

**U.S. Department of Education**  
**2016 National Blue Ribbon Schools Program**

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[X] Public or [ ] Non-public

For Public Schools only: (Check all that apply) [ ] Title I    [X] Charter    [ ] Magnet    [ ] Choice

Name of Principal Mr. IV Bray

(Specify: Ms., Miss, Mrs., Dr., Mr., etc.) (As it should appear in the official records)

Official School Name The Gwinnett School of Mathematics, Science, and Technology [GSMST]

(As it should appear in the official records)

School Mailing Address 970 McElvaney Lane

(If address is P.O. Box, also include street address.)

City Lawrenceville State GA Zip Code+4 (9 digits total) 30044-2300

County Gwinnett County

Telephone (678) 518-6700 Fax (678) 518-6702

Web site/URL http://www.gsmst.org E-mail IV\_Bray@Gwinnett.k12.ga.us

Twitter Handle

https://twitter.com/We\_Are\_GSMST Facebook Page \_\_\_\_\_ Google+ \_\_\_\_\_

YouTube/URL

https://www.youtube.com/user/GSMSTdigital Blog \_\_\_\_\_ Other Social Media Link \_\_\_\_\_

I have reviewed the information in this application, including the eligibility requirements on page 2 (Part I-Eligibility Certification), and certify, to the best of my knowledge, that it is accurate.

\_\_\_\_\_  
Date

(Principal's Signature)

Name of Superintendent\*Mr. Alvin Wilbanks E-mail Alvin\_Wilbanks@Gwinnett.k12.ga.us  
(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

District Name Gwinnett County Public Schools Tel. (678) 301-6000

I have reviewed the information in this application, including the eligibility requirements on page 2 (Part I-Eligibility Certification), and certify, to the best of my knowledge, that it is accurate.

\_\_\_\_\_  
Date

(Superintendent's Signature)

Name of School Board

President/Chairperson Dr. Robert McClure  
(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

I have reviewed the information in this application, including the eligibility requirements on page 2 (Part I-Eligibility Certification), and certify, to the best of my knowledge, that it is accurate.

\_\_\_\_\_  
Date

(School Board President's/Chairperson's Signature)

The original signed cover sheet only should be converted to a PDF file and uploaded via the online portal.

*\*Non-public Schools: If the information requested is not applicable, write N/A in the space.*

## Part I – Eligibility Certification

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The signatures on the first page of this application (cover page) certify that each of the statements below, concerning the school's eligibility and compliance with U.S. Department of Education and National Blue Ribbon Schools requirements, are true and correct.

1. The school configuration includes one or more of grades K-12. (Schools on the same campus with one principal, even a K-12 school, must apply as an entire school.)
2. The public school has met their state's accountability requirements (i.e., avoided sanctions) in participation, performance in reading (or English language arts) and mathematics, and other academic indicators (i.e., attendance rate and graduation rate) using the most recent accountability results available for the year prior to nomination.
3. To meet final eligibility, a public school must meet the state's accountability requirements (i.e., avoided sanctions) in participation, performance in reading (or English language arts) and mathematics, and other academic indicators (i.e., attendance rate and graduation rate) for the year in which they are nominated (2015-2016) and be certified by the state representative. Any status appeals must be resolved at least two weeks before the awards ceremony for the school to receive the award.
4. If the school includes grades 7 or higher, the school must have foreign language as a part of its curriculum.
5. The school has been in existence for five full years, that is, from at least September 2010 and each tested grade must have been part of the school for the past three years.
6. The nominated school has not received the National Blue Ribbon Schools award in the past five years: 2011, 2012, 2013, 2014, or 2015.
7. The nominated school has no history of testing irregularities, nor have charges of irregularities been brought against the school at the time of nomination. The U.S. Department of Education reserves the right to disqualify a school's application and/or rescind a school's award if irregularities are later discovered and proven by the state.
8. The nominated school or district is not refusing Office of Civil Rights (OCR) access to information necessary to investigate a civil rights complaint or to conduct a district-wide compliance review.
9. The OCR has not issued a violation letter of findings to the school district concluding that the nominated school or the district as a whole has violated one or more of the civil rights statutes. A violation letter of findings will not be considered outstanding if OCR has accepted a corrective action plan from the district to remedy the violation.
10. The U.S. Department of Justice does not have a pending suit alleging that the nominated school or the school district as a whole has violated one or more of the civil rights statutes or the Constitution's equal protection clause.
11. There are no findings of violations of the Individuals with Disabilities Education Act in a U.S. Department of Education monitoring report that apply to the school or school district in question; or if there are such findings, the state or district has corrected, or agreed to correct, the findings.

