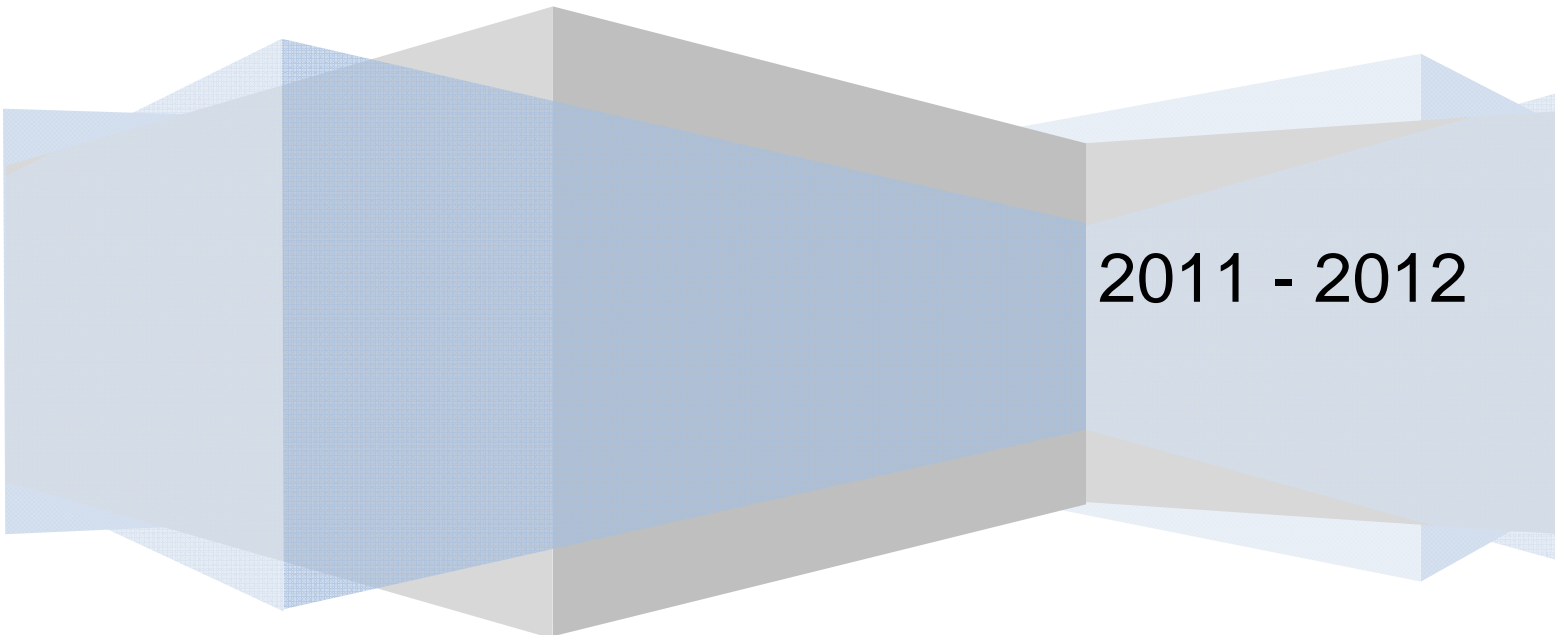


# Harrisburg Academy Upper School Course Catalog



2011 - 2012

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## **Mission of the Upper School**

The Harrisburg Academy Upper School is committed to providing a superior academic experience for its students. Maintaining and enriching academic strength is its highest priority. The purpose of the Upper School is to educate students in the fundamentals of the five major disciplines and in the fine arts and to develop in them the questioning skills and insight necessary to learn and to love to learn for themselves. In an atmosphere of close relationships with faculty and mutual peer support, students achieve independence and confidence in self expression.

Supporting the academic program, the Upper School provides a wide variety of opportunities for learning and personal development outside of the classroom. Students participate in an open and broad array of varsity sports and activities which encourage self discipline, leadership, effective interpersonal relations, and a commitment to excellence.

Students graduate from the Upper School of Harrisburg Academy prepared to enter college and adulthood as responsible, intelligent, sensitive, and articulate citizens.

## **The Harrisburg Academy Academic Program**

Harrisburg Academy offers a college preparatory academic program. The Academy strives to promote in each student healthy lifestyle choices and to inspire curiosity, critical thinking, and a passion for learning that sets the foundation and provides the opportunity for a life both individually fulfilling and intrinsically valuable to the larger society. Our curriculum is sequential from kindergarten through the twelfth grade, and course offerings and content are systematically evaluated by the academic department chairpersons to ensure that the students are exposed to appropriate topics in an exceptional manner. The curriculum reflects the educational demands of the twenty-first century, as well as our sense of purpose and commitment to diversity and the growth of all learners within our community.

## **Academic Requirements**

Students must take at least 5 majors each semester (unless they are attending Capital Area School for the Arts), physical education, and required enrichment courses each year. In addition, seniors must pass all courses taken during the second semester. Students may not take more than 6 major subjects under most circumstances. Scheduling considerations make it very difficult for a student to take more than two academic subjects in the same discipline. The Head of Upper School must approve any deviation from these academic requirements and parent approval will be sought. The minimum number of credits needed in each of the Upper School's departments in order to graduate is summarized in the table below.

### **Required credit courses**

- 4 credits in English
- 3 credits in history, including U.S. History
- 3 credits (4 recommended) in mathematics, including Geometry and Algebra II
- 3 credits in science, including Biology, Chemistry and Physics

3 credits in the same foreign language (with dept. approval, 2 credits each in two languages)  
1 credit in Art or Music  
2 credits in physical education (including varsity sports participation)  
Grade 11 Health  
College Prep  
Senior Speech

### **Required non-credit courses**

Physical Education each year (Pass/Fail)  
Senior Internship (Pass/Fail/Honors)  
CAS each year (Pass/Fail)

All Upper School students are required to take five full-credit courses; however, six full-credit courses is recommended. Semester and yearlong courses are available to students who have met the requirement and/or wish to take an additional course.

These requirements are based on a student's attending Harrisburg Academy all four years. Appropriate adjustments may be made for transfer students.

### **Senior Internship Program**

The senior year culminates in an approved Senior Internship during the last weeks of the semester. At this time, each student participates in an individually-designed program allowing him or her to gain active, direct experience working and studying meaningful areas of interest. Successful completion of the Senior Internship Program is a requirement for graduation. Transcripts reflect Honors/Pass/Fail grade.

### **Creativity Action Service (CAS)**

CAS is a framework for experiential learning, designed to involve students in new roles. The emphasis is on learning by doing real tasks that have real consequences and then reflecting on these experiences over time. This process of doing and reflecting on the doing provides an excellent opportunity to extend what is learned in the classroom to a form of service.

Non-IB diploma students must complete a 20 hour minimum in each of the three areas for a total of 60 hours per year. Documentation of activities includes a project log, evaluation for each project, and reflection on major projects.

IB diploma students must complete a 25 hour minimum in each of the three areas for a total of 150 hours over the two years. Evaluation and reflection form is required for every project submitted. Continuous communication with CAS Coordinator is essential for appropriate project selection.

CAS will be documented on student report cards. The number of hours completed in each area of CAS will be reported each semester. The final grade for CAS will be designated by Pass/Fail

according to the expected number of hours. The CAS Booklet contains specific guidelines and expectations for all students.

## **Related Academic Policies**

### **Course Credit**

At the end of each semester and at the end of the academic year, credits are determined according to the number of class meetings per cycle and GPA's are calculated. Each cycle is six days in length. Credit is assigned to courses as follows:

Year course	5-8 meetings per cycle	1 credit
Year course	2-3 meetings per cycle	1/2 credit
Semester course	5-7 meetings per cycle	1/2 credit
Semester course	2-3 meetings per cycle	1/4 credit
Quarter course	4-5 meetings per cycle	1/4 credit

### **Exams and Final Grades**

Students in the Upper School take exams at the end of each semester in all major subjects. Exams are scheduled at the end of first and second semester; students take no more than two 2-hour exams on any one day unless they have a conflict. Only the semester and year grades are recorded on the official student transcript.

First semester exams have the following weight: 15% of the semester grade for introductory level courses (Gender in Lit, Biology, World History I, Algebra I and II, French I & II, Spanish I & II, Latin I and II). In all other courses, the exam is worth 25% of the semester grade. Second semester exams are worth 20% in introductory courses and 25% in all other courses.

Instructors of students taking Advanced Placement courses may elect to give the students a final paper or project in lieu of a final exam.

### **International Baccalaureate and Advanced Placement Courses**

The Harrisburg Academy Upper School is an IB World School offering the IB Diploma to students in the Grade 11 and 12 school years. Students may participate in the IB program as a certificate student or as a full diploma student. Most IB courses are two years in duration and contain both internal and external assessments. To learn about the differences between the certificate and diploma options and other details please visit the Academy's IB portion of our website. The Academy also offers some courses through the Advanced Placement program. AP courses are one year courses, and students are required to complete the AP test given in May to receive the AP designation on their transcript. The grades earned in IB higher level, year two of standard level mathematics and AP courses are weighted by adding a .333 value to the grade earned in the course.

Prior to the start of the school year students are asked to select courses. Courses selected are reviewed to ensure a proper match between the challenge of the course of study and the past performance of the student. As stated, most IB courses are two year courses and students should complete the full course, both years, in order to complete the objectives of the course.

### **Grade Point Average (GPA)**

The Upper School faculty of The Harrisburg Academy evaluate student performance and grade point averages are computed according to the following scales:

Numerical Average	Letter Grade	GPA value
96.68+	A+	4.33
93.34 - 96.67	A	4.00
90.00 - 93.33	A-	3.67
86.68 - 89.99	B+	3.33
83.34 - 86.67	B	3.00
80.00 - 83.33	B-	2.67
76.68 - 79.99	C+	2.33
73.34 - 76.67	C	2.00
70.00 - 73.33	C-	1.67
66.68 - 69.99	D+	1.33
63.34 - 66.67	D	1.00
60.00 - 63.33	D-	0.67
below 60	F	0.00

Letter grades represent the following:

- A = Excellent
- B = Very Good
- C = Satisfactory
- D = Meets Minimum Requirements
- F = Does not meet minimum requirements

### **Academic Honors**

Upper School students whose semester grade point average without rounding is at least 3.60 earn First Honors, and students whose semester grade point average without rounding is at least 3.10 earn Second Honors.

A student whose academic year grade point average without rounding is at least 3.60 or who earns First Honors for both semesters of an academic year receives the Head of School Scroll. For seniors, the award is presented to them during the Commencement ceremony. All other students receive their award in the mail.

## **Senior Graduation Requirements**

All seniors must satisfactorily complete all graduation requirements, including Creativity, Action, and Service hours and Senior Internship. In addition, all Seniors must earn passing grades in all second semester senior year courses. During the month of May IB and AP exams are usually scheduled by the IB and AP organizations. Depending on the course, Seniors may need to complete a final project or final exam.

