

Online Courses With Global Online Academy

Arts, History and Social Sciences, Mathematics and Computer Science, Science, and World Languages

BB&N partners with Global Online Academy (GOA), a consortium of independent schools worldwide, to provide students in Grades 11 and 12 with the opportunity to enroll in online elective courses and earn credit. Global Online Academy courses are interactive, instructional, and experiential, with semester-long options in a wide variety of subjects, ranging from graphic design to global health. All GOA courses have synchronous components (when students collaborate or work with their teacher at a set time, generally using video-conferencing software) and asynchronous components (when students choose at which time to participate). It is important to note that GOA courses require the same time commitment and have workloads similar to any other course students would take at BB&N. Students enrolled in these online courses are required to meet with the BB&N GOA Site Director regularly throughout the duration of the course to share what they are studying and to remain accountable to their other academic commitments.

During the 2019 – 2020 academic year, students can apply to enroll in a yearlong course or in one or two semester electives in Art, History and Social Sciences, Mathematics and Computer Science, Science, or World Languages (or a combination of disciplines). GOA fall courses run from September through December. Spring courses run from January through May (seniors enrolled in a spring GOA course are required to include this course as a part of their Senior Spring Project). BB&N students receive 0.5 credit for a semester-long course and 1.0 credit for a yearlong course; the student's transcript will contain the course name with an annotation to reflect that the course was taken with GOA.

Interested students must be motivated, independent learners capable of working within established timeframes to achieve curricular goals established by the GOA instructor. Exceptional time-management skills are essential for success in this type of course. Requirements include concurrent enrollment in a BB&N-based elective of the chosen discipline (for all disciplines except Art), successful completion of the discipline's graduation requirements, and approval from the Educational Policy Committee. BB&N's Modern Global History graduation requirement may be fulfilled through a Global Online Academy course; in these special cases, students do not need to concurrently take a BB&N history course. Students will only be allowed to take a GOA course as a sixth course. Enrollment is limited, and interested students are required to complete a short application submitted in February to the GOA Site Director.

ARTS DEPARTMENT

(Concurrent enrollment in a BB&N Arts course is not required)

Graphic Design (Fall and Spring)

What makes a message persuasive and compelling? What helps audiences and viewers sort and make sense of information? This course explores the relationship between information and influence from a graphic design perspective. Using an integrated case study and design-based approach, this course aims to deepen students' design, visual, and information literacies. Students are empowered to design and prototype communication projects about which they are passionate. Topics include: principles of design and visual communication, infographics, digital search skills, networks and social media, persuasion and storytelling with multimedia, and social activism on the Internet. Student work will include individual and collaborative group projects, graphic design, content curation, analytical and creative writing, peer review and critiques, and online presentations.

HISTORY AND SOCIAL SCIENCES DEPARTMENT

BB&N's Modern Global History graduation requirement may be fulfilled through completion of a Global Online Academy course; in these special cases, students do not need to be concurrently enrolled in a BB&N history course.

9/11 in a Global Context (Spring)

September 11, 2001, was a tragic day that changed the world in profound ways. In this course, students explore the causes of 9/11, the events of the day itself, and its aftermath locally, nationally, and around the world. In place of a standard chronological framework, students instead will view these events through a series of separate lenses. Each lens represents a different way to view the attacks and allows students to understand 9/11 as an event with complex and interrelated causes and outcomes. Using a variety of technologies and activities, students work individually and with peers to evaluate each lens. They then explore the post-9/11 world and conclude the course by planning their own 9/11 memorials.

This course fulfills BB&N's Modern Global History requirement.

Advocacy (Spring)

This skills-based course explores the creativity, effort, and diversity of techniques required to change people's minds and motivate them to act. Students learn how to craft persuasive arguments in a variety of formats (written, oral, and multimedia) by developing a campaign for change around an issue about which they care deeply. Students explore a number of relevant case studies and examples as they craft their campaigns. Units include persuasive writing, social media, public speaking, informational graphics, and more. The culminating project is a multimedia presentation delivered and recorded before a live audience.