## PART II - DEMOGRAPHIC DATA

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Data should be provided for the most recent school year (2015-2016) unless otherwise stated.

### DISTRICT

1. Number of schools in the district (per district designation):
- 81 Elementary schools (includes K-8)
  - 28 Middle/Junior high schools
  - 25 High schools
  - 2 K-12 schools
- 136 TOTAL

### SCHOOL (To be completed by all schools)

2. Category that best describes the area where the school is located:
- Urban or large central city
  - Suburban with characteristics typical of an urban area
  - Suburban
  - Small city or town in a rural area
  - Rural
3. Number of students as of October 1, 2015 enrolled at each grade level or its equivalent in applying school:

Grade	# of Males	# of Females	Grade Total
PreK	0	0	0
K	0	0	0
1	0	0	0
2	0	0	0
3	0	0	0
4	0	0	0
5	0	0	0
6	0	0	0
7	0	0	0
8	0	0	0
9	199	142	341
10	120	98	218
11	124	83	207
12 or higher	111	92	203
<b>Total Students</b>	554	415	969

4. Racial/ethnic composition of the school:
- 0 % American Indian or Alaska Native
  - 44 % Asian
  - 24 % Black or African American
  - 9 % Hispanic or Latino
  - 0 % Native Hawaiian or Other Pacific Islander
  - 20 % White
  - 3 % Two or more races
  - 100 % Total**

(Only these seven standard categories should be used to report the racial/ethnic composition of your school. The Final Guidance on Maintaining, Collecting, and Reporting Racial and Ethnic Data to the U.S. Department of Education published in the October 19, 2007 *Federal Register* provides definitions for each of the seven categories.)

5. Student turnover, or mobility rate, during the 2014 – 2015 school year: 12%

This rate should be calculated using the grid below. The answer to (6) is the mobility rate.

Steps For Determining Mobility Rate	Answer
(1) Number of students who transferred <i>to</i> the school after October 1, 2014 until the end of the 2014-2015 school year	0
(2) Number of students who transferred <i>from</i> the school after October 1, 2014 until the end of the 2014-2015 school year	116
(3) Total of all transferred students [sum of rows (1) and (2)]	116
(4) Total number of students in the school as of October 1, 2014	979
(5) Total transferred students in row (3) divided by total students in row (4)	0.118
(6) Amount in row (5) multiplied by 100	12

6. English Language Learners (ELL) in the school: 1 %  
6 Total number ELL

Specify each non-English language represented in the school (separate languages by commas):  
Korean, Chinese-Mandarin, Vietnamese, Urdu

7. Students eligible for free/reduced-priced meals: 34 %  
Total number students who qualify: 327

8. Students receiving special education services: 1 %  
8 Total number of students served

Indicate below the number of students with disabilities according to conditions designated in the Individuals with Disabilities Education Act. Do not add additional conditions. It is possible that students may be classified in more than one condition.

- 5 Autism
- 1 Deafness
- 0 Deaf-Blindness
- 0 Emotional Disturbance
- 1 Hearing Impairment
- 0 Mental Retardation
- 0 Multiple Disabilities
- 0 Orthopedic Impairment
- 1 Other Health Impaired
- 0 Specific Learning Disability
- 0 Speech or Language Impairment
- 0 Traumatic Brain Injury
- 0 Visual Impairment Including Blindness
- 0 Developmentally Delayed

9. Number of years the principal has been in her/his position at this school: 3
10. Use Full-Time Equivalents (FTEs), rounded to nearest whole numeral, to indicate the number of school staff in each of the categories below:

	<b>Number of Staff</b>
Administrators	4
Classroom teachers	54
Resource teachers/specialists e.g., reading, math, science, special education, enrichment, technology, art, music, physical education, etc.	3
Paraprofessionals	0
Student support personnel e.g., guidance counselors, behavior interventionists, mental/physical health service providers, psychologists, family engagement liaisons, career/college attainment coaches, etc.	6

11. Average student-classroom teacher ratio, that is, the number of students in the school divided by the FTE of classroom teachers, e.g., 22:1 18:1

12. Show daily student attendance rates. Only high schools need to supply yearly graduation rates.

<b>Required Information</b>	2014-2015	2013-2014	2012-2013	2011-2012	2010-2011
Daily student attendance	98%	98%	98%	98%	98%
High school graduation rate	99%	99%	100%	100%	100%

13. **For high schools only, that is, schools ending in grade 12 or higher.**

Show percentages to indicate the post-secondary status of students who graduated in Spring 2015.

