

SENIOR PROGRAM in ENGLISH at BHS

Full Year Course Choices:

See course catalogue on BHS website for full course descriptions
N=Unleveled

True Life Stories (S)
Stranger in a Strange Land (H)
British Literature and Beyond (H)
European Literature (H)
Issues in Contemporary Literature (N)
Craft of Writing (N)
Public Speaking and Public Writing (N)
Fiction and Film (N)
The Good Citizen and the Good Society (aka Communications for Entrepreneurs)(N)
EPIC (N)

Junior Course Selection in English

- Senior year is a year designed to allow students to explore a particular area of interest in English, so we hope this will be the spirit of student selection. (*Recently I heard this story from a mother of one of our seniors: This mother, for college application reasons, tried to counsel her son toward taking an honors course senior year, even though he wanted to take our unleveled creative writing course, Craft of Writing. He took Craft against his mother's advice—shocking, I know -- and lo and behold, it turned out that colleges were just as impressed and interested in the creative writing aspect of his record. By her own account, it turned out to be a great choice all around.*)
- Students have a wealth of course choices (9 courses plus EPIC). All mainstream English courses are full-year, with the exception of EPIC (see below).
- Junior teachers will help students with course selection.
- In the second semester of the senior year, students will write a senior paper, a department requirement that requires the student to do at least 500 pages of reading, formulate independent thought, and write a 10-page paper (with intermediate steps along the way). There will be at least three options: the traditional literary paper, the interdisciplinary paper, and the creative paper.
- **EPIC** is a complicated course to explain, so I have attached a blurb provided by the teachers at the end of this document. It is essentially a senior project course and replaces the senior paper. Students enroll in EPIC, and take a regular English course alongside of EPIC for the first half of the year and then drop their English course in the second semester in order to have time to complete a senior project of their own choosing.
- The BHS English department does not offer AP courses because we feel our honors courses prepare students for the AP exam. We do offer free after school AP prep sessions in March in order to familiarize students with the two English AP tests for juniors and seniors who are interested in taking those tests. Word about these sessions will go out through English teachers, through the info bulletin, and through the PTO newsletter.
- Juniors who wish to double up on senior English can do so on a space-available basis and should see their guidance counselor to request a second course.

Experiential, Project-based, Innovative Capstone (EPIC)

Description of the class:

In this full year course, student will have the opportunity to independently pursue a topic that they are passionate about in a supported environment. Through reading and research, engagement with experts in the field, experimentation, revision and collaboration, they will develop a project of their own design and immerse themselves in the process of creation. Students spend time in the first semester envisioning and carrying out smaller projects to learn about themselves as learners, to take an idea from concept to reality multiple times, and to learn how to manage their time. They write reflections on what they are doing and learning, and meet in affinity groups to help each other develop their ideas, refine their visions and brainstorm how to overcome obstacles. By the end of the first semester they are ready to develop their capstone project and carry it through until the end of the year. Here's what some of our students have done: Built a remote control airplane, volunteered in a nursing home, researched race and identity at the High School, became a modern Transcendentalist, created advertisements for local businesses, designed and built skis, and developed a youth rugby team.

EPIC is a 1.5 credit interdisciplinary class (elective and English credit) that serves as an alternative to the second semester of Senior English.



Brookline High School Math Department
Math Courses for Seniors

In order to graduate from Brookline High School students must take three years of mathematics. That said, most students complete four years of math. In fact, in order to attend a state university in Massachusetts students must complete four years of high school mathematics (including a math course in their senior year.) The following is a list of math courses open to Seniors:

MA4010 College Algebra Topics *(for students who successfully complete Algebra Topics & Technology)*

Through an analysis of functions students completing this course will be prepared for the study of college algebra or pre-calculus in college. Topics include families of functions (polynomial, radical, rational, exponential, and logarithmic), curve fitting, sequences and series, probability and general problem solving.

