program. This includes full participation in all aspects of the program and adherence to all rules, regulations, and expectations as set forth and interpreted by GHP.

All nominees should have experience beyond the normal classroom. Top candidates will be those who have one or two projects they have completed outside of school.

Academic Record

- Strong academic record is preferred, but not required.
- Prior coursework/experience in robotics, mechatronics, design, engineering, circuits, and/or programming related courses is recommended (students may still be considered if these courses are not offered at their school).

Skills

- Genuine interest and endless motivation to learn.
- Willingness and capable (expectation) to work in a team setting.
- Ability to work in a fast-paced, sometimes stressful environment.
- Ability to meet deadlines.
- Strong candidates will have project, problem-solving, design, or research experience developing a product in the concentration in which they are nominated.

Interest Area

- Strong candidates will demonstrate interest in engineering beyond the classroom through relevant extracurricular activities and pursuits (e.g., coding or programming, developing applications, involvement in robotics club, competition team, and work and/or volunteer-related experiences). Candidates should have a true dedication and passion for the area of nomination.

Interview Expectations

- Semifinalists in Engineering will participate in a group task and individual interview with portfolio review.
- The Group Task will consist of groups of 3-5 students. Each group will be given an engineering activity to solve. The "solving" of this problem is second to the critical thinking displayed and group dynamics that students will show in a collaborative environment. The group will be observed by 1-2 observers. While each student selects a specific concentration when applying, students are exposed to each concentration/ field of engineering during the summer and are expected to openly and actively participate in that learning.
- Engineering Portfolio must include examples (pictures, drawings, etc.) of the semifinalist's interests and work products in engineering (design, mechanical & electrical, or programming).
- Portfolios may also be presented on a device or electronic medium (i.e., mobile phone, tablet, or laptop) as long as the device does not exceed laptop size. Projectors are not necessary and will not be permitted. Semifinalists should be mindful that electronic portfolios or demonstrations

must fit within the interview time limits. GHP cannot guarantee that internet access (e.g., Wi- Fi) will be available at the interview site.

- Semifinalists should anticipate being on-site for at least 60 - 90 minutes.

MATHEMATICS

Instructional Description

The GHP Mathematics department broadens students' exposure to various branches of mathematics. Courses are tailored to reflect the diversity of both students and mathematics and offer challenges to students within their knowledge base. Topics range from computer programming to proof-oriented courses to application-oriented courses but are all concentrated on techniques of problem solving.

Coursework involves small group work, large group work, cooperative projects, and individual effort. Students solve problems in cooperative, collaborative efforts, explain solutions to one another, present their research, and formulate new problems. Students also can develop a research project addressing a mathematics question of their own choosing.

By the end of the program, students will have an increased understanding of the breadth of mathematics, awareness of the place of mathematics in their world, and the ability and confidence to attempt previously unknown or difficult problems.

Topics of study have included:

- Programming
- Polynomials
- Complex number
- Computer science nuggets
- Number theory, graph theory, set theory
- Sequences and series
- Mathematical challenges
- Weird math
- Problem-solving
- Cryptology
- Counting is Fun (arrangements and permutations)
- Proof techniques
- Algebra matrix analysis

Selection Criteria

Mathematics nominees should have an intense interest in mathematics, be highly inquisitive, and enjoy learning new mathematical concepts and applications. Students are also expected to, at all times, demonstrate integrity and respect for others during their participation in the program. This includes full participation in all aspects of the program and adherence to all rules, regulations, and expectations as set forth and interpreted by GHP.

Academic Record

- Strong candidates typically possess a minimum 3.5 GPA and have scored in the 80th percentile or higher on at least one standardized exam (PSAT, SAT, or ACT); however, other candidates who have a curiosity and/or passion for mathematics should also be considered.

Prior coursework in geometry, algebra, and/or trigonometry is recommended. Advanced level courses can be beneficial in preparation for the summer program but are not required.

Skills

- Strong analytical skills, determination, and curiosity about real-world mathematics applications.
- Ability to reason creatively and independently.
- Appreciation for a wide variety of mathematics.

Interest Area

- Strong candidates will demonstrate interest in mathematics beyond the classroom through relevant extracurricular activities and pursuits (e.g., math club, academic team, Mu Alpha Theta, independent study, and work and/or volunteer-related experiences).