<b>Post-Secondary Status</b>	
Graduating class size	184
Enrolled in a 4-year college or university	95%
Enrolled in a community college	3%
Enrolled in career/technical training program	0%
Found employment	2%
Joined the military or other public service	0%
Other	0%

14. Indicate whether your school has previously received a National Blue Ribbon Schools award.

Yes  No

If yes, select the year in which your school received the award.

15. In a couple of sentences, provide the school's mission or vision statement.

To nurture the talents and high potential of all students through a unique, challenging, and integrated curriculum with a focus on mathematics, science, and technology that will result in a world-class school.

16. **For public schools only**, if the school is a magnet, charter, or choice school, explain how students are chosen to attend.

The Gwinnett School of Mathematics, Science, and Technology (GSMST) has operated as a district-sponsored charter high school since inception in 2007 (9 school years). In the first two years of operation (2007-2008 and 2008-2009) all rising ninth grade student applicants were admitted since the number of enrollment spots exceeded the number of applicants. For the last seven years, a random lottery has been held since the number of applicants has exceeded the number of enrollment spots. Students are eligible to receive a lottery number during their 8th grade year if they have custodial residence in the attendance zone of Gwinnett County Public Schools. The lottery drawing is held each February for eighth grade applicants to determine the following school year's entering ninth grade cohort. From the lottery drawing through the first week of the next school year, students who yield their enrollment spot or otherwise withdraw are replaced by the next sequential lottery spot drawn. Once the cohort is set, no additions or transfers in are allowed.

## PART III – SUMMARY

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The Gwinnett School of Mathematics, Science, and Technology (GSMST) is in its ninth year of existence, operating as a district-sponsored charter high school within the Gwinnett County Public Schools' (GCPS) district. Although GSMST opened in the 2007-2008 school year, its true origin occurred five or more years before when the business, industry, and higher education communities in Gwinnett County (a large metro-Atlanta suburb) began communicating to the school system, Chamber of Commerce, and other stakeholders, that there was a growing deficit of qualified workers in areas that we now generally refer to as STEM (Science, Technology, Engineering, Math). Gwinnett County Public Schools listened carefully to those outcries and, through collaboration with a number of business and industry volunteers, began planning a school with a new and innovative STEM-based curriculum with cutting-edge opportunities for talented and engaged students to accelerate as fast as they liked towards college and careers in those STEM areas. Gwinnett County Public Schools submitted a successful charter petition to the state of Georgia in 2006 and was approved for a 10-year charter to start GSMST. The purpose of the school was to foster the talents and hard work of highly talented students all across Gwinnett County Public Schools -- the largest school district in Georgia (177k students; 58% F/R) and one of the dozen largest school districts in the country -- and to do so with an integrated and accelerated STEM curriculum. Students have one enrollment window at GSMST as beginning ninth graders and they secure an enrollment spot through a random lottery held each February when these rising ninth graders are in eighth grade. Since students are admitted only as new freshmen, it took until year four before there was a senior class which was also the same year (2010-2011) that GSMST moved from being housed as a school within a school to occupying a signature facility in the geographic center of Gwinnett County in Lawrenceville. GSMST has occupied a fantastic, technology-enabled, world-class school building for the last six school years. GSMST is a public high school, with a regular 7-period bell schedule (8:00 a.m. – 3:00 p.m.), lockers, buses, and teenagers. However, the building and its instructional spaces are inspiring, collaborative, and rich with the very best technologies and a feel that is much closer to Google and Apple than a traditional high school space. The most distinguishing facet of GSMST however, is the curriculum and local school graduation requirements. To graduate from GSMST, students must (1) take and pass five required Advanced Placement courses including AB Biology (the required tenth grade science class), AP Language or AP Literature (the required twelfth grade English class), AP Macroeconomics and AP Microeconomics (the required twelfth grade social studies sequence), and AP Calculus (which can be taken in math sequence prior to graduation); (2) complete a minimum of 26.0 Carnegie units, three of which must be Engineering classes; (3) complete a 4-year internship program which culminates in a year-long Senior Capstone Experience (SCE) where students must successfully complete an internship with a mentor and faculty advisor; and (4) successfully complete a science or engineering fair project and senior thesis. There is a bit of an opportunity cost for students to attend GSMST in lieu of attending their neighborhood school as we take students from all over the school district, including all 28 middle schools, and we do not have an interscholastic sports program. However, we offer students the academic opportunities and immersive learning experiences that most of them would have never even known about had they not come to GSMST. Our first senior class just graduated from college last spring and, in nine short years, we are well known by the College Board, all Ivy League and other Top Tier Universities, and national education publications such as US News and World Reports and the Washington Post. Our students have won the state math tournament, the last three VEX state robotics tournaments, state chess titles, the Spanish program of the year for Georgia, the state science fair, and a host of other team, program, and individual awards. GSMST was the first school in the state of Georgia to earn STEM certification and we have been recognized as the best STEM high school and as having the best STEM outreach program for what we do to support elementary and middle schools in GCPS. In short, we offer all students the opportunity to go deep and fast in a college and career area of interest to them. We do that with a high school enrollment of just under 1000 students, with demographics that closely mirror the district at large, and with the support of highly talented faculty members, a formal Advisement program, a significant student leadership component, and a highly dedicated PTSA.