MA4030 Foundations in Calculus *(for students who successfully complete Trigonometry & Analysis or Precalculus Honors)*

This course will provide students the opportunity to strengthen their foundational math skills and practices while presenting a conceptual understanding of the Calculus. Students will experience an extensive development of the concepts of derivatives and integrals, limits, continuity, numerical approximations, and the Fundamental Theorem of Calculus. This course will prepare students to take an Introductory Calculus course at the college level.

MA4120 Statistics *(also for students who successfully complete Trigonometry & Analysis or for students who complete Precalculus Honors)*

An introductory study of how numerical data may be analyzed as an aid in decision-making. Topics include data analysis of one and two variables, normal distribution, t-distribution, sampling methods and experimental design, and statistical inference including significance tests and confidence intervals using quantitative and categorical data.

MA4040 AP Calculus AB *(for students who successfully complete Precalculus Honors)*

All topics in the AB Syllabus of the College Entrance Examination Board are thoroughly covered, including an extensive development of the concepts of derivatives and integrals, limits, continuity, vector functions, numerical approximations, and the Fundamental Theorem of Calculus. Students are expected to take the AP exam in the spring.

MA4041 AP Calculus BC *(for students who successfully complete Precalculus Advanced – or Precalculus Honors with a recommendation from their current teacher)*

All topics in the BC Syllabus of the College Entrance Examination Board are thoroughly covered. These include an extensive development of the concepts of derivatives and integrals, limits, continuity, vector functions, improper integrals, convergence tests for sequences and series, and Taylor series. Students are expected to take the AP exam in the spring.

MA4035 IMP 4 Honor *(for students who successfully complete IMP 3 Honor)*

The year is divided into four units. Students continue their study of circular trigonometric functions and the physics of falling objects from IMP3 and transition to an extensive study of other function families and operations on functions. The next unit presents key concepts of Calculus including instantaneous rates of change and the Fundamental Theorem of Calculus. Following this unit students will study a unit about geometric transformations and their matrix representations, three-dimensional geometry, and programming on graphing calculators. If time allows, a statistics unit focusing on the central limit theorem, data sampling, margin of error, polling and confidence intervals will be taught.

MA4140 AP Statistics *(for students who successfully complete Precalculus Honors or Advanced)*

An introductory study of how numerical data may be analyzed and used as an aid to decision-making. Topics include probability, frequency distributions (including the normal distribution), random variables, sampling techniques, experimental design, binomial experiments, linear regression, coefficient of correlation and statistical inference including significance tests and confidence intervals. Students frequently use statistical software and the TI-83 graphing calculator in class. Students are expected to take the Advanced Placement Statistics exam in the spring.

MA4200 Perspectives of a Mathematical Mind *(for students who have successfully completed Trigonometry & Analysis, Precalculus Honors or Precalculus Advanced)*

In this course, students will experience math in a way that differs from any other math course they've ever taken. Join us as we explore fractals, non-Euclidean geometries, and Game Theory. Discover how math is applied in the real world to solve problems in fields such as finance, medicine, and environmental issues. Expand your view as we search for math in art and literature. Listen to a guest speaker, embark on a field trip, discuss a current article, and design your own project. The structure will flow between class seminars, cooperative small group activities, and individual investigations. Culminate with a unique opportunity to pursue in depth a math idea that has ignited *your* interest. This course may be taken concurrently with any calculus or statistics course.

Two additional Computer Programming Courses (taken for math or elective credit):

MA5100 Computer Programming: Snap! (Fall semester)

This course explores a variety of computational thinking and programming concepts. It introduces the students to SNAP!, a block-based programming language similar to those used in computer animation. Students' experiences in this course will provide them the coding background knowledge they need to move on to pure language based coding. This is a project-based course where students complete a comprehensive project at the end of every unit. Students spend approximately three out of every four class periods building projects and practicing the coding skills they have learned. All necessary technology will be made available to students.

