AGENCY NAME:	Governor's School for Science & Mathematics (GSSM)		
AGENCY CODE:	H65	SECTION:	Education - GSSM - SDE

Fiscal Year 2014-15
Accountability Report

SUBMISSION FORM

AGENCY MISSION

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.

Please identify your agency's preferred contacts for this year's accountability report.

	Name	*Phone*	*Email*
PRIMARY CONTACT:	Mr. Ernie Boyd, VP Operations	843-383-3906	Boyd@gssm.k12.sc.us
SECONDARY CONTACT:	Dr. Murray Brockman	843-383-3902	Brockman@gssm.k12.sc.us

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I have reviewed and approved the enclosed FY 2014-15 Accountability Report, which is complete and accurate to the extent of my knowledge.

AGENCY DIRECTOR *(SIGN/DATE)*:	
(TYPE/PRINT NAME):	Dr. Murray Brockman, President

BOARD/CMSN CHAIR *(SIGN/DATE)*:	
(TYPE/PRINT NAME):	Dr. Leroy Davis, GSSM Board Chair

AGENCY'S DISCUSSION AND ANALYSIS

S.C. Governor's School for Science & Mathematics:

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

Milestone Achievement: In 2014-15 GSSM admitted its largest Junior class in the history of the institution. GSSM also hired new instructors to teach advanced courses to these first-class students – GSSM's faculty maintains 80% with a PhD in their field, ALL have a Master's degree.

Global Academics: Supported by private funds, **GSSM continues an international exchange of high school research students with sister high schools and a university in Germany and a sister high school and university in the Republic of Korea. This takes GSSM's renowned SPRI research program worldwide…**

Accountability Report Highlights:

GSSM Core Values

- *Ethics*
- *Personal responsibility and accountability*
  - *We are not a herd*
  - *We are a team of highly talented individuals striving to become better*
  - *And help each other to do so too*
- *Strong belief in evidence-based learning, questioning and contributing*
- *Love of beauty, creativity, imagination & each other*

GSSM is Strong and Growing Stronger – Students and Graduates:

- *Led State in SAT and ACT scores highest SAT 1966 and highest ACT 30.9*
- *100% attend college*
- *Seniors offered almost $14 million in scholarships last year*
- *70% pursue graduate or professional degrees*
- *80+% major in STEM-related disciplines*
- *About 40% make careers in-state after college*

- *Growing – 2014-2015 saw "full capacity" entry class.*

Strong – Alumni

- *Engineers*
- *Medical Doctors*
- *Google, Microsoft, General Electric, Westinghouse, NASA, universities...*
- *MUSC: thirteen medical students, two graduate students, one faculty member*
- *Entrepreneurs*
- *Career Services: SmartJobs/Smart/Internships – through partnerships with our Business Leadership Network members, alumni are able to secure internships and jobs with the best companies South Carolina has to offer*

GSSM Source of Strength – Faculty / Staff

- *Credentialed and accomplished (All have Masters, 80% have PhD's...)*
- *Exemplify excellence and expect it from others*
- *F/S define their success by students' success*
- *Shared goals, clear responsibilities*
  - *Learning and mastery*
  - *Growth and maturity*
  - *College and life*

GSSM Statewide Outreach: Reaching thousands of students across S.C.:

- *Privately supported*
- *Real Science across the state*
- *This summer – 17 weeks of camps in 14 counties*
  - ✓ *Week-long camps*
  - ✓ *Engineering, biology, computer science*
  - ✓ *GSSM alumni instructors – very important*

– Accelerate Engineering

- ✓ Admitted Second Class of Sophomores
- ✓ Doubled number of students in the program
- ✓ Completed dual enrollment agreements with Clemson University and Florence Darlington Tech
- ✓ Increased to 43 the total number of college credits a student can receive
- ✓ Held summer camps at USC and GSSM

GSSM Foundations for the Future

- *Research*
  - ✓ *France, UK, Austria, Germany, South Korea and more*
  - ✓ *Carnegie Melon, Clemson, USC, Harvard, Johns Hopkins, NASA, MUSC, Stanford, Washington University and more*
  - ✓ *Molecular biology, medical research, engineering, computer science, more*
- *Blue Cross BlueShield Institute for Economics and Finance*
  - ✓ *Annual entrepreneurship exploration in Boston, NYC and Silicon Valley*
  - ✓ *SmartState Endowed chairs partnership*
- *Alumni – Career Services: SmartJobs and SmartInternships, GSSM Launch growth*
- *Adding crucial programs –*
  - ✓ *Engineering - Residential AND Statewide Accelerate Engineering Outreach*
  - ✓ *Mandarin Chinese Foreign Language*