## **Homework**

Homework assignments in each class should approximate 30 minutes nightly, with more time expected when necessary for projects or papers, or before tests. Students in IB or AP classes may be expected to devote more time to the class depending on the assignment.

## **Outside Coursework and Diploma Policy**

In their senior year, Harrisburg Academy students may be able to take courses at the Capital Area School of the Arts. This allowance will be provided if the student is able to meet their graduation requirements and attend the off campus program. Prior written approval for outside coursework credit may be requested if the student has exhausted the course offerings of the Academy.

## **Academic Reenrollment Contract Hold**

A student who has two or more grades below the C- (70%) level will have their following year reenrollment contract held. The Head of the Upper School will personally contact the family regarding the contract hold. During the second semester of the school year the progress of the student will be monitored and when it is determined the student can appropriately benefit from enrollment for the following school year the reenrollment contracted will be provided.

## **Upper School Caution List**

The purpose of the Upper School Academic Caution List is to make the student and his/her family aware of an academic concern, usually a class grade average below the "C" level, in a particular subject. For several years now the Caution List has successfully proven to be a beneficial tool for the parent–teacher partnership in that you are notified soon after a difficulty arises. In addition, the advisor is notified of the caution notification so that they can have a conversation with the student if necessary.

Upon receiving notification that your son/daughter has been placed on the caution list, please discuss the reason for the academic concern with your son/daughter and help him/her to determine a plan for addressing the academic difficulty. When their performance in the class shows improvement, and the grade in the course rises to the "C" level or better, the student's name will be removed from the caution list. We will notify you again when this occurs.

## Academic Services

### **MS/US Library**

Teaching students how to gain access to information is the most important function of library instruction and can be best taught when integrated into regular classroom instruction. Search engines do not teach students how to use the information they find, but Librarians do. Library materials should support the curriculum, offer enrichment for leisure reading, cover a wide range of difficulty and diversity of appeal, and present differing viewpoints. The Harrisburg Academy library exists to implement, enrich, and support the educational programs and goals of the school. The MS/US Library is an up-to-date facility with many different kinds of resources including books, software programs and online databases. The card catalog is online throughout the school. Many online databases are accessible from school and home such as POWER Library Resources, giving students access to approved, authoritative websites of books, magazine and newspaper articles, photos, reference works and literary criticism.

Students in grades 5 through 12 may visit the Library before and after school, during free periods and study halls. Classes often meet in the Library to do research and develop research skills. Instruction is provided by working with teachers in all disciplines to integrate library skills into classroom activities. The librarian works with groups and individuals teaching computer skills, helping with research and selecting recreational reading.

### **National Honor Society**

The purpose of National Honor Society (NHS) is to promote academic excellence, develop character and leadership through example, and encourage empathy with and service to others. Membership in NHS is an honor and a privilege; it is not a right. Membership is not guaranteed by high scholastic standing alone.

New students to the Academy, who were selected to their previous school's chapter of the NHS, must achieve a 3.60 average for two quarters to remain eligible. It is a lifetime membership unless the member falls below the standards and is subsequently dismissed.

#### *Standards*

- To be considered for nomination to NHS a candidate must meet the minimal requirements described below.
- The candidate must have attended the Harrisburg Academy for the equivalent of one semester.
- The candidate must have a cumulative academic GPA of 3.60 on a 4.00 scale.
- The candidate must participate enthusiastically in the Harrisburg Academy's school CAS program.
- The candidate must have completed the Harrisburg Academy CAS requirement in a timely manner, that is 10 hours per semester, per year.

- The candidate must demonstrate a high degree of leadership, character, and service to school and community as outlined in the selection guidelines of the NHS Handbook. These are available from the chapter adviser upon request.

### *Nomination*

Nominations will be made after the completion of the third quarter of the academic year. The chapter adviser will provide letters and packets to nominees. Candidates will be selected based on meeting the attendance, scholastic achievement, and school and community service criteria.

### *Selection*

An interested nominee must fill out a Student Activity Information Form and obtain a letter of recommendation from an unrelated adult outside of the Harrisburg Academy. The chapter adviser must receive all of the information by the time and date indicated in the nomination letter. Late information will not be accepted, and the nomination will not be considered any further. The chapter adviser will provide a list of nominees to the Harrisburg Academy Faculty and a Faculty Evaluation Form. At this time the faculty has the opportunity to provide information about any or all of the nominees. The chapter adviser must receive the evaluations by the indicated time and date for it to be presented to the Faculty Council.

The Faculty Council, a group of five faculty members chosen by the Head of the Upper School each year, will meet to select those who qualify for membership in the chapter. The chapter adviser will provide the Faculty Council with all information submitted on time. No working notes will be retained after the selection process is completed.

### *Notification of selection decisions*

All nominees will be notified of the selection of the Faculty Council by a letter mailed to the nominee at home. Information regarding the induction ceremony will be included in that letter.

Any questions or a request for further explanations should be referred to the chapter adviser. This process is outlined in the NHS National Constitution and Harrisburg Academy Chapter Bylaws. In accordance with the NHS Constitution, appeals of selection decisions may be made only if there was a procedural error.

## **Academic Assistance**

Students are encouraged to see their teachers from 3:00 – 3:45 PM or during a mutually agreeable time to ask questions about course information and to receive help with their assignments or the course material.

## **Independent Study**

Independent studies provide a way for students to receive academic credit for accelerated study in a particular discipline beyond the existing curriculum. Independent studies are limited to students who have demonstrated responsibility and the capability to sustain work. If an independent study is to be completed outside of The Harrisburg Academy, a cooperating faculty member from within the school will outline criteria for evaluation and credit for the course. If a student is interested in an independent study, the student must submit a completed independent

study proposal form with the appropriate signatures at least two weeks before the first day of the semester during which the independent study will take place. The Curriculum Committee will consider the proposal and make a recommendation to the Head of Upper School.

## Department Overview and Course Descriptions

The following are the descriptions of all courses offered in the Upper School. The courses offered depend on enrollment, interest, and availability of faculty. All of the offerings are rigorous, college preparatory courses, the equivalent of accelerated or honors courses in most public schools. The International Baccalaureate and Advanced Placement courses are college-level courses.

While suggested guidelines are offered in most departments for the grade levels appropriate for each course, these are indeed merely guidelines, not mandatory designations. Students with special interests or talents may select and take courses outside their grade levels with the permission of the Head of Upper School, the instructor, and their parents, schedule permitting.

### English Department

The mission of the English Department of Harrisburg Academy is to help students develop the essential communication skills—reading, writing, listening, and speaking—in an atmosphere that encourages the love of learning. Literature selection is diverse, including not only the western canon but also representative works from modern and multicultural writers.

Many of the courses are thematic. All courses:

- Require students to read and discuss many genres (novels, short stories, plays, poetry, nonfiction);
- Emphasize careful analysis and rational interpretation of the entire text (Unlike many schools in the area, we rarely use anthologies);
- Require students to strengthen grammar and vocabulary;
- Introduce, explain, and illustrate literary terms and techniques, providing students with the skills to use such techniques in more advanced courses.
- Give students experience doing research and giving oral presentations;
- Emphasize increasingly complex formal writing;
- Engage students in creative writing.

#### 9th Grade English Myth and Genre

Year

1 credit

#### Literature and Reading

Representative Texts:

*Lord of the Flies*

*A Yellow Raft in Blue Water*

*Beowulf*

*The Canterbury Tales*

*Grendel*

*Sophocles: Three Tragedies*

*The Tempest*

*Mourning Becomes Electra*

*The Power of Myth*

*Hodges' Harbrace Handbook*

Golding

Dorris

Tr. Heaney

Chaucer

Gardner

Ed. Greene & Lattimore

Shakespeare

O'Neill

Perrine

15<sup>th</sup> Edition

We will focus on the role that mythology plays in literature. Using Joseph Campbell's *The Power of Myth* as a foundation, we will explore *Beowulf*, the oldest English epic poem, and John Gardner's modern revision, *Grendel*. We will study the Oedipus plays of Sophocles and Eugene O'Neill's use of the themes and structure of classic Greek drama in his early twentieth century trilogy *Mourning Becomes Electra*. We will identify the mythological roots of Chaucer's *Canterbury Tales*, Dorris's Native American classic *A Yellow Raft in Blue Water*, and Golding's modern classic *The Lord of the Flies*. We will finish up with Shakespeare's elemental dramatic romance *The Tempest*. We will also begin the formal study of poetry with chapters 1 -5 in Perrine's *Sound and Sense*.

### Written Work

You will write a variety of essays in this course: analytic, expository, and research. There is continued emphasis on sentence structure, diction, mechanics, as well as originality. All writing should reflect organization and revision. We will work with thesis statements and the integration of quotations within the text. Some essays will involve the evaluation and citation of critical sources. *Hodges' Harbrace Handbook* and the *MLA Handbook* are used as resources. All written work must be in correct manuscript format. All students will keep a reader-response log which will be periodically evaluated

### Oral Work

Participation is essential. Students are encouraged to share their ideas in class during class discussions on texts we are reading. Students will become comfortable in stating and supporting their opinions. Students are also asked to make more formal presentations to the class on a given topic.

### Grammar and Vocabulary

The appropriate use of English grammar and mechanics is reinforced throughout the year. Student papers are often used as a way to identify and correct errors in punctuation and sentence structure. Students are encouraged to expand their vocabulary and to understand diction as a powerful tool of writers and speakers.

### Skills Introduced

- Critical reading
- Writing as a process
- Recognition of literary terms and techniques
- Mythological studies
- Basic literary research and essay structure
- Critical approaches to literature

**10th Grade English: Conscience & Conflict**  
**in American Literature I and II**

Year

1 credit

**Literature and Reading**

**SUMMER READING: *Water for Elephants* by Sara Gruen**  
**Common book for all Upper School students**  
**Selection by students from a list generated by the English Department**

**Representative texts:**

<i>The Awakening</i>	Kate Chopin
<i>Billy Budd, Sailor and Other Stories</i>	Melville
<i>Cannery Row</i>	John Steinbeck
<i>The Crucible</i>	Arthur Miller
Early American essays and poetry	
<i>The Great Gatsby</i>	F. Scott Fitzgerald
<i>the interpreter of maladies [sic]</i>	Jhumpa Lahiri
<i>Kindred</i>	Octavia Butler
<i>The Natural</i>	Bernard Malamud
<i>One Flew Over the Cuckoo's Nest</i>	Ken Kesey
<i>Snow Falling on Cedars</i>	David Guterson
<i>Their Eyes Were Watching God</i>	Zora Neale Hurston
<i>Women &amp; Fiction</i> , ed.	Susan Cahill
<i>Norton Anthology of Poetry</i> ed.	Allison <i>et. al</i>
<i>Perrine's Sound and Sense</i> , eds.	Arp and Johnson
<i>Hodges' Harbrace Handbook</i> ed.	Cheryl Glenn <i>et al.</i>
<i>MLA Handbook</i>	

All the works studied in this course take as a common theme the struggles of conscience in individuals as they find themselves in conflict with the dominant values of their culture. We discuss the ethical, political, and pragmatic aspects of these conflicts as they occur in the different works. We also discuss genre: for example, how a novel treats its subject matter differently from a drama, and the various skills we need as readers to interpret these differences. A conscious effort is made to introduce major American authors in addition to those from other cultures.

