

**U.S. Department of Education**  
**2013 National Blue Ribbon Schools Program**  
**A Public School - 13SC6**

	<b>Charter</b>	<b>Title 1</b>	<b>Magnet</b>	<b>Choice</b>
School Type (Public Schools):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Name of Principal: Mrs. Arlene Wallace

Official School Name: Mayo High School for Math, Science & Technology

School Mailing Address: 405 Chestnut Street  
Darlington, SC 29532-5211

County: Darlington State School Code Number\*: 1601033

Telephone: (843) 398-2650 E-mail: Arlene.Johnson@darlington.k12.sc.us

Fax: (843) 398-2647 Web site/URL: http://mhs.dcsdschools.org/

I have reviewed the information in this application, including the eligibility requirements on page 2 (Part I - Eligibility Certification), and certify that all information is accurate.

\_\_\_\_\_  
(Principal's Signature) Date \_\_\_\_\_

Name of Superintendent\*: Dr. Rainey Knight Superintendent e-mail: raineyk@darlington.k12.sc.us

District Name: Darlington County School District District Phone: (843) 398-5100

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

\_\_\_\_\_  
(Superintendent's Signature) Date \_\_\_\_\_

Name of School Board President/Chairperson: Mr. Warren Jeffords

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

\_\_\_\_\_  
(School Board President's/Chairperson's Signature) Date \_\_\_\_\_

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

The original signed cover sheet only should be converted to a PDF file and emailed to Aba Kumi, Director, National Blue Ribbon Schools (Aba.Kumi@ed.gov) or mailed by expedited mail or a courier mail service (such as Express Mail, FedEx or UPS) to Aba Kumi, Director, National Blue Ribbon Schools Program, Office of Communications and Outreach, U.S. Department of Education, 400 Maryland Ave., SW, Room 5E103, Washington, DC 20202-8173.

## **PART I - ELIGIBILITY CERTIFICATION**

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The signatures on the first page of this application certify that each of the statements below concerning the school's eligibility and compliance with U.S. Department of Education, Office for Civil Rights (OCR) requirements is true and correct.

1. The school configuration includes one or more of grades K-12. (Schools on the same campus with one principal, even K-12 schools, must apply as an entire school.)
2. The school has made Adequate Yearly Progress (AYP) or its equivalent each year for the past two years and has not been identified by the state as "persistently dangerous" within the last two years.
3. To meet final eligibility, the school must meet the state's AYP requirement or its equivalent in the 2012-2013 school year. Meeting AYP or its equivalent must be certified by the state. Any AYP status appeals must be resolved at least two weeks before the awards ceremony for the school to receive the award.
4. If the school includes grades 7 or higher, the school must have foreign language as a part of its curriculum and a significant number of students in grades 7 and higher must take foreign language courses.
5. The school has been in existence for five full years, that is, from at least September 2007 and each tested grade must have been part of the school for that period.
6. The nominated school has not received the Blue Ribbon Schools award in the past five years: 2008, 2009, 2010, 2011 or 2012.
7. The nominated school has no history of testing irregularities, nor have charges of irregularities been brought against the school at the time of nomination. The U.S. Department of Education reserves the right to disqualify a school's application and/or rescind a school's award if irregularities are later discovered and proven by the state.
8. The nominated school or district is not refusing Office of Civil Rights (OCR) access to information necessary to investigate a civil rights complaint or to conduct a district-wide compliance review.
9. The OCR has not issued a violation letter of findings to the school district concluding that the nominated school or the district as a whole has violated one or more of the civil rights statutes. A violation letter of findings will not be considered outstanding if OCR has accepted a corrective action plan from the district to remedy the violation.
10. The U.S. Department of Justice does not have a pending suit alleging that the nominated school or the school district as a whole has violated one or more of the civil rights statutes or the Constitution's equal protection clause.
11. There are no findings of violations of the Individuals with Disabilities Education Act in a U.S. Department of Education monitoring report that apply to the school or school district in question; or if there are such findings, the state or district has corrected, or agreed to correct, the findings.

## PART II - DEMOGRAPHIC DATA

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All data are the most recent year available.

### DISTRICT

1. Number of schools in the district 14 Elementary schools (includes K-8)  
3 Middle/Junior high schools  
4 High schools  
0 K-12 schools  
21 Total schools in district
2. District per-pupil expenditure: 8529

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

3. Category that best describes the area where the school is located: Small city or town in a rural area
4. Number of years the principal has been in her/his position at this school: 13
5. Number of students as of October 1, 2012 enrolled at each grade level or its equivalent in applying school:

Grade	# of Males	# of Females	Grade Total
PreK	0	0	0
K	0	0	0
1	0	0	0
2	0	0	0
3	0	0	0
4	0	0	0
5	0	0	0
6	0	0	0
7	0	0	0
8	0	0	0
9	42	51	93
10	41	55	96
11	36	44	80
12	33	61	94
Total in Applying School:			363

6. Racial/ethnic composition of the school: 0 % American Indian or Alaska Native  
1 % Asian  
46 % Black or African American  
1 % Hispanic or Latino  
0 % Native Hawaiian or Other Pacific Islander  
51 % White  
1 % Two or more races  
100 % Total

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

7. Student turnover, or mobility rate, during the 2011-2012 school year: 2%  
This rate is calculated using the grid below. The answer to (6) is the mobility rate.

