GRAVITAS

A GLOBAL EXTENSION OF
THE STONY BROOK SCHOOL

SUMMER ACCELERATOR
2025 COURSE CATALOG

About Summer Accelerator Intensive Courses

Gravitas offers a select number of intensive courses to rising 5-12th grade students using a blended synchronous/asynchronous plan where students do all of the work for asynchronous online courses and then meet with the teacher synchronously over WebEX on average four times a week for live discussion-based meetings. In the live sessions, the teacher provides personalized instruction and feedback and answers to whatever questions the students may have. Students may also meet synchronously with each other to work on group projects. Students must be highly motivated and disciplined to complete these intensive courses as they require roughly a week's worth of work per day. Students should expect to spend 4-5 hours daily on their coursework, and they should complete all of their assignments in advance of their live class meetings.

Prerequisites

Prerequisite courses and grades are listed in each course description. Students must meet the prerequisites to register for a course. Admission will be determined by the academic leadership teams of The Stony Brook School and Gravitas. Students who do not currently attend The Stony Brook School or Gravitas will be required to apply through the school's admissions portal. An admissions representative will walk you through the process. You will need to submit transcripts or report cards for the past three school years.

High School Credit

High school courses can be taken for official high school credit from The Stony Brook School or audited for enrichment purposes only. Students will receive a Stony Brook School transcript indicating their grade for the course and the term during which they

took it. The tuition for the summer course is the same either way. Students may choose whether they want credit or not upon completion of the course. No withdrawals will be published on the transcript.

Sessions

Each summer session will last three weeks, with students completing the equivalent of one week's worth of coursework per day. Three weeks at this pace is equivalent to one semester (0.5 credits) of a course. Students may take a maximum of 1 credit per three-week session. Students taking 1-credit courses will schedule an oral exam with their teacher during the week after the class has finished. Students wishing to complete a year's worth of work will take six weeks worth of class and then will schedule an oral final exam with their teacher during the seventh week.

- Summer A - June 9-27 (0.5 credits/12 live sessions)
- Summer B - June 30-July 18 (0.5 credits/12 live sessions)
- Summer C - July 21-August 8 (0.5 credits/12 live sessions)
- Summer B-C - June 30-August 15 (1.0 credit/24 live sessions)

Cost

Tuition is $1,600 for a 0.5-credit three-week intensive and $3,200 for a 1.0-credit six-week intensive. Students may take no more than one course at a time. Need-based financial aid is available via application. Click here to learn more about our financial aid application. Students enrolled at SBS will automatically receive financial aid proportionate to their existing 2024-2025 school year agreements with the school. Payments will be made through Smart Tuition. Students new to The Stony Brook School will also pay an application fee of $100.

Application Deadlines

To apply, select your preferred courses using this registration form.

Applications are due by:

- April 15 for Session A
- June 1 for Session B
- July 1 for Session C

Decisions will be made and communicated to families within two weeks of each session's application deadline. For students already enrolled in Stony Brook School, the registration form constitutes both your application and your registration request. For students not currently enrolled as Stony Brook students, please click on the "Apply" link on the page to complete your application through FinalSite.

Course availability is subject to enrollment and staffing availability. Courses with fewer than four students registered may not run. Students will be offered an alternative course should their first choice class be canceled. Students will be admitted on a rolling basis to classes that are already running but have available seats after April 15.

Courses and Meeting Times

Please note that course times are subject to change. Additional sections of class may be offered if we have sufficient enrollments.

Session A: June 9-27

- Ceramics I (0.5 credits) - on campus in Carson
    - 12:00-3:00pm
- Ceramics II (0.5 credits) - on campus in Carson
    - 12:00-3:00pm
- Advanced Ceramics (0.5 credits) - on campus in Carson
    - 12:00-3:00pm
- Health & Human Flourishing (0.5 credits)
    - 8:00-9:20am
    - 9:30-10:50am
    - 8:00-9:20pm
- Introduction to Python (0.5 credits)
    - 8:00-9:20pm
- Passion Academy Scholars Program (PASP)/College Counseling (CC) (0.5 credits)
    - 8:00-9:20am (PASP)
    - 9:30-10:50 and individual appointments (CC)

Session B: June 30-July 18

- AP Microeconomics (0.5 credits)
    - 8:00-9:20am
- AP Macroeconomics (0.5 credits)
    - 9:30-10:50am
- Health & Human Flourishing (0.5 credits)
    - 8:00-9:20am
- Passion Academy Scholars Program (PASP)/College Counseling (CC) (0.5 credits)
    - 8:00-9:20am (PASP)
    - 9:30-10:50 and individual appointments (CC)