*Written Work*

Focus is on writing as a process, one that includes organizing, drafting, rewriting, and editing. Students write responses to their reading regularly in their Writer's Response Notebooks. These responses are often directed to a particular topic, but, when the student chooses, these can also be undirected free-writings. Students write several formal papers on an assigned topic. They edit each others' rough drafts in a writing workshop (work for which they will be graded) before handing their papers in for final grading. They are encouraged to resubmit their papers after discussion with the instructor and subsequent revision of their work. Some papers require research, and all require correct documentation and citation.

### *Oral Work*

Students are encouraged to share their ideas in class. We discuss works we are reading. We also consider example papers in an effort to promote learning. Students frequently work in groups and then offer their joint efforts to the class. In addition, students make more formal presentations to the class on a given topic such as an abstract of their research papers. Technology is particularly effective for this purpose.

### *Grammar and Vocabulary*

#### *Hodges' Harbrace Handbook*

We study grammar and punctuation throughout the course, often using example student papers as a way to identify and correct errors. We review sentence structure looking at clauses and phrases. We work on using powerful verbs and strong vocabulary as a means to write persuasively.

### **Skills Introduced**

- Critical reading
- Writing as a process: editing and revising
- Structuring of a formal paper: thesis, evidence, conclusion
- Use of MLA format in short research and longer formal papers
- Genre studies: epic, the novel, myth, multi-cultural works, poetry
- Basic literary research, building on their existing skills
- Recognition of literary terms

### **11th Grade English: IB SL English Text and Performance    2 Years                    1 credit/year**

This course is a synthesis of Language A1 and theater. It explores the dynamic relationship between literature and performance—between a conventional literary emphasis on close reading and critical interpretation and the practical, aesthetic, and symbolic elements of theatrical performance.

### *Literature and Reading*

A minimum of six primary texts will be studied: two dramatic texts, two poetry texts, and two prose texts. Supplementary texts will also be used when necessary. The dramatic texts will be drawn from different theater traditions, and all of the texts will represent different cultures and literary periods.

All texts are read critically, with close attention paid to their literary features and various layers of meaning. Close attention is paid to the author's use of the resources of language and their effects on the readers. The similarities and differences among genres, cultures, and theatrical traditions will be highlighted. Strategies and activities aimed at "opening up" texts will include both written appreciation and class discussion.

### *Performance*

#### *Developing Performance Skills and Acting Techniques*

This involves a range of ensemble activities which can be applied in realizing work in performance. It includes such things as movement and voice work, improvisation, and characterization.

*Realizing Work in Performance*

A performance is the presentation to an audience of a rehearsed theater piece. Much of the course work will involve the presentation of a traditional play script and a transformation, which is an adaptation of a non-dramatic text for theatrical presentation.

*Written and Oral Work*

Students taking this course must be able to reflect on and communicate their knowledge, understanding and responses to literature and performance in clear and effective language, both orally and in writing. To this end, students will

- Be involved in discussing and presenting their views orally
- Be introduced to a variety of styles and methods of writing related to literature and performance
- Be engaged in exercises that will enable them to write formal literary essays.
- Keep a personal journal in which they record ideas and responses, keep notes, and collect supporting material

**Skills Introduced**

- Critical and imaginative exploration of literary texts
- Principles and practices of the theater
- Performance skills
- Appreciation for diverse cultures, period, and genres.
- Fostering a personal engagement with literature

<b><u>11<sup>th</sup> Grade English-IB HL World Literature, year 1</u></b>	<b>Year</b>	<b>1 credit</b>
<b><u>12<sup>th</sup> Grade English-IB HL World Literature, year 2</u></b> <b>with AP option (2009-2010 only)</b>	<b>Year</b>	<b>1 credit</b>

*Literature and Reading*

Representative texts:

<i>Love in the Time of Cholera</i>	Marquez (summer reading)
<i>Four Major Plays</i>	Ibsen (summer reading)
A book each student selects from a list provided of suggested reading	

11th Grade:

<i>The Incredible Lightness of Being</i>	Kundera
<i>The House of Spirits</i>	Allende
<i>The Great Gatsby</i>	Fitzgerald
<i>Othello</i>	Shakespeare
<i>Candide</i>	Voltaire
<i>Things Fall Apart</i>	Achebe

<i>Trilogy</i>	Doolittle
<i>Collected Works of Robert Frost</i>	Frost
<i>To the Lighthouse</i>	Woolf

12th Grade:

<i>King Lear</i>	Shakespeare
<i>English Poetry</i>	Keats, T. S. Eliot, Yeats
<i>Dubliners and selections from A Portrait of the Artist as a Young Man</i>	Joyce
<i>Essays</i>	Hurston
<i>A Doll's House</i>	Ibsen (revisited)
<i>Death of a Salesman and/or The Crucible</i> – Miller	
<i>Cat on Hot Tin Roof</i>	T. Williams
<i>Who's Afraid of Virginia Woolf</i>	Albee

*Learner Profile*

IB and AP students are: inquirers, thinkers, communicators, and risk-takers; they are: knowledgeable, principled, open-minded, caring, balanced, and reflective.

Plays, novels, short stories, poetry, and formal and personal essays comprise most of the literature for this course. The works read are discussed in terms of their stylistic effectiveness, the cultural values and topics they contain, and their common themes. Students are taught to become aware of how an author creates a particular effect through his or her literary choices of language and structure to communicate tone, and determine structure. The AP exam in May is mandatory for every student registered for the AP portion of the course as an elective; IB students will take all exams, as scheduled.

*Other Writing: Assignments*

Students practice using prose effectively or studying how other authors use prose effectively. Many assignments are similar in structure to the short prose works that appear on the AP exam in May and the IB exams throughout the year. In the spring, students write a research paper. Creative writing is also part of this course to encourage creative thinking.

*Oral Work*

Students discuss reading seminar style, lead discussion on assigned topics, share written responses to literature, generate topics through selected passages from our reading, and make formal presentations both individually and in groups. Participation is vital, expected, and graded.

*Grammar and Vocabulary*

<i>Understanding Style</i>	Glaser
<i>Hodges' Harbrace Handbook</i>	ed. by Glenn <i>et al</i>

Vocabulary is selected (primarily by students) from the works read and studied in context. Grammar is reviewed through common errors in written work, collected and discussed as needed. Effective sentence structure, precision in word choice, agreement, and advanced methods of punctuation are strongly stressed.

## Skills Introduced

- Critical reading and thinking
- Organizing and supporting a positive argument
- Evaluation and creation of essays on definition and refutation
- Use of logic and recognition of logical fallacies
- Prose analysis
- Recognizing audience, purpose, and tone
- Integrating quotations effectively
- Expanded recognition of rhetorical devices
- Writing the personal informal essay
- Continued use of literary source material for research

## **11th and 12th Grade English: Literature, Composition, and Creative Writing**      Year 1 credit

### *Literature and Reading*

Representative texts:

<i>The Interpreter of Maladies</i>	<i>Lahiri</i>
<i>The World According to Garp</i>	<i>Irving</i>
<i>A Streetcar Named Desire</i>	<i>Williams</i>
<i>Snow Falling on Cedars</i>	<i>Guterson</i>
<i>The Magic Barrel</i>	<i>Malamud</i>
<i>Ceremony</i>	<i>Silko</i>
<i>Life of Pi</i>	<i>Martel</i>
<i>Demian</i>	<i>Hesse</i>
<i>Bird by Bird</i>	<i>Lamott</i>
<i>Sound &amp; Sense</i>	<i>ed. by Arp</i>
<i>Hodges' Harbrace Handbook</i>	<i>ed. by Glenn et al</i>
<i>MLA Handbook for Research Papers</i>	<i>Gibaldi</i>

### *Written Work*

In addition to a list of relevant literary terms, discussion notes, and written analysis of various texts, students write a variety of papers, including interpretative, persuasive, and creative in addition to a research paper. All work must be submitted before exams begin.

### *Oral Work*

A number of presentations are required, from presenting a chapter of a novel in an original way to final assessments of a work studied. Students are also expected to lead at least one discussion and to work in groups, not for consensus but to emphasize the variety of opinions and to learn to synthesize when necessary.

*Grammar and Vocabulary*  
*Hodges' Harbrace Handbook*

Students keep an ongoing list of new vocabulary words along with the literary terms, which are applied to—and reinforced through—the works studied. After papers are returned, students write incorrect sentences on the board for class analysis and suggestions for corrections. All papers may be revised. The grade will not be changed; however, additional credit will be given at the end of the quarter.

*Skills Introduced*

- Students add to the already-established list of literary terms with additional style traits such as bildungsroman, satire, sarcasm, leitmotif, and tableau.
- Critical reading and determination of theme, style, and author's tone and intent
- Research resulting in a literary term paper as a requirement for graduation. The expectation is that all students have mastered the MLA documentation format, citation, and manuscript form.
- Preparation for college-level assignments

**Independent English Study**

**Year**

**1 credit**

Texts

<i>Vocabulary Workshop level E</i>	Sadlier-Oxford
<i>Composition Workshop level blue</i>	Sadlier-Oxford
<i>Literature Selections bronze level</i>	Prentice-Hall
<i>English purple level</i>	McDougal-Little
<i>Reading, Writing and Grammar Skillbook</i>	- Scott Foresman

Facility in reading comprehension and writing skills is emphasized along with correct grammar usage and improved vocabulary.

*Written Work*

Written responses to short stories enable the students to learn English skills to complement their grade-level English courses. In addition, grammar exercises reinforce the English skills necessary for good writing.

*Oral Work*

Oral work is limited to reading aloud and answering questions in class.

This course is offered to exchange students, as necessary, and those for whom English is a second language.

**11th and 12th: Theory of Knowledge**

*(IB Full Diploma Students only)*

**2 Years**

**½ credit/year**

The first sentence of Aristotle's *Metaphysics* states, "All men desire to understand the causes of things." If our human nature compels us to seek knowledge, then we should endeavor, through the Theory of Knowledge course, to deepen our understanding of what it is we know and how it is we know it.

Since Aristotle's description of man's thirst to understand causes, both the concept of "man" and our understanding of "knowledge" have changed. Through the expansion of technology during the last twenty years, the areas of knowledge, the ways of knowing, have grown exponentially, and as members of a global society which has experienced and been drawn together by such growth and change, each of us must examine and reexamine not only our preconceptions but the new perspectives available to us. We must not only believe, but understand why and how "other people, with their differences, can also be right."