Step	Description	Value
(1)	Number of students who transferred <i>to</i> the school after October 1, 2011 until the end of the school year.	0
(2)	Number of students who transferred <i>from</i> the school after October 1, 2011 until the end of the school year.	7
(3)	Total of all transferred students [sum of rows (1) and (2)].	7
(4)	Total number of students in the school as of October 1, 2011	363
(5)	Total transferred students in row (3) divided by total students in row (4).	0.02
(6)	Amount in row (5) multiplied by 100.	2

8. Percent of English Language Learners in the school: 2%  
Total number of ELL students in the school: 6  
Number of non-English languages represented: 2  
Specify non-English languages:

Spanish

Chinese

9. Percent of students eligible for free/reduced-priced meals: 42%

Total number of students who qualify: 154

If this method does not produce an accurate estimate of the percentage of students from low-income families, or the school does not participate in the free and reduced-priced school meals program, supply an accurate estimate and explain how the school calculated this estimate.

10. Percent of students receiving special education services: 1%

Total number of students served: 3

Indicate below the number of students with disabilities according to conditions designated in the Individuals with Disabilities Education Act. Do not add additional categories.

<u>0</u> Autism	<u>0</u> Orthopedic Impairment
<u>0</u> Deafness	<u>0</u> Other Health Impaired
<u>0</u> Deaf-Blindness	<u>3</u> Specific Learning Disability
<u>0</u> Emotional Disturbance	<u>0</u> Speech or Language Impairment
<u>0</u> Hearing Impairment	<u>0</u> Traumatic Brain Injury
<u>0</u> Mental Retardation	<u>0</u> Visual Impairment Including Blindness
<u>0</u> Multiple Disabilities	<u>0</u> Developmentally Delayed

11. Indicate number of full-time and part-time staff members in each of the categories below:

	<u><b>Full-Time</b></u>	<u><b>Part-Time</b></u>
Administrator(s)	<u>2</u>	<u>0</u>
Classroom teachers	<u>17</u>	<u>0</u>
Resource teachers/specialists (e.g., reading specialist, media specialist, art/music, PE teachers, etc.)	<u>5</u>	<u>2</u>
Paraprofessionals	<u>3</u>	<u>0</u>
Support staff (e.g., school secretaries, custodians, cafeteria aides, etc.)	<u>18</u>	<u>0</u>
Total number	<u>45</u>	<u>2</u>

12. Average school student-classroom teacher ratio, that is, the number of students in the school divided by the Full Time Equivalent of classroom teachers, e.g., 22:1: 21:1

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

	2011-2012	2010-2011	2009-2010	2008-2009	2007-2008
Daily student attendance	96%	96%	97%	98%	97%
High school graduation rate	100%	100%	100%	96%	100%

14. **For schools ending in grade 12 (high schools):**

Show percentages to indicate the post-secondary status of students who graduated in Spring 2012.

Graduating class size:	<u>79</u>
Enrolled in a 4-year college or university	<u>77%</u>
Enrolled in a community college	<u>22%</u>
Enrolled in vocational training	<u>0%</u>
Found employment	<u>0%</u>
Military service	<u>1%</u>
Other	<u>0%</u>
<b>Total</b>	<b><u>100%</u></b>

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

☒ No

☐ Yes

If yes, what was the year of the award?

## PART III - SUMMARY

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The mission of Mayo High School for Math, Science and Technology (MHSMST) is to provide a challenging curriculum with high expectations in a safe, positive environment.

Mayo is a countywide public magnet secondary school, ranked among the top 5% of high schools in the nation according to *US News & World Report*, receiving America's Best High Schools Silver Award six years in a row. The school has been ranked fifth in the state with overall SAT scores and first in the state with graduation rate and report card ratings. Mayo was named a State Red Carpet School in 2004. The school offers motivated students the opportunity to combine strong academics with a STEM focus in math, science, and technologies while offering enhanced courses in the humanities. Mayo boasts a 100% graduation rate, with 99% of the Class of 2012 matriculating to a post-secondary institution. In 2012, graduates were offered more than \$2.4 million in scholarships.

Mayo's population hails from a county with employment opportunities ranging from trade and government to manufacturing. Darlington County also has a wide variety of agricultural resources, including tobacco, cotton, and soybeans. In a county that is almost all rural, these resources comprise its economic bases.