## PART IV – CURRICULUM AND INSTRUCTION

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### 1. Core Curriculum:

The core curriculum at GSMST is robust, extremely rigorous, and only offered at the Honors, Gifted, Accelerated, or Advanced Placement level. (We do not offer college prep [C.P.] classes.) When our curriculum was designed (and it is reviewed on a yearly basis) the overall objective was to allow for early content mastery so we front-load many traditional graduation requirements and courses. For example, ninth graders at GSMST take a minimum of eight Carnegie units during a seven period school day and the required core classes are H/G ninth grade Language Arts, H/G Chemistry, H/G Physics, and Accelerated Math at whatever sequence is appropriate based on what students completed in eighth grade. (We have current ninth graders enrolled in Accelerated Algebra all the way through Georgia Tech Calculus 2). In tenth grade, students take a minimum of 7.5 Carnegie units and the required core classes are H/G tenth grade Language Arts, Advanced Placement Biology, Science Fair Research, H/G -or- AP World History, and the next Accelerated Math course in sequence for the student. In eleventh grade students take a minimum of 7.5 Carnegie units and the required core classes are H/G American Literature, H/G -or- AP American History which has American Government embedded, the next Accelerated Math course in sequence for the student, and an H/G/AP Science course chosen by the student. In twelfth grade, students take a minimum of 7.0 Carnegie units and the required core classes are AP Literature -or- AP Language, AP Macroeconomics and AP Microeconomics, the next Accelerated Math course in sequence for the student (which must be no lower than AP Calculus), and an H/G/AP Science course chosen by the student. Additional features of our curriculum will be explained in the next section, but our required STEM courses are the backbone of our curriculum and the purpose of front-loading the content is to allow students time in their school day during the junior and senior years to complete required internship experiences. One of our yearly school goals involves scientific literacy and faculty members across all disciplines connect the learning and mastery of their subject to our STEM focus. Our core class faculty starts with published curricula, either GCPS' Academic Knowledge and Skills (AKS) or the College Board AP curricula, and they teach that at a deep level such that any assessment measure for traditional students would be a lesser included achievement level for GSMST students. Several of our core classes are integrated and taught on a rotating A-B block schedule. This is done in ninth grade with Language Arts and Chemistry to help improve students' ability to write well about science. This is done again in eleventh grade with American Literature and American History to expose students to a true "Humanities" curriculum where making connections is an intended outcome of an overall curriculum. The goal of our core teachers is to help students develop a canonical base of STEM knowledge while they are also experiencing our required elective course experiences and internship requirements in order to find their passion. One measure of success for our school is our state's rating on the College and Career Readiness Performance Index (CCRPI). Sixty of the 100 available points on this measure come directly from core academic performance. Our latest CCRPI score (2014) was 99.5 which was the highest score for any high school in the state of Georgia.

