

Accountability Report 2011-2012 Transmittal Form  
Sept. 18, 2012 Rev. A3

Agency Name S.C. Governor's School for Science & Mathematics

Date of Submission September 18, 2012

Agency Director Dr. Murray Brockman, President

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**S.C. Governor's School for Science & Mathematics  
2011-2012 Accountability Report**

**Maintaining Excellence in Outcomes**

**-Opening & Operating Complete Facilities**

- Growing the Student Body
- Recruit/Hire Required New Faculty & Staff
- Recruit & Admit larger Junior Class (more than ever)

**New Initiatives & Re-inventing programs (using private/grant funding)**

- Engineering Accelerate
- World Languages
- Economics & Finance Institute
- International Science Research with GSSM Students
- Curriculum Renewal
- Middle-School to College Outreach across S.C.
- Portable Advanced Science (Toyota)
- Google iTeams Camps
- GearUP Middle School Multi-year (six year) Grant Extension

**S. C. Governor's School for Science & Math: Master Campus Plan - Phase I & II**

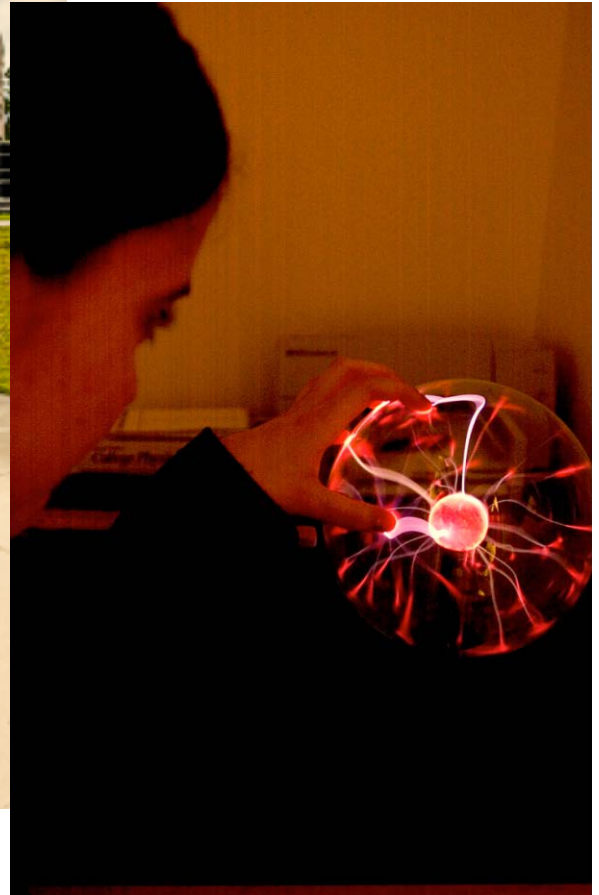
**Phase I: Opened in August 2003**

- Residential Space for up to 300 Students
- Dining Facilities
- Counseling, Arts, Student Support Facilities - Temporary Classrooms
- Faculty and Support Staff Offices

**Phase II: Fully Operational in 2010**

- Academic Center / Labs
- Student Activity Center





September 17, 2012

Mr. Les Boles, Director  
Office of State Budget, Budget & Control Board  
1201 Main Street, Suite 950  
Columbia, SC29201

Re: 2011-2012 Accountability Report

Dear Mr. Boles:

It is a pleasure to submit the 2011-2012 Accountability Report for the South Carolina Governor's School for Science and Mathematics (GSSM).

This report covers another extraordinary year:

- Construction completed on our building additions – growth underway
- Utilizing all new facilities for expanded programs
- Recruit and hire outstanding master teachers required for student growth
- Recruit largest junior (entry) class in school's history
- Banner year for student scholarships, record year for students staying in-state for college

To maximize the benefit from every dollar we spend to educate our students, GSSM is dedicated to incorporating quality management principles and innovation along with public-private partnerships into every facet of our operation. Through the support of hundreds of South Carolina businesses, the GSSM Foundation provides funds that add to the excellence of our programs, allowing purchase of state-of-the-art equipment and supporting innovative advanced programs. We have come a long way, striving toward and reaching ever-higher standards for student achievement during the past twenty years.

We are looking forward to forging additional opportunities for bright, hard-working South Carolina students through expansion. We are deeply grateful for this display of continued support from the General Assembly and the Governor. We received the necessary capital funds required to complete our building, which opened in June of 2010 – just in time for the 2011-2012 school year. The General Assembly and the Governor provided additional operating funds for growth, in stages, beginning in 2012-2013. This growth is providing additional talented and hard working South Carolina students with the exceptional education offered at GSSM, and growth will continue to increase.

As a small agency, we at GSSM regularly use internal staff work, Board reviews, and customer (parent, student and business) input to review and refine our vision and our mission. We set goals, define metrics, and reassess programs, policies and procedures. In order to best deploy our resources to meet our goals, we use a collegial committee structure involving both internal and external organizations, public and private. GSSM designs programs based on a challenging standards-based curriculum to meet identified needs.

The quality management principles detailed in this report have led to GSSM being nationally recognized as one of the premier schools in the nation three years in a row as measured by the success of graduates of our programs.

These long-term successes have arisen from a compelling vision coupled with annual objectives and associated performance indicators. These indicators include: test scores and other academic measures; scholarships offered and accepted; comparisons with benchmark residential schools in other states; the high recruiting priority universities place on our graduates; demand for our outreach services; and the support of business and industry in helping GSSM provide advanced educational opportunities. The steady increase in stature of the school has created the need to expand our student body into purpose-built facilities.

GSSM is also now into its 11th year of integrating information developed in conjunction with the Education Oversight Committee (EOC) – the school report card system. We proudly report that GSSM continues to maintain excellence in all categories.

We continue to focus on priority items and efficiency in order to maintain the excellence of GSSM programs, utilize our new building to the fullest extent and building the foundation for even greater academic impacts and student growth.

Thank you for your time regarding this report and I will be happy to provide additional information and ask that if you have any questions, please call me.

Sincerely,

Dr. Murray W. Brockman  
President

## **Section I – Executive Summary**

### **1. Mission, Vision & Values**

#### **Mission and Values Statement**

#### **South Carolina Governor’s School for Science & Mathematics**

The purpose of the South Carolina Governor’s School for Science and Mathematics (GSSM) is to offer the most academically able students of this state a learning environment that strengthens their ability to think critically, stimulates the joy of learning, and fosters the excitement of discovery through scientific research.

GSSM broadens the horizons of the mind, expands intellectual and personal growth, and cultivates the uniqueness of each student. The School builds a strong sense of community among students, faculty and staff in a residential setting.

Emphasizing science, mathematics, and technology, the Governor’s School for Science and Mathematics is an educational resource, which serves the State of South Carolina as a model for academic excellence and provides a diverse range of outreach programs and partnerships.

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## I.2. Major Achievements from past year

### **S.C. Governor's School for Science & Mathematics: Metrics, Benchmarks & Highlights**

#### **Major Achievements, Status: FY 2011-2012 Accountability Report SC Governor's School for Science & Mathematics (GSSM)**

Repeatedly recognized nationally for excellence, GSSM advances academic achievement throughout South Carolina by offering comprehensive residential and exemplary outreach programs for students and teachers.

#### ***GSSM RESIDENTIAL PROGRAM***

- Supported by private funds, **GSSM continues an international exchange of high school research students with a sister high school and university in Germany and expanded to include an exchange with students from the Republic of Korea in the summer of 2012.**
- GSSM residential **students** are 50% male, 50% female, and 30% minority. **The newly selected Class represents 25 of South Carolina's 46 counties and 57 high schools across the state.** They are selected on merit, including academic talent, interest in science and mathematics, and strong character.
- GSSM has earned **Palmetto Gold** with an **“Excellent”** rating on the SC Annual School Report Card every year.
- Averages of 56% of graduates attend **college in SC including 64% of the Class of 2012.** About **50%** of GSSM alumni **seek careers in S.C.**, working as teachers, doctors, scientists, engineers, computer scientists, and lawyers.
- Strong academic performance is a hallmark of GSSM students. The five-year SAT average is 2059, the highest in the state. Forty Eight **GSSM** students were recognized by the **Advanced Placement** program in 2012 with distinctions ranging from Scholars to National Scholars. 197 AP exams were given in 2012 with a 92% pass rate.
- The Class of 2012 led the state with over **16% of the class being recognized by the National Merit Competition** as **National Merit Finalists** and two students named as **National Achievement Finalists**. Most recently, **10 students from the Class of 2012** have been named as **National Merit Semifinalists** and 2 as **National Achievement Semifinalists**. In the Class of 2012, there were **58 Palmetto Fellows**, and **100% of GSSM seniors** qualified for the **Life Scholarship** offered by the state. The Class of 2012 received **over \$11.8 million** in scholarship offers.



- Our **nationally recognized mentored research program** for rising seniors, which is open to all South Carolina students and required for GSSM students, continues to expand its international research component and produce significant results. The number of students participating in the 2012 Research Experience Scholars Program (RESP) included **3** GSSM students who conducted research at the Korean Advanced Institute of Science and Technology (KAIST) in Daejeon, South Korea and **3** GSSM students who conducted research at the German Cancer Research Center in Heidelberg, Germany. RESP is privately funded.
- Newly installed classroom technologies support GSSM's advanced and increasingly world-wide curriculum. All classrooms are equipped with a base level of technology that includes video conferencing, digital interactive whiteboards, and media players. Specialized facilities provide access to World Language media in language labs, residence halls, or while travelling the globe.
- GSSM computer science students go well beyond the basics of programming as they develop hands-on expertise with high-performance computing (HPC) systems, including the CONDOR HPC cluster (from computers donated by Google) that students built last spring. A component of the Advanced Programming course this year is the participation in the MIT Zero Robotics challenge to write the software to be used to control a real satellite on the International Space Station. This year students developed a version of twitter using Ruby and Rails with the ultimate goal of making a local GSSM version of electronic swap meet for clubs and students to be able to access from school network. As part of the AT&T Advanced Computer Engineering Laboratory, the result of a generous donation from the AT&T Foundation, high-performance computing experiences and advanced programming studies are launching GSSM students into successful computer science careers in college and beyond.
- **GSSM alumni** continue to demonstrate excellence in both academics and leadership at the college level. Nineteen **GSSM alumni were named Goldwater Scholars** over the past 15 years at Clemson, USC, Furman, and the University of Georgia. In 2007, the **Student Government President** (Stephen Gosnell, '03) at **Clemson University** and **NC State** (Will Quick, '03) were both GSSM alums, while Charleson Bell, '03, was voted one of the top 10 seniors at Vanderbilt University and held the position of **Speaker of the Senate**. **Twelve GSSM alumni are now with the Medical University of South Carolina, in positions ranging from first year medical student to professor.**
- **Extracurricular activities** continue to shine. GSSM Chorus' spring presentations were very well received and the **GSSM Jazz Band**, in existence for only three years, earned its **second consecutive "Excellent" at the State Jazz Festival held** at Newberry College in 2012. Two students earned chairs in the All-Region Band. Each year, student musicians at GSSM earn All-Region or All-State honors.
- Even while taking a heavy & advanced load in all academic areas, over 80% of GSSM students participate in inter-scholastic sports at some level. And, for future doctors, engineers & research scientists, the results are impressive and include:



## 2011-12 GSSM Sports

- **Swimming**- one individual (Michael Tibbs) qualified for the state championship
- **Cross country**- both boys and girls teams compete in the state championship with one individual (TJ Melanson) making All-State by finishing second
- **Volleyball**- the team won Region VII A Championship and hosted the first three rounds of the playoffs for the first time in school history. Three individuals made All Region (Juhi Srivastava, Kemper Fagan, Alexandra Jeffers)
- **Girls tennis**- the team finished second in the region and played in the Lower State Championship. Two individuals (Surya Veerabagu and Hannah Kahng) played the complete season without a loss individually or as a doubles team. One of these individuals qualified for the individual State Championship where she finished 3rd in 1A and 2A
- **Boy's golf**- two individuals made All Region (Jake Crouse and Danny Lamm)
- **Boys tennis**- the team won the region championship and hosted the first two rounds of the playoffs. Two individuals (John Isenhower and Colman Moore) qualified and played in the individual state championship
- **Boy's track**- one individual (TJ Melanson) qualified for the state championship. He qualified in the 1600m run setting a school record. He qualified in the 3200m run setting a school record. He finished in 2nd place in both events. Three other participants set personal records.
- **Girls soccer**- in the second year of existence, the girls finished the season 12-4 and hosted the first round of the playoffs. One individual (Kemper Fagan) was nominated for the All-State team as she led the state in goals (24)
- **Boys soccer**- the team completed the best season in the history of the school. This team finished the season 15-5 winning the first Lower State Championship in school history. This team competed in the State Championship and finished 2nd in 1A for the first ever State Runner-Up Title in school history

Not a bad year for the GSSM student athletes! By the way, every student athlete who completed their season maintains at least a 3.5 GPA!