Session C: July 21-August 8

- Philosophy Honors: Artificial Intelligence (0.5 credits)
    - 9:30-10:50am

Sessions B-C: June 30-August 15

- Algebra I (1.0 credit)
    - 8:00-9:20am
- Algebra II Regular/Honors (1.0 credit)
    - 9:30-10:50am
- AP Calculus AB/BC (1.0 credit)
    - 8:00-9:20am
- Chemistry Regular/Honors (1.0 credit)
    - 8:00-9:20am
- College-Level Linear Algebra (1.0 credit)
    - 8:00-9:20pm
- ESL (not for credit)
    - 8:00-9:20am
- Geometry (1.0 credit)
    - 8:00-9:20pm
- Pre-Algebra I
    - 9:30-10:50am
- Pre-Algebra II
    - 9:30-10:50am
- Pre-Calculus Honors (1.0 credit)
    - 9:30-10:50pm
- Spanish I (1.0 credit)
    - 8:00-9:20am
- Spanish II (1.0 credit)
    - 9:30-10:50am
- Spanish III (1.0 credit)
    - 8:00-9:20am

Course Descriptions

Session A: June 9-27

Advanced Ceramics I (0.5 credits) - Ms. Sarah Banker

Prerequisite is Ceramics II

Health & Human Flourishing (0.5 credits) - Mr. Brad Brummeler

Open to rising 10th graders and any student who has not met the Health graduation requirement

Health and Human Flourishing II is designed as a continuation of Health I. Like Health I, this course is designed to teach students how to flourish physically, mentally, emotionally, and socially. This cross-disciplinary course equips students to make wise decisions about their relationships, their physical growth and development, substance use, media engagement and consumption, and their mental and emotional health. Health 10 accomplishes these curricular goals through a combination of direct instruction and Ethics Bowl debates connected to these topics. The specific topics taught in Health 10 will be age-appropriate, focusing especially on safety and violence, reproduction and sexual ethics, digital citizenship, mental disorders, self-harm, and various forms of addiction.

Introduction to Python (0.5 credits) - Mrs. Alexandra Meehan

Project-based Introduction to Python for Grades 5-12 is an interactive course that invites students to discover the fundamentals of Python programming through engaging, hands-on projects. From basic syntax and variables to loops, lists, and functions, learners progressively build coding proficiency while developing critical thinking and problem-solving skills. By working on creative tasks, like simple games or data-driven mini-projects, students gain practical experience and see immediate results of their efforts. This supportive, collaborative environment encourages exploration, fosters confidence, and inspires continued learning. Graduates of this course emerge ready to tackle advanced programming challenges and excel in the digital world.

Session B: June 30-July 18

AP Macroeconomics (0.5 credits) - Mr. Luke Trouwborst

Prerequisite: B+ in Geometry if in 9th or 10th grade

AP Macroeconomics is an introductory college-level macroeconomics course. Students cultivate their understanding of the principles that apply to an economic system as a whole by using principles and models to describe economic situations and predict and explain outcomes with graphs, charts, and data as they explore concepts like economic measurements, markets, macroeconomic models, and macroeconomic policies. **Note: This course is eligible for Baylor University dual credit.**

AP Microeconomics (0.5 credits) - Mr. Luke Trouwborst

Prerequisite: B+ in Geometry if in 9th or 10th grade

The purpose of the AP course in microeconomics is to give students a thorough understanding of the principles of economics that apply to the functions of individual decision makers, both consumers and producers, within the economic system. It places primary emphasis on the nature and functions of product markets and includes the study of factor markets and of the role of government in

promoting greater efficiency and equity in the economy. **Note: This course is eligible for Baylor University dual credit.**

Health & Human Flourishing (0.5 credits) - Dr. Landon Loftin

Open to rising 10th graders and any student who has not met the Health graduation requirement

Health and Human Flourishing II is designed as a continuation of Health I. Like Health I, this course is designed to teach students how to flourish physically, mentally, emotionally, and socially. This cross-disciplinary course equips students to make wise decisions about their relationships, their physical growth and development, substance use, media engagement and consumption, and their mental and emotional health. Health 10 accomplishes these curricular goals through a combination of direct instruction and Ethics Bowl debates connected to these topics. The specific topics taught in Health 10 will be age-appropriate, focusing especially on safety and violence, reproduction and sexual ethics, digital citizenship, mental disorders, self-harm, and various forms of addiction.

