Required of freshmen not placed in Biology (1611, 1613 or 1614).

Biology 1612 is designed to teach subject matter in a manner which employs active learning on the part of students. Students are involved directly with concepts and skills to be learned through an array of instructional activities, labs, projects, illustrations, interactive readings, and inquiry discussions. Topics include cell biology, reproduction, plant and animal kingdoms, genetics, evolution and classification.

1614 BIOLOGY 1

College Preparatory, 1.0 Credit

Prerequisite: Administrative placement. Required of freshmen enrolled in Brother Kevin Program.

Biology 1614 is a college preparatory level introductory biology course. In addition to covering the basics of life science at a slightly slower pace than in the other freshman biology classes, the course attempts to bring the students' study habits to a level which will afford them a high degree of success at Malden Catholic. The course begins by discussing what some would consider the two basic and most important skills in science: making observations and writing lab reports. The proper format of a lab report is covered in great detail so that students will know exactly what to write in lab reports not just now, but for their entire academic careers. The course will also introduce the students to the following subjects: cell biology, reproduction, plant and animal kingdoms, genetics, evolution, and classification. Interspersed throughout the year are lab experiments to supplement the information presented to students through lecture.

1620 AP BIOLOGY

Advanced Placement, 1.5 Credits

Prerequisites: Departmental approval. Successful completion of Biology 1 Honors (1611) with a grade of 90 or above.

AP Biology is an introductory college-level biology course. Students cultivate their understanding of biology through inquiry-based investigations as they explore the following topics: evolution, cellular processes—energy and communication, genetics, information transfer, ecology, and interactions. Students taking an Advanced Placement course are required to take the AP Exam in May.

SCIENCE

REQUIRED COURSES

CHEMISTRY

1631 CHEMISTRY 1**Honors, 1.0 Credit**

Prerequisites: Departmental placement. Successful completion of Biology 1 Honors (1611) or Accelerated (1612).

This course provides a rigorous study of chemistry designed to prepare students for advanced level courses—AP Chemistry and advanced college level courses. There will be experiments, mathematical, and theoretical treatment of topics such as chemical terminology, matter and energy, phases of matter, atomic structure and bonding, formulas and equations, solutions, kinetics, equilibrium, acids and bases, and oxidation-reduction. Related laboratory experiments will be performed.

1632 CHEMISTRY 1**Accelerated, 1.0 Credit**

Prerequisites: Departmental placement. Successful completion of Biology 1 Honors (1611) or Accelerated (1612).

Accelerated Chemistry is an experimental, mathematical, and theoretical treatment of the concepts of chemistry. The topics include chemical terminology, matter and energy, phases of matter, atomic structure and bonding, formulas and equations, solutions, kinetics, and equilibrium. The laboratory exercises for the course are closely related to the textbook material.

1634 CHEMISTRY 1**College Preparatory, 1.0 Credit**

Prerequisites: Departmental placement. Successful completion of Biology 1 CP (1614).

This course is an experimental, mathematical, and theoretical treatment of the concepts of chemistry. The topics include chemical terminology, matter and energy, phases of matter, atomic structure and bonding, formulas and equation, solutions, kinetics, and equilibrium. The laboratory exercises for the course are closely related to the textbook material.

1640 AP CHEMISTRY**Advanced Placement, 1.5 Credits**

Prerequisites: Departmental approval. Successful completion of Chemistry (1631 or 1632) with a grade of 90 or above and Math 1828 or higher.

The AP Chemistry course provides students with a college-level foundation to support future advanced course work in chemistry. Students cultivate their understanding of chemistry through inquiry-based investigations, as they explore topics such as: atomic structure, intermolecular forces and bonding, chemical reactions, kinetics, thermodynamics, and equilibrium. Created by the AP Chemistry Development Committee, the course curriculum is compatible with many Chemistry courses in colleges and universities. Class size will be limited to 16 students. Students taking an Advanced Placement course are required to take the AP Exam in May.

SCIENCE

REQUIRED COURSES

PHYSICS

1650 AP PHYSICS 1

Advanced Placement, 1.0 Credit

Prerequisites: Departmental approval. Successful completion of Chemistry Honors (1631) with a grade of 90 or above and Algebra 2/Trigonometry Honors (1821).

AP Physics 1 is an algebra-based, introductory college-level physics course. Students cultivate their understanding of Physics through inquiry-based investigations as they explore topics such as Newtonian mechanics (including rotational motion); work, energy, and power; mechanical waves and sound; and introductory, simple circuits. Students taking an Advanced Placement course are required to take the AP Exam in May.