- Clubs at GSSM supported many local organizations and charities including the animal shelter, the local soup kitchen, Relay for Life and many other charities. Drama continues to be a highlight with talented student performances. Students in the Future Business Leaders of America club competed at the District and State levels, taking 11 first place district awards and 2 first place state awards.

## GSSM Center for Science Education and Outreach – Statewide Outreach

- Our **nationally recognized mentored research program** (SPRI) for rising seniors, which is open to all South Carolina students and required for GSSM students, continues to produce significant results through its international research component and awards won by GSSM students. Over the past year, GSSM students won numerous awards for research presentations at the SC Junior Academy of Science (SCJAS) Annual Meeting and one student was the co-author of an article accepted for publication in the *Journal of Membrane Science*. One student presented a research poster at the Biomedical Engineering Society Annual Fall Meeting in Atlanta, GA.

Number of Participants - 74. Trend over time – increasing now and for the next several school years as GSSM achieves student body full capacity of facilities. (Benchmark comparison: Higher Education’s Performance Indicators IV B and VIII C.)

- The GoSciTech summer science, technology, engineering, and mathematics (STEM) program, formerly the Summer Science Program, completed another very successful year by providing **346** rising 8th, 9th and 10th graders from across the state with the opportunity to explore STEM area subjects like advanced crime scene investigation, astrophysics, electronics, neuropsychology, and many more interactive courses. The number of students supported by scholarships was 23%, thanks to generous support from businesses through the GSSM Foundation.
- In the From Middle School to College (FMSCT) program and the Grow, Produce, & Develop (gpod) programs, the cohorts of middle school students participating were engaged in online and onsite academic activities during the school year. The academic activities delivered by these programs impacted over **120** middle school students during the year. In summer 2012, **43** students from the GPod cohort and **56** students from the FMSTC cohort participate in week-long summer enrichment STEM camps on the GSSM campus designed specifically to improve the mathematics and science achievement of these students. Gpod is being funded privately by the GSSM Foundation through the support of Google, Inc.
- The Portable Advanced Science Exploration (PASE) professional development program conducted workshops for 50 teachers during the academic year. Sixteen teachers used the PASE activities and science equipment with over 900 SC students.
- A grant from Google, Inc. supported the fourth year of our technology-based Innovation, Technology, Entrepreneurship, Among Middle Schoolers (iTEAMS) summer camp for Berkeley County middle school students, and additional grant support provided funding for expanding iTEAMS to Greenville County. The total number of students served by iTEAMS was **263**. A total of **11** SC teachers assisted with the delivery of iTEAMS.
- Mr. Randy LaCross, VP of the GSSM Center for Outreach, Mrs. M.E. Farmer, and Mrs. Susan Engelhardt, conducted a workshop for science teachers at the SC Science Council 2011 Annual Meeting, and throughout the academic school year, they conducted a variety of STEM workshops for students on the GSSM campus.
- During the 2011 - 2012 academic school year, the GSSM Center for Outreach directly impacted 2160 SC students, teachers, and educators. The primary impact made on teachers and other educators who participated in **GSSM Center for Outreach activities** makes a direct or secondary **impact on over 9,000 students during the 2012-2013 school year.**

## • GSSM FOUNDATION

Our strong and active Foundation organizes the support of hundreds of businesses from all across the state in support of sustaining excellence at GSSM. Foundation financial support is especially targeted to activities "above and beyond" what the State can provide.

### **I.3. Key Strategic Goals for Present and Future Years Summary Description of Strategic or Long-Term Goals:**

Our strategic goals provide for the following:

- 1) Maintain the excellence that is the hallmark of each GSSM program
- 2) Use funds efficiently and effectively - Maintained Quality & balanced budgets
- 3) Open GSSM's complete facilities for 2011-2012 school year & expand programs –

ACCOMPLISHED.

4) Begin Growth in Stages: Underway, growth appropriations sought and provided, begin transition in 2011-12 hiring required faculty to support increase in students, add students as current staffing allows, then add large number of students in stages starting in 2012-2013 !

#### **Strategic Goals**

1. Continue and strengthen residential and outreach programs, enhancing excellence and meeting opportunities statewide
2. Occupy Phase One of GSSM's New Campus in August 2003 - Accomplished.
  - a. Obtain funds to outfit and occupy New Campus - Accomplished
  - b. Finalize Phase 2 Funding - Accomplished
  - c. Finalize Furniture, Fixtures & Equipment requirements and support appropriations request - Accomplished for Phase I & Phase II

Double the size of the student body and faculty while maintaining or improving quality and minority enrollment – Underway, partial growth appropriation provided, begin transition in 2011-12, add students in stages starting in 2012-2013 ! Ongoing.

3.
  - a. Oversee completion and integration of Phase II facilities - underway
  - b. Analyze curriculum alternatives – AP, IB, private schools, other. How are we unique?
  - c. Use the expansion opportunity to review and upgrade curriculum  
Underway: 2011-2012 saw first full-year operation of GSSM's new privately funded Blue Cross & Blue Shield Economics & Finance Institute.
  - d. Define enhanced math/computer science & technology offering(s)
4. Spearhead efforts toward leadership in South Carolina science and math education via our outreach programs - Underway
  - a. Uncover grant opportunities – especially in teacher training – Obtained six-year Federal Gear UP Grant through CHE partnership starting in 2006-07.
  - b. Additional six-year GearUP grant renewal approved beginning in 2011-2012.

- c. Obtained \$200,000 Toyota Grant (2008) to enhance middle school academics. Awarded Federal Grant for Middle School to College project.
  - d. Expand summer research coordination with higher ed partners: Added College of Charleston & MUSC, Furman and Francis Marion University
  - e. Partnership with schools, districts and other educational partners to reach middle school teachers & students to improve science/math - accomplished
5. Enhance the profile of GSSM across the state - Underway
    - a. Establish role in SC state initiatives to improve science and math education - Ongoing
    - b. Establish role of parents in the school vision
    - c. Create targeted communications plan for internal and professional implementation – Ongoing
  6. Continue to focus on the development of high character and exceptional skills in our students – Accomplished/Ongoing
    - a. Evaluate honor codes at other schools
    - b. Review & revise handbook and emphasize principles
    - c. Added Mental Health Counseling full-time for 2011-2012, a necessity in a 24/7 residential school – to include character development issues within community & for individuals

**I.4. Opportunities and Challenges** that may affect the agency’s success in fulfilling its mission and achieving its strategic goals (This establishes the basis for the agency’s budget request).

**I.4.a Opportunities:**

1. By providing advanced facilities equal to the quality of the faculty and students, GSSM can keep our programs on the cutting edge of science and technology to enhance the growing knowledge economy in partnership with the research universities
  - a. Now that GSSM has completed building our state-of-the-art laboratory facilities for instruction and expanded spaces for residential and outreach programs, we are extending our teaching into global languages, Economics/Finance & even more professional teacher training to improve science/math achievement across South Carolina.
  - b. Advanced laboratories will enhance our students’ preparation to compete globally in scientific research.
2. Maintain and extend quality GSSM programs’ reach and depth to a “critical mass” of students and teachers, both residential and outreach.
  - a. With our building complete, GSSM has space for up to 296 of the state’s brightest and most-motivated students to participate in the intensive full immersion of our leading-edge residential program. This larger number will provide opportunities for even more students from every corner of South Carolina to participate. Today, we turn away three out of every four applicants.
  - b. The campus will also be able to host educational conferences impacting thousands of additional students (grades 7-12) annually through workshops, teacher-training, seminars and course-work.
  - c. Grant requests are researched and submitted to fund high-quality courses to enhance academic achievement statewide.

- New and developed during 2011-2012 is GSSM's Engineering Accelerate initiative, privately funded pilot project. This initiative with partner Engineering universities in South Carolina will allow high school students anywhere in South Carolina an opportunity to earn Engineering credit during their 10<sup>th</sup> through 12<sup>th</sup> grades.

- -GSSM developed and obtained (with partners) a Federal Grant (GearUP) to help teach middle school teachers in the sciences. This grant more than doubled teacher participation with the addition of successful Mathematics Institutes held at the Governor's School. A new six-year GearUP grant has been developed, submitted and awarded in 2011-2012.

- -In addition, GSSM has been awarded a Federal Grant to support younger South Carolina students "From Middle School to College." Following our philosophy of building partnerships in order to leverage resources, GSSM continues to partner with school districts, and the business community through the State Chamber of Commerce. Other grant opportunities are being developed.

- PASE grants – helping middle school teachers & students along the I-95 corridor and beyond in S.C. funded by Toyota and others

- Google Camps – partnering with Google & Berkeley County Schools, develop & conduct summer camps in Berkeley County.

- -Blue Cross/Blue Shield Economics & Finance Institute at GSSM (see below)

3. Grow the knowledge economy and enhance quality of life throughout South Carolina by providing a larger homegrown supply of high-quality engineers, scientists, doctors, and other professionals who have a strong predilection to seek higher education and then employment in South Carolina. Develop curriculum in Finance & Economics to support the knowledge economy. Expand student opportunities in-state in Engineering.
4. Increase the pride, awareness and expectations South Carolinians have in their young scholars – by more extensively communicating the national and world-level achievements our students are producing through challenging GSSM programs – both residential and outreach. Awareness campaign begun several years ago is underway & expanding – with articles appearing in business journals and newspapers, direct mail and even some donated billboards across South Carolina.

#### **I.4.b. Key Strategic Challenges for 2011-2012:**

1) Maintain excellence in programs, focus on efficiency and set groundwork for even better programs as economy turns around. Transition to full-use SCEIS finance & personnel computer: early implementation of system has been problematic with dropped reports, late payment to vendors, transactions and lower efficiency until time allows base loading and efficient usage. SCEIS effectiveness in 2011-2012 has improved with system revisions & experience. Once transition is complete, we hope and expect improved efficiency through this system.

2. Facilities are now complete. In addition, planned expansion of the student body - to fully utilize the capital investment – is underway. During 2011-2012, thanks to new funding by the General Assembly, we hired a truly outstanding cadre of new faculty and staff, with superior participation among minorities and Ph.D.s In August 2012, we admitted a 68% larger junior class, conforming to the plan established by the General Assembly during the 2010-2011 session. Funding was granted at the end of the 2011-2012 session to support additional growth, to full capacity, for a total 131% increase in students served! Our challenge now is to continue the outstanding record of new hiring from the past year, and bring new, highly accomplished faculty to GSSM to allow full growth.