Session C: July 21-August 8

Philosophy Honors: Artificial Intelligence (0.5 credits) - Dr. Landon Loftin

No prerequisites for Grades 11-12; Administrative approval required for Grade 10

This course will explore metaphysical, ethical, religious, political, and economic issues related to recent advances in artificial intelligence, including ChatGPT. What is artificial intelligence? Is strong AI possible? What, if anything, is the metaphysical difference between intelligent machines and humans? Can robots be moral? How should robots be designed to promote the common good? What might the economic and societal impacts be of automating industries that have primarily been the domain of humans? We will explore these questions and many more in this discussion- and project-based class.

Sessions B-C: June 30-August 15

Algebra I (1.0 credit) - Mr. Michael Webster

Prerequisite is Pre-Algebra II or similar course or placement test

Building on arithmetic and Pre-Algebra skills, Algebra I serves to strengthen core problem-solving skills and thoroughly investigate the language and logic of basic algebraic thinking. In this course, students discover the beauty and order of mathematical relationships and acquire knowledge and skills related to mathematical expressions, multi-step equations, integers, rational numbers, inequalities, exponents, polynomials, factoring, linear graphing, systems of

equations, absolute value equations, rational expressions, radicals, radical equations, relations and functions, quadratic equations, and quadratic graphs. Algebra I is intended for 7th-10th grade students and is considered the first year of the required high school math sequence. All 7th and 8th grade students enrolled in Algebra 1 must complete the year with a B+ or higher final average with an B+ on the final exam in order to receive credit for this high school course.

Algebra II Regular/Honors (1.0 credit) - Mr. Stephen Stortz

Regular Prerequisite: Algebra I and Geometry; Honors Prerequisite: B+ in Algebra I and Geometry

Building on Algebra I skills and the logical thinking acquired in Geometry, Algebra II serves to strengthen core problem- solving skills and thoroughly investigate the language and logic of advanced algebraic thinking. In this course, students discover the beauty and order of mathematical relationships and acquire knowledge and skills related to linear equations, linear graphs, quadratic functions and graphs, rational functions and graphs, complex numbers, exponents, logarithms, trigonometric functions, and basic trigonometric graphs. Honors-level Algebra II includes a more in-depth treatment of Algebra II topics because it is designed for the highly motivated mathematics student.

AP Calculus AB (1 credit) - Mr. Stephen Stortz

Prerequisite: B in Pre-Calculus Honors

This course fulfills the AB syllabus recommended by the College Board for the AP Examination in Mathematics. AP Calculus AB is roughly equivalent to a first semester college calculus course devoted to topics in differential and integral calculus. The AP course covers topics in these areas, including limits, derivatives, definite integrals, and the Fundamental Theorem of Calculus. The course teaches students to approach calculus concepts and problems represented graphically, numerically, analytically, and verbally, and to make connections among these representations.

AP Calculus BC (1 credit) - Mr. Stephen Stortz

Prerequisite: A+ in Pre-Calculus Honors

AP Calculus BC is roughly equivalent to a full year of college calculus. This course covers the AB topics as well as parametric, polar, and vector functions. Topics such as integration and differentiation are also explored in greater depth. Polynomial approximations and series is another optional component in the BC syllabus. The course teaches students to approach calculus concepts and problems represented graphically, numerically, analytically, and verbally, and to make connections amongst these representations. This course fulfills the BC syllabus as recommended by the College Board for the AP Examination in Mathematics.

Chemistry Honors/Regular (1.0 credit) -

Prerequisite for Chemistry Regular: None

Prerequisite for Chemistry Honors is a B+ in the previous Science course and may require a placement assessment. Students may be moved from honors to regular or vice versa at the recommendation of the Chemistry teacher or the administration.