### 2. Other Curriculum Areas:

The additional curriculum at GSMST is robust, extremely rigorous, and only offered at the Honors, Gifted, Accelerated, or Advanced Placement level. (We do not offer college prep [C.P.] classes except in Physical Education and Health.) Ninth graders at GSMST take Foundations of Engineering and Engineering Concepts (2.0 Carnegie units total), H/G World Language (either Spanish, Chinese, or German), and an elective course of their choice. Tenth graders at GSMST take Engineering Applications, H/G World Language, and an elective course of their choice. Eleventh graders at GSMST complete a one semester Junior Fellowship (Internship) Experience and they take three elective courses which often include a third year of Foreign Language (over 85% of our graduates complete 3 years of FL), a second or third Science class, an Engineering or Computer/IT course, or courses in the Fine Arts, Performing Arts, and/or Physical Education. Seniors at GSMST complete a year-long Senior Capstone Experience and they take two elective courses which often include a fourth year of Foreign Language (over 45% of our graduates complete 4 years of FL), a second Science class, an Engineering or Computer/IT course, or courses in the Fine Arts, Performing Arts, and/or Physical Education. The primary reason our core curriculum is front-loaded in grades 9-10 is so students have room in their schedule in grades 11-12 to take very specific elective classes

that match students' evolving passions. Some of these electives are academic electives such as Advanced Genetics (taught by a faculty member with an M.D.), Analytical Forensic Investigation (taught by a faculty member who is a former technician with the Georgia Bureau of Investigation), AP European History (taught by a faculty member who College Board uses to train all APEH teachers in Georgia), AP Psychology (taught by a faculty member who spends summers teaching with our state's Governor's Honors Program), and others. Some of these electives overlap career and technical fields such as 3-D Modeling, Advanced Robotics, Nanotechnology, and Biochemical Engineering. (Students at GSMST must take a minimum of one science or specialized engineering class each of their four years.) Other electives are traditional Fine Arts and Performing Arts courses such as Band (Concert, Symphonic, Jazz, and Honors), Orchestra (Concert, Symphonic, Philharmonic, and Honors), Chorus, Music Technology, Piano, and Guitar. About 83% of our total student body is enrolled in one or more classes in our music program. Last year, we began to further intertwine our elective course offerings, our required internship experiences, and the new state emphasis on Move on When Ready – the idea that high school students who are ready and able to take college classes should not be prevented from doing so merely due to routine – to create themed experiences for students to allow them to continue to accelerate in deep and meaningful ways. One example of this involves a new longitudinal program where students complete their summer Junior Fellowship Experience, followed by two elective course slots resulting in four college classes during the junior year, followed by two summer courses, followed by their Senior Capstone Experience and another elective course slot resulting in two college classes during their senior year. The result of this for students will be completion of all GSMST graduation requirements paired with an Associate of Arts degree from Gwinnett Technical College and an industry certification in Computer Gaming. GSMST was created to provide opportunities exactly like this and we have a number of others under development right now (e.g. Cyber Security).

### 3. Instructional Methods and Interventions:

One of the world-class characteristics of GSMST is the persistent and pervasive exemplary teaching that occurs daily in classrooms. Our faculty excels at planning and executing instructional experiences for students that are content and skills rich, sequenced, scaffolded, interdisciplinary, and grounded solidly in the curriculum for the course and with opportunities for connections across and between disciplines, STEM and humanities alike. All of our students are automatically enrolled in an online version of each face-to-face course in their schedule with their teacher serving both roles. Using the Desire to Learn® learning management system, our teachers provide a variety of hybrid instruction to students including the kind of instructional sequencing that supports the “flipped” model of instruction where students preview basic and introductory, low level information outside of school and class time is reserved for higher levels of instruction, problem-solving, inquiry activities, and lab work. We offer some select courses as online only where students can take those outside of the normal school day. We offer other courses in the summer where students can take them at a more convenient time. In addition, our entire school executes 4-6 CyberDays each school year where students work remotely (synchronously and asynchronously) and do not come to campus at all unless they are participating in a special assessment or activity (e.g. PSAT, OECD, Job Shadowing, Freshman Remediation, etc.). Our teachers of math and biology have been trained to implement formative instructional practice (FIP) and we have continuous staff development and peer collaboration opportunities regarding the differential instruction needs and methods that our students require and from which they can benefit. The marquee instructional program at GSMST is what takes place in ninth grade when students take their Physics and Engineering classes. Our “PhysEng” program presents a comprehensive Project-Based Learning environment for each and every one of our 350 freshmen. On paper, students are enrolled in a full year of H/G Physics during one period and two separate Engineering courses – Foundations and Concepts – a second period where one semester of each course is taught each of the four nine week terms. In practice, our PhysEng teachers have a group of students for an uninterrupted 100 minute period where the content, skills, and curricular standards for all three Carnegie unit courses are taught through PBL. Whether students are reverse-engineering a commercial sprinkler head (the first project this school year) or designing and constructing the most environmentally efficient room in a cardboard house (the fifth project last school year) students are fully engaged in relevant, hands-on, applicable content that provides the opportunity to learn and practice the engineering design process over and over again. GSMST is a 1:1 school and students are provided with a district-owned laptop which is loaded with the entire Microsoft Office Suite, Adobe Creative Cloud Master Collection, Autodesk Suite, and other programs. Students learn and use each and every piece of software through their PhysEng course and