While students come to Mayo from economically challenged and diverse environments, they are surrounded by a faculty committed to the educational success of each child. Among the twenty-one classroom teachers, almost 90% hold advanced degrees, including one teacher who holds a subject-area doctorate. Seven of the teachers are National Board Certified and eleven hold Advanced Placement endorsement. Two members of the faculty are State Honor Roll Teachers and three are former District Teachers of the Year.

The name Mayo High School is part of a rich tradition that dates back to 1889 when Dr. Dwight Mayo, a nationally known clergyman, educator, and author, envisioned a school to further the formal education of African Americans in Darlington County. When the original Mayo High School closed its doors in 1994 as a result of a federal desegregation lawsuit, renovations were made to the campus and Mayo reopened its doors in 1996 as a magnet school for math, science, and technology. In 1999, the court order was dropped and Mayo magnet school remains an integral part of the surrounding community through events like Community Christmas and Thanksgiving luncheons, food drive, Take Pride clean-up campaign, community garden, career fair, Veteran's Day ceremony, blood drives, breast cancer intra-district fundraiser challenge, *SPC Credit Union* Reality Fair, Novel Tea Book talk, Phoenix Phame show choir performances, and numerous classroom projects and presentations.

Mayo students are selected according to test performance, grades, teacher recommendations, and a personal essay. Each criterion is given a different numerical value, and a minimum score must be obtained in order for the student to be deemed eligible for the random selection process. Selection of candidates is based on the number of available slots in each grade level.

Expectations for student success are set as soon as students arrive on campus. Perhaps a window into the environment is best opened by a former student, an African American male, who struggled in middle school. After success at Mayo, he was asked what made the difference. He said, "At Mayo, it's expected that I will be smart; so, to live up to that expectation, I have to study and behave."

However, simply creating an environment of high expectations and success does not qualify Mayo for National Blue Ribbon School status. Mayo's strongest qualification is how the faculty works together for the success of all students, even though students do not come to the school at the same level and with the same abilities. While applicants have been successful in math and science, there is no English/Reading

subtest requirement. Some students are therefore not at grade level; however, individual student improvement plans, one-on-one tutoring, formative assessments that target individual weaknesses and best practices in scaffolding information have enabled all students to score at least basic by the end of their tenth grade year.

Mayo students are strongly encouraged to participate in clubs, organizations, and other extra-curricular activities. There are approximately 25 different clubs and organizations available for students to join. Among student accolades are the 2012-2013 State Beta Club vice president and one National Merit Finalist. Students desiring to participate in athletics may do so in their attendance-zone school.

Finally, the students, parents, teachers, staff, and community of MHSMST work together as a team to create a positive school community committed to student achievement. The school community is devoted to exemplifying excellence and helping all students reach their highest potential. MHSMST believes “Hard Work Pays Off!”



## PART IV - INDICATORS OF ACADEMIC SUCCESS

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### 1. Assessment Results:

Mayo High School for Math, Science & Technology (MHSMST) students take the High School Assessment Program (HSAP) test in the tenth grade. HSAP is used as the high school exit exam and consists of two sections: English/Language Arts (ELA) and Mathematics. It assesses students' content knowledge based on state standards that all students should have learned by the end of the tenth grade year. Scores range from 1-4 and are noted as below basic, basic, proficient, or advanced, respectively. Students who score a "2" or above meet the passing standard for the HSAP exam. If students score below a 2 on any part of the exam, he or she must retake that part until a passing score is achieved. MHSMST students are expected to score 3 or better.

Students are prepared throughout the school year and a HSAP workshop is held to help students with the last minute test-strategies. One hundred percent of MHSMST students pass HSAP. In the last five years, student performance has been across all grade levels and all sub groups. Assessment results indicate that we are reducing the achievement gap between historically low-performing and high-performing student subgroups. Students eligible for free and reduced-price meals and African American students have demonstrated the same rate of improvement as their white counterparts.

Historically MHSMST has scored in the top 10% of high schools in the state and has received an "Excellent" rating from the state department since 2001. In the last five year period, MHSMST has seen a consistently increasing trend in the percentage of proficient and advanced students in both ELA and Math HSAP scores. Our percentage of students scoring Proficient and Advanced has exceed that of similar schools in the state.

The End-of-Course Examination Program (EOCEP) provides standardized tests in high school core courses such as English I, Algebra I, Biology I, and US History. EOCEP results are used to calculate middle school and high school Absolute Ratings and Growth Ratings. Performance levels for each EOCEP-related subject are focused solely on passing scores. Scores below 70 (grade of "F") does not meet grade-level standards; scores from 70 to 100 ("D", "C", "B," or "A") meet standards. MHSMST students score 82% or better with overall EOCEP performance.