While the 6 subject groups in the IB Diploma programme present the academic and interdisciplinary approaches to knowledge in their areas, the Theory of Knowledge course addresses the relationships between all of them, with the goal of developing "student knowers." In order to help students see connections between—and suspend possibly absolute beliefs contingent within—individual subject areas, the Theory of Knowledge course will use "linking questions," among other approaches to widen discussion, open minds, and challenge students' critical and ethical thinking. Student "knowers" in this course will come to understand that their relationship to the known is influenced by, among other things, their personal beliefs, biases, social, religious and geographical communities and that, as responsible members of a global community, they must remain humble about claims of certain knowledge.

For the purpose of the Theory of Knowledge course, knowledge is divided into six areas—natural sciences, human sciences, history, math, arts and ethics—and each area contains problems which must be uncovered and examined in order to understand the power and the limitations of these kinds of knowing. The means of knowing—what the Theory of Knowledge course calls "ways of knowing"—similarly contain powers, problems and limitations which demand scrutiny. Studying these areas and means of knowledge, students see the links between the 6 groups of the Diploma Programme and develop a sense of belonging to a community of knowers whose ideas may be different, but whose respect for the search for knowledge brings them together.

### *Aims*

The Theory of Knowledge course asks students to reflect on the foundations of knowledge so they can critically evaluate "knowledge claims." They will ask themselves "How do I know?" and "What do I know?" Such evaluation will include recognizing the effect of personal and ideological biases, cultural perspectives, beliefs, opinions and dogmatic assumptions. Students and teachers (the TOK instructor and other IB Group visiting instructors) will not only wrestle with age-old questions of knowledge, but also examine the global changes introduced by information and internet technology, among other modern discoveries, and determine how one may react responsibly to them. Students will learn that proper evaluation of "knowledge claims" promotes internationalism as genuine truth and that knowledge unites—rather than divides—societies and countries.

### *Objectives*

Having completed Theory of Knowledge, students will understand both the powers and the limitations of the various Ways of Knowing and will know the basic methods used by the Areas of Knowing. They will understand how their personal views, judgments and beliefs impact their quest for knowledge and will see the interdisciplinary connections between the Areas. They will learn that much knowledge starts with knowing what questions to ask, and how to recognize different perspectives. Students will be able to demonstrate their personal understanding to their peers and to outside examiners through oral and written presentations. Finally, students will demonstrate an improved capacity to reason critically, clearly, honestly, and logically.

## **History Department**

History courses offered in the Upper School are designed to stimulate intellectual thought and growth. Choosing either the College Preparatory or IB tracks of study, students will find they will be challenged to develop proficiency with a variety of processing skills. Students will be taught not to accept all concepts at face value and will be encouraged to investigate and analyze a variety of documents. Applying the process of historical methodology, students will learn to evaluate the relevancy of primary sources and the reliability of secondary ones. The course work requires that each student recognize the interconnections of common themes from past to present times and learn to develop their own perspective about these relationships. Students are challenged to offer opinions and insights in a variety of venues that include class discussions and more formal debates. Communicating effectively through the written word is an important aspect of the students' work and these courses will offer them a variety of written assignments to help their development as historical writers.

### **World History I: Prehistory to 1500**

**Year**

**1 credit**

This ninth grade survey course features the following topics, among others: The Paleolithic period to the Early River Civilizations; the development of classical traditions and institutions in Greece, Rome, India and China; the origins and expansion of Islam; the rise of West African kingdoms; Medieval Europe and Early Modern Europe. It considers major world civilizations with special attention to belief systems, economic development, and political organizations. It emphasizes the contact points between civilizations by examining themes such as international trade, technology, warfare, diplomacy, and religion. Incorporation of the study of modern religions and ethical systems proves development of critical reading of primary and secondary sources, writing, and prepares students for World History II and subsequent work in history including our IB History HL course. All students complete a Historical Investigation that follows guidelines that are set by IBO as a way to prepare the students for future success in our history courses.

### **World History II: 1500 to present**

**Year**

**1 credit**

This tenth grade course is a continuation of World History I with emphasis on how even ancient history impacts the modern era. Like World History I, the course will explore themes of power, faith and revolution. Ultimately, the class will discover how economic, cultural, geographic and technological changes continually shape the path of world events – past, present and future.

### **United States History**

**Year**

**1 credit**

This course is a survey of United States history from the Age of Exploration to the present. Initially, the class will revisit the integral events and personalities from American society in the 18th and 19th centuries. The ultimate focus will rest on a detailed examination of the evolution of American culture, political systems and technology in the 20th century. The course will culminate in an evaluation of how America's beginnings, growth and development have shaped a nation facing new challenges and trends in 21st century global society.

**IB History HL**

**2 Years**

**1 credit/year**

This is a two-year IB level course for upper classmen that studies the Americas. The Americas include Canada, the U.S., Mexico, the Caribbean, and all of Latin America. The class will study domestic and foreign policies/actions of these areas over approximately the last one hundred fifty years. The class will study world trends and how they affect the Americas. The class will also look at how the Americas have affected world trends. There is an obvious interconnectedness of the world's civilizations. The world becomes smaller (figuratively) as this course progresses. The world will deal with great wars, genocide, economic depression, and terrorism. The class will study the rise and fall of several leaders and their nations.

**Elective Courses in History and the Social Sciences**

**Introduction to Economics**

**Semester**

**½ credit**

This elective course is divided into three main areas of focus. First, the class will cover economic fundamentals using the core textbook. The goal of this first unit is to provide a glimpse into some of the concepts studied in introductory college economic courses as well as establishing connectivity to global issues. The second segment of the course will center on Thomas Friedman's *The Lexus And The Olive Tree*. The essential question is, "What is globalization?" Further, the class will use Friedman's insight to explore various causes and effects of this new era. Finally, the course will culminate in an exploration of one of today's hot topics: sustainable globalization. Is it possible? (Not offered every year)

**Ancient Greece**

**Semester**

**½ credit**

This elective class will study many ancient Greek texts that have been translated into English. The class will read and discuss mythology, history, tragedy, and comedy. In addition to ancient primary sources, the course will be supplemented by a modern secondary source entitled *Hellas*. (Not offered every year)

**Ancient Rome**

**Semester**

**½ credit**

Ancient Rome, like ancient Greece, has provided the modern world with the basis for many subjects and ideas. We will study many ancient texts that have been translated into English for us. In addition to these ancient primary sources, we will supplement with a modern secondary source entitled *Rome: Empire Without End*. This is a survey course and will highlight several aspects of the course which the instructor will choose. (Not offered every year)

**Twenty-First Century**

**Semester**

**½ credit**

This elective class begins with an investigation of futurist theory, including past predictions of the future. This introduction will shape the progression of the course towards examination of 21st century issues such as: the environment, population, war, science and technology, and the division of the world into rich and poor nations. Ultimately, students will investigate regional 21st century issues, determine how such events and trends are interconnected, and hence, predict their impact on the future. (Not offered every year)

**20th Century US History through the Study of Popular Music Semester ½ credit**

The United States is a nation of many different cultures. American popular music has reflected the political, social, and economic state of the nation. Sometimes the music helps break down cultural barriers and other times it creates stronger divisions. The course will give students the opportunity explore multiple genres from swing to bebop, country to blues, disco to hip-hop, funk to R&B, and of course rock & roll. We will study US history and note how music either was a reflection of or reaction to American life. Students will need to analyze popular music and the role that the following have played on the music: race relations, war/peace time, and economic conditions. The study will also include the various media that Americans have consumed and ways that they acquired their popular music. (Not offered every year)

**United States Government**

**Semester**

**½ credit**

The United States of America is a grand experiment that began over two hundred years ago. Like most idealistic systems, it has had success or failures depending on the people's involvement. We will examine the foundations of the U.S. government and the changes that have occurred since its inception. We will also look into patterns of history and why definitions have shifted for words like freedom and citizen over the years. Ultimately, the goal of this course is to encourage thinking among students who are approaching or are at voting age. (Not offered every year)

**IB Information Technology in a Global Society (Junior or Senior) Year 1 credit**

The Diploma Programme information technology in a global society (ITGS) course is the study and evaluation of the impact of information technology (IT) on individuals and society. It explores the advantages and disadvantages of the use of digitized information at the local and global level. ITGS provides a framework for the student to make informed judgments and decisions about the use of IT within social contexts.

**Department of World Languages**

The Department of World Languages of The Harrisburg Academy seeks to deepen students' appreciation of global cultures and to develop students' proficiency in understanding, speaking, reading and writing a foreign language. Such proficiency has become an increasingly important skill as our world community shrinks through advances in communications and transportation technologies. Those entering the Academy after their freshman year must meet with a language teacher and/or take a test to determine appropriate placement.

The small class sizes at The Academy give students an exceptional opportunity to speak the language every day with constant feedback from one another and from the teacher. If students

choose to continue their language study in college, the successful completion of The Academy's requirement will give them a solid preparation.

In the first two years of each language, basic grammar and vocabulary are stressed, and modern language classes are conducted primarily in the target language. Students are encouraged to think about the similarities and differences between their own language and culture and those they are studying. In advanced levels, students focus on more sophisticated grammatical structures while also studying literature and films, and they write progressively longer compositions. Modern language classes are conducted in the target language.

The philosophy of the department is that it is not sufficient to master the grammar of a world language. Students must internalize the grammar through daily practice of the four communication skills: listening, speaking, reading, and writing. Students with established fluency in Spanish or French must earn at least 2 credits in another foreign language.

### **Latin II**

**Year**

**1 credit**

- Acquisition and mastery of Latin vocabulary and grammatical concepts paramount to building a strong foundation for Latin III.
- The year will start with a 3 week review of Latin I vocabulary. Review will take various forms including games, worksheets, and quizzes.
- The student will continue to build his/her Latin vocabulary and grammar, reading and comprehension skills. Sentences become more complex and grammatical concepts more abstract. They will continue to learn more about Roman culture and history via the life and exploits of Quintus Horatius Flaccus (Horace), a Roman poet.

### **Latin III**

**Year**

**1 credit**

- This is the most grammatically challenging year. The students' ability to identify and analyze the sentence structure is stressed.
- At the end of Latin III, the students will have learned all of the elementary Latin grammar and will be ready to read from primary source in classical Latin.
- There is an emphasis on reading and reciting the language aloud.

### **French I**

**Year**

**1 credit**

Students in this introductory level course build basic communication skills in French and are introduced to French culture. A strong emphasis on grammar and useful vocabulary enhances reading and writing ability, while oral and listening skills are also stressed. In addition to the textbook, many other tools such as magazine ads, cartoons, games, and simplified stories encouraged active participation. Our basic text, *C'est à toi*, is supplemented by a student workbook and accompanying video and audio materials.

### **French II**

**Year**

**1 credit**

Students in Level II French will continue to build upon their knowledge of French grammar and will practice speaking, listening, writing, and reading. Our text series, *C'est à toi*, includes a student textbook, workbook, and an accompanying program of CD's featuring a variety of native

French speakers. In addition, we will enjoy the popular video sequences which relate to each lesson in the text.