Applying Philosophy to Modern Global Issues (Fall)

This is an applied philosophy course that connects pressing contemporary issues with broad-range philosophical ideas and controversies, drawn from multiple traditions and many centuries. Students use ideas from influential philosophers to examine how thinkers have applied reason successfully, and unsuccessfully, to many social and political issues across the world. In addition to introducing students to the work of philosophers as diverse as Confucius, Immanuel Kant, John Rawls and Michel Foucault, this course also aims to be richly interdisciplinary, incorporating models and methods from diverse fields including history, journalism, literary criticism, and media studies. Students learn to develop their own philosophy and then apply it to the ideological debates which surround efforts to improve their local and global communities.

This course fulfills BB&N's Modern Global History requirement.

Business Problem Solving (Fall)

How could climate change disrupt your production and supply chains or impact your consumer markets? Will tariffs help or hurt your business? How embedded is social media in your marketing plan? Is your company vulnerable to cybercrime? What twenty-first century skills are you cultivating in your leadership team? Students in this course tackle real-world problems facing businesses large and small in today's fast changing global marketplace where radical reinvention is on the minds of many business leaders. Students work collaboratively and independently on case studies, exploring business issues through varied lenses including operations, marketing, human capital, finance and risk management, as well as sustainability. As they are introduced to the concepts and practices of business, students identify, analyze, and propose solutions to business problems, engaging in research of traditional and emerging industries, from established multinationals to startups.

Entrepreneurship in a Global Context (Spring)

How does an entrepreneur think? What skills must entrepreneurs possess to remain competitive and relevant? What are some of the strategies that entrepreneurs apply to solve problems? In this experiential course students develop an understanding of entrepreneurship in today's global market; employ innovation, design, and creative solutions for building a viable business model; and learn to develop, refine, and pitch a new start-up. Units include Business Model Canvas, Customer Development vs. Design Thinking, Value Proposition, Customer Segments, Iterations & Pivots, Brand Strategy & Channels, and Funding Sources. Students use the Business Model Canvas as a roadmap to building and developing their own team start-up, a process that requires hypothesis testing, customer research conducted in hometown markets, product design, product iterations, and entrepreneur interviews. An online start-up pitch by the student team to an entrepreneurial advisory committee will be the culminating assessment. Additional student work includes research, journaling, interviews, peer collaboration, and a case study involving real world consulting work for a current business.

Gender Studies (Spring)

This course uses the concept of gender to examine a range of topics and disciplines that might include feminism, gay and lesbian studies, women's studies, popular culture, and politics. Throughout the course, students examine the intersection of gender with other social identifiers: class, race, sexual orientation, culture, and ethnicity. Students read about, write about, and discuss gender issues as they simultaneously reflect on the ways that gender has manifested in and impacted their lives.

This course fulfills BB&N's Modern Global History requirement.

Genocide & Human Rights (Spring)

Students in this course study several of the major genocides of the twentieth century (Armenian, the Holocaust, Cambodian, and Rwandan), analyze the role of the international community in responding to and preventing further genocides (with particular attention to the Nuremberg tribunals), and examine current human rights crises around the world. Students read primary and secondary sources, participate in both synchronous and asynchronous discussions with classmates, write brief papers, read short novels, watch documentaries and develop a human rights report card website about a nation of their choice.

This course fulfills BB&N's Modern Global History requirement.

International Relations (Fall)

Are China and the U.S. on a collision course for war? Can the Israelis and Palestinians find a two-state solution in holy land? Will North Korea launch a nuclear weapon? Can India and Pakistan share the subcontinent in peace? These questions dominate global headlines and our daily news feeds. In this course, students go beyond the sound bites and menacing headlines to explore the context, causes, and consequences of the most pressing global issues of our time. Through case studies, students explore the dynamics of international relations and the complex interplay of war and peace, conflict and cooperation, and security and human rights. Working with classmates from around the world, students also identify and model ways to prevent, mediate, and resolve some of the most pressing global conflicts. This course fulfills BB&N's Modern Global History requirement.

Introduction to Investments (Fall)

In this course, students simulate the work of investors by working with the tools, theories, and decision-making practices that define smart investment. The course explores concepts in finance and asks students to apply them to investment decisions in three primary contexts: portfolio management, venture capital, and social investing. After an introduction to theories about valuation and risk management, students simulate scenarios in which they must make decisions to grow an investment portfolio. They manage investments in stocks, bonds, and options to learn a range of strategies for increasing the value of their portfolios. In the second unit, they take the perspective of venture capital investors, analyzing startup companies and predicting their value before they become public. In the third unit, students examine case studies of investment funds that apply the tools of finance to power social change. Throughout the course, students learn from experts who have experience in identifying value and managing risk in global markets. They develop their own ideas about methods for taking calculated financial risks and leave this course not just with a simulated portfolio of investments, but the skills necessary to manage portfolios in the future.

