



**2018-2019 1<sup>st</sup> Semester Class Descriptions**

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## English and Social Sciences

### Debate and Critical Thinking :

Mondays, 1630-1830 (Fall Break: 10/08/2018)  
 Saturdays, 1000-1200 (Fall Break: 10/06/2018)  
 Suggested Grade Level: 7, 8  
 \*schedules above are two different sessions and have different coverage

Our Debate and Critical Thinking class will provide participants with a guide to the fundamentals of argumentation, logical formulation, and clear speech - skills that are an essential part of high school and eventually college and life success. To that end, students in this course will be challenged to process a range of complex ideas through reading and discussion, to organize their thoughts using brainstorming and framing tools, and to finally present their ideas in a variety of formats, including debate and business pitches. Students can expect to receive two hours homework a week and will be expected to participate in debates in class weekly.

### Free Vocabulary :

- Vocabulary Cartoons: SAT Word Power II - Saturdays, 1200-1330 (Fall Break: 10/06/2018)
  - Vocabulary Cartoons: SAT Word Power I -Tuesdays, 1630-1800 (Fall Break: 10/09/2018)
- Suggested Grade Level: 5, 6, 7, 8, 9

Our Free Vocabulary class is designed to help students improve the depth and breadth of their vocabulary. Students in this class will learn 30 SAT-level words per day, following the Vocabulary Cartoons Handbook. The goal is to make words such as “abstruse,” “commodious,” and “zenith” eventually become not only part of their daily conversation, but also part of their writing assignments. Each 90-minute class period will be spent introducing 30 words in 3x 20 minute segments, and concludes with a 20-minute quiz to ensure students are retaining all their newfound vocabulary knowledge. Each segment will include a range of activities designed to improve retention and to provide the appropriate contexts in which to use these words.

### Elementary Reading: Mondays, 1730-1830

(Fall Break:10/09/2018)  
 Suggested Grade Level: 5, 6

Our Elementary Reading course teaches students to critically process and thoughtfully respond to ideas presented both in texts and from peers. In conjunction with a range of nonfiction texts, students will practice discussion, thoughtful response, critical questions, debate, analysis, and presentation. Additionally, each student will read, write, and present on a biography of his or her choice. Our experience teaching reading test prep has shown that students need to practice reading early and often. Students are expected to complete roughly 2 hours of homework per week.

### Elementary Writing: Tuesdays, 1630-1730

(Fall Break:10/09/2018)  
 Suggested Grade Level: 5, 6

Our Elementary Writing Course provides students with the skills to improve their creative writing with well-developed characters, consistent narrative arcs, vivid descriptions, and correct grammar. Students will model exemplary writing, brainstorm arcs and characters, learn descriptive vocabulary, practice grammar, write several drafts, and self-edit their writing. As students progress into middle school, they will need to both comprehend and produce quality narrative writing: skills necessary on future tests such as the SSAT and SAT. Students are expected to complete roughly 2 hours of homework per week.

## Mathematics

### Elementary Math : Mondays, 1630-1800

(Fall Break:10/08/2018)  
 Suggested Grade Level: 5, 6

Our Elementary Math course helps students jump the hurdle of conceptual understanding and technical capability with fractions, decimals, and unit conversion. For homework and in class, students engage in drills and activities designed to teach the fundamentals of each concept and to apply their understanding across a range of problem types. This course comes from our observation that students progressing into middle school math often lack these essential skills, preventing them from accelerating into higher math. Students are expected to complete roughly 2 hours of homework per week.

### Algebra 1: Mondays, 1830-2030

(Fall Break:10/08/2018)  
 Suggested Grade Level: 8

Our Algebra 1 course provides students with a solid foundation in a variety of topics they will encounter in high school algebra classes, including but not limited to algebraic expressions, polynomials, linear equations, quadratic equations, factoring, systems of equations, and rational expressions. Students will engage with these topics intensively every week, preparing them for not only higher-level math classes such as Algebra 2 and Pre-Calculus, but also for standardized tests such as the SSAT and SAT, which are comprised heavily of the above algebraic concepts. Students may expect 2 to 3 hours of homework per week.