Challenging Environment Creates Opportunities for GSSM

- *Slow recovery from recession, high unemployment*
- *Talent + hard work imperative*
- *Think big and go strong*
- *And go global*

Summary Benchmark highlights:

- GSSM residential **students** are 50% male, 50% female, and 30% minority**. The newly selected Class represents 30 of South Carolina's 46 counties and 92 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.

- 65% of GSSM's Class of 2015 attended college in South Carolina. About **50%** of GSSM alumni **seek careers in S.C.,** working as teachers, doctors, scientists, engineers, computer scientists, and lawyers.

- Our **nationally recognized mentored research program** for rising seniors continues to expand its international research component and produce significant results. The number of students participating in the 2014-15 Research Experience Scholars Program (RESP) included GSSM students who conducted research at the German Cancer Research Center in Heidelberg, Germany. RESP is privately supported.

- 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. GSSM's Robotics team was selected as one of two teams from in South Carolina to be invited to multi-state competition held in Texas, placing in top half of category.

- The Accelerate Engineering program recruited the largest class ever for admission. Seventy-five students were admitted, 40% female and 32% minority. These students represent 11 high schools across the state.

- GSSM Accelerate installed the second and third virtual classrooms, including one equipped for science laboratory instruction.

- **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.**

- Athletics: Even while taking a heavy & advanced load in all academic areas, over 80% of GSSM students participate in inter-scholastic sports at some level. A new comprehensive intramural sports system created providing even more athletic opportunities for GSSM students.

    - The Year In Athletics • Swimming – 34 participants with seven individuals qualifying for the State championship •

    - Cross Country – season started with 27 students and ended with 20; both girls and boys teams qualified for the State championship; boys finished in 7th place •

    - Tennis – Girls team did not make it to the championship, but one student made it to the State individual championship; boys finished the regular season with an 8-2 record and qualified for the State Playoffs; one player made the All-Region Team •

    - Track – added pole vaulting this season with three participants qualifying for the Upper State Track Championship.

    - Volleyball – finished the regular season as the region champions; qualified for State Playoffs and lost in first round; also had the Region Player of the Year •

    - Golf – team competed in the State Championship and two individuals made the All-Region

    - Basketball – both teams played in the Region for the first time; girls finished 4th in the regular season and qualified for State Playoffs with one student named to All-Region Team; boys team showed great promise with one individual named to All-Region Team; both teams had their most successful seasons since their inception

Academic Highlights

1. For the 2014-2015 school year, four new residential faculty positions were added to accommodate student growth.
2. For the 2014-2015 school year, Accelerate Engineering added new instructors in Chemistry, English and Mathematics to accommodate the new Junior class.
3. For 2014-2015, 148 juniors were admitted, up from 128 juniors the previous year. This is a "full-capacity" junior class.
4. For 2014-2015, Accelerate Engineering had 61 total students, up from 41 in 2013-2014.
5. Articulation agreements
    a. Clemson
        i. 17 GSSM courses provide 58 Clemson credit hours
    b. College of Charleston
        i. 17 GSSM courses provide 49 College of Charleston credit hours
    c. University of South Carolina

i. 23 GSSM courses provide 52 USC credit hours

6. Accelerate Engineering completed dual enrollment agreements with Clemson University for 6 dual enrollment credits and with Florence Darlington Tech for 37 dual enrollment credits.
7. Course offerings
    a. 81 courses offered as semester or year-long courses
    b. 43 STEM courses
    c. 16 College Board approved AP courses
    d. 20 courses for which an AP course is a pre requisite.
8. New course offerings
    a. Engineering Principles
    b. Engineering Mechanics
    c. Regression Analysis
    d. Number Theory
    e. Introduction to Artificial Intelligence
    f. Mobile Applications using Open GL, C++ and Linux
    g. Hispanic Theater and Film