Introduction to Legal Thinking (Fall)

Inspired by GOA's popular Medical Problem Solving series, this course uses a case-based approach to give students a practical look into the professional lives of lawyers and legal thinking. By studying and debating a series of real legal cases, students sharpen their ability to think like lawyers who research, write, and speak persuasively. The course focuses on problems that lawyers encounter in daily practice and on the rules of professional conduct case law. In addition to practicing writing legal briefs, advising fictional clients, and preparing opening and closing statements for trial, students approach such questions as the law and equity, the concept of justice, jurisprudence, and legal ethics.

Prisons and the Criminal Law (Spring)

Criminal courts in the United States have engaged in an extraordinary social experiment over the last 40 years: they have more than quintupled America's use of prisons and jails. Has this experiment with "mass incarceration" produced more bad effects than good? Is it possible at this point to reverse the experiment without doing even more harm? In this course, students become familiar with the legal rules and institutions that determine who goes to prison and for how long. Along the way, students gain a concrete, practical understanding of legal communication and reasoning while grappling with mass incarceration as a legal, ethical, and practical issue. In an effort to understand our current scheme of criminal punishments and to imagine potential changes in the system, we immerse ourselves in the different forms of rhetoric and persuasion that brought us to this place: we read and analyze the jury arguments, courtroom motions, news op-eds, and other forms of public persuasion that lawyers and judges create in real-world criminal cases. Topics include the history and social functions of prisons; the definition of conduct that society will punish as a crime; the work of prosecutors, defense attorneys, and judges in criminal courts to resolve criminal charges through trials and plea bargains; the sentencing rules that determine what happens to people after a conviction; the alternatives to prison when selecting criminal punishments; and the advocacy strategies of groups hoping to change mass incarceration. The reading focuses on criminal justice in the United States, but the course materials also compare the levels of imprisonment used in justice systems around the world. Assignments ask students to practice with legal reasoning and communication styles, focused on specialized audiences such as juries, trial judges, appellate judges, sentencing commissions, and legislatures. The work involves legal research, written legal argumentation, peer collaboration, and oral advocacy. Note: This course is offered through Wake Forest University School of Law and is taught by Ronald Wright, the Needham Y. Gulley Professor of Criminal Law. Students who take this course should expect a college-level workload (8 – 10 hours a week). Successful completion of this course will be rewarded with a certificate from the law school.

Race & Society (Fall)

What is race? Is it something we're born with? Is it an idea that society imposes on us? An identity we perform? A privilege we benefit from? Does our own culture's conception of race mirror those found in other parts of the world? These are just a few of the questions that students in this course explore together as they approach the concept of race as a social construct that shapes and is shaped by societies and cultures in very real ways. Throughout the course students learn about the changing relationship between race and society across time and across cultures. Engaging with readings, films, and speakers from a variety of academic fields (history, sociology, anthropology, literature), students explore, research, reflect on, and discuss the complex set of relationships governing race and society.

MATHEMATICS AND COMPUTER SCIENCE DEPARTMENT

Computer Science II: Analyzing Data with Python (Spring)

In this course, students utilize the Python programming language to read, manipulate, and analyze data. The course emphasizes using real-world datasets, which are often large, messy, and inconsistent. The prerequisite for this course is familiarity with and hands-on experience using some high-order programming language, such as Java, C++, VisualBasic, or Python itself. Because of the powerful data structures and clear syntax of Python, it is one of the most widely used programming languages in scientific computing. There are a multitude of practical applications of Python in fields like biology, engineering, and statistics.