3. Misperception that science and mathematics are not a state education priority – that South Carolina’s economic future does not rest on a highly sophisticated knowledge economy. Also, a misperception that GSSM is a local school, not a statewide resource that helps students from every corner of South Carolina – and therefore an institution that deserves statewide support.

**I.5 How the accountability report is used to improve organizational performance.** Review and compilation by senior staff requires review of benchmarks/highlights and challenges assumptions about current and future priorities, services, allocation of resources, necessity for measurement and testing validity of data. GSSM is currently undertaking a fresh Strategic Planning process to better inform growth efforts. The outcomes of this Strategic Planning will be incorporated into programs to include next year’s Accountability Report.

## **Section II – Organizational Profile**

### **II.1 Description of main products and services**

Increase academic achievement by providing advanced and challenging academic courses and experiences, with an emphasis on science, mathematics and technology, to qualified students and teachers in South Carolina. GSSM features two distinct, yet complimentary, program areas:

- a full-time Residential Program for 11<sup>th</sup> and 12<sup>th</sup> graders and
- statewide outreach programs from elementary through high school.

## II.2 Key Customers

<b>“CUSTOMER”</b>	<b>“PRODUCT” CONSUMED</b>	<b>KEY NEEDS</b>	<b>METRICS</b>
Residential Students, Grades 11-12	Advanced coursework, Full-immersion residential program Added in 2011-2012: full-time Economics & Finance Institute activities and courses	Continue to refine advanced curriculum, flexible offerings, college preparation, maintain faculty w. adv. Degrees in field. Obtained stability in base State budgeting in 2011-2012.	College admissions, Adv. placement, Scholarship offers, Subject mastery
Middle & High School Students (7 <sup>th</sup> grade, 9/10 & 11/12)	GearUP Teacher Training (I-95 corridor) Sought and in 2011-2012 awarded new six-year GearUp Grant. -Summer Science Program continues, now re-branded as GoSciTech -Summer Program for Research Interns (Mentored Research) -PASE science programs for I-95 & beyond schools. -ICamps, sponsored by GOOGLE in Berkeley County -Camp Invention for Elementary Students -Middle School to College Federal Grant Awarded	Advanced curriculum, broad-based offerings, capable and flexible instructors	Number of students, number of schools served, number of disadvantaged schools served
Parents	Students’ education and character development, Student safety and well- being, support	Adv. Curriculum, Student Community service, security	College placement, scholarship offers, safety/security metrics. Articulation agreements with USC/Clemson
South Carolina Science and Math teachers	-Support of academic achievement, standards, menu of opportunities in science & math for students Non-standard certification, Re- certification, content	Advanced course content, student content programs, certified courses, instruction assistance. Increase academic preparation & results in science & math for	Number of teachers and students participating and supported through Outreach efforts, results.



	development	greater number of S.C. students.	
South Carolina school principals and superintendents	-Enhance & advance interest and achievement in science/math tracks, -Opportunities for teachers & students -Comparative benchmark for curriculum offerings	-Recognition of their essential role in a student's development and achievement -Data to enhance reporting requirements	Return of SAT scores, other tracking indicators, inclusion in announcements, inclusion in Outreach efforts
South Carolina colleges and universities	Advanced students	Highly prepared, able and motivated students	Attendance of GSSM graduates in SC universities, both undergraduate and graduate schools.
SC business community	-Advanced college grads -Enhanced State reputation for academics to help recruit/retain professionals.	In-state grads	Graduates conducting their profession in state
SC Economy & general public	-One (of many) concrete example of return-on-investment: GSSM Alum helped direct \$600,000,000 high-tech investment to S.C. (with additional \$600,000,000 planned...) -Advanced college grads -Pride in academic success of our high school students	-Advancing economy -Enhance quality of life	-Enhance knowledge economy -Perception of pride in education

### II.3 Key Stakeholders:

1. S.C. Schools and School Districts provide students, teachers, partnerships and support.
2. S.C. Universities rely on GSSM for talented science and mathematics students
3. S.C. parents provide students and form a key partnership for success
4. S.C. businesses rely on GSSM to develop science and engineering talent

### II.4 Key Suppliers (viewed also as partners & stakeholders)

1. S.C. Schools and School Districts provide students, teachers, partnerships and support.
2. S.C. Universities provide GSSM with instructors, mentors, and other resources.
3. Coker College: Provided majority of external leased facilities unavailable at school in 2010-2011(limited athletic fields/courts) – until GSSM staged opening our new buildings beginning in first quarter of calendar year 2010.
4. S.C. parents provide students and form a key partnership for success
5. State Engineer's office provides expertise for capital construction

6. State offices available to us and other state agencies, e.g. State Budget and Control Board for management support (procurement, capital projects), State Department of Education for personnel/finance administration, etc.

## II. 5 Operations location(s)

Primary facilities: GSSM's fully-completed campus opened June 02, 2010. Even in the face of severe and ongoing budget reductions, GSSM successfully operated programs while under construction for the past two years. For summer 2011-2012, GSSM operated expanded teacher training and student programs in our new classrooms & laboratories.

Outreach Sites: Various around state including: 25+ schools along I-95 corridor (GearUP project), and Berkeley County Schools for ITeams via GOOGLE. GSSM operates programs at and through State Research Universities and industrial labs for advanced mentored research (SPRI)

After years of planning and work, GSSM successfully completed construction and integration of complete building: detailing, purchasing and installing new systems or system extensions to include phone, fiber-optic network, cabling, dining hall equipment, trash cans, alarm systems, computerized zoned door locks using magnetic swipe cards, new fire pump and generator safety system, security including camera systems, maintenance, laboratory furniture and equipment, IT, wireless campus network & packing and moving.

GSSM building has now been completed: on time and in budget. Fully operational for beginning of FY 2011-2012, complete facilities added specialized laboratories, classrooms and student activity space. With operational funding approved in 2011-2012, student body growth (from current 128 up to maximum of 216 residential students) can now occur beginning in 2012-2013 as facility is complete and operational.

The complete master campus (shown in rendering next page) includes both Phase I and Phase II.

## S. C. Governor's School for Science & Math: Master Campus Plan - Phase I & II

### Phase I: Opened in August 2003

- Residential Space for up to 300 Students
- Dining Facilities
- Counseling, Arts, Student Support Facilities - Temporary Classrooms
- Faculty and Support Staff Offices

### Phase II: Fully Operational 2010!

- Academic Center:
  - Advanced Classrooms
  - Advanced Laboratories
- Student Activities Center



II.6 Number of Employees (pre-growth phase): Full-Time State: 32.00  
Classified: 12 (FTE)  
Unclassified: 19 (FTE-mostly faculty)

For efficiency and cost containment, GSSM uses contractual services when appropriate. Examples include dining services, security guards, maintenance & janitorial services. In GSSM Outreach, two temporary grant-funded positions are utilized per grant requirements.

#### II.7 Regulatory environment under which organization operates.

As a state agency, GSSM operates under the laws and regulations of the State of South Carolina, and within Federal regulations pertaining to student information. Construction project code review fell under both the Office of State Engineer and the Office of School Facilities.

#### II.8A Performance Improvement System:

- a. Customer needs and expectations: Identification (parents, students, teachers, educational partners, prospective candidates for programs), data gathering and review (interviews, surveys, and review of metric benchmarks including applications, test scores, scholarship awards and growth into further advanced educational settings).
- b. Financial, regulatory, societal and other potential risks: GSSM conducts comparative analysis of similar institutions on a regular basis.
- c. Human resource capabilities and needs. GSSM conducts formal and informal comparative analysis of similar institutions on a regular and ongoing basis, including compensation and staffing models.
- d. Operational capabilities and needs. GSSM conducts formal and informal comparative analysis of similar institutions on a regular and ongoing basis and weekly reviews short term results and needs. Consult with other agencies and supervisory agencies regularly.
- e. Supplier/contractor/partner capabilities and needs. GSSM collects and reviews feedback from suppliers and partners on quality of current and potential for future improvements and programs.

Administration conducts periodic strategic planning process involving all functional areas and input/direction from GSSM Board of Trustees, reviews data and takes initiatives to improve results. New Strategic Planning cycle planned during 2011-12 for implementation in 2012-2013.

What are your key strategic objectives? (Address in Strategic Planning Chart). See Section III, Category 2 and Strategic Planning Chart.

II.8.B GSSM develops and implements priorities on an ongoing basis with regular internal meetings and a formal process with our Board of Trustees. Metrics are identified, tracked and reviewed. (See EOC Report Card, page 33, Section 7.)

- a. What are your key action plans/initiatives? See Section III, Category 2 and Strategic Planning Chart.
- b. How do you communicate and deploy your strategic objectives, action plans and performance measures?

Through Board reports, weekly meetings of GSSM Executive Leadership Team (representing all major functional areas), monthly reports to all Faculty/Staff and administrative reports such as the State Budget Request, State Activity Inventory and this report.

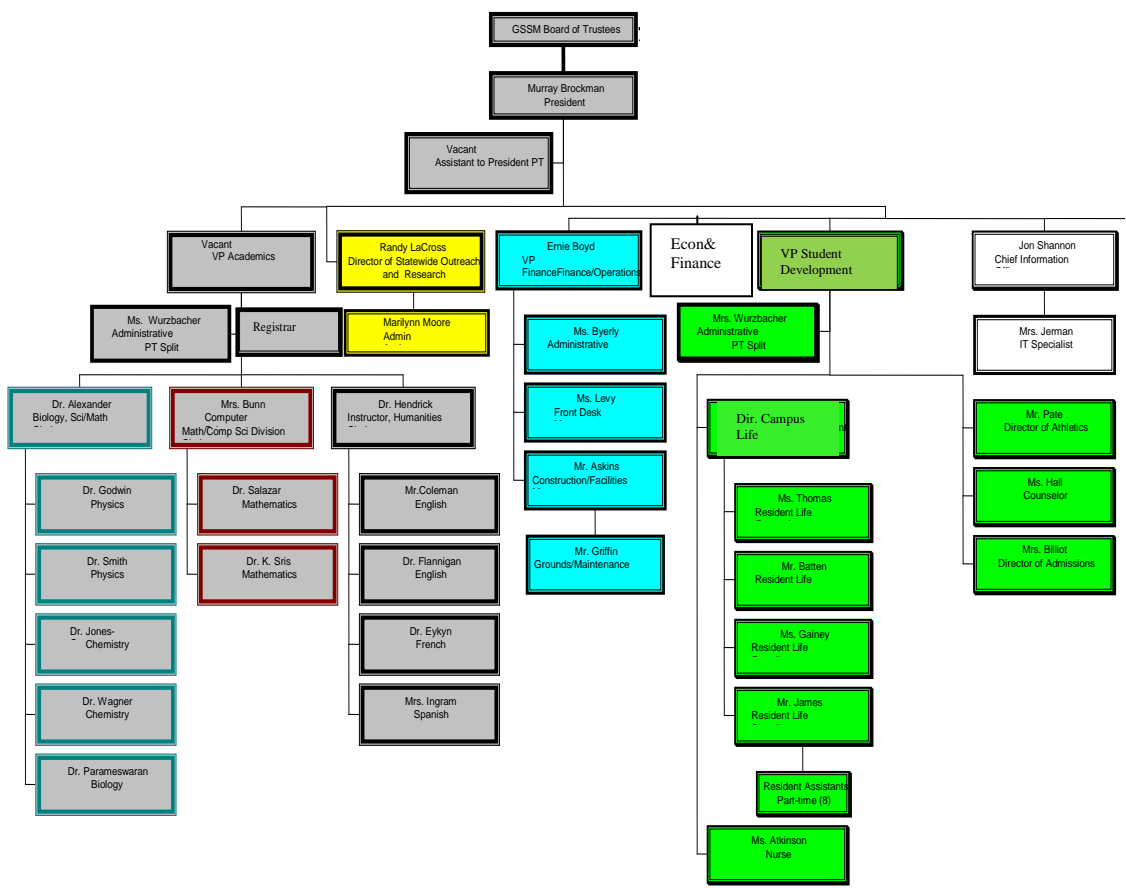
## II. 9 Organizational Structure

GSSM utilizes a “tiered” organization structure, but with open communication between all levels. (See organizational chart on next page.) Our governing Board of Trustees, with a school president and four vice-presidents responsible for primary functional areas, lead GSSM’s structure. Resource responsibility and authority (both personnel and financial) is placed in the hands of those working most closely with our key customers.