The PSAT is administered in the fall in grades 9-11. To stimulate higher achievement and continued growth, goals have been set for each grade level. Ninth grade students are expected to score 40 or better in each category (critical reading, math, and writing) on the PSAT. Tenth graders are expected to score 45 or better on the PSAT, and juniors are expected to score 50 or better, The SAT and ACT are taken throughout the school year. MHSMST students are expected to score 500 or better in each category (critical reading, math, and writing). Students and parents receive longitudinal data to monitor growth.

MHSMST students are also successful on the SAT and ACT. In 2011, MHSMST had a combined SAT score of 1587 and ranked fifth in the state overall. On average, 62% of the graduating classes take the SAT. The trend is shifting with more students taking the ACT. In the past five years, MHSMST students have scored above the State and National average in both the SAT and ACT.

MHSMST also offers an Advanced Placement (AP) program. The number of AP exams administered to students has decreased over the last three years, along with a decreasing number of students achieving a passing score of 3 or above. The decrease in AP participation in the past has been attributed to stronger student interest in dual credit classes, which have the same grade point value as AP classes. The school is working to to increase the number of students taking AP classes by offering more selections and providing more resources for teachers and students. In the 2012–13 school year, MHSMST offers five AP classes: AP Calculus BC, AP Art History, AP Biology, AP US History, and AP English Literature.

To close the achievement gap among our subgroups, individual student improvement plans, one-on-one tutoring, class workshop, tutorials, and formative assessments target individual needs and prepare the students for success.

## **2. Using Assessment Results:**

Students' success depends on school-wide ownership of and accountability for student data. The foundation for this success begins in Academic Advising, where students are assigned a faculty member for four years to monitor success, weaknesses, and improvements and to advise students in course selection, SAT/ACT, and college application process. The commitment to academic success resulted in PSAT score gains and 100% passing on Biology and Algebra EOCEP in 2012.

Darlington County School District (DCSD) synthesizes data collected from PSAT, SAT, ACT, EOCEP, and Advanced Placement examinations. Mayo uses baseline data as a prerequisite for Senior Thesis, a research-based class students participate in to graduate with an Honors diploma, the level of which (Magna Cum Laude, Summa Cum Laude, and Cum Laude) is determined by a committee of faculty, parents, and community leaders. Using baseline recommendations from College Board, PSAT data are examined to predict students' success in AP and dual-credit courses and to advise students whether to take the SAT or ACT.

South Carolina gathers student performance data from the High School Assessment Program (HSAP), the state exit exam required for graduation, and from EOCEP in Algebra I, English I, United States History, and Biology. HSAP evaluates tenth graders in reading, writing, and math. EOCEP tests count as 20% of students' final grades in the prospective course. Mayo is compared with other high schools in South Carolina through the Annual School Report Card. Mayo met Adequate Yearly Progress (AYP) in 2012 and has received an "Excellent" school rating for the past twelve years.

DCSD employs several informal assessments to monitor student performance, including Benchmark testing for Algebra I, English I and Biology. Writing folders, containing evidence of the writing process and aligned with state and Common Core Standards, are maintained for every student.

MHSMST administers, uses, and synthesizes national, state, and district assessments via a *TestView* database. The school administers a school-wide HSAP diagnostic test which is followed up with tutorials and workshops targeting students' individual weaknesses. Teachers implement informal assessment tools, including reading/writing conferences, observations, and portfolios to analyze students' thinking. Teachers design rubrics to measure student work. Analysis of the data determines staff development to improve instruction in areas identified as weak and has resulted in workshops, both in the form of guest speakers and in-house. Student Intervention Plans are implemented when students struggle to meet standards and expectations in core classes.

MHSMST uses a variety of resources to communicate data with students and parents daily, bi-monthly, quarterly, and yearly. The school year is bookended by data presentations, beginning with the School Improvement Council and Academic Booster Club and ending with Individual Graduation Plan conferences that review students' performances and make recommendations for next year's schedule. Parents have twenty-four hour access to students' grades through *PowerSchool*, the online grade book. To ensure all parents are informed of students' progress, bi-monthly progress reports are sent home. The principal maintains informative contact with parents and community through emails, *SchoolConnects* phone notification system, an updated school webpage, and quarterly newsletters. Students are informed of PSAT data in Academic Advising and of the year's previous assessment results (SAT, ACT, EOCEP, and HSAP) at beginning-of-the-year class meetings. Data-driven parent-teacher conferences focused on student success are scheduled each semester.

Mayo's success is conveyed to the community through invitations to attend and participate in presentations, demonstrations, and other learning opportunities in all academic areas. From the marquee

out front, Facebook postings, weekly articles in local newspapers, and even segments on the local news, the community is informed of Mayo's success. Parents serve on and provide input in the school's Academic Booster Club, Superintendent's Cabinet, and School Improvement Council, from which information is gathered and synthesized in the form of radio announcements on the Superintendent's weekly radio show, local newspapers, and television news shows. Local business professionals serve as Principal for the Morning and convey Mayo's success to service organizations. In addition, Mayo hosts an Open House and participates in the county-wide Magnet Fair.