1651 PHYSICS 1

Honors, 1.0 Credit

Prerequisite: Departmental placement.

Physics 1651 is a study of mechanics, wave phenomena, and if time permits, electricity, and magnetism. The course is intended as a preparation for college-level study in science, but not exclusively for prospective science majors. Strong emphasis is placed on the development of mathematical analysis through experimentation and problem-solving skills as they apply to physics.

1652 PHYSICS 1

Accelerated, 1.0 Credit

Prerequisites: Departmental placement. Successful completion of accelerated level Math.

A study of mechanics, wave phenomena, electricity, and magnetism, Physics 1652 is intended as a preparation for college-level study in science, but not exclusively for prospective science majors. This course strongly emphasizes the application of mathematical skills and problem solving as it applies to Physics. The pace and depth of coverage are adjusted to meet the needs of the students.

1653 PHYSICS 1

College Preparatory, 1.0 Credit

Prerequisites: Departmental placement. Successful completion of College Preparatory level Math.

A study of mechanics, wave phenomena, electricity, and magnetism, Physics 1653 is intended as a preparation for college-level study in science, but not exclusively for prospective science majors. This utilizes math as a tool to problem solve as it applies to Physics. The pace and depth of coverage are adjusted to meet the needs of the students.

1660 AP PHYSICS 2

Advanced Placement, 1 Credit

Prerequisites: Departmental approval. Successful completion of AP Physics 1 (1650).

The AP Physics 2 course is an algebra-based, introductory college-level physics course. Students cultivate their understanding of Physics through inquiry-based investigations as they explore topics such as fluid statics and dynamics; thermodynamics with kinetic theory; PV diagrams and probability; electrostatics; electrical circuits with capacitors; magnetic fields; electromagnetism; physical and geometric optics; and quantum, atomic, and nuclear physics. Students taking an Advanced Placement course are required to take the AP Exam in May.

SCIENCE

ELECTIVES

OPEN TO JUNIORS AND SENIORS

1690 VHS - AP ENVIRONMENTAL SCIENCE

Advanced Placement, 1.0 Credit

Prerequisites: Administrative approval. The required summer assignment for AP® Environmental Science can be found here: [AP Summer Work](#).

This full year AP® Environmental Science class is equivalent to an introductory, one semester, college level, environmental science class. If you have successfully completed both high school level biology and chemistry, if you are interested in the environment, and if you are looking for a challenge, this course might be for you! Because this is a college level course, be ready to commit time to your study. This course will cover concepts in ecology, geology, sociology, economics, biology, and chemistry, that will further your understanding of how humans can live sustainably. Integrated in the course is a field study component which will improve your observational skills, allow you to develop and conduct well-designed experiments, and provide opportunity to interpret and share your observations, results and conclusions with your classmates. You will be applying concepts learned in the weekly lessons to your local field study, as well as collaborating with your classmates regularly on case studies and local environmental concerns to gain a global perspective on environmental issues. During the second semester you will engage in an independent research project which culminates in a project showcase where you will present your research to your classmates.

1691 VHS – OCEANOGRAPHY

Honors, 0.5 Credit

Prerequisite: Administrative approval.

Students will board the USS Cyber, a virtual oceanographic research vessel modeled after the flagship of NOAA's fleet for a sail that begins in Woods Hole, Massachusetts, and ends in San Diego, California. As the crew of the ship, students will perform scientific experiments and collect data that will teach them about the geology, chemistry, and physics of the ocean. From the Bay of Fundy in Nova Scotia to the Caribbean and Antarctica, from the coral reefs to the hydrothermal vent communities deep in the ocean, students will make observations about the sea's ecosystems and the sometimes-unexpected life within them. There are no traditional tests. Students are expected to participate fully as members of the expedition. If you have ever wondered what it might be like to go to sea, pack your bags, and join us.

This is a survey course covering the basics of physical oceanography and marine biology presented in a fun and engaging format. There are no traditional tests. Students will be graded on their weekly assignments, which will include both individual and group projects. In lieu of a midterm or final exam, students will be expected to complete a major individual project each term. There will be a strong multimedia component to the course, and students will have the opportunity to choose from reading assignments that meet their comfort level.

SCIENCE

ELECTIVES

OPEN TO JUNIORS AND SENIORS [CONTINUED]

1692 VHS - ASTRONOMY PRINCIPALS

Accelerated, 0.5 Credit

Prerequisites: Administrative approval. Completion or concurrent enrollment in Algebra 2. Physics is recommended but not required.