## Test Prep

### SSAT Math: Tuesdays, 1630-1830

(Fall Break: 10/09/2018)  
 Suggested Grade Level: 7, 8

Our Middle School Upper-Level SSAT Math course provides students an overview of a broad range of concepts that appear on the SSAT, helping students to identify strengths and weaknesses for more targeted study. Students will cover a range of concepts that include but are not limited to ratios, proportions, conversion, equations, probability, geometry, exponents, radicals, and functions. By onboarding testing strategies, students can make short-term point gains in the SSAT math section, raising their overall percentile. Students applying to the Ten Schools will need especially competitive math percentiles. Students are expected to complete roughly 3 hours of homework per week.

### SSAT Reading and Verbal: Thursdays, 1630-1830

Suggested Grade Level: 7, 8

Our Middle School Upper-Level SSAT Reading and Verbal course accelerates students through the concepts and skills necessary for middle school standardized tests – in general, mastering reading comprehension and vocabulary takes years. To improve reading, students will engage in various passage types, the process of elimination, question type strategies, and time-management techniques. When it comes to the verbal section, students will learn over 200 test-centric words, roots, prefixes, suffixes, and test strategies for analogy and synonym questions. Students are expected to complete roughly 3 hours of homework per week.

## Sciences

### AP Physics 1: Thursdays, 1900-2100

Suggested Grade Level: 10, 11, 12

Our AP Physics 1 course provides students with a complete introduction to Physics, with a particular focus on preparing students for the May AP test. Students will cover all topics that appear on the AP test, in the same order that they are being taught in their high school class, including kinematics, forces, linear momentum, static equilibrium, rotational motion, gravitation, electrostatics, DC circuits, simple harmonic motion, waves, and sound. Students will be trained in the best problem solving habits and taught how to analyze and explain a physical scenario, not just memorize formulae. This course will also emphasize lab design and analysis, as that is an increasingly large focus of the AP Physics 1 test. Homework is assigned to those students in need of additional practice or upon request.

### AP Biology: Thursdays, 1900-2100

Suggested Grade Level: 10, 11, 12

Our AP Biology course prepares students for the experimental approach to biology emphasized on the AP Biology exam while reinforcing concepts learned in high school biology courses. Concepts covered include ecology, biological chemistry, cell structure and reproduction, respiration, photosynthesis, plant and human anatomy, genetics, heredity, and evolution. Through interactive lectures, worksheets, and mock AP questions, students will develop a deep understanding of these concepts in order to test hypotheses, propose experimental plans, and analyze data mathematically. Students can expect to receive 2-3 hours of homework per week.

### AP Chemistry: Thursdays, 1900-2100

Suggested Grade Level: 10, 11, 12

Our AP Chemistry course reinforces the knowledge and skills that students are taught at school and that they will need for the May AP Exam. The topics include, but are not limited to, atomic & molecular structure, thermodynamics, stoichiometry, equilibrium, electrochemistry and acid-base chemistry. In addition to weekly review of academic course work, students will cover test taking strategies specific to the AP Chemistry exam. Homework is assigned to those students in need of additional practice or upon request.

## Mathematics

### Advanced Pre Calculus: Wednesdays, 1900-2100

Suggested Grade Level: 10, 11

Our Advanced Pre-Calculus course is a rigorous companion course to arguably the most challenging high school math class. Topics covered include but are not limited to quadratic functions, exponentials and logs, series and sequences, polynomials, trigonometry, conic sections, polar coordinates, vectors, and limits. Class time is devoted to individual problem solving while the instructor oversees their work and checks their understanding and mastery of the material. Homework is assigned to those students in need of additional practice or upon request.

### AP Calculus AB: Saturdays, 1700-1900

(Fall Break: 10/06/2018)

Suggested Grade Level: 11, 12

Our AP Calculus AB class will help students succeed both in their own classes and on the May exam. The semester will begin with an introduction to the concept of limits, as well as a review of key Pre-Calculus concepts critical to success in Calculus. Then, the class will proceed to cover the techniques and applications of differentiation. In the following semester, the class will focus on integration and differential equations, as well as review for the AP Exam. Homework is assigned to those students in need of additional practice or upon request.

### AP Statistics: Mondays, 1900-2100

(Fall Break: 10/08/2018)

Suggested Grade Level: 11, 12

Our AP Statistics course prepares students for the accompanying AP exam and for school courses following the same curriculum. The course develops key skills such as summarizing and displaying data, designing surveys and studies, analyzing random phenomena with probability rules and simulations, and testing hypotheses with statistical inference. Students will engage in rigorous practice and weekly homework while learning key problem-solving strategies and best practices for the AP exam. Students can expect to receive 3-4 hours of homework per week.