Student success at Mayo is not just a goal; it is an environment that is established when guests are greeted with the Wall of Fame celebrating student achievement and academic success. Among the accolades displayed are plaques with the names of high scoring SAT and ACT students and a bulletin board displaying seniors' college acceptances. The celebration of success continues as students are rewarded at the quarterly *Academic Renaissance* program. Recognition is given on a daily basis in the principal's Shout Outs to recognize students for achievements.

### **3. Sharing Lessons Learned:**

MHSMST shares students' stories and the strategies that promote their success, with local, state, and national schools, districts, and professional organizations.

Teachers share innovative curricula to enhance student learning across the district, such as the computer application teacher sharing *Access* lessons. MHSMST science teachers co-authored pacing guides and course curricula. An English teacher presented on *Developing and Asking Text-Based Questions* at a Common Core Standard workshop, *Tearing Down the Walls* to help teachers develop Common Core, cross-curricular units, and *Beyond the How and Why* on developing and implementing challenging and rigorous assessments. Another English teacher presented *Content Reading Strategies for Common Core Standard Implementation* for content-area teachers. Foreign language teachers conducted "best practice" demonstrations, including electronic document sharing and collaboration of workshops. A science teacher presented content-area-literacy strategies.

One teacher is a cooperating teacher with Swamp Fox Writing Project and provides staff development to impact teacher quality.

Sometimes sharing takes place through student work at events like the district's Magnet Fair, where innovative assessments are displayed. Students also display high quality, exemplary work at the Sand Hills Science Fair, where they define the standards for participating schools. Several teachers influence future educators by supervising student teachers and interns.

Schools from across the state have visited our classrooms to observe instruction and best practices and conferred with teachers and administrators about how to establish a high-quality instructional environment. Some teachers have written exemplary curricular units for the State Department of Education and for Swamp Fox Writing Project Advanced Institute, field-tested HSAP tests and analyzed and presented staff developments on the results. Other teachers have served on statewide committees such as CERRA's (Center for Educator Recruitment, Retention, and Advancements) board of directors and advisory board, state textbook review and selection committees, and committee to evaluate online instruction. Still, other teachers have presented workshops on leadership opportunities at a National Board conference, *Making State English Standards User Friendly for High School Teachers* at Pee Dee Teacher Forum's Instructional Fair, *Empowering Students Through Inquiry* at Swamp Fox Writing Project, and *Inquiry in the Secondary Classroom* at Francis Marion University.

On the national level, an English teacher presented content-literacy strategies and the school-wide summer reading program at *High Schools That Work* conferences, and a history teacher presented at the Library of Congress summer institute.

#### **4. Engaging Families and Communities:**

MHSMST believes parental involvement encourages and preserves the improvements in attitudes, behaviors, and academics that teachers develop in students. Parents are involved through Academic Booster Club and School Improvement Council; however, it is not enough to sign papers, check grades, and meet with teachers twice a year, so efforts are made to guide parents in interacting with students.

Parent involvement is encouraged through the Novel Tea Book Talk, Chemistry Parent Lab, and Government Mock Trial. Novel Tea students, parents, and community leaders decorate tables with symbolic elements from a novel to represent literary devices and provide written explanations for book discussions. For quarterly independent-reading assessments, where students discuss a quote from a tee shirt they created with their parents. In chemistry, parents use their child's notes to complete a lab, then explain it to the student. At the Government Mock Trial, parents interact with students as witnesses, jury, and judge.

Senior Thesis students prepare a scientific research project to present to parents, faculty, and the community. Parents and community members approve core questions and serve on students' evaluation teams for English V Honors students' Senior Inquiry Projects. Peers, parents, and community members read students' writings and reflect on their strengths and weaknesses; students use the information for revising their work.

During conferences, parents view students' work. Students' achievements are recognized quarterly with *Academic Renaissance* programs, and seniors are honored at Class Night. Parents and community members are invited to join the celebrations.

MHSMST is able to provide student incentives for academic achievements by support from parents, community members and business partners. MHSMST is only funded with district general funds, which have been limited by the recent budget cuts. In addition to being active participants in students' education, local businesses provide speakers in science, social studies, and English classes and support service projects such as providing backpacks students fill for needy children, purchasing summer reading and self-selected reading books, and technology such as tablets and printers. Businesses provide grants for projects like the community garden, provide building materials for students' internship project and help fund field trips.

## PART V - CURRICULUM AND INSTRUCTION

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### 1. Curriculum:

MHSMST's instructional curriculum is intended to develop critical thinkers who understand learning is a lifelong process that prepares students for a diverse and changing world. It begins by creating an environment of academic excellence and that ensuring students obtain an educational experience that prepares them for college and career.