This course is an introduction to astronomy. Student will learn how to observe the sky we see and how it appears to change over time. Then they will learn more about the planets of our solar system and the structure and life of stars. Lastly students will study the Milky Way galaxy as well as those beyond and end by looking to the future.

Students will be evaluated on weekly contributions to: discussions; reading assignments; regular, outside, nighttime observation assignments in their Sky Watch journal; and other activities and assignments. Activities will involve hands-on and virtual labs, web inquiries, and using planetarium software. There will be a mid-term and final project.

1693 VHS - FORENSIC SCIENCE

Accelerated, 0.5 Credit

Prerequisite: Administrative approval.

Forensics will provide students with an in-depth knowledge of techniques and strategies used by forensic scientists. They will learn the steps involved in analyzing a crime scene in order to provide evidence that will be admissible in a court of law. Emphasis is placed on the investigative process. They will get a detailed knowledge of the industry in order to explore the potential for careers in forensic science.

Students will research different methods that forensic scientists use to solve crimes and analyze crime scene data to solve crimes themselves. Topics include collecting evidence, fingerprinting, blood-typing, ballistics, trace evidence, anthropology, and of course, DNA!

OPEN TO SENIORS

1671 ANATOMY AND PHYSIOLOGY

Honors, 1.0 Credit

Prerequisites: Acceptance based on academic performance in previous science courses, recommendation of science teachers in Biology and Chemistry (if applicable) and recommendation of current honors level science teacher.

This year-long course is designed to give students an understanding of the fundamental and principle concepts of human anatomy and physiology. Topics will begin with an overview of concepts introduced in the Biology 1 course with an emphasis placed on their function in the human body. Later topics will include an in-depth study of cytology, tissues, each major organ system and special senses. Assigned readings from the text, reserved readings, lecture notes, nightly homework, laboratory work and dissection will also be part of this course.

1672 MARINE BIOLOGY

Accelerated, 0.5 Credit

Prerequisite: Faculty approval.

Marine biology will begin by discussing basic properties of the ocean: geomorphology, temperature, and water circulation. We will then discuss the various communities/environments present in the ocean: deep-sea, inter-tidal, tropical, etc.

SCIENCE

ELECTIVES

OPEN TO SENIORS [CONTINUED]

1673 ENVIRONMENTAL SCIENCE

College Preparatory, 1.0 Credit

Prerequisite: Faculty approval.

Environmental Science deals with the interrelationships between humans and the Earth. It explores the interactions and relationships that exist between them. Environmental Science is interdisciplinary in nature drawing upon Biology, Earth Science, Botany, Chemistry and the social sciences. The course is divided into six areas: Ecosystems – basic units of the natural world, dimensions of the human population, renewable resources and the role of conservation, energy and energy sources, types of pollution and prevention, and plans for a sustainable future. Students will be expected to incorporate technology into their laboratory assignments and class activities.

TECHNOLOGY & ENGINEERING

REQUIRED COURSE [FRESHMAN YEAR]

1713 INTRODUCTION TO TECHNOLOGY

College Preparatory, 0.5 Credit

Prerequisite: Administrative placement.

This course is a required one-semester course for freshmen that provides them with a solid understanding of Malden Catholic's technology resources that they will be expected to use in their coursework. Students will learn about digital citizenship, how the Internet works and how to properly use the Internet for research. In addition to learning how to use the MS Office suite of Excel, PowerPoint and Word, students will also learn to use Google Apps, Drive and Gmail, create podcasts using Audacity, program a game using Scratch, and use Google Sketch Up to design a house and furniture. And lastly, students will learn how to use their iPads as an educational tool for note taking, conducting online research, creating flash cards, and how to use the eBook reader to view their digital texts.

ELECTIVES

OPEN TO SOPHOMORES, JUNIORS AND SENIORS

1721 WEB DESIGN

Accelerated, 0.5 Credit

Prerequisite: Faculty approval.

This one semester course will introduce students to the development and maintenance of Web pages using the Hypertext Markup Language and HTML editors. HTML coding and creating Web graphics will be emphasized. Introduction to key Web design concepts and principles. Students will be introduced to a variety of challenging hands on activities.

1722 JAVA PROGRAMMING

Honors, 0.5 Credit

Prerequisite: Faculty approval.

Computer Programming in Java would begin outlining the fundamentals of computer science including a historical look at computers, computer ethics and move into the core principals of programming and problem solving with Java. The course will cover programming basics, data and information processing, object-oriented programming, graphical interfaces, the software development lifecycle, and web-based programming.

1723 INTRO TO COMPUTER SCIENCE WITH PYTHON

Honors, 0.5 Credit

Prerequisite: Faculty approval.