MA5200 Computer Programming: Python (Spring semester)

Same as above except that it introduces the students to Python, a text-based programming language used in a variety of arenas including the development of apps for smart devices.

Seniors may take a Statistics and Calculus course or one of the programming courses at the same time on a space available basis. If you have any questions about any of these courses or would like to discuss options for your child please contact Josh Paris, the math department chair (joshua_paris@psbma.org).

World Language Info for Junior Year to Senior Year:

Five languages offered: Chinese, Japanese, French, Latin, Spanish from beginning to advanced.

How many years of a WL do you need to graduate from BHS? 2 years in the same language.

How many years of a WL do many colleges prefer? 3 years

How many years do most students (>90%) take? 4 years

Follow teachers' recommendations.

Typically the student will move up a grade and stay in the same level (i.e. Spanish 4 Honor going into Spanish 5 Honor)

If recommended by the teacher to go up a level (i.e. from 4 Honors to 5 Advanced, or 4 Film to 4 Honors) student will fill out an Action Plan (read extra material, study more grammar, increase vocab) to start closing the gaps independently. End of June they will be reassessed to see whether or not it is still a realistic recommendation.

Student wanting to take 2 languages?

Check that it won't prevent them from meeting their other graduation requirements (Elective, H and F, etc.)

What WL is the "priority" language? Sometimes we don't have enough sections, or there are scheduling conflicts. First language choice will take priority.

About 15 SENIORS with 2 WL

NEW STUDENTS? HERITAGE SPEAKERS? STUDENTS WHO INTERRUPTED THEIR STUDY OF WL?

Contact Agnès Albérola at 617-713-5094 to have them placed. Courses vary a lot from school to school. Grades and course names are rarely equivalent. Students' perception can be inaccurate as well.

Needing extra help:

In addition to your teacher's office hours we offer daily WL support for French and Spanish:

World Language Support Center ROOM 226, Andrew Kimball

- Monday 7:45-8:15
- Tuesday 7:35-8:15
- Wednesday 3:00-3:50
- Thursday X block
- Thursday 3:00-3:50

Chinese and Japanese Support: Contact Teachers in room 215 to arrange time

Latin Support: Contact Teacher in room 210 to arrange time

Social Studies Senior Options Course Descriptions (2017-18)

Full-Year Courses (open to seniors only, unless otherwise noted)

Film as History; History as Film (unleveled): Using the traditional tools of a history classroom (textbooks, academic articles, primary source documents, etc.), combined with the traditional tools of a filmmaking classroom (viewing and analyzing documentary films for content and techniques), students will apply their interests, talents, and newly acquired skills to make a documentary film of their own as the class's culminating project.

Legal Studies (honors or unleveled): Introduction to the American legal system. Frequent guest speakers and a required local internship in the spring.

African-American Studies (honors or unleveled): Interdisciplinary study of African American history and culture.

Psychology (honors or unleveled): Introduction to the scientific study of the human mind. Topics include memory, perception, learning, mental illness, etc.

Beyond the Headlines: Current Events and Media Literacy (honors or unleveled): In this course, students will learn how to find, read, and make sense of news at the local, national, and international level. They will also learn how "news" gets chosen, composed, and disseminated. [NEW COURSE]

AP Human Geography: This course explores issues in population growth and policy, the political organization of territories and regions, agricultural and industrial development, and urbanization and migration. Prepares students for the AP exam in the subject. [NEW COURSE]

AP US Government and Politics: Introduction to the study of American politics and government. Topics include the institutions of government, political parties and interest groups, campaigns and elections, public opinion, etc. Prepares students for the AP exam in the subject.

Global Leadership Academy (unleveled; open to sophomores and juniors): This course prepares students to become leaders in an increasingly interconnected and interdependent world. (Application required. See Mr. Kahrl or Mr. Shiffman.)