Interview Expectations

- Mathematics semifinalists will participate in an individual interview and are evaluated on a variety of factors, inclusive of, but not limited to, interest, ability, and desire to learn.
- Specific interview criteria will be provided after semifinalists have been notified.

MUSIC

Instructional Description

The GHP Music department consists of seven areas – brass, jazz, percussion, piano, strings, vocal, and woodwinds. The curriculum is performance oriented and emphasizes ensemble skills.
Ensembles range in size from duets and trios to large groups such as string and full orchestra, wind ensemble, and mixed choir. Students interested in GHP music must excel in their performance medium.

Students learn about elements of musical theory, analysis, criticism, history, practice, creation, synthesis, and aesthetics in an artistic and supportive environment. They are afforded several recital and concert opportunities to display the results of their studies. Students can participate in a rotation of enrichment courses designed to expose each student to different facets within the field of music, including conducting, music theory, music technology, music history, music in film, as well as music in practice. Students also participate in performance-based final projects.

Opportunities for students usually include:

- Practicing/rehearsing individually and in ensembles directed by students and/or faculty.
- Performing in both formal and informal settings.
- Co-developing projects with other majors (music and dance, music and art, etc.).
- Analyzing and critiquing music repertoire from antiquity to the present day.
- Attending concerts presented by other students.
- Engaging in creation of music through improvisation and composition.

By the end of the program, students will have established a basis for understanding how to study, prepare, and perform music in a variety of styles and settings. They will be familiar with standard literature for their voice or instrument, be able to demonstrate in performance the historical context and formal structure in the standard literature of each period and will have increased skills in tone production and technique needed to perform this progressive literature to at a well above average level.

Selection Criteria

Music nominees should be motivated to improve their performance technique, musical abilities, and hone their self-reflective criticism to prepare for a collegiate program of study. Students are also expected to, at all times, demonstrate integrity and respect for others at all times during their participation in the program. This includes full participation in all aspects of the program and adherence to all rules, regulations, and expectations as set forth and interpreted by GHP.

Academic Record

- Strong academic record is preferred. Student should have completed prior coursework or be currently enrolled in at least one music ensemble (or have received sufficient instruction) for consideration as a finalist.

Skills

- Strong instrument/vocal performance skills
- Experience playing in groups as well as solo
- Sight-reading ability
- Ability to cope with a demanding practice and performance schedule
- Ability to work toward independent mastery in a short time frame
- Comfortable working with others in group environments and can adequately and honestly self-assess
- Vocal music nominees must:
    - Possess the prerequisite vocal skills to be selected for participation in honors choruses (all-state, district, or a school chorus)
    - Have a solid foundation of vocal technique, performance, and sight-reading skills at an above average level

Interest Area

- Visible evidence of motivation and curiosity that drives their interest in participating in musical opportunities outside of the regular school day. (e.g., youth orchestra, youth band, jazz band, garage band, ensemble, glee club, chorus, etc.).
- Interest in learning about music in a more in-depth manner than the average student.
- A strive for improvement, willingness to try something new or different, and response to instruction, criticism, praise, and adversity.

Interview Expectations

- Semifinalists must be able to articulate their goals, can play their selection well above average, and can sight-read with excellent technique.
- Semifinalists should be able to be specific about constructive criticism, techniques, and topics they have learned in music class and/or lessons and be able to self-identify areas for growth in their performance and technique.

SCIENCE

Instructional Description

The GHP Science department provides experiences that challenge students and fosters scientific thinking, research, and laboratory skills. The curriculum introduces students to courses and laboratory experiences like those encountered by college students taking sophomore/junior level courses and includes a research project.

Students should be nominated in one of the following concentration areas:

- Biology/Environmental Science
- Chemistry
- Physics

Students will focus a portion of the day in classes specific to their nominated concentration of study. Students will rotate through courses in topics of biology/environmental science, chemistry, physics, and agriculture, while developing/honing their laboratory and problem-solving skills in preparation for collegiate level research.