The introduction to Computer Science in Python curriculum teaches the foundations of computer science and basic programming, with an emphasis on helping students develop logical thinking and problem-solving skills.

TECHNOLOGY & ENGINEERING

ELECTIVES

OPEN TO SOPHOMORES, JUNIORS AND SENIORS [CONTINUED]

1725 INTRODUCTION TO ENGINEERING

Accelerated, 0.5 Credit

Prerequisite: Faculty approval.

This semester course is designed for students who wish to explore the possibility pursuing an engineering degree in college. Several engineering disciplines including mechanical, electrical, civil, aerospace, and chemical will be explored. Students will become familiar with the engineering design process, problem solving methodology, physical and virtual modeling and approaches to “open-ended” problems. Computer software tools (all shareware that can be downloaded onto home computers) will be used to explore the use of software as a design, modeling and computational tool. In addition, students are divided into teams to conduct several “hands-on” design, prototype, build and test exercises, using materials provided to solve specified problems, or explore various applications of technology. Students will be engaged in the iterative process of problem formulation, abstraction, analysis, design, prototyping, testing and evaluating, helping to develop an “innovation focused” mindset. While there is no text for the course, students will be assessed a materials fee to cover the cost of modeling/prototyping material.

1726 INTRODUCTION TO MOBILE ROBOTICS

Accelerated, 0.5 Credit

Prerequisites: Faculty approval. Successful completion of both Integrated Math 1 (1801) or Algebra 1 (1802 or 1803), and Geometry (1811 or 1813).

This semester course introduces students to the field of robotics. Students research the history of robotics, different types of robots in use, current robotic technology and trends, and deliver presentations of these topics. Student will also produce a research paper on a topic related to robotics. The course begins with a study of basic robotic components (mechanical structure, effectors, sensors, power, computers and control), an introduction to mechanical construction and an introduction to computer programming for control. The course utilizes Carnegie Mellon University’s Robotics Engineering I curriculum, supplemented with challenges ranging from basic tasks including traveling set distances and paths, avoiding obstacles and finding objects; and grow to more challenging missions such as data reporting, rope climb, and robot sumo wrestling among others. Readings and research are expected. This course is intended as a follow-on to course 1725 Introduction to Engineering, and students are highly encouraged to complete Introduction to Engineering prior to enrolling in Robotics, but other students may enroll with Department approval. No text is required for the course, but students are expected to procure and maintain an engineering notebook. Requirements and format for the notebook will be discussed during the first week of class. Due to equipment limitation, class size is limited to a maximum of 20 students.

TECHNOLOGY & ENGINEERING

ELECTIVES

OPEN TO SOPHOMORES, JUNIORS AND SENIORS [CONTINUED]

1727 ENGINEERING DESIGN CONCEPTS

Accelerated, 0.5 Credit

Prerequisites: Faculty approval. Successful completion of Algebra 1 (1801, 1802 or 1803) or Geometry Honors (1811), and Introduction to Engineering (1725).

This semester course introduces students to the key principles of engineering design. Following a brief review of engineering disciplines, students study the design cycle, brainstorming techniques, project management and teamwork, engineering design tools (including some software applications), failure analysis, the human-machine interface, technical writing skills including preparing effective instruction manuals and good presentation skills. Through the course, students will complete several “hands-on” design projects, some individually and some in project teams. Some projects will require students to acquire various inexpensive materials (batteries, small DC motors, foam board, etc.). Students will be expected to deliver presentations, submit instruction manuals, and prepare and submit analysis reports.

1731 PLTW 1: INTRODUCTION TO ENGINEERING

Honors, 1.0 Credit

Prerequisites: Faculty approval. Successful completion of Computer Science & Engineering (2701 or 2703), Algebra 1 (2801 or 2803) or Geometry (2811).

Project Lead the Way 1 - Introduction to Engineering Design (IED) is a high school level course that is appropriate for students who are interested in design and engineering. The major focus of the IED course is to expose students to design process, research and analysis, teamwork, communication methods, global and human impacts, engineering standards, and technical documentation. IED gives students the opportunity to develop skills and understanding of course concepts through activity-, project-, and problem-based (APPB) learning. Used in combination with a teaming approach, APPB-learning challenges students to continually hone their interpersonal skills, creative abilities and understanding of the design process. It also allows students to develop strategies to enable and direct their own learning, which is the ultimate goal of education.

The course assumes no previous knowledge, but students should be concurrently enrolled in college preparatory mathematics and science. Students will employ engineering and scientific concepts in the solution of engineering design problems. In addition, students use the most current issued 3D solid modeling design software package to help them design solutions to solve proposed problems. Students will develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges that increase in difficulty throughout the course. Students will also learn how to document their work and communicate their solutions to their peers and members of the professional community.