### Geometry: Tuesdays, 1830-2030

(Fall Break: 10/09/2018)

Suggested Grade Level: 9, 10

Our Geometry course prepares students for standard high school Geometry courses. The class builds on students' problem-solving abilities as well as their ability to write logical proofs. Students will engage in weekly problem-solving, practice writing proofs, and take formula quizzes to develop the skills needed for many facets of high school geometry. Students can expect to receive 2-3 hours of homework per week.

### Algebra 1: Mondays, 1830-2030

(Fall Break: 10/08/2018)

Suggested Grade Level: 8, 9

Our Algebra 1 course provides students with a solid foundation in a variety of topics they will encounter in high school algebra classes, including but not limited to algebraic expressions, polynomials, linear equations, quadratic equations, factoring, systems of equations, and rational expressions. Students will engage with these topics intensively every week, preparing them for not only higher-level math classes such as Algebra 2 and Pre-Calculus, but also for standardized tests such as the SSAT and SAT, which are comprised heavily of the above algebraic concepts. Students may expect 2 to 3 hours of homework per week.

### Algebra 2: Mondays, 1830-2030

Suggested Grade Level: 9, 10

Our Algebra 2 course is designed to build on algebraic and geometric concepts. It develops advanced algebra skills such as systems of equations, advanced polynomials, imaginary and complex numbers, quadratics, and concepts and includes the study of trigonometric functions. It also introduces matrices and their properties. The content of this course is important for students' success on both the SAT and college mathematics entrance exams. Students may expect 1-2 hours of homework per week.

## Social Sciences

**AP Macroeconomics:** Wednesdays, 1900-2100  
Suggested Grade Level: 11, 12

Our AP Macroeconomics course covers the material of an introductory college-level Macroeconomics course, including economic concepts and institutions; growth, unemployment and inflation; money and banking; economic policies; and the international economy. Lessons and homework will teach students to accurately and strategically answer multiple choice and free response questions on the AP Macroeconomics exam. Students can expect to receive approximately 2 hour of homework per week.

**AP US History:** Mondays, 1900-2100  
(Fall Break:10/08/2018)  
Suggested Grade Level: 11

Our US History course prepares students not only for the various elements of the subject matter tested in the AP exam, but also develops in them the fundamental analytical and articulatory skills valued by schools, universities, and employers the world over. Participants will learn how to locate and evaluate sources; embed various sources, including visual ones, within their own writing; develop historical hypotheses, and substantiate them through use of specific evidence. All of these skills are essential to success in both their high school class and eventually the AP exam itself. They will also focus on improving their essay writing skills through frequent assignments and in-class seminar-style discussion. Students can expect to receive 3 hours of homework per week and will also be required to participate in discussion in class.

**AP World History:** Tuesdays, 1900-2100  
(Fall Break:10/08/2018)  
Suggested Grade Level: 11, 12

Our AP World History course is designed to reflect the recent changes in the 2017-18 AP World History curriculum, and help students organize and process the over 2000 years of history that they will be expected to learn this year. Class instruction will go beyond content delivery, and spend a significant amount of time focusing on the analytical skills necessary for success on the actual AP Exam. Students will learn how to take notes, organize information, tackle multiple choice questions and draft essay responses. Homework is assigned to those students needing or requesting additional practice.

## Test Prep

**SAT Math:** Sundays, 900-1230  
Aug 26 - Sep 30  
Suggested Grade Level: 9, 10, 11, 12

Our SAT Math course prepares students for the rigors of the SAT Math section with key concepts and problem-solving techniques in algebra, geometry, data analysis, and higher-level math. Students will engage in weekly practice, complete rigorous homework, receive rapid feedback, and be taught best practices and test shortcuts. Students are required to either submit a recent official SAT score or take a mock test at Tokyo Academics: students scoring below 500 or above 700 may benefit more from private tutoring. Students can expect to receive 3-4 hours of homework per week.

**SAT Verbal:** Sundays, 1330-1700  
Aug 26 - Sep 30  
Suggested Grade Level: 9, 10, 11, 12

Our SAT Verbal course delivers the concepts and skills necessary for the SAT Writing section (grammar, rhetoric, reading charts, and question answering techniques, process of elimination) and the SAT Reading section — narrative, expository, and argumentative passages; question answering, strategically eliminating options, and time management. Students are required to either submit a recent official SAT score or take a mock test at Tokyo Academics: students scoring below 500 or above 700 may benefit more from private tutoring. Students can expect to receive 3-4 hours of homework per week.