To leverage resources and results, GSSM focuses on a “partnership” model; designing and building programs based on identified needs and shared resources.

On the following page is GSSM’s organizational Chart as of July 2011. It shows the creation of a Registrar position to support needed functions. In addition, it shows early re-organization steps to include both a Computer Science/Mathematics Division within academics, the addition of Chief Information Officer position and the privately funded Director of GSSM’s Economics & Finance institute.

S.C. Governor's School for Science & Mathematics – July 2011 (pre-growth)



II.10 Expenditures/appropriations chart

Major Program Areas

GSSM Rev A1 11-12

Program Number and Title	Major Program Area Purpose (Brief)	FY 10-11 Budget Expenditures		FY 11-12 Budget Expenditures with Growth Assignment		Key Cross References for Financial Results*
#1 (813)	Academic Instruction	State: 1,252,402.00 Federal: Other: 82,029 Total: 1,334,431 % of Total Budget: 38%	36%  2%  38%	State: 2,530,445 Federal: Other: 82,029 Total: 2,612,474 % of Total Budget: 43%	27%  4%  35%	EOC Report Card: SAT Averages Faculty Qualifications National Merit
#2 (814)	Life in Residence	State: 942,172 Federal: Other: 153,022 Total: 1,095,194 % of Total Budget: 31%	27%  4%  31%	State: 1,952,425 Federal: Other: 153,022 Total: 2,105,447 % of Total Budget: 35%	27%  4%  31%	EOC Report Card: Health/Safety Wellness Model New Counselor
#3 (815)	Statewide Outreach/Research	State: 394,762 Federal: Other: 511,449 Total: 906,211 % of Total Budget: 26%	11%  15%  26%	State: 652,505 Federal: Other: 511,449 Total: 1,163,954 % of Total Budget: 19%	11%  15%  19%	EOC Report Card: Program Demand Partnerships Workshops, Teachers Taught
		State: Federal: Other: Total: % of Total Budget:		State: Federal: Other: Total: % of Total Budget:		
		95%		97%		

**Below: List any programs not included above and show the remainder of expenditures by source of funds.**

a) Administrative support - format pro-rata from previous Activity Inventory to match categories # (816).

Remainder of Expenditure	2010-2011		2011-2012		EOC Report Card:
	State:	Total:	State:	Total:	
	169,481	169,481	185,341	185,341	Hiring for Growth Maintain Quality Manage Growth
		5%		3%	
		100%		100%	

\* Key Cross-References are a link to the Category 7 - Business Results. These References provide a Chart number that is included in the 7th section of this document.

Total Funds	2010-11	Total Funds	2011-12
\$	3,505,394	\$	6,067,217

H63 (SDE) serves as GSSM's fiscal agent.



II.11 Major Program Areas

**Accountability Report Appropriations/Expenditures Chart**

Rev A1 11-12

**Base Budget Expenditures and Appropriations**

Major Budget Categories	FY 10-11 Actual Expenditures		FY 11-12 Actual Expenditures		FY 12-13 Appropriations Act	
	Total Funds	General Funds	Total Funds	General Funds & Growth Assignments	Total Funds	General Funds
Personal Service	\$ 1,944,720	\$ 1,732,220	\$ 3,064,720	\$ 2,852,220	\$ 4,556,720	\$ 4,344,220
Other Operating	\$ 1,110,525	\$ 631,525	\$ 2,210,525	\$ 1,731,525	\$ 3,357,985	\$ 2,878,985
Special Items						
Permanent Improvements						
Case Services						
Distributions to Subdivisions	\$ 13,200		\$ 13,200		\$ 13,200	
Fringe Benefits	\$ 436,949	\$ 395,149	\$ 737,133	\$ 736,972	\$ 1,217,372	\$ 1,175,572
Non-recurring						
<b>Total</b>	<b>\$ 3,505,394</b>	<b>\$ 2,758,894</b>	<b>\$ 6,025,578</b>	<b>\$ 5,320,717</b>	<b>\$ 9,145,277</b>	<b>\$ 8,398,777</b>

**Other Expenditures**

Sources of Funds	FY 10-11 Actual Expenditures	FY 11-12 Actual Expenditures
Supplemental Bills	\$ 500,000	\$ -
Capital Reserve Funds	\$ 983,295	\$ 451,199
Bonds	\$ -	\$ -

Supplemental = Enhanced Collections one-time  
 Capital = construction/FF&E Ongoing with Encumbrances  
 Balances under review via due to SCEIS issues

H65 (SDE) serves as GSSM's fiscal Agent

## **Section III – Elements of Malcolm Baldrige Award Criteria**

### **III.1 Category 1 – Senior Leadership, Governance and Social Responsibility**

How do senior leaders set, deploy and ensure two-way communication for a) short and long term organizational direction and organizational priorities, b) performance expectation, c) organizational values and d) ethical behavior.

a) short and long term organizational direction and organizational priorities?

GSSM takes advantage of the small size of the organization to involve all members of faculty and staff in setting long and short-term direction. The Board of Trustees and key customers, including students and parents, are also critical components of the decision-making process.

Faculty and staff are consulted monthly via a “President’s Report.” Senior staff participates in ongoing strategic planning efforts and meets weekly to discuss management and policy issues. The Board receives regular updates in writing, and Board committees take an active role in review and setting direction for specific areas of school administration, including Facilities, Personnel, Organizational Enhancement, and Distance Learning. Parents are consulted through GSSM’s Parents Advisory Council (PAC). The PAC provides regular updates on school issues, accomplishments, and changes. Students participate in direction setting via weekly Student Council meetings. The Chair of the Student Council meets regularly with the President and attends Board of Trustee meetings when held in Hartsville at the school. All parents and legislators receive the annual School Report Card, which indicates strategic direction as well as results.

b) Performance expectations

GSSM uses ongoing informal and formal assessments and a specialized evaluation instrument for faculty. In addition, specific expectations are set with teaching faculty regarding student achievement via one-on-one discussions with the Academic Vice President (Position, vacant for three years due to budget cuts, with function filled by GSSM President, was recruited during 2011-12 to begin July 1, 2012 for growth phase).

c) Organizational Values

Values are communicated by our Vision and Mission statements, which are reviewed annually. In addition, faculty, staff and students regularly meet in a context where values are emphasized and openly discussed.

d) Ethical behavior (quality character development)

Faculty, staff, and students participate in annual reviews of the Student Handbook. Faculty and students participate in the Honor Council. Faculty and staff participate in the Judicial Council. Awareness and instruction into “ethics” is a focal point for all of GSSM, with presentations, readings and discussions conducted throughout the school year incorporated into activities and school seminars.

### III.1.2 How do senior leaders establish and promote a focus on customers& other stakeholders?

All senior staff members serve as advisors, club or sport sponsors or teach at some point during the school year. In addition, they work directly with GSSM program partners and participants.

Gauging satisfaction for customers involves demand for GSSM programs and demonstrable achievements during their participation. Examples include: scholarships offered, continued academic participation and success measurements such as SAT scores, acceptance rates into future quality academic programs and being implemented this school year an internet-based student satisfaction survey. For teachers, development of and participation in programs, and use of improved skills and knowledge in the classroom to enhance student achievement measure satisfaction.

### III.1.3 How does the organization address the current and potential impact on the public of its programs, services, facilities, and operations, including associated risks?

We survey parents and students annually, collect achievement data (test scores, scholarships) and track alumni. We also identify and obtain possible local, regional and national benchmarks for comparison.

### III.1.4 How do senior leaders maintain fiscal, legal and regulatory accountability?

GSSM leadership maintains fiscal, legal and regulatory accountability through a series of authorization chains, reviews, checks and balances. These include:

- Oversight and advice from an active Board of Trustees
- Annual audit through State Department of Education (SDE), which serves as GSSM's fiscal agent (payroll, purchasing, personnel, benefits, state chart of accounts).
- Ongoing authorization, reporting protocols and review from supervisory agencies including:
  - State Engineer's Office (New Campus Planning & construction)
  - SDE's School Planning and Construction (New Campus Planning/construction)
  - State and local Fire Marshall's and safety inspections
  - BCB Materials Management (Procurement, bids, contracts)
  - BCB Capital Projects (Permanent Improvements, Bond)
  - BCB Budget Office (Reports, Legislative Allocations)
  - State Activity Inventory report
  - State Treasurer's Office (Master Lease Program)
  - Hiring legal support on an "as-needed" basis
  - Internal priority identification and requisition systems.
  - Ongoing reviews of priorities, actions and results

III.1.5 Senior Leadership cont.: What performance measures are regularly reviewed to inform them on needed actions?

Performance metrics are listed in section 7 and include application information, demographic and grade data, test results, discipline and program participation results. Customer surveys are taken and the results analyzed. Survey instruments are now internet-based for higher returns and ease of compilation.

III.1.6 How do senior leaders use organizational performance review findings and employee feedback to improve their own leadership effectiveness and the effectiveness of management throughout the organization? How do their personal actions reflect a commitment to organizational values?

The small size of the agency permits regular informal and formal feedback at and around all levels of the organization. Students fill out feedback forms at the end of each semester, and classes are regularly audited. Each senior leader sponsors a club(s), and/or has student advisees and teaches.

III.1.7 How do senior leaders promote and personally participate in succession planning and the development of future organizational leaders?

Because our staff is so small, opportunities for internal succession are minimal. Still, we conduct ongoing formal and informal meetings to assist in evaluations and suggestions for improvement. Ethics and shared values are consistently reinforced and refined during small meetings. GSSM supports close review of internal candidates for advancement. Senior staff chair personnel recommendation committees (committees make a recommendation for employment to the President) in which every staff member will participate over time. Senior staff also serves as support resources for Board of Trustee committees, providing input on all issues, including succession planning.

III.1.8 How do senior leaders create an environment for performance improvement, accomplishment of strategic objectives?

In addition to communication structure described in III.1.7 above, GSSM senior leaders review, discuss and set or revise priorities on an ongoing basis. This process identifies improvement areas and goals, focuses resources and reinforces the need for innovation.

III.1.9 How do senior leaders create an environment for organizational and workforce learning?

Staff and faculty are encouraged and serve on community committees serving local non-profits and economic development areas. GSSM encourages continuing education by allowing, when possible, flexibility in work assignments so staff can take courses/workshops. Students must each provide 83 hours of work service during the school year, of which about 25% is outside the school in the community.

III. 1.10 How do senior leaders communicate with, engage, empower and motivate the entire workforce throughout the organization? How do senior leaders take an active role in reward and recognition processes to reinforce high performance throughout the organization?

Monthly full staff meetings are conducted with input from all. Senior staff maintains high visibility with and actual participation in programs to include advising and teaching.