Social studies students read for literal meaning, detect cause and effect mechanisms, recognize bias and propaganda, synthesize and summarize what they have learned through different technology platforms and create written, oral, and visual presentations. Students apply decision making/problem solving skills in analyzing a topic. Students analyze primary sources, debate political issues, and investigate inquiry questions in class. Students gain essential skills needed for college, such as critical thinking, supporting their thinking by using evidence, and learning to ask questions to deepen their learning not only about the area around them but helping them globally.

Students' abilities to read and then write are held in the highest regard. English classes use reading and writing to engage students in authentic assessments, including journals, graphic organizers, and annotations, that allow them to extend their writing beyond the classroom writing to lessons applicable in life. Students keep track of all writing pieces in a portfolio that teachers use to reflect upon students' individual growth in their writing strengths and focus on correcting their weaknesses. Students also participate in authentic assessments through an inquiry-based class where students' personal lives are the catalyst for selecting and developing learning topics. Many students have presented their inquiry proposals to universities to gain internships, research assistantships, and scholarships.

Mathematics classes use graphing calculators to analyze data, draw conclusions, and make predictions for real-world applications. Emphasis is on developing problem-solving skills necessary to stimulate higher-order critical thinking. Students write to justify and support their answers. Mathematics-based websites reinforce the curriculum and permit research in advanced concepts. Games are used to assess prior knowledge. Peer tutoring is used during guided practice. Advanced courses allow time for students to research concepts and then teach them to the class.

The science curriculum offers AP Biology and dual-credit college courses in Anatomy/Physiology and Ecology. Lab reports are required in upper-level classes and are graded using rubrics. Electives include Biology II, Chemistry II, Physics II, Marine Biology, Anatomy and Physiology, Ecology, and Senior Thesis. All incorporate labs, activities, and testing that require students to use high order thinking skills

Visual and performing arts integrate writing, history, math, science, and technology through analyzing artwork in daily journals. Students look at art from around the world and discuss how it is and has been influenced by society, economics, and politics. Math is incorporated by using measurements to create grid drawings, and perspective drawing uses parallel lines, orthogonals, rulers, and different angles to create accurate drawings of landscapes and architecture. Science is incorporated through studying the color wheel and understanding the chemical elements and properties of colors and by investigating how the color of different types of clays is determined by its properties and where it is found in the earth. Visual and performing arts merge through set and costume design which students learn about as a career. Students introduced to Photoshop are exposed to different careers in gaming and animation and the skills and computer applications needed to obtain these jobs.

College and career readiness is assured beyond curriculum and instruction through career assessments administered to ninth graders and then are revisited each year. Seniors engage gain first-hand career

experience through internships. During the annual Mayo Alumni Career Fair, former students return to share their career choices, college preparations, and advice with current students.

## **2. Reading/English:**

Balanced literacy differentiates instruction with literature relevant to students' lives and addresses students' individual needs through standards-based assessments, including a strong writing component. Grade-level instruction begins with grade nine arranged by structural elements, grade ten focused on world literature, and grades eleven and twelve are chronological surveys of American and British literature, with thematic focuses. Media studies provide diversity and connections among the literature.

In ninth grade, students write personal and creative writings, progress to reflective writings in tenth grade, write to evaluate literature in eleventh grade, and focus on expository writing in twelfth grade. Writing connects to the literature through personal connections or through modeling that uses students' anchor papers, the genre's characteristics, or author's style. Students prewrite to gather content before writing a thesis and focus on important points. Students draft by organizing points; then revise and edit for clear and thorough explanations, varying syntax, transitions, and advanced vocabulary.

Before, during, and after reading instruction, assessments focus on analysis of literary devices or reading strategies to maintain students' focus while reading, beginning with direct instruction, followed by student practice. Concepts are applied in after-reading assessments that usually involve writing.

The English curriculum supports school-wide literacy through quarterly independent-reading assessments on a variety of books to match students' interests and abilities. Teachers maintain classroom libraries that give students easy access to high-interest, grade-level, and ability-level materials.

Strategies-based vocabulary instruction is provided through word study consisting of etymology, prefixes, suffixes, and Greek and Latin root words.

Writing and reading instruction is differentiated beginning with direct teaching of "targeted passages," and then with sidebar questions to guide students' reading. Finally, with textual support removed, students apply active reading strategies. This gradual release of responsibility strengthens students' active-reading skills that are necessary to successfully annotate their independent reading novels.

Effective instruction uses culturally relevant literature to accommodate students' individual needs, in terms of rates, abilities, interests, and learning styles. Additional support for less-proficient readers includes: pre-teaching background information, revisiting reading strategies, and scaffolding help so readers visualize the text through graphic organizers and charts. Background begins with vocabulary support; academic vocabulary gives students knowledge about the literature's content; vocabulary support is provided to teach decoding strategies, and context vocabulary scaffolds literary terms. Writing Workshop also assists less-proficient writers by providing structure for writing assignments that provide specific questions for students to answer in their papers.