Prerequisite: Computer Programming or Advanced Placement Computer Science A

Computer Science II: Game Design and Development (Spring)

In this course, students practice designing and developing games through hands-on practice. Comprised of a series of “game jams,” the course asks students to solve problems and create content, developing the design and technical skills necessary to build their own games. The first month of the course is dedicated to understanding game design through game designer Jesse Schell’s “lenses”: different ways of looking at the same problem and answering questions that provide direction and refinement of a game’s theme and structure. During this time, students also learn how to use Unity, the professional game development tool they use throughout the class. They become familiar with the methodologies of constructing a game using such assets as graphics, sounds, and effects, and controlling events and behavior within the game using the C# programming language. Throughout the remainder of the course, students work in teams to brainstorm and develop new games in response to a theme or challenge. Students develop their skills in communication, project- and time-management, and creative problem solving while focusing on different aspects of asset creation, design, and coding.

Prerequisites: Computer Programming or Advanced Placement Computer Science A

Game Theory (Fall and Spring)

Do you play games? Do you wonder if you’re using “the right” strategy? What makes one strategy better than another? In this course, students explore a branch of mathematics known as game theory, which answers these questions and many more. Game theory is widely applicable in the real world as we face dilemmas and challenges every day, most of which we can mathematically treat as games! Students consider significant global events like the Cuban Missile Crisis, Mandela’s rise in South Africa, or the rise of Nobel Peace Prize winner Sirleaf in Liberia from a math perspective. Specific mathematical ideas that are discussed include two-person zero-sum games, utility theory, two-person non-zero-sum games, multi-player games, game trees, matrix algebra, linear optimization, and applications of game-theory techniques to a plethora of real-world problems.

Number Theory (Fall)

Once thought of as the purest but least applicable part of mathematics, number theory is now by far the most commonly applied: every one of the millions of secure Internet transmissions occurring each second is encrypted using ideas from number theory. This course covers the fundamentals of this classical, elegant, yet supremely relevant subject. It provides a foundation for further study of number theory, but even more, it develops the skills of mathematical reasoning and proof in a concrete and intuitive way, good preparation for any future course in upper-level college mathematics or theoretical computer science. Students progressively develop the tools needed to understand the RSA algorithm, the most common encryption scheme used worldwide. Along the way, they invent some encryption schemes of their own and discover how to play games using number theory. Students also get a taste of the history of the subject, which involves the most famous mathematicians from antiquity to the present day, and see parts of the story of Fermat’s Last Theorem, a 350-year-old statement that was fully proved only twenty years ago. While most calculations are simple enough to do by hand, students sometimes use the computer to see how the fundamental ideas can be applied to the huge numbers needed for modern applications. Students must have a desire to do rigorous mathematics and proofs.

Prerequisite: Precalculus, Honors Precalculus AB, or Honors Precalculus BC

SCIENCE DEPARTMENT

Global Health (Fall and Spring)

What makes people sick? What social and political factors lead to the health disparities we see both within our own community and on a global scale? What are the biggest challenges in global health and how might they be met? Using an interdisciplinary approach to address these two questions, this course hopes to improve students’ health literacy through an examination of the most significant public-health challenges facing today’s global population. Topics addressed include the biology of infectious disease (specifically HIV and malaria); the statistics and quantitative measures associated with health issues; the social determinants of health; and the role of organizations (public and private) in shaping the landscape of global health policy. Students use illness as a lens through which to examine

critically such social issues as poverty, gender, and race. Student work includes analytical and creative writing; research, and peer collaboration; reading and discussions of nonfiction; and online presentations.

Medical Problem Solving I (Fall and Spring)

In this course students collaboratively solve medical mystery cases, which is similar to the approach used in many medical schools. Students enhance their critical-thinking skills as they examine data, draw conclusions, diagnose, and treat patients. Students use problem-solving techniques in order to understand and appreciate relevant medical/biological facts as they confront the principles and practices of medicine. Students explore anatomy and physiology pertaining to medical scenarios and gain an understanding of the disease process, demographics of disease, and pharmacology. Additional learning experiences include studying current issues in health and medicine, building a community-service action plan, interviewing a patient, and creating a new mystery case.

Medical Problem Solving II (Spring)

This course is an extension of the problem-based learning done in Medical Problem Solving I. While collaborative examination of medical case studies remains the core work of the course, students tackle more complex cases and explore new topics in medical science, such as the growing field of bioinformatics. Students in MPS II also have opportunities to design cases based on personal interests, discuss current topics in medicine, and apply their learning to issues in their local communities.