III 1. 11 How do senior leaders actively support and strengthen the communities in which it operates, include the contributions of your senior leaders and workforce.

Senior staff are all members of key civic organizations and regularly interact with local elected officials. Staff and faculty are encouraged and serve on community committees serving local non-profits and economic development areas. Students must each provide 83 hours of Community Engagement work annually, of which about 25% is outside the school in the community.

### **III.2 Category 2 – Strategic Planning**

Strategic Planning at GSSM is an on-going process with formal committee structures created within and between divisions (and Board of Trustees) and informal discussions and recommendations solicited and welcomed at any time. Formal review and planning sessions are scheduled at the beginning and end of each school year.

III.2.1 What is your Strategic Planning process, including key participants, key process steps, and how does it address:

- a) Organization's strengths, weaknesses, opportunities and threats (SWOT). Key participants: the GSSM Board of Trustees, the GSSM Foundation Board of Trustees, faculty, staff, students and parents. Process steps include regular meetings, input and update along with periodic strategic review and planning (one previous strategic review actually followed the "SWOT" model of strengths, weaknesses, opportunities and threats). Key process steps include regular meetings, surveys and other inputs from these and other constituencies which inform our strategic planning. Our strategic plan addresses the above through decisions concerning staffing and expenditure priorities plus requests for resources from public and private entities.
- b) Financial, regulatory, societal and other potential risks: GSSM conducts comparative analysis of similar institutions on a regular and ongoing basis.
- c) Shifts in technology or the regulatory environment: Process identified need for discreet senior staff position of Chief Information Officer to review, assess and plan integration of technology effectively among GSSM's academic, residential and outreach components.
- d) Workforce capabilities and needs. GSSM conducts formal and informal comparative analysis of similar institutions on a regular and ongoing basis.
- e) Organizational continuity in emergencies GSSM has developed a comprehensive notification plan in the event of emergencies (natural or man-made) to include alarms, electronic cellphone and email notification systems and contact/action priorities for senior staff involvement during such events. Procedures cover Fire, Tornado, Evacuation and Armed Intruder Alert.

- f) Your ability to execute the strategic plan. Plan matches resources with goals and requires senior staff to assess existing capabilities to achieve results or define and seek additional resources.

Administration conducts and reviews result metrics in detailed strategic planning process involving all functional areas and input/direction from GSSM Board of Trustees.

Key strategic objectives (goals) and related key action plans/initiatives:

### Strategic Planning Chart

<b>Program Number and Title</b>	<b>Supported Agency Strategic Planning Goal/Objective</b>	<b>Related FY 11-12 Key Agency Action Plan/Initiative(s)</b>	<b>Key Cross References for Performance Measures*</b>
1) Academic/Instruction (813)	Improve academic achievement for our students and participants. Maintain Excellence - Operate effectively in partially completed facilities – until new building is operational	Faculty/Student Ratio, Highly Qualified Teachers, Test Score Results, AP Test Results, SAT Averages. National benchmarks in publications and comparisons with like institutions.	EOC Report Card (III.7.2a, p43) -SAT Average (7.2a p. 42) -Faculty qualifications EOC Report Card (7.2a, p43)
2) Life in Residence (814)	Maintain Excellence: including quality of College applications and acceptances, support social learning and adjustments, support ethics and good citizenship and -operate effectively in partially completed facilities – until new building is operational	-Conduct College application process -Plan expanded orientation/ethics training at beginning of school year for incoming class -Expand Open House events for prospective students & parents. -Enhance PSAT student test training and support	In-state College Attendance by Graduates, (III 7.2b, p45.) -Program Demand (application range), (7.2b, p. 43) -EOC report Card Data and metrics EOC Report Card (7.2a, p41)
3) Statewide Outreach - Academic Advancement (815):	Provide Advanced Science Opportunities for 7th, 8th, 9th, 10th, 11th and 12 graders. Support Professional Development for teachers.	-Leverage partnerships for effectiveness -Obtain grants and conduct teacher training through partnership schools along I-95 corridor -Conduct GoSciTech (formerly Summer Science Program) for 9th & 10th graders at GSSM's New Campus. Continue acclaimed SPRI advanced mentored research program for rising 12th graders. -Add Middle School to College Federal Funded Program start -	GoSciTech (formerly SSP) summer camp Attendance (III. 7.2c, p. 43) -SPRI Mentor Partners, ( p 43) GearUp Participation (p. 47)

4) Administrative (816)	<p>Maintain excellence through result metrics, Operate efficiently and in partially completed facilities until new spaces operational in 2010.</p> <p>Open and operate complete facilities, on-time and on-budget.</p> <p>Master Campus Plan – plan and implement growth.</p>	<ul style="list-style-type: none"> <li>-Manage completion of building while maintaining on-going programs excellence.</li> <li>-New spaces operational in 2010. – Monitor costs carefully. Building completed March – June, utilized for summer programs.</li> <li>-Validate all operational systems, identify and correct problem areas.</li> <li>-Refine growth plans, options and work to implement. Maintain quality in core programs.</li> <li>-Obtained funding to complete building</li> <li>-Obtained new five-year federal grant to provide Professional Development to teachers in science &amp; math.</li> <li>-Direct new program implementation (all privately funded) to include: <ul style="list-style-type: none"> <li>-Economics &amp; Finance Institute</li> <li>-International Research</li> <li>-Google ICamps</li> <li>-World Languages Development</li> <li>-PULSE Initiative</li> </ul> </li> </ul> <p>implemented late 2010-2011, cooperative advanced High School academic offerings (Mandarin Chinese, Calculus) for local high school students &amp; GSSM.</p>	<p>-Section III 7.2, EOC Report Card Data/Rating</p> <p>-Section III 7.2, Metrics &amp; Benchmarks</p>



III. Category 2.2 How do your strategic objectives address the strategic challenges you identified in your executive summary? GSSM develops objectives - priorities – and assigns resources on an ongoing basis with regular internal meetings and a formal process with our Board of Trustees. Metrics are identified, tracked and reviewed. See EOC Report Card.

III.2.3 How do you develop and track action plans that address your key strategic objectives and how do you allocate resources to ensure accomplishment? Through daily, monthly and annual meetings/reviews, Board reports, monthly reports to all Faculty/Staff and administrative reports such as the State Budget Request, State Activity Inventory and this report and evaluations

III.2.4 How do you communicate and deploy your strategic objectives, action plans and related performance measures? GSSM develops objectives - priorities – and assigns resources on an ongoing basis with regular internal meetings and a formal process with our Board of Trustees. Metrics are identified, tracked and reviewed

III.2.5 How do you measure progress on your action plans? We collect the data (see School report card for one example) and develop appropriate comparative data to measure effectiveness. We track construction, maintenance and facility utilization via internal computer database program, plus scheduling software and input from direct users (teachers, students, Outreach Program coordinators). GSSM has implemented PowerSchool computer program update for grades and certain registrar functions.

III.2.6 How do you evaluate and improve your strategic planning process? Review and input of metrics compared to strategic goals by key participants (including the GSSM Board of Trustees, the GSSM Foundation Board of Trustees, GSSM’s senior staff Executive Leadership Team, faculty, staff, students and parents) result in evaluation of strategic process and changes as warranted.

III.2.7 If agency’s strategic plan is available to the public through the agency’s internet homepage, please provide address. Not available at this time, undergoing new strategic planning process in 2012-13. Will disseminate when complete. The school’s mission statement, report card and much more programmatic and involvement information are available online through our home webpage at [www.scgssm.org](http://www.scgssm.org).

### **III.3 Category 3 – Customer Focus**

GSSM key “customers” are the students and teachers of South Carolina – and our partners in education and industry. GSSM concentrates on “raising the bar” of academic achievement: challenging and motivating students to take advanced courses and put in the hard work necessary to successfully complete the curriculum. There is no grade inflation, but merit based on achievement. We believe South Carolina’s future economic prosperity requires students well versed in science and mathematics supported by an excellent foundation in the humanities. These are the courses necessary for entry and success into higher education and professional success in growing the “knowledge-based” economy. GSSM is a leader in both setting achievement standards and integrating “education standards” into modules for students and teachers.

1. How do you determine who your customers are and what their key requirements are?

Our mission directs us toward defining specific customer groups. Ongoing communication, formal and informal, with stakeholders, educational partners and current participants identifies key requirements.

2. How do you keep your listening and learning methods current with changing customer/business needs?

Ongoing communication, formal and informal, with stakeholders, educational partners and current participants informs our methods. Our change to email communication with Parents is one example – both an internal, technological and societal change.

3. What are your key customer access mechanisms, and how do these enable customers to seek information, conduct business and make complaints?

In addition to annual student surveys, which are reviewed with the Board of Trustees, GSSM's main customer access is through instructors, followed by clearly designated supervisor contacts (Academic Dean, Senior Staff, President, then Board members). GSSM also instituted a Mental Health Counselor full-time for 2011-2012 to assist students with coping and succeeding in GSSM's challenging academic environment – this provides wonderful (yet private health data always kept confidential) feedback on wellness and mood of student population and response to school initiatives.

4. How do you measure customer/stakeholder satisfaction and dissatisfaction and use this information to improve?

Personal conversations, surveys, test scores, graduation rates, scholarships offered and accepted, applications, drop-out rates are all included. Please see EOC School Report Card for additional categories.

5. How do you use information and feedback from customers/stakeholders to keep services and programs relevant and provide for continuous improvement?

Ongoing reviews of results and constant tactical changes as needed – such as monitoring Student scholarship submissions and awards and follow-up with Universities based on this data.

6. How do you build positive relationships with customers and stakeholders? Indicate key distinctions between different customer groups.

Set and achieve high expectations for GSSM involvement based on highest ethical standards. Key customers all share the desire to improve academics in South Carolina, but each group has distinct needs and outcomes. For example, some customers (businesses) need to have available and hire quality employees, others (schools/universities) to bolster student body quality and students through offering challenging academic and residential paths to achieve their goal of academic excellence. For parents, the value and credibility of a GSSM diploma is important in getting their child into the proper University – and recent articulation agreements between GSSM, USC and Clemson add value for parents and students.

### **III.4 Category 4 – Measurement, Analysis and Knowledge Management**

III.4.1. How do you decide which operations, processes and systems to measure for tracking financial and operational performance, including progress relative to strategic objectives and action plans?

The decision on which operations, processes and systems to measure comes from internal and external review and recommendations. All priority action areas are clearly defined and are assigned a line-item budget for tracking. Internally, GSSM tracks student achievement on many levels including scholarships earned and recruitment by colleges and universities. Externally, GSSM works with educational organizations setting “report card” standards, individual course or student expectations/metrics and other criteria. Taking the above into account, GSSM tracks and assigns resources (personnel and budget).

III.4.2 How do you select, collect, align and integrate data/information for analysis to provide effective support for decision and innovation throughout the organization?

Internal discussions on the type, source, validity and applicability of data lead to selection, rejection or a process to collect additional data or change methodology of collection. Budget decisions are based on directing appropriate resources to priority areas.

In addition to the required statewide reporting under educational accountability (report cards), GSSM uses internal data collections to both identify possible measurements and to collect the data. GSSM also regularly collects and compares data with similar programs in the state, region, and nation.

III.4.3. What are your key measures, how do you review them, and how do you keep them current with organizational service needs and directions?

These include: test scores, graduation rates, scholarships offered and accepted, applications, dropout rates, faculty retention and turnover. Please see Section III, Category 7 – Business Results portion of this report for a comprehensive list.

III.4.4 How do you select and use key comparative data and information to support operational and strategic decision making and innovation?