TECHNOLOGY & ENGINEERING

ELECTIVES

OPEN TO JUNIORS AND SENIORS

1740 AP COMPUTER SCIENCE A

Advanced Placement, 1.0 Credit

Prerequisites: Successful completion of Java Programming (1731) and approvals from the current Math teacher and AP Computer Science teacher.

AP Computer Science A is equivalent to a first-semester, college-level course in computer science. The course introduces students to computer science with fundamental topics that include problem solving, design strategies and methodologies, organization of data (data structures), approaches to processing data (algorithms), analysis of potential solutions, and the ethical and social implications of computing. The course emphasizes both object-oriented and imperative problem solving and design using Java language. These techniques represent proven approaches for developing solutions that can scale up from small, simple problems to large, complex problems. The AP Computer Science A course curriculum is compatible with many CS1 courses in colleges and universities. Students taking an Advanced Placement course are required to take the AP Exam in May.

1791 VHS - VIDEO GAME DESIGN

Accelerated, 0.5 Credit

Prerequisites: Administrative approval. This course is an introductory level class on video game design and creation that does not require previous background in computer programming.

The video game design course provides an opportunity for students to immerse themselves in the world of video game design and development. Students will explore conceptual and technical aspects of contemporary video game creation using Unity software, a robust and highly respected industry game development platform. This curriculum stems from the Unity Curricular Frameworks and includes three larger modules focused on game design theory, the major aspects of game creation including programming, art, production and design, and exploration of the conceptual and technical implementation of elements within those domains.

In the first module, students will begin by exploring the critical thinking behind game design theory, story and game creation, and develop their own unique non-digital game. In the second module, students will focus on key aspects of video game design, writing and implementing code in the Unity editor and implementing elements of art and production, as they use basic features to create an initial game in Unity. In the final module, students will explore advanced constructs of game development such as level design, cameras, lighting, and audio, as they complete a capstone video game project. Students will then peer review video games created by their classmates and use the iterative process to reflect on feedback provided on their own game and revise.

Over the course of the semester, students will be engaging in discussions around current trends in the game industry and the future of the field. There will be a strong focus on project management for technical projects such as video game creation. This course will require accurate and thorough documentation, including game design documents and a game developer's journal, as well as clear and consistent communication with classmates.

MATH

REQUIRED COURSES

All students are required to take four years (4.0 credits) of Mathematics to meet their graduation requirements. Students are required to have a compass, protractor, and a Texas Instruments TI-84 Plus Calculator.

ALGEBRA 1

1801 INTEGRATED MATH 1

Accelerated/Honors, 1.0 Credit

Prerequisite: Departmental placement. Required of those freshmen not placed in Geometry Honors (1811) or Algebra 1 (1802 or 1803).

Algebra 1 is a study of the fundamentals of algebra including the real number system and its properties, linear equations in one variable, systems of open sentences in two variables, operations on polynomials and rational expressions, factoring, radicals, the solution of quadratic equations, and an introduction to the concepts of function and coordinate geometry. The course also includes the solution of word problems and a review of arithmetic skills.

1802 ALGEBRA 1

Accelerated, 1.0 Credit

Prerequisites: Departmental placement. Required of those freshmen not placed in Geometry Honors (1811), Integrated Math 1 Accelerated/Honors (1801) or Algebra 1 College Preparatory (1803).

Algebra 1 is a study of the fundamentals of algebra including the real number system and its properties, linear equations in one variable, systems of open sentences in two variables, operations on polynomials and rational expressions, factoring, radicals, the solution of quadratic equations, and an introduction to the concepts of function and coordinate geometry. The course also includes the solution of word problems and a review of arithmetic skills.

1803 ALGEBRA 1

College Preparatory, 1.0 Credit

Prerequisites: Departmental placement. Required of those freshmen not placed in Geometry Honors (1811), Integrated Math 1 Accelerated/Honors (1801) or Algebra 1 Accelerated (1802).

Course 1803 is college preparatory level of Algebra 1, designed for the student who, in comparison with the rest of his class, has more slowly developing math skills. Topics covered are the same as those in 1802 Algebra 1 (Accelerated), but the pace and depth of study are adjusted to the needs and abilities of the students in the class. A review of basic arithmetical skills is integrated into the course based on the remedial needs of the student.