Students are expected to work together on projects and presentations employing the concepts and methods learned in the program. All students are encouraged to move beyond what they already know, or have accomplished, and to explore new, unknown territories of thought and investigation. Primary investigations will be confined to topics pre-selected by the staff for which the required equipment, resources, and supplies are available.

Selection Criteria

Science nominees should demonstrate academic excellence in the sciences, ask original questions, be able to analyze data, develop reasonable scientific explanations, and communicate scientific investigations and information clearly. Students are also expected to, at all times, demonstrate integrity and respect for others during their participation in the program. This includes full participation in all aspects of the program and adherence to all rules, regulations, and expectations as set forth and interpreted by GHP.

Note: Although participation in science fairs, clubs, etc., may support evidence of the skills found in a strong candidate, a citation alone is not a sufficient demonstration of the selection criteria. Similarly, nominating educators are encouraged to nominate students they believe to be passionate and knowledgeable in the sciences even if traditional forms of recognition are not present.

Academic Record

- Prior coursework in at least one semester or one academic year of biology, chemistry, environmental science, physics, anatomy, and/or a related science-based subject is required. Advanced level courses can be beneficial in preparation for the summer but are not required.
- Strong candidates demonstrate academic excellence in the sciences, possessing clear understanding of vocabulary, concepts, theories, and principles of biology, chemistry, and physics.

Skills

- Capability to thrive in a self-directed group study environment and approaching new science-based inquiries in a positive and receptive manner to resolve a problem.
- Desire and ability to work effectively in team settings.
- Adaptability and flexibility to cope with and overcome obstacles to arrive at a resolution.

Interest Area

- Demonstrate genuine curiosity about the natural world and the behaviors observed in the laboratory and beyond.
- Strong candidates utilize classroom material and apply research skills to current events and topics as extensions of their learning.
- Strong candidates have demonstrated interest in the subject area beyond the classroom through relevant extracurricular activities and pursuits.

Interview Expectations

- Semifinalists are assessed on their interest in science and ability to make connections based on evidence, analytical reasoning, and prior knowledge.
- Semifinalists participate in a group data analysis session followed by an individual interview.
- Strong candidates excel in interpreting graphs, analyzing data, and making inferences to draw conclusions and can discuss their findings during the interview portion. They can also convey knowledge and/or awareness of current scientific and technologically related topics, discoveries, and research.
- Strong candidates express interest in conducting scientific research and possess the curiosity to create original research questions across multiple fields of science.

SOCIAL STUDIES

Instructional Description

The GHP Social Studies department includes multiple social science disciplines and emphasizes creating and analyzing responses and solutions to global, political, and social issues, as well as various national and international crises. Courses are designed and taught by various instructors. The course topics are selected by each instructor with the following guidelines: topics typically not covered in the Georgia high school social studies curriculum and/or topics that are barely touched upon by the Georgia high school social studies curriculum. Instructors are encouraged to consider simulations, Socratic style discussions, role playing, debates, and similar activities.

Activities students engage in include historical research, role playing, small and large group work, simulations, debates, projects, and writing activities. Students must become adept at quick, in-depth research and how to use it in various activities. They are often taught to effectively debate various viewpoints, enabling them to stretch and approach issues or concerns from different perspectives in order to consider multiple solutions/responses to an existing situation.
By the end of the program, students will be able to confidently articulate, support, and illustrate an academic or political point with both peers and adults.

Selection Criteria

Social Studies nominees should have a strong desire to learn about the relationships among individuals, institutions, and society. They should enjoy learning about politics and government, understanding various viewpoints, and becoming a responsible consumer of information. They are open-minded, inquisitive, creative, and respectful. Students are also expected to, at all times, demonstrate integrity and respect for others during their participation in the program. This includes full participation in all aspects of the program and adherence to all rules, regulations, and expectations as set forth and interpreted by GHP.

Academic Record

- Strong academic records in social studies, political science, and/or civics focused courses is required. Advanced level courses can be beneficial in preparation for the summer but are not required.

Skills

- Strong analytical skills and the ability to think and reason creatively and independently.
- Knowledgeable about current geopolitical topics, officials, policies, and viewpoints.

Interest Area

- Demonstrate interest in the topics beyond classroom curriculum and assignments through relevant extracurricular activities and pursuits (e.g., Model United Nations, debate team, history