Internal discussions on the type, source, validity and applicability of data lead to selection, rejection or a process to collect additional data or change methodology of collection. Budget decisions are based on directing appropriate resources to priority areas.

III.4.5 How do you ensure data quality, reliability, timeliness, accuracy, security and availability for decision-making?

GSSM reviews and assesses the validity of both data collection devices (standardized tests, internal tests) and the results based on comparisons with other states and comparative institution results (such as class work, class test results vs. standardized tests, etc.).

III.4.6 How do you translate organizational performance review findings into priorities for continuous improvement?

GSSM staff, during formal and informal weekly, monthly and annual meetings share relevant issues, data, results and plans between departments. This includes sharing comprehensive Board reports between functional areas with each administrative director.

III.4.7 How do you collect, transfer and maintain organizational and workforce knowledge (knowledge assets)? How do you identify, share and implement best practices, as appropriate?

GSSM staff, during formal and informal weekly, monthly and annual meetings share relevant issues, data, results and plans between departments. This includes sharing comprehensive Board reports between functional areas with each administrative director.

### **III.5 Category 5 – Workforce Focus**

III.5.1. How do you organize and measure work to enable your workforce to 1) develop to their full potential, aligned with organization’s objectives, strategies and action plans; and 2) promote cooperation, initiative, empowerment, teamwork, innovation and your organizational culture?

GSSM implements a collegial process of high expectations for employees, bolstered by on-going communications both formal (assigned committees on topics, evaluations, weekly functional meetings) and informal meetings. We discuss “satisfactions” received from working in the various programs. We support ongoing professional development by consideration of flexible scheduling when possible.

For growth hiring, GSSM involved all faculty & staff through assignments on Personnel Recommendation committees. Everyone involved in reviewing new hire applications, interviewing and making recommendations for new hires beginning in 2012-2013. New hires assigned “mentors” from existing faculty to acclimate newcomers beginning in 2012-2013 in order to maintain positive & high-expectation culture of GSSM.

III.5.2 How do you achieve effective communication and knowledge/skill/best practice sharing across departments, jobs and locations? Give examples.

Informal and formal communications to include weekly departmental meetings, and monthly all-staff presentations. GSSM implements a collegial process of high expectations for employees, bolstered by on-going communications both formal (assigned committees on topics, evaluations, weekly functional meetings) and informal meetings. GSSM supports a number of electronic conferences and encourages

centralized web and email communication templates. We support ongoing professional development by consideration of flexible scheduling when possible.

III.5.3. How does management recruit, hire, place and retain new employees? Describe any barriers that you may encounter.

GSSM develops position descriptions based on required duties and then targets appropriate recruitment efforts to include a) personal referrals from staff, board and educational partners. We also may place announcements in appropriate employment media to include web-based educational advertising. A staff committee representing each functional area of GSSM reviews, interviews and makes a recommendation on hiring. Once hired, a mentor is assigned to assist new employee.

For growth hiring, GSSM involved all faculty & staff through assignments on Personnel Recommendation committees. Everyone involved in reviewing new hire applications, interviewing and making recommendations for new hires beginning in 2012-2013. New hires were assigned “mentors” from existing faculty to acclimate newcomers beginning in 2012-2013 in order to maintain positive & high-expectation culture of GSSM.

Barriers to recruitment include lack of qualified specialized (Math/Science Masters or PhD for faculty) workforce in small rural town, and spousal employment opportunities.

III.5.4. How do you assess your workforce capability and capacity needs, including skills, competencies and staffing levels?

Compare metrics with previous results and future outcomes desired. Compare current staffing and skills/competencies with scope of new programs/expansions. For example, in hiring new faculty, our goal is to maintain extremely high percentage (historically around 80%) of those with advance degrees in their field.

III.5.5 How does your workforce employee performance management system, including feedback to and from employees, support high performance and contribute to achievement of your action plans?

GSSM utilizes ongoing daily communications, informal and formal interviews and written reports along with supervisor interviews and internal teacher evaluation systems to formalize communications and both identify priority work issues and also clarify results and expectations. Position Descriptions are reviewed as changes indicate and revised when appropriate. Being a small agency with open lines of communication, GSSM staff is in constant communication with one another, so problems are quickly identified. Formally, we also use regular meetings and reviews along with our teacher evaluation system, and monitor items such as turnover rates, which have been low, compared to similar schools by position.

For growth, GSSM is filling the vacant position of Vice President for Academics (Dean). This renewed position will carefully develop and monitor faculty outputs and improvements.

III.5.6 How does your development and learning system for leaders address the following?

a) development of personal leadership attributes? GSSM supports professional development activities and is cognizant of assigning additional responsibilities necessary to develop an employee's skill and range of qualifications.

b) development of organizational knowledge: as responsibilities increase employee is exposed to greater number and depth of planning/resource allocation and presentation activities, all contributing to development of organizational knowledge.

c) Ethical practices. Ethics is an ongoing discussion point in all activities at GSSM.

d) Your core competencies, strategic challenges and accomplishment of action plans? as responsibilities increase employee is exposed to greater number and depth of planning/resource allocation and presentation activities, all contributing to development of organizational knowledge.

III.5.7 How do you identify and address key developmental training needs for your workforce, including job skills training, performance excellence training, diversity training, management/leadership development, new employee orientation and safety.

By ongoing formal and informal meetings, issues are identified and addressed. Two examples include bolstering GSSM's workplace environment training and institution of an Independent Communication Channel to better identify issues.

III.5.8 How do you encourage on the job use of new knowledge and skills.

New knowledge and skills sets are usually identified by a small group of opinion leaders within the organization who are then responsible for implementation of their idea/concept. Then this "ownership" group (plus others when identified) will be provided professional development opportunities to bolster skill/knowledge set.

III. 5.9 How does employee training contribute to the achievement of your action plans?

Individual departments control line-item budgets and can review and provide training as identified. If there is a skill or new process necessary to meet our achievement goals, we identify and provide the training necessary to be successful. One example was our implementation of SASI school software and identification and training of key staff in the process. GSSM (and other schools) transitioned from SASI to new data system in 2010 – POWERSCHOOL, with software update & training in 2011-12. We encourage consideration of internal promotion.

III. 5. 10 How do you evaluate the effectiveness of your workforce and leader training and development systems?

Collecting and assessing program results to include benchmarks to include employee retention and ongoing reviews of workload and stress levels on staff and program participants.

### III. 5.11 How do you motivate your workforce to develop and utilize their full potential?

Through a collegial support environment, we strive to provide each employee with authority commensurate with their responsibilities and build-in communication points to ensure required resources are provided. Each employee understands and helps define their responsibilities and takes pride in working toward results.

### III 5. 12 What formal and/or informal assessment methods and measures do you use to obtain information on workforce well-being, satisfaction and motivation? How do you use other measures such as employee retention and grievances?

Ongoing formal and information meetings and report/evaluation reviews, to include weekly departmental meetings and monthly full-staff meetings augmented with many one-on-one meetings. GSSM tracks turn-over of staff as an indicator of satisfaction and motivation.

### III 5. 13. How do you manage effective career progression and effective succession planning for your entire workforce throughout the organization?

Because our staff is small, opportunities for internal succession are minimal. Still, we conduct ongoing formal and informal meetings to assist in evaluations and suggestions for improvement. Senior staff identifies future staffing issues (retirement probabilities, expansion in scope of programs, etc.). GSSM supports close review of internal candidates for advancement. Senior staff chair personnel recommendation committees (committees make a recommendation for employment to the President) in which every staff member will participate over time. Senior staff also serves as support resources for Board of Trustee committees, providing input on all issues, including succession planning.

### III. 5. 14 How do you maintain a safe, secure and healthy work environment?

Constant communication is foremost method with immediate follow-up to any safety issue, plus formal reviews, scheduled training and practice drills conducted as required or needed. A number of safety procedures are also in place and practiced, including: Fire Alarm drills and system testing, visitor sign-in procedures, swipe-card area zones, “Go to a Safe Place” procedure and drills and “Evacuation” procedures and drills. GSSM employs a full-time nurse and has a faculty member designated as science safety officer. We have coordinated local police training in our facility and finalized our Armed Intruder Lockdown policy. We have also added an electronic emergency notification system (IRIS) for students and staff.

## **III.6 Category 6 – Process Management**

### III 6. 1. How do you determine and what are your organization’s core competencies, and how do they relate to your mission, competitive environment and action plans.

We start with our enabling legislation and mission statement declarations through our Board of Trustees, refined by our many educational partners. Core competencies are an ability, through a variety of high-

level and challenging programs, to motivate and achieve academic excellence in talented and hard-working South Carolina middle and high school students. All such actions relate to our mission and action plans as we target “excellence” in academic achievement as our competitive environment.

III.6.2 How do you determine, and what are your key support processes that produce, create or add value for your customers and your organization? How do you ensure that these processes are used?

GSSM sets clear and high expectations and provides the time and quality support necessary for achievement.

GSSM focuses on providing highly qualified instructors the time, materials and support they need to spend time teaching motivated and qualified students. The result is demonstrable achievement in academics, which is the key to future success of our students and participants.

For Life in Residence, there is an emphasis on the “wellness model” for student support services – a comprehensive approach to allocate departmental and institutional resources - was developed through our strategic planning processes.

In statewide outreach programs, including our GearUP middle school initiative, GoSciTech (formally Summer Science Program) for 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup> graders and our research and development of new campus plans for GSSM and what resources are needed to properly serve the students and teachers throughout South Carolina.

GSSM’s state budget requests and private fund-raising activities are based on strategic goals, measurement of current programs and customer demand.

III.6.3 How do you incorporate organizational knowledge, new technology...into process design and delivery?

Informal and formal (committee) communications processes are another key support process. GSSM during 2006-07 implemented a full-time Chief Information Officer position (begun in third quarter of previous year) to assess and design internal data collection systems allowing efficient collection and assessment of data. Data is collected and analyzed annually, as part of our accountability report process.

GSSM has also implemented a Curriculum Renewal and Self-study initiative plus an Admissions Renewal process to examine best practices and enact improvements.

Strategic planning, as discussed above, results in GSSM focusing programmatic dollars and time (personnel) resources to accomplish specific results.

The nature of our product is the inherent human trait of students and teachers to desire to know more about the world around them, and develop this natural inquisitiveness into academic and scientific rigor. Our products and services, from classroom to residential, outreach to expectations, are designed to encourage disciplined exploration and discovery, while incorporating skills of communications and citizenship. This creates a learning community, which challenges individuals but rewards participation and results.



The “process” is based on teaming an “expert” with content knowledge and communication expertise in a specific area (discipline) with students in an environment where expectations are high. Technology is sought to enhance communication, feedback, streamline repetitive tasks and offer alternative learning methods. Novel advances in technology are themselves subject to inclusion in the curriculum and are regularly sought out by faculty members in consultation with our industry and university partners.

III.6.4. How do your day-to-day operations of key production/delivery processes ensure meeting key performance requirements?

Daily interaction allows review of short and long-term goal accomplishment (or delays). For example, we keep class and dormitory attendance rolls and quickly follow-up any absences by students.

III.6.5 How do you systematically evaluate and improve your key product and service related processes? Measurement and assessment of benchmarks as indicated through our Strategic Plan and specific indicators listed through the school report card and highlights page (i.e., SAT scores, National Merit Awards, AP test results, demand for program entry, graduate success, etc.).

III.6.6 What are your key support processes? Unique to GSSM is the highly specialized knowledge of a scientist-instructor being conveyed to a motivated student by ensuring ample quality time for instruction. For example, GSSM has lab periods of several hours in length regularly scheduled as necessary to complete advanced experiments.