MATH

REQUIRED COURSES

GEOMETRY

1811 GEOMETRY

Honors, 1.0 Credit

Prerequisites: Departmental placement. Algebra 1 (full year course) in Grade 8 and Math Placement Exam.

Honors Geometry is designed for students who show high mathematical aptitude and ability and who meet the above-mentioned requirements. The topics outlined in this course include the study of angle relationships, parallel lines, right triangles, quadrilaterals, congruent and similar polygons, circles, constructions and loci, coordinate geometry, the concepts of area and volume, and the study of logic through deductive proof. In addition, this course includes a review of some key Algebra 1 concepts as well as an introduction to Algebra 2. Students will write calculator programs to solve specific problems.

1812 GEOMETRY

Accelerated, 1.0 Credit

Prerequisites: Departmental placement. Successful completion of Algebra 1 Accelerated (1802) with a grade of 80 or higher.

Course topics for Geometry include the study of angle relationships, parallel lines, quadrilaterals, right triangles, congruent and similar polygons, circles, construction and loci, coordinate geometry, the concepts of area and volume, and the study of logic through deductive proof. The pace and depth of coverage are adjusted to the needs and abilities of the students in each class. Practical applications and problem solving are stressed.

1813 GEOMETRY

College Preparatory, 1.0 Credit

Prerequisites: Departmental placement. Successful completion of Algebra 1 CP (1803) with a grade of 70 or higher.

Course topics for Geometry include the study of angle relationships, parallel lines, quadrilaterals, right triangles, congruent and similar polygons, circles, construction and loci, coordinate geometry, the concepts of area and volume, and the study of logic through deductive proof. The pace and depth of coverage are adjusted to the needs and abilities of the students in each class. Practical applications and problem solving are stressed.

MATH

REQUIRED

ALGEBRA 2

1821 ALGEBRA 2/TRIGONOMETRY**Honors, 1.0 Credit**

Prerequisites: Department placement. Successful completion of Geometry Honors (1811) with a grade of 85 or higher.

This course takes an in-depth look at the notions of functions and relations, systems of equations in two and three variables, operations on polynomials and rational expressions, radicals and irrational numbers, sequences and series, complex numbers and polynomial functions, quadratic equations, exponents, logarithms, analytic geometry, and trigonometry.

1822 INTEGRATED MATH 2**Honors, 1.0 Credit**

Prerequisites: Department placement. Successful completion of Integrated Math 1 (1801) with a grade of 80 or higher.

After an intensive review of the concepts covered in Algebra 1, and at a pace appropriate to the students at each level, this course covers all the topics in Geometry and proceeds to a deeper look at the notions of functions and relations, analytic geometry, logarithms and exponents, and a study of trigonometry in preparation for Pre-Calculus.

1823 ALGEBRA 2**Accelerated, 1.0 Credit**

Prerequisites: Department placement. Successful completion of Algebra 1 Accelerated (1802) and Geometry Accelerated (1812), with grades of 80 or higher.

After an intensive review of the concepts covered in Algebra 1, and at a pace appropriate to the students at each level, this course proceeds to a deeper look at the notions of functions and relations, analytic geometry, logarithms and exponents, sequences and series, and a study of trigonometry.

1824 ALGEBRA 2**College Preparatory, 1.0 Credit**

Prerequisites: Departmental placement. Successful completion of Algebra 1 CP (1803) and Geometry CP (1813), with grades of 70 or higher.

Algebra 2 reviews the concepts covered in Algebra 1 plus an extensive study of linear equations, systems of linear equations in two variables, polynomials and factoring, fractional algebraic expressions and equations, rational exponents and radicals, quadratic equations, graphs and functions, exponential functions, logarithmic functions, and inequalities. Practical applications and problem solving are stressed.

1828 ANALYSIS**Accelerated, 1.0 Credit**

Prerequisites: Departmental placement. Successful completion of Algebra 2 (1823) with a grade of 70 or higher.

Math Analysis prepares the student for college mathematics. After a brief review of the concepts covered in Algebra 2, the students will be studying trigonometry and elementary functions, analytic geometry, complex numbers, and elementary probability.

MATH

REQUIRED

PRE-CALCULUS

1831 PRE-CALCULUS/CALCULUS

Honors, 1.0 Credit

Prerequisites: Departmental placement. Successful completion of Algebra 2/Trigonometry Honors (1821) with a grade of 85 or higher.

Pre-Calculus/Calculus supplements and extends the 1821 Algebra 2/Trigonometry (Honors) course and evolves into the calculus. Topics covered include elementary algebraic and transcendental functions as well as elements of discrete math. The calculus provides a thorough introduction to the concepts and applications of differential and integral calculus. Students prepare for the advanced placement test in this course by studying the topics suggested in the AP syllabus.