are then ready to use that in a more advanced way in a subsequent course or in their research / internship experiences.

#### 4. Assessment for Instruction and Learning and Sharing Assessment Results:

GSMST administers state End-of-Course assessments in all seven required high school classes including ninth and eleventh grade Language Arts, Biology, Algebra, Geometry, US History, and Economics. Georgia has recently revised the tests and the grading scales for these tests moved from a three level scale (Exceeds, Meets, and Does not Meet) to a four level scale (Distinguished, Proficient, Developing, and Beginning Learner). These assessments are general, statewide tests and each GSMST teacher of those subjects, and the school as a whole, expects 90% of students to perform at the highest level with no failures. Assessments which provide more school and classroom value include Advanced Placement Exams and our district's Gateway Assessment – a tenth grade writing assessment in Science and World History where Language Arts conventions and standards are sub-scored on each test. Since we require a number of AP courses, we have a very reliable pool of AP scores in many subjects. Our school wide results the last three years have averaged an overall pass rate of 88-90%. It is not uncommon for student test results in STEM areas to include all 5's (the top score on an AP Exam) school-wide or in an individual teacher's course which occurred last year in AP Physics and AP Biology and the year before in AP Chemistry and AP Art. In total, we offer 22 different Advanced Placement courses at GSMST. Our highest ranking seniors graduate with credit in 14-16 of those. Our lowest ranking seniors graduate with credit in the 5 mandatory AP courses only. Over the last three years, the average for graduates has been credit in over 8 AP courses. The last two years, we have produced 96 National AP Scholars – College Board's highest designation where students take eight or more AP Exams and have a total average score of 4.0 or higher. In addition to AP Exam scores, we thoroughly analyze and disaggregate student scores on our district's local writing assessment. The Gateway exam is a district graduation test given in the spring of tenth grade. This document-based writing assessment provides a prompt and a number of historical and factual documents (essays, graphs, charts, articles, etc.) from which students are supposed to pair learned content and writing techniques and accurately cite sources in crafting their response to the prompt. Students take this assessment two times, once for science (Biology) and a second time two days later for social studies (World History). Just like for EOCT's, GSMST teachers and the school track and analyze student performance at the highest of the three performance levels with no acceptable failures. Our three year performance on the Gateway has over 90% exceeds in SS and over 65% exceeds in Biology. The last two years, GSMST has administered the OECD test for schools based on the PISA. Although the score report does not provide individual student scores, the amount of comparative and contextual data is helpful and has been used this year to start one initiative (e.g. targeting girls) and plan for two others (e.g. writing lab). School performance data is reported publically in our school's annual report card and is used to determine our published College and Career Readiness Performance Index (CCRPI).

## **PART V – SCHOOL SUPPORTS**

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### 1. School Climate/Culture:

To combat the unique challenges our school faces (not an anchor HS for a geographic area, no HS athletic program, extremely high expectations, etc.) all three principals of GSMST have spent tremendous time building and maintaining a strong culture of excellence and acceptance. Once students are offered an enrollment spot through the lottery, we try to indoctrinate them into our culture by having a spring articulation night and by requiring all students to complete a week-long summer STEM (camp) experience. All incoming freshmen complete four regular school days (8:00 – 3:00; M-Th) where they take five 75-minute classes including PhysEng, Chemistry, Math, Language Arts, and Culture/Ethics. We administer pre-assessments in Algebra, Geometry, and all Foreign Languages and Honors Band and Honors Orchestra hold auditions. We also send home daily progress reports indicating performance, effort, and attitude. Students who lack the sincere interest or grit to succeed are identified and coached. In addition, students get to know the facility and know each other since these 350 students are coming to us from 28 different middle schools in GCPS and about 30 each year also come from private or homeschools. Once students enroll and begin school, we have a semester-long peer leadership program for freshmen where juniors and seniors ‘adopt’ a Guided Study class of freshmen and help them learn how to survive and thrive. All students are part of a formal Advisement program which meets on Wednesdays in place of our 20-minute Guided Study period and students experience a 4-year curriculum of topics from plagiarism and copyright law to the college application process and personal finance. Advisement teachers ‘roll’ with their students and stay with them all four years to deepen relationships. The best environment-building part of GSMST is our focus on leadership at all levels. We have students who are part of a formal GCPS leadership training program called the Gwinnett Student Leadership Team (GSLT). We also have a GSMST Student Leadership Society (SLS), the last meeting of which drew over 100 students (~11% of our student body). We have teacher participants in a formal GCPS teacher leadership training program called Teachers as Leaders (TAL). We also have a GSMST program called Training our Teachers as Leaders (TOTAL), which included over a dozen of our teachers (~20% of our teaching faculty) last year and the year before. Annual student, parent, and staff survey results indicate how important all stakeholders value personal relationships and development opportunities and we harvest improvement tasks from those results.

### 2. Engaging Families and Community:

Since GSMST is a high school that serves students from across an entire district, engaging family and community support is critical, especially since Friday night football does not exist for us. We do this in several ways, the first of which is through our Partnership Program. To support the 4-year internship requirements which will be described in Part VI, our school has built an incredible list of partners from business, industry, higher education, healthcare, manufacturing, and a number of other corporate areas. We currently have about 200 partners in these realms and we are always on the lookout for more. Large companies and organizations (e.g. Cisco, NCR, Georgia Tech, Emory University, etc.) and small one-person businesses work with GSMST at all four levels of our partnership program including (1) providing guest speakers for our ninth grade Speaker Series events, (2) serving as a site location for our tenth grade Job Shadowing experience, (3) hosting interns for our JFE and SCE internships, and (4) supporting GSMST through contributions to our Endowment or simply underwriting the bandwidth expenses for a cross-continental telepresence debate where students from GSMST engage with students in China or Brazil about a topic such as pollution or the Olympics. We value our partners and it is through this program that we have been able to recently host visits from an astronaut, the Poet Laureate of Georgia, the Governor of Georgia, the retired CEO of Air Tran, animators from Pixar, and others who visit our school to contribute to the special learning experiences occurring with our students. A second engagement mechanism is through our marquee annual event – International Night. For the last seven years, GSMST has sponsored a cultural showcase event that is above and beyond serving food and playing music from different continents. Our International Night event, held each year in late January, is an opportunity for entire families to experience a new culture. There is food and music is playing but the crafts, family-friendly activities for all ages, the decoration of our campus, the period dress, and the thrilling Talent Show all draw people into our school – almost 3000 onto a campus with an enrollment capacity of 1200. The third engagement

mechanism we foster is our school's high functioning PTSA (Parent Teacher Student Association). All employees join our PTSA each year as do almost 80% of our families. Our PTSA does so much for GSMST including hosting the typical Open House and Curriculum events as well as providing three different Q&A sessions with the principal, supporting staff on a monthly basis, and providing strong financial support for academic programs and student opportunities / outreach such as our student-led VITA program and SLS.

### 3. Professional Development:

Professional development at GSMST is guided and directed by the school's principal who often refers to himself as "lead teacher" because he models for teachers the very behavior that is expected of them. One of our assistant principals is a nationally trained staff developer and works with the principal and a staff development planning team to devise local school experiences for teachers at all levels of experience and proficiency that are efficient and effective. In addition to the TOTAL program mentioned previously, we have a special program for all new teachers (SHARE); we have two different book studies in progress, one for teachers and one for clerical staff; we offer monthly instructional technology training; and we offer optional summer training experiences for teachers in June, July, and the week before pre-planning each year. The goal of all GSMST professional development is to increase the instructional quality of individual teachers and the staff as a whole. Almost all training is directly tied to one of ten teacher performance standards which undergird the annual evaluation and rating process. Training classes that result in formal PLU credit must be tied to curricular standards or skills. During the 2015 calendar year, the principal led a seven session PLU course for teachers which centered on the book "Thanks for the Feedback". This book study allowed teachers the opportunity to do action research in their classroom while working on authentic staff communication and relationships. Teachers at GSMST take advantage of district training opportunities for technology skills and certification programs (e.g. Gifted) but a larger percentage of teachers at GSMST actually teach or provide development and trainings whether that be conference presentations for the College Board, ISTE, NCSSTMST, NAGC, or AATSP, or serving as AP Readers, or working as adjunct faculty members at colleges or in other countries in the summer. Our faculty are highly trained professionals who continuously seek to improve their level of preparation for class instruction while taking advantage of a multitude of professional learning options throughout the year.