Prerequisite: Medical Problem Solving I

WORLD LANGUAGES DEPARTMENT

Japanese I: Language Through Culture (Yearlong)

This full-year course is a unique combination of Japanese culture and language, weaving cultural comparison with the study of basic Japanese language and grammar. While examining various cultural topics such as literature, art, lifestyle, and economy, students learn the basics of the Japanese writing system (Hiragana and Katakana), grammar, and vocabulary. Through varied synchronous and asynchronous assignments, including hands-on projects and face-to-face communications, students develop their speaking, listening, reading, and writing skills. The cultural study and discussion is conducted in English, with topics alternating every two to three weeks. The ultimate goal of this course is to raise awareness and appreciation of different cultures through learning the basics of the Japanese language. The focus of this course is 60 percent on language and 40 percent on culture. This course is appropriate for beginner-level students.

Japanese II: Language Through Culture (Yearlong)

Through language learning, students in this course share their voices, cultivate global perspectives, and foster appreciation of self and others. Students expand their knowledge of the basic skills introduced in Japanese I: Language Through Culture while further developing their speaking, listening, writing, and reading skills. Each unit follows the IPA model (Integrated Performance Assessment), blending three modes of communication: interpretation of authentic material in Japanese, synchronous and asynchronous practice in speaking and writing, and oral and written presentations. Each unit focuses on one of the following cultural topics: Design and Expression, Ecology, Entertainment, East meets West, Harmony, and Nature. In addition, students have the opportunity to select and pursue topics of their own interest. Grammar topics cover the essential forms that are typically introduced in the second and third year of a high school Japanese program. By learning the Dictionary Form, Nominalizer, TE form, TA form, NAI form, and Noun Modifier, students are able to add more complexity to their sentence construction. In doing so, they shift from forming simple sentences to communicating in a coherent paragraph. As online learners, students are expected to exhibit superb time management and communication skills, as well as take ownership of their learning. While grammar instruction will be delivered through asynchronous work and face-to-face meetings, much of the course content will be curated and created by students through their research and collaboration. The focus of this course is 60 percent on language and 40 percent on culture.

Prerequisite: Japanese I: Language Through Culture or permission from the instructor.

Japanese III: Language Through Culture (Yearlong)

Students in Japanese III have mastered most of the conjugation patterns (TE/TA form, dictionary form, and NAI form) that are necessary to speak and write in complex structures. While advancing their grammatical knowledge (including giving and receiving, potential form, and honorific form), students compare and examine similar functions and their subtle differences. In speaking, students are allowed to speak in informal/casual style with each other and with the teacher in order to solidify their control of the Plain Form. Interpersonal communications are done through face-to-face conversation and recorded messages. In reading and listening, students curate, share, and practice with grasping the gist of authentic materials. Such material may include TV commercials, news, movies, children's books, online newspapers, and cooking recipes. In writing, students work on creative writing, expository writing, and analytical

writing (compare-and-contrast in the AP format). Semester 1 incorporates JLPT N5 exam material. Taking the exam is not necessary but encouraged. In Semester 2, students participate in that GOA Catalyst Conference.

INTERDISCIPLINARY COURSES

Climate Change and Global Inequality (Spring, History/Science, must be concurrently enrolled in a BB&N History and Social Sciences or Science course)

Nowhere is the face of global inequality more obvious than in climate change, where stories of climate-driven tragedies and the populations hit hardest by these disasters surface in every news cycle. In this course students interrogate the causes and effects of climate change and the public policy debates surrounding it. In case studies, students research global, regional, and local policies and practices along with what the choices of decision-makers mean to the populations they serve. Who benefits, who suffers, and how might we change this equation? Following the Learning Studio model, in the second half of the course, students work with their teacher to design their own independent projects reflecting their individual interests and passions and collaborate in workshops with classmates to deepen our collective understanding of the complex issues surrounding climate change. Throughout the semester, students build and curate a library of resources and share findings in varied media, engaging as both consumers and activists to bring increasing knowledge to challenge and advocate for sustainable norms. Finally, students have the opportunity to reach a global audience by participating in GOA's Catalyst Conference in the spring, as they present their individual projects to spark change in local communities through well-informed activism. This course fulfills BB&N's Modern Global History requirement.