1832 PRE-CALCULUS

Honors, 1.0 Credit

Prerequisites: Departmental placement. Successful completion of Integrated Math 2 Honors (1822) with a grade of 80 or higher.

A preparation for the study of calculus, this course focuses on the concept of function as exemplified by algebraic, polynomial, logarithmic, exponential, and circular (trigonometric) functions, and by functions of the natural numbers (sequences and mathematical induction). Pre-Calculus 1832 includes an extensive coverage of analytic geometry and, if time allows, polar coordinates, conic sections, discrete mathematics, and an introduction to differential calculus.

1833 PRE-CALCULUS

Accelerated, 1.0 Credit

Prerequisites: Departmental placement. Successful completion of Algebra 2 Accelerated (1823) with a grade of 80 or higher.

A preparation for the study of calculus, this course focuses on the concept of function as exemplified by algebraic, polynomial, logarithmic, exponential, and circular (trigonometric) functions. Pre-Calculus also includes an extensive coverage of analytic geometry.

MATH

REQUIRED COURSES

CALCULUS

1840 AP CALCULUS BC

Advanced Placement, 1.0 Credit

Prerequisites: Departmental approval. Successful completion of Pre-Calculus/Calculus Honors (1831) or Pre-Calculus Honors (1832), with a grade of 85 or higher.

AP Calculus BC is roughly equivalent to both first and second semester college calculus courses and extends the content learned in AB to different types of equations and introduces the topic of sequences and series. The AP course covers topics in differential and integral calculus, including concepts and skills of limits, derivatives, definite integrals, the Fundamental Theorem of Calculus, and series. The course teaches students to approach calculus concepts and problems when they are represented graphically, numerically, analytically, and verbally, and to make connections amongst these representations. Students learn how to use technology to help solve problems, experiment, interpret results, and support conclusions. Students taking an Advanced Placement course are required to take the AP Exam in May.

1841 AP CALCULUS AB

Advanced Placement, 1.0 Credit

Prerequisites: Departmental approval. Successful completion of Pre-Calculus Honors (1832) with a grade of 85 or higher.

AP Calculus AB is roughly equivalent to a first semester college calculus course devoted to topics in differential and integral calculus. The AP course covers topics in these areas, including concepts and skills of limits, derivatives, definite integrals, and the Fundamental Theorem of Calculus. The course teaches students to approach calculus concepts and problems when they are represented graphically, numerically, analytically, and verbally, and to make connections amongst these representations. Students learn how to use technology to help solve problems, experiment, interpret results, and support conclusions. Students taking an Advanced Placement course are required to take the AP Exam in May.

1842 CALCULUS

Honors, 1.0 Credit

Prerequisites: Departmental placement. Successful completion of Pre-Calculus Accelerated (1833) with a grade of 80 or higher.

Introduction to Calculus provides an introduction to the concepts and applications of differential and integral calculus, but it is less intensive than Calculus AB. The course begins with a review of key Pre-calculus topics. Students then study many of the topics suggested in the AP Calculus AB syllabus: properties of elementary functions; limits; techniques of differentiation and applications of the derivative; antiderivatives and their application; and the definite integral and its application. The course is intended to provide students with a firm grounding in basic calculus techniques and concepts to enable academic success in a more rigorous college level calculus course.

MATH

REQUIRED COURSES

CALCULUS [CONTINUED]

1843 MULTIVARIABLE CALCULUS

Honors, 1.0 Credit

Prerequisites: Departmental placement. Successful completion of both AP Calculus BC (1840) and AP Calculus AB (1841).

Multivariable Calculus covers differential, integral, and vector calculus for functions of more than one variable. These mathematical tools and methods are used extensively in the physical sciences, engineering, economics, and computer graphics. This Open Courseware (OCW) course is designed for independent learners, including lecture and problem-solving videos, problems sets (with solutions), and exam practice. Students enrolled in this course will work through each session and document time spent, notes, and completed work. There will be four unit exams, based on the material highlighted in each unit, and one cumulative final exam.

ELECTIVES

OPEN TO JUNIORS AND SENIORS

1890 VHS - AP STATISTICS

Advanced Placement, 1.0 Credit

Prerequisites: Departmental approval. Successful completion of Pre-Calculus/Calculus Honors (1831), Pre-Calculus Honors (1831) or Algebra 2 Accelerated (1823).