Support processes emphasize such interaction where learning occurs and seeks to eliminate extraneous and burdensome activities which detract from quality time spent teaching. For example, streamlined purchasing request processes and ongoing prioritization of needs.

III.6.7 How does your organization determine the resources needed to meet current and projected budget and financial obligations?

The planning process identifies scope of services and specific requirements. The Division Director or Department Chair originating the activity works with the Business Office to clarify time commitments required by staff, faculty and any operating costs (teaching materials, room/board, certification, etc.) or facility resources and identifies specific costs associated with each item. Funding sources are identified as available within existing departmental budgets or outside resources must be sought to conduct the activity. Project proposals are presented for review and approval to the Executive Leadership Team and to the GSSM Board for review & approval is within the scope of a major change.

### **III. Category 7 –Results**

III.7.1 What are your performance levels and trends for the key measures of mission accomplishment/product and service performance that are important to your customers? How do your results compare to those of comparable organizations?

#### **Two sides of One Coin: GSSM’s Residential and Statewide Outreach**

GSSM designs and operates all programs to support one another and offer “steps” of greater involvement and learning appropriate to the individual student or organization. All staff and faculty at GSSM participate in and support both the residential and outreach programs of the school.

It is difficult to differentiate our “Life in Residence” program area from that of Statewide Outreach or Academic Enrichment when acceptance as a residential student is a source of pride and feedback to the home school the student originally attended. The availability of GSSM programs encourages students, teachers and schools to participate in and develop challenging courses.

The GSSM residential program, for report purposes, can be subdivided into two equally supportive branches: Academic and Life in Residence. Both areas are critical to success at GSSM and are therefore interdependent.

GSSM compares very favorably with similar institutions in other states – being recently honored, once again, AS ONE OF THE TOP TEN HIGH SCHOOLS IN THE NATION by *Newsweek Magazine*. This represents multiple years that national publications have ranked the S.C. Governor’s School for Science & Mathematics as one of the top elite high schools in the nation.

### III.7.2 Performance levels and trends for key measures

III.7.2.a A primary measure of GSSM customer satisfaction is reflected in the school's ongoing School Report Card rating,

NOTE: The official 2011-2012 School Report Card has not yet been formally approved in time for inclusion in this report. If major changes or assessments are made, a revised report will be forwarded when formally adopted by the Education Oversight Committee. GSSM does not anticipate any lowering of previous years' all-excellent ratings, both Absolute and Improvement.

#### REPORT OF PRESIDENT

From its founding in 1988 by a visionary Act of the General Assembly, GSSM has served as a portal through which talented students from throughout South Carolina have embarked on a lifetime of exploration, discovery and growth. The mission of this unique school emphasizes developing the scientifically astute and ethically aware leaders needed for our expanding knowledge-based economy. Nationally ranked by Newsweek and by the College Board, GSSM is now concentrating on national prominence.

At our founding, GSSM shared facilities with Coker College, and private donors provided all funds for construction. As our successes mounted and our reputation grew, the Board of Trustees approached the General Assembly with plans for a stand-alone campus to house more students. The General Assembly concurred, and our new state-of-the-art campus opened in January 2010. We began to expand this year, hiring new faculty in all disciplines and substantially increasing the number of students. Our new Blue Cross Blue Shield Economics and Finance Institute has already opened, broadening and sharpening our student's ability to think in economic and business terms about opportunities in high technology, and we are embarking on a ground-breaking state-wide initiative in Engineering.

GSSM's curriculum is second to none in the state in its depth and challenge, most notably in science and math, but also in the humanities – this year we expanded instruction in Chinese language. Our students continue to perform at the highest levels in both our Residential and Outreach programs, reflecting the individual talents of these remarkable young people. The significant achievements of the students in residence in Hartsville (2042 average SAT, highest in the state; \$11.9 million in scholarship offers to 61 seniors, including 16% who are National Merit or Achievement Scholars) are crowned by their completion of a mentored individual research project at a research university or industrial laboratory in South Carolina, or now, internationally. Thanks to grants from Roche and others, selected GSSM students carry out research at the German Cancer Research Center in Heidelberg, and German students from the Johanna Wittum School come here and perform research at USC-Columbia. Students from the Gyeonggi Science High School in South Korea also carried our research at USC, while GSSM students traveled to the Korean Advanced Institute for Science and Technology for research. Typically, several students publish their work in peer-reviewed scholarly journals each year.

Appropriate emphasis on extracurricular activities for all students continues to build strong school spirit, with 81% of students participating in varsity athletics. The volleyball team went to the state semi-finals and the boys' soccer team made it to the state championship game. Boys and girls cross country and boys and girls tennis teams participated in the state championships, as did individual members of the swimming team. Overall, our athletic program ranks in the top 40 in the state for all schools. In addition, students lead and direct more than 31 clubs and societies, involving 97% of students. Students serve their community and school by working 83 hours each year, supplementing instruction on ethics and character development. Perhaps best of all, students report great satisfaction from forming "friendships for life."

GSSM's Outreach shares exemplary programs statewide to improve science achievement. A continuing grant from Google enabled us to expand a computer-based entrepreneurship camp for middle school students in Berkeley County, and we moved a similar concept to Greenville. Our GO SciTech Program encouraged 8th, 9th and 10th graders to explore "real" science, math and computer. We completed a program funded by the US Department of Education enabling us to actively seek out and encourage promising seventh graders who wish to pursue math and science. Sonoco has funded a remarkable program with Darlington County Schools, GSSM, Coker College and Yale University to enhance educational excellence at all levels in Hartsville.

We are eagerly planning to enhance this remarkable record. Our new faculty and staff members are as amazing as our veterans, and we will continue to grow this year and next, more than doubling the students served in both the Outreach and Residential programs. We will pursue opportunities for our students to carry out scientific research globally, and support that effort with enhanced instruction in foreign languages. GSSM will continue to be a flagship for education in

South Carolina and, increasingly, the nation.

Murray W. Brockman, President

**South Carolina Governor's School for Science and Mathematics**

401 Railroad Avenue, Hartsville, SC29550

Website: [www.scgssm.org](http://www.scgssm.org)

Grades 11-12

Enrollment 129 Students

School President Dr. Murray W. Brockman 843-383-3900

Board Chair Dr. Leroy Davis 803-780-1349

**THE STATE OF SOUTH CAROLINA**

**2012 ANNUAL SCHOOL REPORT CARD**

**RATINGS OVER 5-YEAR PERIOD**

Year	Absolute Rating	Growth Rating
2012	Excellent	Excellent
2011	Excellent	Excellent
2010	Excellent	Excellent
2009	Excellent	Excellent
2008	Excellent	Excellent

**ADEQUATE YEARLY PROGRESS** YES

Definition: As required by the United States Department of Education, Adequate Yearly Progress specifies that the statewide target is met for "All Students" and for the following subgroups: Racial/Ethnic, Subsidized Meals, Disability, and Limited English Proficiency in the areas of English/Language Arts and Mathematics, as well as meeting the statewide target for "All Students" for attendance or graduation rate.

**DEFINITIONS OF SCHOOL RATING TERMS**

- Excellent - School performance substantially exceeds the standards for progress toward the 2020 SC Performance Vision
- Good - School performance exceeds the standards for progress toward the 2020 SC Performance Vision
- Average - School performance meets the standards for progress toward the 2020 SC Performance Vision
- Below Average - School is in jeopardy of not meeting the standards for progress toward the 2020 SC Performance Vision
- At-Risk - School performance fails to meet the standards for progress toward the 2020 SC Performance Vision

**SOUTH CAROLINA PERFORMANCE VISION**

By 2020 all students will graduate with the knowledge and skills necessary to compete successfully in the global economy, participate in a democratic society and contribute positively as members of families and communities.

<http://ed.sc.gov>  
<http://www.eoc.sc.gov>

**South Carolina Governor's School for Science and Mathematics**

PERFORMANCE CRITERIA	DATA
Advanced Placement (AP) Pass Rate	92%
Graduates' College Freshman GPA (In-state Colleges)	3.72
SAT Average (High Verbal & Math) / ( High Verbal, Math, & Writing)	1366 / 2042

**AP TEST SCORE DISTRIBUTION**

Score	5		4		3		2		1		Total	
	#	%	#	%	#	%	#	%	#	%	#	%
Students	57	29%	76	39%	50	25%	7	4%	7	4%	197	100%

**COLLEGE FRESHMAN GPA**

GPA	3.5-4.0		3.3-3.5		3.1-3.3		2.9-3.1		<2.9		Total	
	#	%	#	%	#	%	#	%	#	%	#	%
Students	22	73%	1	3%	4	14%	1	3%	2	7%	30	100%

**SAT SCORES**

	Middle 50%		Range	
	640	700	540	800
SAT Critical Reading	640	700	540	800
SAT Math	660	720	520	800

**A Special Note on Performance**

Every student at Governor's School completes a research course requirement that is a distinctive learning and maturing experience. Senior research begins with at least six full weeks of research in the summer following the junior year. Most of the students conduct their research at university or industrial research facilities under the mentorship of professional scientists or engineers. Currently, a special exchange program supports several research positions in Germany and South Korea. Students work with their research mentors and Governor's School advisors during the senior year to compile and analyze their research findings, prepare formal research papers, and present their work at a school-sponsored colloquium and at the SC Junior Academy of Science annual

meeting.

END OF COURSE TESTS N/A

Abbreviations for Missing Data

N/A-Not Applicable N/AV-Not Available N/C-Not Collected N/R-Not Reported I/S-Insufficient Sample

South Carolina Governor's School for Science and Mathematics

SCHOOL PROFILE

	Our School	Change from Last Year
<b>Students (n=129)</b>		
Retention rate	0	Same
Attendance rate	99.2%	Up from 97.1%
With disabilities other than speech	0	Down from 2
Older than usual for grade	0	Same
Out-of-of school suspensions or expulsions for violent &/or criminal offenses	N/A	Same
Annual dropout rate	N/A	Same
Students in residence	129	Up from 121
National Achievement Semifinalists/Finalists	50% / 50%	Up from 25%
Seniors Completing Science Research Project	100%	Same
Community Service-hr./student	83	Same
Graduating attending college	100%	Same
Seniors eligible for LIFE Scholarship	100%	Same
Total scholarship offered	\$11,878,000	Up from \$9,300,000
Number of seniors	61	Up from 50
National Merit Semifinalists/Finalists	16% / 16%	Down from 32% / 32%
<b>Teachers (n=14)</b>		
Teachers with advanced degrees	100%	Same
Percent of classes not taught by highly qualified teachers	N/R	Same
Teachers with emergency or provisional certificates	N/A	Same
Teachers returning from previous year	100%	Same
Teacher attendance rate	99.7%	Up from 99.1%
Average salary	\$63,062	Same
Professional development days per teacher	6	same
Teachers with Doctorates	79%	Same
Years teaching experience-middle 50%	20 to 38	Up from 19 to 37
<b>School</b>		
President's years at the school	11	Up from 10
Student-teacher ratio in core subjects	11 to 1	Same
Prime instructional time	98.9%	Up from 98.3%
Percent of expenditures for instruction	N/R	Same
Dollars spent per pupil	\$13,122 <sup>a</sup>	Same
Percent of expenditures for teacher salaries	63.0%	Same
Opportunities in the arts	N/A	Same
Parents attending conferences	89%	Up from 84%
SACS accreditation	N/A	Same
University/Industrial Partners in Research Mentor Program	12	Up from 10
Mentors in Research Program	81	Up from 78
Student clubs and organizations	31	Down from 33
Students active in clubs/societies	97.6%	Up from 95%
Varsity sports teams	9	Same
Students participating in varsity sports	81%	Down from 82%
Students returning to home high school	2.3%	Down from 8.3%
<b>Outreach to other schools</b>		
Students in Summer Science Program (SSP)	346	Up from 266
University Partners in SSP	11	Up from 9
6 week summer research positions for other HS students	3	Same
Other S.C. Educators in Outreach Training/Devel. Programs	26	Down from 179

<sup>a</sup> Costs for academic program including summer research, but not residential life (base state support)

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## EVALUATIONS BY STUDENTS, TEACHERS, AND PARENTS

	Students	Teachers	Parents
Number of surveys returned	66	14	43
Satisfied with learning environment	90.9%	100.0%	100.0%
Satisfied with social and physical environment	92.5%	100.0%	100.0%
Satisfied with school-home relations	84.9%	100.0%	97.6%

\*11<sup>th</sup> grade students and parents were surveyed.