Supplementing the core materials will be simplified stories, poems, popular songs, and articles whenever appropriate. Such ancillary materials help students see the study of grammar not as an end in itself, but rather as an aid to real communication.

French II is a very participatory class. Games, cartoons, and unstructured conversation encourage the use of French and make learning active and enjoyable.

### **French III**

**Year**

**1 credit**

Third year students increase proficiency in speaking and listening as they master more complex grammatical structures. The text series, *C'est à toi*, includes student book, workbook, audio CD's and an accompanying video program. This level of the series puts particular emphasis on the diversity of the francophone world, and thus native voices from Canada, the Antilles, and Africa are occasionally featured on recordings. In French III, students will benefit from exposure to many ancillary resources such as magazine articles, French music, poetry, and newspaper articles. A program of free reading, using the in-class library of French language books and materials, is introduced.

### **French IV / IB French SL, year 1**

**Year**

**1 credit**

French IV students have completed a general study of French grammar. At this level, they are ready to begin applying their knowledge to reading and listening to even more authentic sources. The text, *Trésors du temps*, takes students on a chronological voyage through the highlights of French history, exposing them to samples of literature and art from each era. Essentials of grammar will be reviewed and reinforced as well. This study begins with prehistory and concludes with the dawn of the twentieth century, reached sometime after the start of the third marking period.

Toward the end of the school year, students embark upon a writing project designed to enable them to gather all their language proficiency and express themselves in creative writing and speaking.

### **French V / IB French SL, year 2**

**Year**

**1 credit**

Students taking fifth year French have mastered the grammar and listening skills necessary to move beyond the language textbook. They will read a sample of modern French literature which may include such authors as:

Marcel Pagnol  
Albert Camus  
Jean-Paul Sartre  
Françoise Sagan  
Brigitte Smadja

The class also reads and discusses works by francophone authors reflecting current issues and attitudes important throughout the French-speaking world.

Classroom discussion is conducted in French, and students are responsible for understanding and contributing to the conversation. They will view, discuss, and write about several French films and listen to popular music. A comprehensive grammar review book, *Une fois pour toutes*, will be used as a resource for reinforcing grammatical competence.

All students will participate in interactive oral activities as defined by the IB curriculum and will research an topic of interest for oral presentation.

### **Spanish I**

**Year**

**1 credit**

Spanish I is an important course that establishes a solid foundation for students to continue to Spanish II. In Spanish I our focus will be to enjoy learning how to apply their knowledge as they begin to use Spanish in all skill areas: reading, writing, speaking and listening. Students will be expected to use the Spanish they are learning in the classroom to communicate with the teacher and the student's classmates. We will learn and apply basic grammar structures to communicate information that will cover a variety of topics: going to a restaurant, shopping, going to the doctors among many others. Students will be expected to meet the structural (grammar and vocabulary) and communicative (written and spoken) objectives as outlined in *En Español Uno*, the text currently being used at Harrisburg Academy.

### **Spanish II**

**Year**

**1 credit**

Spanish II continues to build a foundation and create a source from which students can draw to become more proficient in Spanish. In Spanish II our focus will continue to learn grammatical concepts and thematically related vocabulary as students improve their proficiency in all skill areas – reading, writing, speaking and listening. Student swill be expected to meet the structural (grammar and vocabulary) and communicative (speaking and writing) objectives as outlined in the scope and sequence of *En Español Dos*, the text currently being used at Harrisburg Academy. Students will begin with a review of basic grammatical concepts and continue to build their base of knowledge as they prepare for Spanish III.

### **Spanish III**

**Year**

**1 credit**

Spanish III builds on the foundation established in Spanish I and II. In Spanish III our focus will be the people and places of the Hispanic world while students continue to improve their proficiency in reading, writing, listening and speaking. Student will be expected to meet the structural (grammar and vocabulary) and communicative (written and spoken) objectives as outlined in the scope and sequence of *En Español Tres*, the Spanish text currently used at Harrisburg Academy. Students will review important grammatical concepts and continue to build their base of knowledge as they study more complex structures and concepts, thus preparing them for Spanish IV, where that knowledge is requisite.

### **Spanish IV / IB Spanish SL, year 1**

**Year**

**1 credit**

Spanish IV is an advanced Spanish class which will draw on each student's source of grammar and vocabulary, a base of knowledge built during Spanish I, II and II. Students will navigate a

survey of art and modern literature of the Hispanic world, providing a solid foundation for further study in Spanish V. Students will continue to sharpen all skill areas – reading, writing, listening and speaking – as they review and apply more complex grammatical structures. The course objectives primarily focus on reading and writing with a strong emphasis on discussion in the target language. Students will be expected to meet the objectives as set forth in *Galeria de arte y vida*, the text used in Spanish IV at Harrisburg Academy. J Spanish IV students are expected to be able to speak and write in the target language about the works they will be studying.

**Spanish V / IB Spanish SL, year 2**

**Year**

**1 credit**

This course represents the most advanced level offered at The Academy. Open to advanced students, at the discretion of the instructor, this level of Spanish will primarily involve intensive reading of advanced literature as well as a review of complex grammar structures.

**IB Spanish Ab Initio SL, year 1**

Year

1 credit

**IB Spanish Ab Initio SL, year 2**

Year

1 credit

Learning a foreign language is much more than learning a number of sentences, a certain amount of vocabulary or a number of grammatical rules. It means being able to interact in a new cultural context that will enable us to function in a society different from our original one. It not only expands our possibilities for work, entertainment or travel, but it expands our awareness of the world as we know it today—a world that has shrunk due to international flights, the Internet, and a general understanding that cultural diversity is what makes us human.

It is within this context that the language *ab initio* course was designed. It is an opportunity for students to further their linguistic skills by taking up a second foreign language, or for students to learn a foreign language for the first time. In accordance with the international and multicultural ethos of the Diploma Program, all candidates are expected to learn at least one foreign language. Although the International Baccalaureate Organization does not subscribe to one particular approach to the teaching of foreign languages, both the aims and assessment of language *ab initio* focus on communication through the use of the target language.

The Spanish *ab initio* course is a language learning course for beginners, designed to be followed over two years by students who have no previous experience of learning the target language. The main focus of the courses is on the acquisition of language required for purposes and situations usual in everyday social interaction. The Spanish *ab initio* course is only available at the standard level.

## Mathematics Department

The emphasis of the Academy's Mathematics Department is on developing good problem-solving and analytical thinking skills while reinforcing computational skills learned in the Lower and Middle Schools. Students are expected to be familiar with standard mathematical vocabulary and symbols, the structure and properties of the various number systems, and basic geometric properties. Through the lessons in class and the completion of daily homework assignments, students extend their computational skills, appreciate the structure of mathematics, and demonstrate valid logic. Assignments which reinforce problem-solving skills are essential to the IB curriculum, as well as Pre-Calculus and Calculus, and require students to demonstrate analytical thought and use of appropriate mathematical vocabulary.

### Technology

Students in IB Mathematics Standard Level (I and II), IB Mathematical Studies (I and II), AP Calculus, Pre-Calculus, College Algebra, and Algebra II must have access to a graphic display calculator (GDC). The department recommends the TI-84 Plus.

### Course Alignment

Freshmen and sophomores extend their basic mathematical skills with courses in Algebra II and Geometry. Algebra II emphasizes equation-solving skills, graphing, and applications including a variety of word problems. Geometry emphasizes application of geometric concepts as well as algebraic applications and deductive reasoning.

Juniors may study either of IB Mathematics Standard Level I or IB Mathematical Studies I, as part of the IB Diploma or in pursuit of IB certification. Other options available to juniors are Pre-Calculus (which is co-seated with IB Mathematics Standard Level I) or College Algebra. These courses extend basic algebra skills and focus on the concept of functions, with increasing emphasis on graphing. Juniors who do not plan to take Calculus do not need to take Pre-Calculus.

Seniors who have successfully completed the first year of an IB Math course should continue in the second year of that same course, IB Mathematics Standard Level II or IB Mathematical Studies II. Seniors who have earned a B or better in Pre-Calculus may elect to enroll in Advanced Placement Calculus AB. The AP Calculus course is the equivalent of college-level Calculus courses and includes thorough investigations of limits, derivatives, integrals, and their applications.

There are two elective courses available each year through the math department. Probability and Statistics is available to seniors in the fall semester and is co-seated with IB Mathematical Studies II. History of Math is available spring semester. The AP Statistics may be completed independently in conjunction with the Probability and Statistics course.

These Mathematics courses provide a sound basis for college, reinforce computational and analytical thinking skills, and instill in students an appreciation for mathematics and its applications to related topics in science and the humanities. Students may accelerate their mathematics program in order to include an AP Calculus course. To do so, the student must receive the prior permission of the department and a *demonstrated* strong aptitude for and commitment to mathematics.

Graduation Credits **required:** 3 years including Algebra II and Geometry;  
Department **recommendation:** 4 years

**Algebra II** (Freshmen through Juniors—required)      **Year**      **1 credit**  
*Prerequisite: Successful completion of Algebra I.*

Algebra II provides a review and thorough extension of Algebra I, followed by a study of advanced algebraic topics including polynomials, exponents, logarithms, solving systems of equations including using matrices and determinants, and coordinate geometry. Conic sections and statistics are studied, if time permits. Strong emphasis is placed on concept development, and on connections among topics. An increased emphasis is placed on analytical thinking skills, and students are expected to demonstrate their understanding of the various topics by completion of projects. Evaluation is based on performance on daily assignments (both in class and homework), quizzes, tests, and projects.

Text: *Prentice Hall Algebra II*      Hall and Fabricant

**Geometry** (Sophomores - required)**Year****1 credit***Prerequisite: Successful completion of Algebra I and II.*

Geometry is the formal study of lines, arcs, and circles in planes and space. The course begins with the introduction to geometric figures, such as points, line, angles, and planes. Triangles are classified by the various types and then congruency theorems are developed. At this point there is a heavy emphasis on deductive reasoning. Parallel lines and quadrilateral are then introduced and the topics are expanded to other polygons. The focus returns to triangles with the study of similarity, the Theorem of Pythagoras and preparation for Trigonometry with an introduction to the trigonometric ratios by use of their definitions and their basic identities. Circles round out the geometric topics covered. The end of the course is a review and expansion on area, surface area, and volume applying concepts developed throughout the course. Students are expected to relate the concepts studied to solve algebra problems, as well as to write formal proofs, and are given daily assignments to reinforce lessons learned in class. This course is most valuable for all sophomores in its emphasis on adequate understanding and retention of geometric concepts for the PSATs and the SATs. Evaluation is based on performance on classwork, homework, quizzes, tests, and projects.

Text: *Geometry for Enjoyment and Challenge* Rhoad et al.

**IB Mathematics SL** (Junior and Senior Year)**2 Years****1 credit/year***Prerequisite: Completion of both Geometry and Algebra II with a grade of B or better.*

IB Mathematics SL course is a two-year course following the curriculum outlined by the International Baccalaureate Diploma Programme. This course is offered to capable students who have demonstrated proficiency and analytical ability in mathematics and will provide them with skills to be successful in a Calculus course. Students should have a strong algebraic background and familiarity with appropriate mathematical terms and abbreviations as well as a strong interest in furthering their mathematical background in preparation for university courses such as mathematics, chemistry, physics, business, and economics.