9. New Year-long advanced Research component designed and implementation schedule begun.

10. LaunchPad
    a. Week-long summer program for a targeted number of rising juniors admitted to GSSM
    b. Program helps students be more prepared to handle the rigors of the academic program at GSSM, especially in the areas of Math, English and Science labs.
    c. Program also includes a transitional piece to help students adjust to living in a residential setting

11. Accelerate Engineering – Statewide Virtual/Blended Program for 10th, 11th & 12th Graders. Participants can earn up to 42 hours of college engineering credits at partner in-State Universities. Through 2014-2015 and into 2015-2016:
    - Finished 2nd year of instruction; 3rd group in place •
    - Next year will be the first FULL set of all three cohorts • Program Growth continues:
        - 2014-15: 61 students at 8 schools around the state (sites)
        - 2015-16: 104 students at 15 sites! ¬ Adding 7 sites in 2015-16, 3-4 more in 2016-17
    - Instructor hiring for 2015-16 completed
    - Summer Camps for existing and new students planned • Curriculum integration continues: focusing on senior courses and activities for Fall 2015-Spring 2016 • Planning for 11 courses per semester for Fall 2015: four for seniors, four for juniors, three for sophomores.

- New Accelerate Algebra 3 course for engineers is planned. Math assessments are underway.
- First Summer Camp for rising seniors in June; at GSSM in partnership with USC and SiMT at Florence Darlington Tech
- Summer Base Camp for new students in July at GSSM
- Summer Camp at USC in July for rising seniors coordinating with the EE and ChE researchers
- Saturday experiences Spring 2015: Clemson's Emagine for the Sophomores, a trip to ICAR for the juniors.

- Chemistry labs at GSSM facilities continued in Spring. • Senior curriculum finalized to include Engineering Physics and a college literature course: this adds one laboratory Saturday per semester to planning

12. Standardized test scores

GSSM Students again led the State in both SAT and ACT scores.

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Strategic Planning Template

Type	Item # Goal	Strat	Object	Description
G	**1**			**Provide the best advanced education for S.C.'s most selective students**
S		**1.1**		**Provide the best credentialed and most experienced teachers in all subjects**
O			***1.1.1***	*Hire teachers with minimum Master's degrees, PhD's preferred in their areas - appropriate to full-capacity growth of student body.*
O			***1.1.2***	*Maintain Excellent Rating on State School Report Card*
O			***1.1.3***	*Maintain low student to teacher ratio*
O			***1.1.4***	*Maintain and expand articulation agreements with leading in-state Universities*
O			***1.1.5***	*Ensure 100% of GSSM grads attend undergraduate school*
O			***1.1.6***	*Support and track scholarship and grant attainment by GSSM graduates*
O			***1.1.7***	*Track # and % of in-state and out-of-state University attendance by GSSM grads*
S		**1.2**		**Continually advance curriculum offerings, coordinating with Universities and Business Sector**
O			***1.2.1***	*Create and implement Accelerate Engineering - a statewide virtual/blended program for 10th, 11th & 12th graders. Design and implement with Industry, business, University and school partners in S.C.*
O			***1.2.2***	*Infuse Economics & Finance into GSSM curriculum offerings, move to sustainable model*
O			***1.2.3***	*Create Engineering program for residential academics at GSSM*
O				
S		**1.3**		**Provide a safe and supportive teaching environment with technology**
0			***1.3.1***	Schedule campus teaching spaces with zero teaching downtime for facility repair
O			***1.3.2***	*Upgrade IT networks and in-classroom/lab IT to support instruction*
O			***1.3.3***	*Implement Public Safety department with armed Law Enforcement Officers, review, revise and practice public safety drills (fire, Tornado, Armed Intruder Lockdown)*
G	**2**			**Operate a residential campus supportive of students in activities, character development and safety**
S		**2.1**		**Conduct Athletic Programs appropriate to an academically-focused residential high school**
O			***2.1.1***	*Create athletic teams supportive of student interests and abilities*
			2.1.2	Create expanded intramural athletic program supportive of student interests and abilities
S		**2.2**		**Create arts and music programs supporting students interests and talents**
O			***2.2.1***	*Hire specialized art and music instructors to foster student development in art & music*
S		**2.3**		**Ensure physical and mental health of students**
O			***2.3.1***	*Provide mental health professional at doctoral level to assess student body via individuals at improving emotional quotient awareness*
O			***2.3.2***	*Provide extensive qualified nursing services to include medication management*
G	**3**			**Focus Support and Admin services on cost containment and freeing-up instruction, Outreach & Student Development Functionality**
S		**3.1**		**Minimize support & admin functions - no increase during Growth phases, distributing to functional areas**
O			***3.1.1***	*Support functional areas by creating minimally necessary reporting and administrative tasks - mainly self-created tasks.*
O			***3.1.1***	*Implement Growth plans in phases per outlined excellence benchmarks (teacher qualifications, ratios, etc.)*
G	**4**			**Expand Academic opportunities and achievement statewide via GSSM Outreach Programs, focus on private funding**
S		**4.1**		**Maintain and expand GSSM's advanced research program for residential students through growth - via University Partners.**
O			***4.1.1***	*While increasing student body, provide qualify research placements at universities or industrial sites.*