### **III.7.2b continued: Key Performance Measures: Academic Residential School:**

- **Quality of Academic Program:** • Strong academic performance is a hallmark of GSSM students. In 2011, GSSM seniors again led the state with an **average SAT score of 2059** (The SC average was 1452, and the national average was 1518). **Thirty-eight seniors** have been recognized by the **Advanced Placement** program with distinctions ranging from Scholars to National Scholars. **199 AP exams** were given in 2010 with an **87%** pass rate.

(Benchmark Comparison: State HS Average, Higher Education Freshman SAT averages.)

The Class of 2010 led the state with over **40% of the class being recognized by the National Merit Competition for excellence** with **thirteen students (21% of the class)** named as **National Merit Finalists** and **three students** named as **National Achievement Finalists**. Most recently, **20 students from the Class of 2010** have been named as **National Merit Semifinalists** and **3 as National Achievement Semifinalists**. In the Class of 2010 there were **58 Palmetto Fellows**, and **97% of seniors** qualified for the **Life Scholarship** offered by the state. The Class of 2010 received over **\$10.1 million** in scholarship offers

**Program Demand:** • Qualified applicants continue to outnumber openings in the range of **4 applications for every 1 opening**. (Trend: Number of applications increasing over past several years.)

GSSM Graduates Attending In-State/Out-of-State Colleges & Universities. GSSM encourages students to attend in-state universities by promoting campus visits, conducting visits to in-state major educational institutions and inviting/encouraging seminars, classes and courses taught by in-state university faculty members. We are encouraged by the efforts in-state schools are making to recruit our graduates. Trend over time - about 50/50, with some annual fluctuations.

**Year                      In-State%      Out-of-State%: Benchmark: exceeds similar schools in-state rate.**

<b>2011-2012</b>	<b>64%</b>	<b>36%</b>
2010-2011	62%	38%
2009-2010	72%	28%
2008-2009	63%	37%
2007-2008	69%	31%
2006-2007	67%	33%
2005-2006	66%	34%
2004-2005	51%	49%
2003-2004	51%	49%
2002-2003	50%	50%
2001-2002	63%	37%
2000-2001	50%	50%
1999-2000	39%	61%
1998-99	55%	45%
1997-98	55%	45%

### III.7.2c Performance Indicators for GSSM Statewide Outreach:

## GSSM Center for Science Education and Outreach – Statewide Outreach

- Our **nationally recognized mentored research program** (SPRI) for rising seniors, which is open to all South Carolina students and required for GSSM students, continues to produce significant results through its international research component and awards won by GSSM students. Over the past year, GSSM students won numerous awards for research presentations at the SC Junior Academy of Science (SCJAS) Annual Meeting and one student was the co-author of an article accepted for publication in the *Journal of Membrane Science*. One student presented a research poster at the Biomedical Engineering Society Annual Fall Meeting in Atlanta, GA.

Number of Participants - 74. Trend over time – increasing now and for the next several school years as GSSM achieves student body full capacity of facilities. (Benchmark comparison: Higher Education’s Performance Indicators IV B and VIII C.)

- The GoSciTech summer science, technology, engineering, and mathematics (STEM) program, formerly the Summer Science Program, completed another very successful year by providing **346** rising 8th, 9th and 10th graders from across the state with the opportunity to explore STEM area subjects like advanced crime scene investigation, astrophysics, electronics, neuropsychology, and many more interactive courses. The number of students supported by scholarships was 23%, thanks to generous support from businesses through the GSSM Foundation.
- In the From Middle School to College (FMSCT) program and the Grow, Produce, & Develop (gpod) programs, the cohorts of middle school students participating were engaged in online and onsite academic activities during the school year. The academic activities delivered by these programs impacted over **120** middle school students during the year. In summer 2012, **43** students from the GPod cohort and **56** students from the FMSTC cohort participate in week-long summer enrichment STEM camps on the GSSM campus designed specifically to improve the mathematics and science achievement of these students. Gpod is being funded privately by the GSSM Foundation through the support of Google, Inc.
- The Portable Advanced Science Exploration (PASE) professional development program conducted workshops for 50 teachers during the academic year. Sixteen teachers used the PASE activities and science equipment with over 900 SC students.
- A grant from Google, Inc. supported the fourth year of our technology-based Innovation, Technology, Entrepreneurship, Among Middle Schoolers (iTEAMS) summer camp for Berkeley County middle school students, and additional grant support provided funding for expanding iTEAMS to Greenville County. The total number of students served by iTEAMS was **263**. A total of **11** SC teachers assisted with the delivery of iTEAMS.
- Mr. Randy LaCross, VP of the GSSM Center for Outreach, Mrs. M.E. Farmer, and Mrs. Susan Engelhardt, conducted a workshop for science teachers at the SC Science Council 2011 Annual Meeting, and throughout the academic school year, they conducted a variety of STEM workshops for students on the GSSM campus.

- During the 2011 - 2012 academic school year, the GSSM Center for Outreach directly impacted 2160 SC students, teachers, and educators. The primary impact made on teachers and other educators who participated in **GSSM Center for Outreach activities** makes a direct or secondary **impact on over 9,000 students during the 2012-2013 school year.**

### **III.7.2 Program Area: GSSM Partnerships for Statewide Academic Improvements.**

Strategic Goal: Leverage resources to improve science and mathematics achievement throughout South Carolina by creating efficient and effective partnerships. Impact hundreds of teachers and thousands of students throughout South Carolina in Math/Science improvements.

- 1) GearUP – Gaining Early Awareness for Undergraduate Programs. (a partnership of higher education, CHE, Businesses, SDE, ETV and schools and teachers).

GSSM is part of a six-year grant, to develop and deliver professional development for science teachers in the 18 S.C. GearUP cohort (low SES) schools, starting in 2006-2007.

- GSSM Outreach hosted a four-day, residential professional development **summer academy for 80 teachers** and tutors in the **GEARUP program, representing 17 high schools, 14 school districts and 3,300 students.** In addition, in August, GSSM hosted a two day professional development workshop for the Site Coordinators of the S.C. Gear-UP schools throughout South Carolina.

Through a grant from the Toyota Foundation USA, GSSM is introducing a new Outreach Center program called Portable Advanced Science Exploration (PASE). Over 5,000 middle and elementary students will academically benefit from the above activities each year.

#### **III.7.2.a Support Services and Administration Performance Indicators:**

##### **Maintain Quality of Program: See Program area Indicators including:**

- Faculty Qualifications: Maintain minimum Masters with over half of faculty having terminal degrees.
- Demand for Participation in GSSM Programs (3 to 1 ratio for residential openings)
- Manage budget while maintaining programs and quality.
- New Facilities: Operation continued during school year 2009-2010 in partially completed facilities – while construction was going on to complete our buildings. Maintaining system functions tracking operational costs and trends. Implemented computerized facility tracking system. \$14.9M appropriated in 2007 General Assembly to complete building. Facility was completed in stages beginning in January 2010 and opened fully on June 2, 2010 – in time for GSSM’s extensive academic summer programs and the 2011-2012 School Year. GSSM is now on track to increase students in staged increments up to full-capacity of our facilities.

New buildings include classrooms, laboratories and Student Activity areas (see diagram on next page). GSSM has made every effort to maintain program quality without full facilities. This includes teaching physics in the music room, history in one lobby area and mathematics in the other lobby. Without Phase II’s science labs and classrooms, additional leased costs were required in addition to outfitting charges. The above make-do shifts in teaching areas are now behind us with the completion of GSSM’s building.

Private funds of over \$6,000,000 toward a private endowment goal designed for future programmatic enrichment have been obtained from business and individual donors through the GSSM Foundation. The land for GSSM's new campus in Hartsville was donated, along with landscaping assistance including an irrigation system.

III.7.3 What are your performance levels for the key measures of financial performance including cost containment, as appropriate?

2011-2012 was a transition year from survival-mode to providing more opportunities and return on investment by moving aggressively toward increasing the size of the student body. Private grant support is increasing with hundreds of S.C. companies joining GSSM as partners through the GSSM Foundation.

Through waves of various budget reductions, GSSM strives to maintain all functional areas as reflected in our performance statistics – until base recurring funding could be restored. Several additional data points/trends continue:

- No lawsuits against agency (ever).
- GSSM works with and meets EOC reporting requirements (Report Card, EIA).
- GSSM works with BCB reporting requirements (Budgeting, Activity Inventory, Permanent Improvement Project process, etc.)
- GSSM has managed recent budget cuts while maintaining quality and laying a positive foundation for growth, with 2011-2012 being the pivotal growth transition year.

Partnerships with Business and Industry continue at a high level, through its Foundation. Business partners (including GOOGLE, Toyota, Greenville Hospitals System, Roche, Blue/Cross & Blue Shield, AT&T, Sonoco, and many others, please visit [www.scgssm.org](http://www.scgssm.org)) support the school both financially and with program support such as communication enhancement, research sites and providing mentor opportunities. This increase reflects the awareness that the results GSSM is achieving in advanced education directly impact the economic competitiveness of South Carolina. Trend over time: growing.

The overall trend for future state funding requires continued frugality, but with our building now complete, GSSM obtained in 2011-2012 the operating support over a three-year period to fund more than doubling the size of the residential program and greatly expand educational outreach participation.

III.7.4 What are your performance levels and trends for the key measures of workforce engagement, workforce satisfaction, the development of your workforce, including leaders, workforce retention, and workforce climate including workplace health, safety and security?

Staff turnover rates – consistently low over time. No injuries on-the-job – consistent over time. While all employees at GSSM serve critical functions, teacher turnover rates are particularly telling – because faculty are the key to quality academic results and there is a general teacher shortage both in South Carolina and in the nation. GSSM meets or exceeds turnover rates at similar residential specialized schools.

III. 7. 5 What are your performance levels and trends for your key measures of organizational effectiveness/operations efficiency and work system performance (these could include measures related

to the following: product, service and work system innovation rates and improvement results; improvements to cycle time; supplier and partner performance; and results related to emergency drills or exercises?

Efficiencies relate to achievement of program participants (see sections 7.1, 7.2 & 7.3) and any growth in participation and resources. GSSM programmatic results continue a trend of excellence with greater participation in outreach programs and educational partners. GSSM has implemented new emergency drill procedures to include electronic notification system of staff and students during emergency events (Go to a Safe Place & Armed Intruder Alert). Our construction included an improved fire pump/generator system providing an extreme level of fire suppression protection.

7.6. What are your performance levels and trends for the key measures of regulatory/legal compliance and community support? Trends: consistent over time for positive meeting of reporting requirements.

- No lawsuits against agency (ever).
- GSSM works with EOC & SDE reporting requirements
- GSSM works with BCB reporting requirements (Budgeting, Activity Inventory, Permanent Improvement Project, State Engineer's Office)