## **3. Mathematics:**

The state department requires all students to complete four different mathematics courses and pass a high school graduation assessment. Mayo requires each student to take a mathematics course every year. Since some students take Algebra I in the eighth grade, many students graduate with five units of mathematics.

Courses offered at Mayo are: Algebra I College Prep, Algebra II College Prep and Honors, Geometry College Prep and Honors, Pre-calculus College Prep and Honors, Probability and Statistics College Prep, Discrete Math Honors, and Advanced Placement Calculus. Students may earn college credit from the Advanced Placement Calculus exam and a dual credit Probability and Statistics course. The mathematics department also offers Concrete Math College Prep and Graphing Calculator College Prep for elective

credit.

The math department uses a variety of instructional methods to reach all students. Students are taught using Explicit Direct Instruction (EDI). Teachers use lecture, explicit teaching, guided practice, manipulatives, and demonstrations. Individual lap-size dry-erase boards are often used to check for understanding during the instruction process. Graphing calculators are used by teachers and students to analyze data and apply concepts to real-world problems. Computer labs are available and Promethean Interactive Boards are used daily to enhance lessons. Site licenses have been purchased for students to have access to standardized tests preparation.

Teachers are available during activity period and after school to provide assistance for student needing help. Students in the Mu Alpha Theta National Mathematics Honor Society operate a math lab, monitored by a mathematics teacher, during activity period three days a week, offering tutorial assistance to all students.

#### **4. Additional Curriculum Area:**

The science curriculum challenges students to think critically by integrating traditional teaching methods with hands-on learning, including traditional laboratory activities, inquiry laboratory activities, POGIL (Process Oriented Guided Inquiry Learning) activities, presentations and projects. Currently, Biology I is the only course that has an end-of-course test, and since the reinstatement of that exam, every student has passed. The department sees a need for additional practice to help students be more successful on the SAT and ACT. Students regularly use prefixes, suffixes and root words in all sciences. Teachers also make an effort to emphasize graphing with an emphasis on identifying and interpreting the information being presented. Students graph and analyze their individual data as well as class data with each laboratory experience.

As the department continues to progress toward Common Core Standards, teachers actively include material across curricula. Ecology, Anatomy and Physiology, and AP Biology students are required to read a curriculum-aligned novel that is used collaboratively among the science, English, and history departments. Articles regularly reinforce content material while presenting contrasting viewpoints that force students to think critically in order to make an informed decision about issues such as genetically modified foods and stem cell research. Additionally, there is an emphasis on writing, as students are responsible for written formal lab reports, which helps them develop communication skills. Students in all science classes are required to use technology, whether in a laboratory setting with probeware or using the Internet to conduct research. Science teachers reinforce math content by providing additional practice on graphing skills and interpreting graphs and statistical analysis. Each year chemistry students write an original lab from scratch. Family members then join the students in the laboratory and perform their written procedures.

Science students, also, created a community victory garden that deepened school and community bonds. A design was created and implemented, plants watered and weeded, and the bounty shared throughout the neighborhood. The ecology and history classes spearheaded this work and plan to continue it. Students learned the history of victory gardens and encountered ecology topics such as best practices for irrigation, fertilization, and composting, first-hand.

#### **5. Instructional Methods:**

Mayo's most valuable instructional method begins with cross-curricular planning and implementation of thematic units that immerse students in a worldview of topics, problems, and solutions. The first school-wide engagement was part of a nation-wide initiative sponsored by the Houston Holocaust Museum, through which students examined the social and cultural impact of the Holocaust. In cross-curricular studies in core courses and in foreign language, art, and technology, students examined the Holocaust and analyzed related themes of hope, personal and collective morality, promise and legacy, courage and

heroism, and tolerance and acceptance. In addition, Teacher Cadets, a dual-credit college-level introduction class for education majors, taught Holocaust-related lessons to fifth graders. Math students graphed statistics, while social studies classes and the Environmental Club developed a WWII-era victory garden and a reflective garden decorated with butterflies from art students. Students learn about the time period and develop compassion, giving everyone involved the opportunity to grow as educators, students, and citizens of the world. Above all, everyone learned that each person can make a difference.

Students engage in an appropriate progression of learning and assessment through direct teaching, guided practice, application, assessment, and re-teaching. For instance English classes engage in the recursive nature of writing through portfolios where teachers, students, and parents reflect upon students' individual growth in their writing strengths and focus on strengthening individual weaknesses.

Instruction is differentiated according to students' learning styles and rates of learning. For instance, in English classes analytical learners can discuss the influence of medieval romance on modern culture, while kinesthetic learners create a game on the same topic, and auditory learners interview characters.

A tutorial program operates during the school day to enable students to reinforce skills learned in the classroom. Teachers remain after school at least one day a week to provide more individual instruction.