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Strategic Planning Template

Type	Item # Goal	Strat	Object	Description
O			*4.1.2.*	*Expand International Research Opportunities and placements for GSSM students, learn from exchanges*
S		4.2		**Expand quality GSSM Academic Outreach programs for more students of different grades, in more locations throughout South Carolina.**
O			*4.2.1*	*Increase programs targeted to specific age groups, sites & availability and participation in Statewide Outreach. Increase Academic achievement*
O			*4.2.2*	*Increase Outreach partners, both at schools & districts, and with business partners.*
O			*4.2.3*	Create Accelerate Engineering Statewide program: pilot via private funding, to allow S.C. HS students to earn full first-year credits in in-state University Engineering programs. Combination of virtual and on-site instruction.

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Performance Measurement Template

Item	Performance Measure	Last Value	Current Value	Target Value	Time Applicable	Data Source and Availability	Reporting Freq.	Calculation Method	Associated Objective(s)
1	Growth in Student Body	225	265	288	3 years, Annually after 2015-2016	GSSM Admissions	Annual	Admissions - Count	G1: 1.1.3, 1.1.4,1.1.5, 1.1.6: G2, 2.1, 2.2, 2.2.1, 2.3, 2.3.1, 2.3.2
2	Growth in Excellent Faculty	27	31	31	On-going based on course demand	Staffing	Annual	Count	G1: 1.1.3, 1.1.4,1.1.5, 1.1.6, G2, 2.1, 2.2, 2.2.1,2.3, 2.3.1, 2.3.2, 3.1, 3.1.1, 3.1.1
3	Maintain % of Faculty with Masters	100%	100	100%	Annual	Staffing	Annual	Count	S 1.1: O1.1.1, 1.1.4, 1.1.7
4	Maintain % of Faculty with PhD	80%	100	80%	Annual	Staffing	Annual	Count	S 1.1: O1.1.1, 1.1.4, 1.1.7
5	Maintain "EXCELLENT" Rating on School Report Card	Excellent	Excellent*	Excellent	Annual	S.C. School Report Card* Official release cycle currently delayed	Annual	Various Benchmarks	S1.2: O1.3.2, G3, S3.1, 3.1.1, 3.1.1
6	Major Curriculum Addition(s)	Econ-Finance & Accelerate Engineering	Maintained	Various, depending on University and/or Business Demand	Major addition every 2-3 years	GSSM Academics	Annual	Maintain and track results,	O1: S1.1, 1.1.4, 1.1.5, 1.1.6, 1.1.7
			Year-Round Advanced Science Research Design	Implementatin of Pilot in 2015-16	Annual	Academics	Annual	Maintain and track results,	O1: S1.1, 1.1.4, 1.1.5, 1.1.6, 1.1.7
			Engineering	Provide in-resident students a focus on Engineering	Annual	Academics	Annual	Maintain and track results,	O1: S1.1, 1.1.4, 1.1.5, 1.1.6, 1.1.7
7	Articulation Agreements with Universities	57	57	Various, seek to maximize credits for grads	two years	GSSM Academic Profile	Annual	Maintain and track results,	G1: 1.1.3, 1.1.4,1.1.5, 1.1.6, G2, 2.1, 2.2, 2.2.1,2.3, 2.3.1, 2.3.2, 3.1, 3.1.1, 3.1.1
8	% of GSSM Grads to Undergraduate College	100%	100%	100%	Annual	College Counseling	Annual	Report	1.1.2, 1.1.6,
9	New Junior Year Seminar Series	1	1	Maintain	two years	Campus Life	Annual	Student Development	G2: S2.3, 2.3.1, 2.3.2, 1.1.2, 1.1.6
10	# of GSSM Outreach Participants = summer and during academic year. Includes students and teachers for 2014-15	1295	2351	Expand as resources allow -- Capacity, maintain quality	Annual	GSSM Admissions/Outreach	Annual	Admissions - Count	G4: S4.2, O4.2.1, 4.2.2, 4.2.3
11	# of Outreach Sites Provided	14	22	Reasonable Growth w/quality maintained	Annual	GSSM Outreach	Annual	Admissions	G4: S4.2, O4.2.1, 4.2.2, 4.2.3
12	Research Scientists as GSSM Mentors, University and Industry Partners	96	111	Match w/growth	Annual	GSSM Outreach	Annual	GSSM Outreach/Universities	G1: 1.1.3, 1.1.4,1.1.5, 1.1.6, G2, 2.1, 2.2, 2.2.1,2.3, 2.3.1, 2.3.2: G4: S4.2, O4.2.1, 4.2.2, 4.2.3