Chemistry is a study of the basic laws of chemistry, covering the common elements of the periodic system, their structure, interactions, and energy relationships. The course is accompanied by work in the mathematical solution of chemical problems, and laboratory use of experimental data. This course is especially important for students planning on attending college in a scientific or health-related field of study. Students should expect a demanding workload that will include worksheets, reviews, and laboratory write-ups as well as quizzes, and tests to assess understanding and retention. A high level of understanding in mathematical problem solving and the scientific methods is necessary for success in this course. Honors Chemistry will utilize the same curriculum as the Chemistry course but will move at a faster pace and will include additional inquiry and lab activities. (1 credit)

College-Level Linear Algebra (1.0 credit) - Mr. Stephen Stortz

Prerequisite is a B+ in Advanced Calculus

Building on advanced algebra skills and logical thinking acquired in previous math courses, Linear Algebra serves to strengthen core problem-solving skills and thoroughly investigate the language and logic of advanced mathematical thinking while reinforcing basic and advanced algebraic concepts. In this course, students discover the beauty and order of mathematical relationships and acquire knowledge and skills related to linear equations, large systems of equations, matrices, determinants, linear transformations, vector spaces and subspaces, and orthogonal bases. The concepts from Linear Algebra are highly applicable in engineering, chemistry, physics, biology, economics, social sciences, and computer science. For those students who are interested, this course also provides students with the opportunity to earn up to three college credits through Stony Brook University's ACE program. There is, however, an associated cost of $300 per three credits for those students who wish to enroll. (1 credit)

English as a Second Language (not for credit) - Mr. Christopher Wimer

This class is for any student with below a 100 TOEFL score looking to boost his or her English listening, speaking, reading, and writing skills over the summer. Support will be tailored to the specific needs of the student with the goal of best preparing each student for success in the coming school year.

Geometry (1.0 credit) - Mrs. Alexandra Meehan

Prerequisite: 8th-9th: B+ or better in Algebra I, 10th-12th: Algebra I

Building on arithmetic and Algebra I skills, Geometry is a traditional course in plane and spatial geometry. Geometry serves to strengthen core problem-solving skills and thoroughly investigate the language and logic within geometric topics. In this course, students discover the beauty and order of mathematical relationships and acquire knowledge and skills related to reasoning, symbolic logic, parallel and perpendicular lines, triangles, congruence, formal two-column proofs, quadrilaterals, parallelograms, area, surface area, volume, ratio and proportions, transformations, coordinate geometry, right triangle trigonometry, circles, and other related topics. Algebra I skills are woven into the course as a continual form of review. Geometry is considered the second year of the required high school math sequence and is normally sequenced between Algebra I and Algebra II, although motivated students may take Geometry concurrently with Algebra II Honors with approval from the Math Department Chair. .

Pre-Calculus Honors (1.0 credit) - Mrs. Alexandra Meehan and Mr. Michael Webster

Prerequisite: B in Algebra II Honors.
Building on Algebra II skills and the logical thinking acquired in Geometry, Pre-Calculus serves to strengthen core problem-solving skills and thoroughly investigate the language and logic of advanced algebraic and pre-calculus thinking. In this course, students discover the beauty and order of mathematical relationships and acquire knowledge and skills related to functions, families of graphs, polynomials, rational functions, power functions, trigonometry, trigonometric graphs, analytical trigonometry, conic sections, limits, and discrete math topics such as sequences and series, matrices, and probability. Pre-Calculus Honors includes a more in-depth treatment of Pre-Calculus topics because it is designed for the highly motivated mathematics student.

Spanish II (1 credit) - Mrs. Joqui Girón-Meléndez

Prerequisite: Spanish I
As a continuation of Spanish I, this class expands upon the grammatical concepts and vocabulary base already acquired while ensuring that they can immediately use new concepts learned to express themselves in Spanish in real and meaningful ways. Students are introduced to the past tense in Spanish, with a heavy focus on contrasting the preterit, imperfect, and perfect tenses in order to tell stories and narrate past events. Students will also continue to study Spanish pronouns use, especially direct and indirect object pronouns to clarify meaning. Interesting cultural studies and relevant vocabulary are presented, and communication exclusively in Spanish is required during online meetings and while collaborating in group projects. Students will continue to meet one-on-one with live language tutors from around the Spanish-speaking world to apply new concepts and enhance listening comprehension and speaking skills.

Spanish III (1 credit) - Mr. James Grant

Prerequisites: 9th-12th: C or above in Spanish II

In the third year of study, an intensive grammar review of all indicative verb tenses occurs. Additionally, the present, past and future tenses within the subjunctive mood are taught. Students will present frequently in Spanish on Spanish-speaking countries, incorporating a variety of cultural aspects for each country. Attention is given to control complex grammatical structures and the building of a more comprehensive vocabulary. Many opportunities for speaking and writing are provided. Students will work towards advanced competency in reading, writing, listening and speaking, and the class is conducted almost entirely in Spanish.