Students will be encouraged to develop an appreciation of the global nature of mathematics and the contributions that have been made by persons from a variety of cultures. In addition, students will learn vocabulary and notation from other cultures, as well as historical anecdotes about specific topics.

The first year of the Mathematics SL course will begin with a review of topics from Algebra related to linear and quadratic functions, followed by trigonometric functions, exponential and logarithmic functions, matrices, sequences and series, probability and statistics, and an introduction to derivatives. Analysis of the graphs of these functions will be a major focus of the course. During the second year, the Mathematics SL students will learn differential and integral calculus and expand their knowledge of topics related to vectors, kinematics, and set theory. Throughout the two years students will be expected to use an appropriate mathematics vocabulary and to demonstrate the ability to apply what they have learned by solving real-world application problems including algebraic, geometric, verbal, and graphical interpretation of the topics.

There is an internal and external IB assessment for this course. The internal assessment is a portfolio containing a mathematical modeling project and a mathematical investigation. It is marked using IBO standards and criteria and may be submitted to the IBO. In May of the second year, students will complete the external assessment which is two exams, one using a graphic display calculator and one without, both prepared and marked by the IBO.

This course co-seats with PreCalculus during the first year and AP Calculus during the second year.

Text: <i>PreCalculus (6<sup>th</sup> Ed.)</i>	Sullivan
<i>Calculus with Analytic Geometry</i>	Anton
<i>Understandable Statistics</i>	Brase/Brase
<i>Mathematics SL</i>	Haese and Harris

**Pre-Calculus** (Juniors) **Year** **1 credit**

*Prerequisite: Completion of both Geometry and Algebra II with a grade of B or better.*

Pre-Calculus is a two part course. The first half of the course focuses on the study of Trigonometry. Students learn radian angle measure and apply it to the unit circle. They further develop the unit circle to determine the trigonometric ratios of all special angles. Students learn the trigonometric identities, how to apply them and to use them in proofs. Students solve right and oblique triangles using the Theorem of Pythagoras, Law of Sines and the Law of Cosines. Students also learn methods for determining the area of these triangles using Heron's formula. Finally, the students learn how to solve trigonometric equations. The second half of the course focuses on preparation for Calculus. It provides a review and extension of advanced topics in Algebra II and further develops functions and analytical geometry. Topics studied include quadratic equations, polynomial equations, exponential and logarithmic functions, sequences and series, and limits. Emphasis is on accurate graphing techniques, analytical thinking skills and applying the concepts studied to other topics in mathematics and science. Evaluation is by daily assignments, quizzes, and tests.

Text: <u>PreCalculus (6<sup>th</sup> Ed.)</u>	Sullivan
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**IB Mathematical Studies SL** (Junior and Senior Year) **2 Years** **1 credit/year**

*Prerequisite: Successful completion of both Geometry and Algebra II.*

IB Mathematical Studies SL course is a two-year course following the curriculum outlined by the International Baccalaureate Diploma Programme. It is intended for students who have demonstrated proficiency in mathematics but whose academic pursuits do not include college studies requiring rigorous mathematical study. In Math Studies, although students will broaden and expand their understanding of the concepts from algebra and geometry, the emphasis will shift towards the critical thinking skills necessary to analyze and interpret data as it occurs in real world applications.

The first year of Math Studies focuses on algebra topics. The students will become comfortable with different types of functions and learn to analyze the nature of the functions by their graphs. Other topics included in the first year of study are trigonometry, surface area and volume of



Emphasis is placed on correct mathematical vocabulary and analytical thinking skills through class work, homework, and weekly lab assignments. Such labs may require one additional lab period per week. Evaluation is based on performance on tests, quizzes, labs, and practice AP work.

**Statistics** (Seniors)

**Fall Semester**

**1 credit**

*Prerequisite: Successful completion of Algebra II.*

This course covers topics in both statistics and probability. First, is the study of statistics. This portion of the course is designed to provide a background in the collection and analysis of data for application in a variety of areas including business, ecology, economics, psychology, and mathematics. Students will learn several methods for evaluating central tendency and variance in a set of data. The study of probability begins with counting methods before getting involved in the probability of compound events. Students use permutations and combinations to determine the likelihood of many different types of events occurring. Additional topics include Bayes' theorem, the Geometric distribution, Poisson's distribution, and the standard normal distribution, as well as sampling methods and statistical testing. Student projects will focus on the use of statistics in a variety of applications. At all times throughout the course, students are expected to demonstrate both good computational skills and analytical thinking skills. Students have the option of taking the AP exam in the spring. Evaluation is based on performance on daily assignments (both in class and homework), quizzes, projects, and tests.

Text: *Understandable Statistics*

Brase/Brase

## **Science Department**

The Science Department sees several major objectives in its programs and courses. One is to prepare the students for the further study of science in college. A second goal is to make the students aware of the crucial role of science and technology in our modern world to help them to understand the impact of science on society, and to help them make wise choices in their daily lives, future educational plans and career choices.

To these ends, the department provides a balanced selection of courses that feature not only rigorous and detailed instruction, but also discussion and laboratory work. In addition to traditional classroom instruction, computers, library work and outside sources may be used. In active lab programs, the students discover on their own many of the major principles of Science and see examples and applications of the material taught in the classroom. They are also learning the principles of safe laboratory work they will need for their future study of Science. The testing program stresses not only the recall of specific facts, but also the ability to use scientific facts, principles, and procedures to analyze and solve problems, and to express ideas in a coherent, orderly manner.

The department works closely with the other departments in The Academy to insure that the students have the math and language skills they will need in their study of science, and that common subject matter is taught in a coordinated manner.

The department is constantly considering subject matter, content, and sequence of the courses to make sure that our students are receiving the best science education possible.

The minimum graduation requirement for science is a one-year course in each of the 3 major science disciplines. The recommended sequence is; Chemistry in ninth grade, Physics in tenth grade, and Biology in eleventh grade. Juniors will have the option of taking IB Biology (a 2-year course) to satisfy their biology requirement. Other IB and AP science courses will be offered on a rotating basis if enrollment in each course is sufficient.

## **Chemistry**

**1 Year**

**1 credit**

*Pre-requisite or co-requisite: Algebra I.*

This is the first course in the required sequence. The course builds on the math and science background developed in the Middle School. In many cases, this course gives a more thorough explanation of phenomena and processes that students may have previously studied.

The course covers the major topics of traditional high school chemistry such as the atomic theory of matter, the periodic table, chemical reactions, mass–mass and volume-volume relations in chemical reactions, acids and bases, and the kinetic theory of matter. The mathematical aspects of these topics are constantly stressed. The lab work consists of hands-on experiments using the major tools of the chemistry lab, and is a major part of the course work. Lab safety is stressed in all procedures. Students will usually work in pairs, and with a minimum of direction to develop their ability to work safely and independently in the lab. Class discussions, frequent quizzes and periodic tests help the students and instructor monitor understanding and progress.

Text: *Modern Chemistry*

Davis, Frey, et.al.,  
(Holt, Reinhart, & Winston)

## **Physics**

**1 Year**

**1 credit**

The second course in the required science curriculum builds on and summarizes the material of the earlier science courses, giving a fuller, more complete explanation of many of the previously studied topics as well as introducing the major areas unique to this subject. As in all of the science courses taught at The Academy, the goal is to give the students an understanding of the subject, how it relates to their daily lives, and the ability and desire for further study in science.

The course covers the topics of traditional high school physics courses such as classical mechanics, forces and energy (heat, sound, light, electrical), and new discoveries and theories. Since the students have a richer mathematical background, mathematical applications and explanations are stressed more than in the previous courses. In the lab work, through a variety of hands on activities, the students will discover, study, and see illustrated many of the major underlying principles of the physical sciences. Lab safety and independent work are stressed.

Text: *Physics: Principles and Problems*

Zetsevits and Murphy

## **Biology**

**1 Year**

**1 credit**

Biology (or IB Biology) is the required science course for all eleventh graders. Building on the background developed in the lower grades, the course will give the students a comprehensive

background in biology, prepare the student for the future study of biology at college, help the student understand the place of humans in the living world and help the student gain an understanding of the importance of the biological sciences in everyday life.

This course will cover the major topics of high school biology such as the major life processes at a cellular and organism level, the continuation and continuity of life, the development of new life forms, the energy flow within the organism and within the ecosystem, and the interrelationships of all living things. The lab work will consist of a variety of hands-on activities using such instruments as the microscope and computer, and will relate directly to the students' class room work.

Text: *Biology*

Miller & Lavine

**IB Biology HL (year 1 and year 2)**

**2 Years**

**1 credit/year**

The purpose of Higher Level IB Biology is to provide motivated students with an opportunity to develop a broad understanding of the field of biology. During this two year pre-university course, students will gain the knowledge of facts and information and the ability to apply and use this body of knowledge.

The classroom instruction of scientific theory will include terminology, facts, concepts, methods, and theories intertwining the unifying themes of structure and function, universality versus diversity, equilibrium within systems, and evolution. Students will apply their knowledge of biological theory through methodical experimentation. The practice of the scientific method in these inquiry-based investigations will challenge students to collaborate and communicate effectively. They will integrate the use of technology, analytical skills, problem solving behaviors, interdisciplinary concepts, and global thinking.

Text: *Biology*

Ghalayini

**AP Chemistry/IB Chemistry SL**

**Year**

**1 credit**

This course is the equivalent of a first-year college course in general chemistry. Students enrolled in this course are committed to taking the AP Exam or the IB Exam in the spring. The course topics include stoichiometry; properties of solids, liquids, gases, and solutions; chemical equilibrium; chemical thermodynamics; atomic and molecular structure; chemical kinetics; periodic properties; nuclear chemistry; descriptive chemistry of the elements; and an introduction to organic chemistry, including biomolecules. An active laboratory program is an integral part of this course. Students will learn to accurately observe, measure, record, analyze, and report chemical data.

**Texts:**

*Chemistry: The Central Science (9th Ed.)*

*Barrons How to Prepare for the AP Chemistry Exam*

*Preparing for the AP Chemistry Exam*

Brown, et.al.

Jespersion

Pearson

**IB Physics SL (year 2)****2 Years****1 credit/year**

This course covers a wide variety of topics including Newtonian mechanics, thermal physics, energy and waves, electric and magnetic fields and forces, atomic and nuclear physics, and energy, power, and climate change. In addition, the class will choose two additional topics to study. Students will be required to plan and report their laboratory work according to the rigorous guidelines of IB.

This course may be offered as a one-year course in the future.