Social Justice Leadership Workshop (unleveled; open to juniors): This program trains students to become social justice advocates. Students meet in twice-weekly seminars to discuss social justice issues, listen to speakers, do full-day trainings once per quarter, and do an internship at a local social justice organization. (Application required: see <http://bhssocialjustice.weebly.com/> for details.)

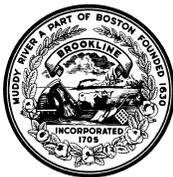
One-Semester Courses (open to juniors and seniors)

Philosophy (honors, fall): Introduction to major philosophers from around the world. Readings from original sources. Topics include ethics, justice, the individual in society, and the good life.

Economics (honors or unleveled, fall): Introduction to basic concepts in micro and macro-economics.

Asian-American Studies (honors or unleveled, spring): Students will examine the historical, social and political factors that have influenced the lives of Asian Americans from 1850 to the present. Two key questions frame the course: "Who is Asian American?" and "What does it mean to be Asian American?"

Gender and Society (unleveled, spring): Introduction to the interdisciplinary study of gender and sexuality.



Brookline High School

Science Department
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Brookline, MA 02445
(617) 713-5365

Course Selection of Optional Science Courses

Teachers will be advising students on the differences between the various optional courses. Here is a list of all courses, and a brief description of the type of student who takes these courses. Most classes are less likely for Juniors to be able to enroll in, and we are honestly divulging the likelihood that certain courses will be offered:

AP Physics – 1&2 This course (formerly known as *AP Physics B*) is for students interested in all disciplines of science at an advanced level; such as Medicine, Biochemistry, and Engineering. The course is ‘flipped,’ where students watch video lectures at home and collaboratively solve problems and perform experiments in class.

AP Physics – C This course is for students interested in Physics at an advanced level. Calculus is required.

AP Chemistry This course is for students interested in Chemistry at an advanced level. Students will find this course to be a very good preparation for all Biology electives, and collegiate studies in Chemistry.

Biology II H This course is for students interested in scientific experimentation in specific topics, such as animal behavior, infectious disease, and neurobiology.

AP Biology This course is for students interested in Biology at an advanced level. Students will find this course to be a very good preparation for collegiate studies in Biology.

Environmental Science and Society (Standard or Honor) This is a new course. It is designed for students interested in the interconnectedness of earth’s systems and the impacts of human-caused environmental change on wild and human societies.

AP Environmental Science This course is for students interested in Earth Science, Ecology, applied Chemistry and environmental issues at an advanced level. Students are expected to read copiously, should have strong math and analytical skills, and be earnest participants in class discussions.

Anatomy & Physiology (Standard or Honor) This course is for students interested in the human body. It is a perfect choice for anyone pursuing any career in health care.

Body/Mind H This course is for students who are interested in the human body, Psychology, current

medical research, and the body’s response to stimuli. Ask about it.

Marine Biology (Standard or Honor) This course is for students interested in Biology and ocean science. It is focused on the ocean environment, ecosystems and marine organisms.

Engineering by Design This course is perfect for students who love problem solve with their hands and learn by building. Ask about it, or peek into the makerspace: room UA14.

Engineering Innovation & Design Design : Create : Innovate Also hosted in the makerspace, this new course is perfect for students who want to bridge creativity with design. Students will focus on prototyping and the creation of real products (2D & 3D), all while infusing artistic elements into the final product

Astronomy (Standard or Honor) This course is for students who are interested in stars and planets.

Semester Courses

Drawing for Understanding in Field Science This course can be taken for Visual Arts or Science credit. Students will explore the natural world through observing complex organisms and systems. They will also learn how drawing is used for scientific study, and how questions of science inform and deepen artistic practice.

Forensic Science (Standard or Honor) This course is for students who love crime solving.

Genetics (Standard or Honor) This course is for students who enjoyed the Genetics units in Biology.

Sincerely,

Ed Wisner
Curriculum Coordinator for Science

Please indicate your preferences, and any information that will help