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Performance Measurement Template

Item	Performance Measure	Last Value	Current Value	Target Value	Time Applicable	Data Source and Availability	Reporting Freq.	Calculation Method	Associated Objective(s)
13	Accelerate Engineering - Statewide Outreach Virtual/Blended Program for 10th, 11th & 12th graders	Pilot Program	# of Schools/Sites = 8 # of students: 61	For 2015-16: Expand to 104 students at 15 schools/sites	3 year program cycle	Accelerate Engineering Program	Annual	Accelerate Engineering Program	G4: S4.2, O4.2.1, 4.2.2, 4.2.3 G1: 1.1.3, 1.1.4,1.1.5, 1.1.6, G2, 2.1, 2.2, 2.2.1,2.3, 2.3.1, 2.3.2:
14	% of Grads attending In-State Universities	61%	64%	50% +	Annual	College counseling	Annual	Admissions	1.1.4, 4.1, r.1.1

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Program Template

Program/Title	Purpose	FY 2013-14 Expenditures General	Other	Federal	TOTAL	FY 2014-15 Expenditures General	Other	Federal	TOTAL	Associated Objective(s)
I. Academics	Provide the highest quality instruction to S.C.'s best/most motivated High School students	$ 3,611,474	$ 82,029		**$ 3,693,503**	$ 3,825,620	$ 82,029		**$ 3,907,649**	G1, S1.1, O: 1.1.1, 1.1.2, 1.1.3, 1.1.4, 1.1.5, 1.1.6, 1.1.7 S 1.2: O: 1.2.1, 1.2.2, 1.2.3: S 1.3: O1.3.1, 1.3.2, 1.3.3
II. Life In Residence	Support the 24/7 residential campus and development in all areas outside of the classroom	$ 2,813,590	$ 153,022		**$ 2,966,612**	$ 2,999,736	$ 153,022		**$ 3,152,758**	G2, S 2.1, O, 2.1.1, S 2.2, O: 2.2.1, S 2.3, O: 2.3.1 & 2.3.2
III. Support Admin Services	Allow functional areas to focus and achieve - Complete State Reports & Requirements	$ 367,450			**$ 367,450**	$ 379,561			**$ 379,561**	G 3 S 3.1: O: 3.1.1 , 3.1.2
IV. Statewide Outreach	Raise the academic bar across the entire state, elementary through high school and improve prospects for universities and businesses in S.C. Expand Statewide Accelerate Engineering Program for 10th, 11th and 12th graders.	$ 1,606,263	$ 371,449	$ 140,000	**$ 2,117,712**	$ 2,086,152	$ 371,449	$ 140,000	**$ 2,597,601**	G 4, S 4.1, O: 4.1.1 , 4.1.2 S, 4.2, O: 4.2.1, 4.2.2, 4.2.3
					$ -				**$ -**	
		$ 8,398,777	$ 606,500	$ 140,000	**$ 9,145,277**	$ 9,291,069	$ 606,500	$ 140,000	**$ 10,037,569**	*

*SDE is GSSM's fiscal agent, providing technical assistance & support