Texts:

*SL Physics**Physics**IB Physics, Study Guide*

Hamper and Ord

Giancoli

Kirk

**Environmental Science****Semester****½ credit**

With increasing population growth, the resources of the world are becoming strained, and in order to manage them successfully, it is important that future scientists, policy makers, and environmentally responsible citizens become aware of the use and abuse of natural resources. This course integrates science and policy affecting our environment. Students explore topics such as overpopulation, pollution, habitat conservation, acid rain, and the greenhouse effect. Students are encouraged to discuss topics and work together to investigate solutions. Laboratory, field study and service learning are integrated with class discussion.

Texts: *Environmental Science*

Enger &amp; Smith

**Anatomy and Physiology****Semester****½ credit**

Anatomy and Physiology is a survey course of study directed through the anatomical and physiological systems of humans. The student explores the structure and function of systems and how each contributes to the complete homeostasis of the body, including integumentary, skeletal, muscular, nervous, circulatory, digestive, renal, respiratory, and reproductive. The student also participates in the examination of cells, histology, and basic chemistry as it applies to the study of physiology.

Texts: *Essentials of Human Anatomy & Physiology*

Marieb

**Fine and Performing Arts Department****Introduction to Watercolor Painting****Semester****¼ credit**

This introductory studio course focuses on all areas of watercolor painting. Students learn about color theory and color mixing, along with composition and proper watercolor painting terminology and equipment. A wide variety of approaches and watercolor techniques are used in this course. Students have the opportunity to work with still life, landscape, and figure painting. They will be asked to maintain a portfolio, as well as to complete weekly drawing and reading assignments. All projects conclude with a group critique and discussion. In addition, students are introduced

to important watercolor artists, both past and present, along with important historical content and events.

### **Studio Drawing**

**Semester**

**¼ credit**

This course is aimed toward developing the students' skills, understanding, and appreciation of drawing. Students will participate in a wide range of drawing activities, covering various techniques and visual concepts. Styles from abstract, to realist, to conceptual art will be explored. The student artists will be encouraged to experiment with a variety of drawing mediums, including pencil, charcoal, pen and ink, pastels, markers, chalk, conte crayon, etc. The students will be asked to maintain a sketchbook, along with a portfolio of their work. Group critiques and discussions encourage a better aesthetic awareness of drawing.

Representative texts may include the following:

*A Guide to Drawing*  
*Art Today*  
*The Art of Drawing*  
*Art News*

Mendelowitz  
Faulkner  
Chaet  
(magazine)

### **Art Studio**

**Semester**

**½ credit**

The goal of this course is to develop and enrich student interest in the visual arts. Working in a studio atmosphere, students concentrate on projects aimed at challenging the artists to experiment and to explore. Students are asked to maintain a portfolio of their work completed both in and out of the class. Group critiques and discussions reinforce projects. Field trips and guest speakers are included when appropriate. Students have the opportunity to work with three dimensional and two dimensional areas. A chronology and a glossary of terms are created in order to provide a better understanding of important artists, events, and vocabulary. Students also gain a stronger insight into their own creative processes through maintaining a journal and a sketchbook. Assorted texts, handouts, and other reading assignments are used to supplement group discussions.

### **Digital Photography and Video Production**

**Semester**

**½ credit**

This course introduces the artist to some of the latest technologies in photography and video imaging. Students have the opportunity to learn the art of working with a digital camera, the process of photo manipulation using the computer, scanning both two and three dimensional images and objects, along with the proper use of the video camera. This course gives students the confidence and skills that are needed to create their own portfolios of photographs (black and white, as well as color). Students also create their own multimedia slide presentations of story board layouts, and video production.

Artists learn to work on individual projects along with collaborative exercises and projects. Students also gain valuable insight into the art of working with an audio sound track and experience ways to edit and add sound to their still photos, slide presentations, multimedia presentations, and videos.

Equipment and processes include, but are not limited to:

Digital color scanner  
Digital camera  
Macintosh computer  
Color photo retouching  
Adobe Premiere Video  
Adobe Photoshop

**Give Me Shelter: Introduction to Architectural Processes      Year      1 credit**

This course will show the evolution of architectural styles through history and civilization. Students will explore the use of floor plans, renderings, perspective drawing, scale models and computer generated drawings of various architectural styles and concepts. The class will learn to work collaboratively on solving spatial design problems. Students will be challenged to develop an understanding of how buildings are built and some of the thought processes that an architect uses in creating our homes, places of business, and public spaces along with city planning. Major movements covered include Egyptian and Mesopotamia, Aegean Civilization, Classical Greek, Hellenistic Roman, Romanesque and Byzantine, Pre-Columbian, African, Indian, Islamic Architecture, Japanese and Chinese traditions, Medieval, Gothic, Renaissance, Baroque, Jacobean, Southern Colonial, Georgian, Federal, Greek Revival, Classical Revival, Wrightian, Prairie, Fantasy, International, Art Modern, Post Modern, Deconstruction and Neomodern.

Texts:

<i>American Shelter</i>	Walker
<i>The Illustrated Encyclopedia of Architects and Architecture</i>	Sharp
<i>Free Spirit in Architecture</i>	Papadakis
<i>Design of Cities</i>	Bacon

**IB Visual Arts Standard Level and Higher Level**

*Course Description / Rationale*

This course will give the students the opportunity for practice and exploration of various media and the acquisition of studio techniques and experiences. It is intended to be an introduction of basic art concepts that build up to the development of a personal artistic portfolio of work. Students will be shown ways of extending research into practical work that they create both in and out of the studio experience. The course will also be an introduction to the practice of art criticism and critical analysis. Students will gain an understanding of relating art to the world's socio-cultural and historical content.

Candidates who have completed the Higher Level (HL), Standard Level Option A (SLA) or Standard Level Option B (SLB) course will be expected to demonstrate growth and commitment through the study of art along with an interrelationship between their reach and their artistic production.

*Aims*

Through having artist-teacher serve as role model, students should develop their identities as artists. Various approaches will make this possible, for example, pointing out differences in students' work and using of these differences in a way to develop a personal style; offering suggestions rather than "answers" in creative problem solving and thereby encouraging personal decision making; having the students learn to appreciate the differences in styles, and to use this understanding in viewing their work and the work of others; making students aware that ideas

are self-generated and that they relate to their unique selves and experiences; and creating opportunities for exhibition and self-evaluation of student work, including their own art portfolio exhibition.

Furthermore, the course should encourage artistic commitment by encouraging students to develop a philosophy about materials so that they will work and respect and understanding for these materials; showing students how art comes from working with materials and responding to them; encouraging students to work through an idea and develop it to a conclusion; and by providing the opportunity (time, place, instruction) to continue work beyond the required scheduled art time.

Students will learn to form and defend independent judgments through instruction in the process of art criticism; activities which encourage unique and expressive use of visual forms; exposure to various works and styles of art from many different world cultures; discouraging prejudiced views of art by discussing works and artists they do not like and what causes their dislike and why work that they dislike may still be very valuable; questioning the students' creative processes and motivation regarding each decision on design (as an attempt to expose and evolve levels of individual taste); impressing upon students the importance of making crucial decisions needed to solve problems as they arise in the execution of their work; and through holding timely and regularly scheduled class critiques.

### *Objectives*

Candidates who have completed the Higher Level (HL), Standard Level Option A (SLA) or Standard Level Option B (SLB) course will be expected to demonstrate growth and commitment through the study of art and an understanding of the interrelationship between their research and their artistic production.

In terms of studio work, candidates who have completed any of the three courses will be expected to demonstrate through purposeful exploration an inquiring and integrative approach to a variety of visual phenomena; to synthesize art concepts and skills in works that are personally, socio-culturally and aesthetically meaningful; to solve formal and technical problems encountered in studio practice; and to exhibit technical skills and an appropriate use of media.

In addition, candidates who have completed Higher Level (HL) or Standard Level Option A (SLA) courses will be expected to produce works of art with imagination and creativity through individual and, where appropriate, collaborative work.

As part of their assessment, candidates who have completed any of the three courses will be expected to demonstrate clearly in visual and written terms how personal research has led to an understanding of the topics or concepts being investigated; to analyze critically the meaning and aesthetic qualities of art forms using an informed vocabulary; to show some awareness of the cultural, historical and social dimensions of themes in more than one cultural context; and to examine the visual and functional qualities of art from their own and other cultures for meaning and significance.

### **Part I: Studio work—Criteria**

- Purposeful Exploration
- Meaning and Function
- Formal Qualities
- Technical and Media Skills

### **The above to be graded on:**

- Art experience
- Exposure to museums and galleries
- Meetings and interviews with practicing artists
- Portfolio development
- Leadership role displayed during class critiques

### **Research Workbooks—Criteria**

- Independent Research
- Critical Research
- Contextual Research
- Visual Research

### **Workbooks will incorporate:**

- Analytical research
- Discovery
- Interpretation
- Media experiments

### **Candidate Record Books / CRB**

- Personal statement by the candidate:  
The candidate should describe briefly (300 words maximum) his/her growth and development as an artist in the IBO course.
- Photographs of Studio Workbook
- Photocopies of Research Workbook pages

## **Assessment**

### Non-IB

- To be added prior to final submission

### IB Internal Assessment

- Studio Work (SLB)
- The Studio Work of SLB candidates is internally assessed by the teacher. The body of work demonstrates the candidate's understanding of the relationship of media and techniques to the expression of ideas in the visual arts. The form of a Standard Level Option B candidate's Studio Work does not have to result in an exhibition.

### IB External Assessment

- Studio Work (HL and SLA)

- The Exhibition: The display should include both works and final form and research work that they used in developing their art, students will be judged on the selection and presentation of their art as well as on work adding to the discussion of the exhibition.
- Assessment of the Quality of Work will include technical characteristics; complexity; the nature of the image and process of its development; the scale of the pieces; combinations of media chosen and the time available at each level, and the available Exhibition Space. Also included is the Discussion of Studio Work (30 minutes)

Texts:

*Art Today Faulkner*

*The Art Book*

Art of the 20th Century J

*Themes and Foundations of Art*

Ziefeld, Smagula

(Holt, Rinehart and Wilson Publishers)

Phaidon Press Inc.

Jean Louis FerrierChene

(Hachette Publishers)

Katz, Lankford, Plank National Textbook

**Media**

- Art News Magazine
- Architectural Digest Magazine
- Art Forum Magazine
- New York Times

**Materials/Equipment**

- Additional art bins for short and long term storage of student art
- Student resource workbooks
- Student portfolios
- Updated art reference books that explore more global issues and cultures
- Fee for judges

**Teaching Time**

*Higher Level 240 hours*

This course is designed for the specialist arts student, with creative and imaginative abilities, who may pursue the visual arts at university or college level.

Part A Studio Work 168 hours

Practical exploration and artistic production

Part B Research Workbooks (RWBs) 72 hours

This course meets 8 periods per 6-day cycle (29 cycles per year) for a maximum 2-year total of 308 hours.

Standard Level 150 hours

Option A (SLA)

This course is designed for the visual arts student with creative and imaginative abilities.

Part A Studio Work 105 hours

Practical exploration and artistic production

Part B Research Workbooks (RWBs) 45 hours

Option B (SLB)

This course is designed for the student whose interest in art is mainly critical, cultural and historical.