Statistics is the equivalent of many first year college courses. Students prepare for the Advanced Placement Test in this course by studying all topics suggested in the AP Statistics syllabus: It covers four principal conceptual themes: observing patterns and departures from them, planning a statistical study, producing models using probability theory and simulation and confirming models using statistical inference. Topics include: defining and organizing data, averages and variation, regression analysis and correlation, basic probability theory, probability distribution functions, binomial and normal distributions, sampling distributions, estimation, hypothesis testing, inferences, correlation coefficients, deviation and confidence intervals. The TI-84 Plus calculator will be used extensively through this course. Students taking an Advanced Placement course are required to take the AP Exam in May.

1891 VHS - DIFFERENTIAL CALCULUS

Honors, 0.5 Credit

Prerequisite: Administrative approval.

This semester course is designed for students interested in an introduction to college mathematics. The course will cover topics including a review of core pre-calculus topics, limits and continuity, derivatives and applications of derivatives. Students will make connections among these topics as well as solve real-life applications. An emphasis will be placed on mathematical vocabulary and explanations of solutions in writing.

MATH

ELECTIVES

OPEN TO JUNIORS AND SENIORS [CONTINUED]

1892 VHS - NUMBER THEORY

Honors, 0.5 Credit

Prerequisites: Administrative approval. Successful completion of Algebra 1 (1802 or 1803) or Integrated Math 1 (1801).

Number Theory began as a play area for a few mathematicians that were fascinated by the curious properties of numbers. Today, it has numerous applications from pencil and paper algorithms, to the solving of puzzles, to the design of computer software, to cryptanalysis (a science of code breaking).

Number Theory uses the familiar operations of arithmetic (addition, subtraction, multiplication, and division), but more as the starting point of intriguing investigations than as topics of primary interest. Number Theory is more involved in finding relations, patterns, and the structure of numbers.

This course will cover topics such as the Fundamental Theorem of Algebra, Euclid's Algorithm, Pascal's Triangle, Fermat's Last Theorem, and Pythagorean Triples. We finish the course with a linkage of Number Theory to Cryptography.

PHYSICAL EDUCATION

REQUIRED COURSES

OPEN TO FRESHMAN ONLY

1915 PHYSICAL EDUCATION AND HEALTH 1

0.5 Credit

Prerequisite: Administrative placement.

Physical education is a half-year developmental course in both team and individual sport skills and in personal fitness. Activities include fitness testing, touch football, team handball, soccer, Frisbee, small group games and activities, volleyball, basketball, gymnastics, street hockey, weight training, softball, wiffleball, and track and field. Emphasis is on improving athletic ability and interest, and on gaining an appreciation of all the social and psychological aspects of participation. Each semester the Health Education team addresses the current health issues with freshmen students. All classes use a hands-on approach activities approach with food models, handouts, and guest speakers.

Overview of topics:

- Weight Training
- Nutrition- inclusive of negative health effects of supplements
- Cardiovascular health
- Nutrition expanded-developing healthy habits and desirable weight
- Personal health
- Drugs, Alcohol and Tobacco-including steroids and supplements
- Resisting Peer Pressure
- CPR/AED awareness

SOPHOMORE YEAR

1925 PHYSICAL EDUCATION AND HEALTH 2

0.5 Credit

Prerequisite: Administrative placement.

Physical Education II is a continuation of the first year's program with introduction of more decision making on the part of the students. Instructors emphasize less skill work and expect a higher degree of participation. An equivalent summer course offered by School may fulfill this requirement. Health Education in the sophomore year continues to reinforce and expand upon some freshmen topics. Health education is designed to equip students with the positive decision making skills necessary for life-long healthy choices. Current health topics are addressed using DVDs, guest speakers and CPR/AED mannequins and trainers.

Overview of Topics:

- Weight Training
- Nutrition- inclusive of the negative effects of supplements
- Cardiovascular Health
- Drugs, Alcohol and Tobacco-inclusive of steroids and supplements
- Dynamic and Static Stretching
- Intro to Kinesiology
- Physics of Sport Science
- Careers in Sport Science Fields
- CPR/AED certification

PHYSICAL EDUCATION

ELECTIVE COURSES

OPEN TO JUNIORS AND SENIORS

1935 PHYSICAL EDUCATION AND HEALTH 3**0.5 Credit**

Prerequisite: Administrative placement.

In our Junior-Senior Physical Education elective, students engage in a variety of physical activities that enable them to meet individual health-related and skill-related fitness standards that are challenging and self-directed. Emphasis will be placed on concepts of personal fitness and knowledge to achieve and maintain a healthy level of physical fitness. Students will participate in a variety of sport theme activities that can be used for lifetime recreation and personal fitness. Students will engage in both individual and team activities.