### 4. School Leadership:

GSMST has one principal, three assistant principals, three counselors, two internship coordinators, and instructional lead teachers in eight curricular departments. GSMST also has a five person Technology Team which includes three certified and two classified staff members. Everyone listed above is a leader in their own way and that is by design. The job of a modern high school principal, especially one in the highest of high performing schools in a two-time Broad Prize winning district, is complex and filled with growing levels of nuance and context. The very best leaders surround themselves with those who also want to lead and then train them to do so. Every staff member mentioned above has the ability and opportunity to serve as the face of GSMST at any one moment. The leadership capacity of these individuals is developed and grown daily with a productive mix of opportunity, support, and encouraging accountability. The principal of GSMST helps teachers and teacher leaders see that what is true for the students – that it is okay to fail forward; that a well-designed plan that does not work perfectly has succeeded in eliminating a plan that will never work; that innovation should be embraced and supported – can be good for them as well in the classroom, with extra-curricular activities, and in their own personal and professional path of growth and development. Everyone at GSMST, whether certified or classified, is expected to provide "white glove service" to parents, guests, community members, and colleagues in education. We are servant leaders who show by example, do what needs to be done, work on the right work, and do the right things the right way. The principal of GSMST was a classroom (physics) teacher for 13 years. The three assistant principals at GSMST were classroom teachers for 12 (math), 11 (math), and 10 (chemistry) years each. Effective school leadership is elusive. For administrators without the professional knowledge and the personal capacity to be an exemplary teacher, it is impossible. The leadership philosophy at GSMST is simple – fantastic lesson planning and delivery are the only priorities. Everything else is secondary. The job of GSMST administration is to find, hire, retain, and develop the most talented people capable of demonstrating those two priorities on a daily basis.

## Part VI – INDICATORS OF ACADEMIC SUCCESS

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GSMST students are successful because they can receive an overall educational experience at GSMST that is different from what is available at their neighborhood school. The single most differentiating practice isn't our required AP courses (all high schools offer lots of AP courses) or our 26 required Carnegie units (many high schools allow for overloads and joint enrollment opportunities). The marquee educational practice at GSMST is our required 4-year internship experience. In the ninth grade, students attend quarterly Speaker Series events where they get to attend and participate in the most rigorous and informative career day possible. We bring 20-30 working professionals each nine weeks from our partner organizations to school for 90 minute presentations about STEM careers and the college and education required to get there. Students sign up for the speaker of their choice whether that be an engineer, a doctor, an FBI agent, a computer programmer, or a lab scientist. These events expose our freshmen to the reality of these STEM jobs and how they might get there one day. Our tenth graders experience two events. In the fall, our sophomores experience a Job Readiness Workshop where they learn to write a resume, dress for and carry out an interview, respond to impromptu questions and more. In the spring, our sophomores make site visits to work locations of some of our partners. We load the entire tenth grade class on buses and take them for 3-hour, behind the scenes tours of our partners' work facilities so our students can see who works in teams, who works inside a cubicle, how the site of an electrical engineer differs from a chemical engineer, etc. Our juniors complete a semester-long internship we call JFE. Students spend 5-10 hours a week for 14 weeks working with a site mentor and a faculty advisor taking on actual job assignments and producing output for the host organization. JFE students present their work in a 10-minute Symposium presentation in April. Our seniors complete a year-long internship we call SCE. Students spend 5-10 hours a week for 28 weeks working in a fashion similar to what they did in JFE. Each students' senior thesis is written about their SCE, they maintain a complete ePortfolio, and they present their work during a 20-minute Capstone presentation in April. While completing our internship program, some students clearly identify the career field that is right for them. Others slowly begin to eliminate ones that are not right for them. There is great value (and perhaps great financial savings by not paying for the wrong college degree) in both outcomes. By successfully completing our internship experiences, students are prepared at the highest levels for college, career, and the kind of competition they will face in scholarship interview panels, co-op auditions, and that very first job interview. Our students are prepared and they are able to represent themselves and their learning with clear and precise language and skill.