Part A Studio Work 45 hours

Practical exploration and artistic production

Part B Research Workbooks (RWBs) 105 hours

This course meets 6 periods per 6-day cycle (29 cycles per year) for a maximum 2-year total of 232 hours.

Performing Arts

**Music Theory I**

**Year**

**1 credit**

Music Theory I is a study in the areas of reading and analyzing notated music and aural training. Particular emphasis will be placed upon developing listening skills, sight singing ability and knowledge of rhythm, melody, harmony, form and other compositional devices. The ultimate goal of the Music Theory I course is to develop a student's ability to recognize, understand, and describe the basic materials and processes of music that are heard or presented in a score. Study will focus on 18th and 19th century harmony and will conclude with Secondary Dominants.

**Music Theory II**

**Year**

**1 credit**

*Prerequisite: Music Theory I*

Music Theory II is a continuation in the areas of reading and analyzing notated music and aural training. This course begins with Secondary Dominants and includes the study of 18th, 19th and 20th century harmony, forms and compositional techniques. Advanced emphasis will be placed on developing listening and compositional skills. "Finale" software is used as a tool for creativity as well as more traditional ways of composing.

**IB Music Year 1**

**Year**

**1 credit**

*Prerequisites: Music Theory I or II, and participation in at least one Academy music ensemble (Band, Orchestra or Chorus).*

IB Music is a study of music that fosters curiosity and openness to both familiar and unfamiliar musical worlds. Through such a study of music we learn to hear relationships of pitch in sound, pattern in rhythm and explore the similarities, differences and links in music from within our own culture and that of others across time. Students will explore in greater detail multiple aspects of a work and seek the components that create a musical style. Students will complete a musical links investigation which will demonstrate a wider understanding of music in relation to time, place and cultures.

SL (standard level) students in IB Music are required to choose one of the three options:

- SL creating (SLC) – required to present two compositions
- SL solo performing (SLS) – required to present a 15 minute public recital
- SL group performing (SLG) – performance with an Academy ensemble

HL (higher level) students in IB Music are required to present all 3 of the SL categories, creating, solo performing and group performing.

\*Private study on an instrument/voice is strongly recommended.

- HL creating (HLC) – required to present three compositions
- HL solo performing (HLS) – required to present a 20 minute public recital
- HL group performing (HLG) – performance with an Academy ensemble

\*Private study on an instrument or voice is strongly recommended.

### **Band**

**Year**

**½ credit**

Band is an ensemble for woodwind, brass, and percussion players who wish to advance their skills and knowledge in the area of instrumental music performance. The class will explore a variety of band literature ranging from Renaissance to modern including rock, Latin and swing. Evaluation is based on attendance, participation and performance.

### **Chamber Choir** (Auditioned Gr. 6 – 12)

**Year**

**½ credit**

Chamber Choir is a class for students interested in developing their skill and knowledge in the area of vocal music. The group will rehearse and perform music in a variety of styles in order to develop a high level of proficiency in part singing. Evaluation is based on attendance, participation, and performance.

### **Orchestra**

**Year**

**½ credit**

Orchestra is a select class for string players who wish to perform advanced orchestral music. The group will explore the specific skills and styles of string music literature and advance the artistry and knowledge of the individual musician. Grades will be determined on the basis of attendance, participation, and performance.

## Technology & Computer Science Department

The 2009-2010 academic year is a transitional year for the Computer Science Department. This year, there will no longer be any required Computer Science Courses in the Upper School, as that requirement for graduation has been removed. A new, optional, full-credit track is being introduced that will permit a student to take Computer Science as an elective in all four years of the Upper School. The full-track elective sequence will be complete in the 2010-2011 academic year.

- Grade 9 – Advanced Computer Studies
- Grade 10 – Multimedia Technologies
- Grade 11 – IB Computer Science HL / AP Computer Science  
IB ITGS SL
- Grade 12 – IB Computer Science HL (year 2)  
IB ITGS SL (year 2 only if needed)

### **Advanced Computer Studies** (optional)                      **Year**                      **1 credit**

Using the Lego Mindstorms concept, students working in teams of two or three use robots constructed from Lego materials to create, build, and program original solutions to design challenges. Use Microsoft Access to build and model relational database systems. Students learn common fundamental database programming techniques. Review static web page design with Dreamweaver and introduce HTML as a web page design method. Combine the database concepts with basic web page programming to create dynamic web pages that both display information and permit the user to feedback information that can be used to change what is being displayed. Visual BASIC is introduced as a real-world programming language. This part of the course emphasizes logical thinking and includes many interesting programming projects.

### **Multimedia Technologies** (optional)                      **Year**                      **1 credit**

Using many of the components of the Adobe Master Collection CS3 Suite, this course will explore the concepts of professional multimedia design. Students will create the entire corporate identity for a made-up company, including the name, logo, letterhead, business cards, website, corporate video, and a marketing campaign for a product being offered by the company. Students will learn about the psychological effects of design on users and viewers, such as the effects of color and shape on the subconscious. With an understanding of how people react to visual and auditory stimulus, students will be able to design and create attractive and successful identities for their company and product. Multimedia design is built upon theory and some basic guidelines, so while a background in art CAN be helpful, it is not necessary.

### **IB Computer Science HL / AP CS** (optional)                      **2 Years**                      **1 credit/year**

This is an advanced course utilizing the Java programming language, which is popular among web page developers. Students taking this course will be required to write many programs, including a comprehensive Case Study. Students will focus on these areas:

- Develop and select appropriate algorithms and data structures to solve problems.
- Code fluently in a well-structured fashion.

- Design and implement effective computer-based solutions.
- Read and understand a large program and a description of the design and development process leading to such a program.
- Identify major hardware and software components of a computer system, their relationship to one another, and the roles of these components within the system.
- Recognize the ethical and social implications of computer use.

This course runs for two years, with the second year in Grade 12. Students must do internal assessments and take the IB or AP exam in May.

## Enrichment Courses

### **College Prep** (Juniors required)

**Semester**

**¼ credit**

Students will review information about colleges and the college search process, create a computerized personal record and college search lists, and work on applications and essays. Students will receive a note-binder containing sections on Academy Policies for transcripts, recommendations, and mailing of applications; standardized tests (SAT, ACT) and when each should be taken; comparison of colleges according to selectivity and other criteria; information to be used for the counselor recommendation; and financial aid materials including a calendar and glossary of financial aid terms. Parents are urged to attend College Night in the fall and the College Fair in the spring. In addition, each student must experience a practice interview and attend workshops in interview techniques and college essay writing, often during the 4th quarter. All of the information and material generated during this course will be of use in the mandatory, individual Family College Conference which takes place in April or May.

### **Senior Speech** (required)

**Quarter**

**Pass/Fail**

The goal of this course is for students to experience and to gain confidence in speaking in public. This course devotes its time both to the fundamentals of speaking (appearance, gesticulation, emotion, rhythm, volume, tone, eye contact, etc.) and to the preparation of each student's senior Speech. The speech, a requirement for graduation, is 3 to 5 minutes in length and is given at an Upper School Morning Meeting. At this time, each senior may address almost any issue of interest. Speeches are videotaped.

### **11<sup>th</sup> Grade Health** (Juniors required)

**Semester**

**¼ credit**

Students participate two quarters of Health study. Consumer and family health is the focus of one quarter. A major project will take the students outside the classroom and into the community to see what health agencies are available in the local area. Students deliver an individual presentation about the agency they visited. The other quarter focuses on the individual students' health and well being. The topics of habits, stress, substances use, nutrition, social skills and decision making are explored. As well, students take stock of their current health habits.

**Text:** *From Binge to Blackout*

Chris Volkman  
Toren Volkman

## **Extended Essay** (IB FDC - Required)

The extended essay is an in-depth study of a focused topic chosen from the list of approved Diploma Program subjects—normally one of the student’s six chosen subjects for the IB diploma. It is intended to promote high-level research and writing skills, intellectual discovery and creativity. It provides students with an opportunity to engage in personal research in a topic of their own choice, under the guidance of a supervisor (a teacher in the school). This leads to a major piece of formally presented, structured writing, in which ideas and findings are communicated in a reasoned and coherent manner, appropriate to the subject chosen. It is recommended that completion of the written essay is followed by a short, concluding interview, or viva voce, with the supervisor.

The extended essay is assessed against common criteria, interpreted in ways appropriate to each subject. The extended essay is:

- compulsory for all Diploma Programme students
- externally assessed and, in combination with the grade for theory of knowledge, contributes up to three points to the total score for the IB diploma
- a piece of independent research/investigation on a topic chosen by the student in cooperation with a supervisor in the school
- chosen from the list of approved Diploma Programme subjects, published in the Vade Mecum
- presented as a formal piece of scholarship containing no more than 4,000 words
- the result of approximately 40 hours of work by the student
- concluded with a short interview, or viva voce, with the supervising teacher (recommended).

In the Diploma Program, the extended essay is the prime example of a piece of work where the student has the opportunity to show knowledge, understanding and enthusiasm about a topic of his or her choice. In those countries where it is the norm for interviews to be required prior to acceptance for employment or for a place at university, the extended essay has often proved to be a valuable stimulus for discussion.

## **Physical Education**

**Year**

**Pass/Fail**

The Physical Education Department conducts a planned program for all students in grades 9 through 12 twice per six day cycle. Students in grades 9 and 10 focus on team sport activities while grades 11 and 12 are introduced to activities that encourage life long athletic involvement and interests. All activities are presented in sequence that helps provide a clearer understanding and exposure or rules, skills and strategies. The Physical Education Department strongly emphasizes the concept and application of sportsmanship, cooperation, respect for various skill levels and sustained health and wellness.

## **Newspaper**

**Year**

**Pass/Fail**

The newspaper staff produces The Harrisburg Academy student newspaper, The VOICE. Meetings consist of brainstorming story ideas, reporting, writing, editing, and laying out the newspaper. Students occasionally use class time to interview, make phone calls, or take photographs. Currently, The Harrisburg Academy VOICE aims for five issues per year, including a satirical “April fool’s” issue. Students interested in desktop publishing also have the

chance to learn the PageMaker program, on which the VOICE is composed. Participation in this organization offers students opportunities to cultivate leadership, organization, creativity and leadership skills.

**Yearbook**

**Year**

**Pass/Fail**

This course meets three times a cycle. An Advisor recommendation is necessary to join the staff. Criteria include interest, compatibility of schedules, talent, and demonstrated ability in the skills associated with producing the yearbook. The primary goal of the course is to prepare the current year's edition of the Spectator for publication. In doing so, students will gain experience in computer software specific to yearbook production, layout techniques and publishing terminology. Each student is assigned at least one area of major responsibility and is expected to be timely in the completion of deadlines and produce pages of quality. Once the yearbook has been sent to press, the staff focuses on preparations for the next year's book. There is a fourth quarter project in which students demonstrate the skills they have learned throughout the year.