Foreign Language differentiates instruction by grouping stronger students to assist weaker students. To accommodate different learning styles, activities include visual, auditory, and kinesthetic elements. In order to demonstrate mastery of a concept, students are provided choices of assessments.

Instruction for a selectively mute student is differentiated in several ways. He cannot present or provide oral input or feedback in group situations. His input/feedback is all written; however, he also uses technology (PowerPoint, movies, online discussion threads and chats in My Big Campus) to effectively communicate his learning and interact with peers.

## **6. Professional Development:**

MHSMST educators embrace improvement as a ray of hope instead of an attack or criticism as they strive to educate all students. Improvement begins with professional reflections submitted by each teacher to the principal in weekly updates and continues through workshops, book talks, weekly curriculum meetings, cross-curricular planning, and an end-of-year survey.

Through staff development, teachers have become advocates for students by teaching them skills to meet society's demands. Ultimately, every staff development planned must stand against the question: Will this help students learn so that they can be productive in society? Mayo teachers internalize what they have learned in professional development and apply it to students' needs.

Every continuing contract teacher undergoes a yearly Goals-Based evaluation, where he/she develops his/her own professional-development plan to reach the yearly goals and help students succeed. The principal is proactive in providing funding and support so teachers can attend workshops, conferences, and take classes.

Mayo's strongest professional engagement is a voluntary monthly, cross-curricular collaboration in which colleagues meet to reflect, read, and discuss theory, return to their classrooms to put theory into practice, and engage in professional dialogue with colleagues about what worked and didn't work. Several cross-curricular units, such as the Butterfly Unit and the Legacy Unit, have resulted from these meetings. Each unit has been a year-long immersion for in one topic throughout several subject areas. Independent learning communities have evolved from the weekly meetings. One such professional study group developed based on Calkins's *The Art of Teaching Writing* (1994). The English department, middle school ELA teachers, and content-area teachers from the technology, science, and social studies departments met once a week to discuss the week's reading and address writing instruction concerns.



Through professional development and workshops on the Collins Writing Method and Content-Area Literacy in all disciplines, teachers strengthen school-wide content-area writing. They were a natural segue to recent staff development on Common Core Standards and developing aligned instruction and assessments.

Each member of the science department voluntarily takes part in PASE (Portable Advanced Science Exploration) workshops, which teach the use of Lab Quest hand-held data collectors. The department is currently in the process of receiving grant money to buy LabQuest interfaces for each classroom.

## **7. School Leadership:**

Even during budget cuts, the principal provides resources to support programs that enhance instruction and meet the needs of teachers, students, and parents. With an understanding of departmental scaffolding, the principal encourages teachers in all departments to get AP certification to increase rigor. The principal also supports faculty by approving professional leave for faculty members to attend conferences. She recognizes her teachers as leaders and encourages them to exhibit their expertise by doing in-house workshops for students for PSAT, SAT and ACT preparation as well as HSAP preparation.

The principal supports the school-wide summer reading program and content-area writing through school-wide staff development workshops to enhance instruction in reading, writing, and data analysis. She also schedules school-wide Self-Selected Reading, where every department is assigned a day to read so students read for pleasure at least fifteen minutes every day. The principal frequently comes into classrooms to preview students' assignments and to ask them questions about what they are doing and what they have learned.

The principal encourages two-way communication with the faculty by requiring teachers to send weekly updates via email, reporting on individual student progress and on instruction in the class. The principal believes in an open-door policy for students, staff and parents alike. She not only listens but brings concerns to the faculty to gain more perspective before implementing changes to enhance student learning. Working with parents and the community is important in sharing leadership opportunities. Parents are welcome to talk with the administrator and offer suggestions on improving student performance. The School Improvement Council and Academic Booster Club work side by side to ensure that Mayo is a school where students reach their highest potential. Grants are written to local businesses for classroom materials, professional development and school incentives.

The principal believes in sharing data and presents longitudinal data via PSAT, SAT, ACT, HSAP and AP testing results several times a year to monitor student growth. These data drives the curriculum and the schedule to provide each student with as much individual instruction as possible. Individual longitudinal data help students reach their potential and goals for college. The principal shares this data with the teachers, administrative team, students, and parents.

# PART VII - ASSESSMENT RESULTS

## STATE CRITERION-REFERENCED TESTS

Subject: Mathematics

Grade: 10 Test: High School Assessment Program (HSAP)

Edition/Publication Year: 1998 Publisher: Pearson

	2011-2012	2010-2011	2009-2010	2008-2009	2007-2008
Testing Month	Apr	Apr	Apr	Apr	Apr
<b>SCHOOL SCORES</b>					
3 & 4	91	90	85	94	97
4	51	54	38	67	55
Number of students tested	84	97	85	86	87
Percent of total students tested	100	100	100	100	100
Number of students alternatively assessed	0	0	0	0	0
Percent of students alternatively assessed	0	0	0	0	0
<b>SUBGROUP SCORES</b>					
<b>1. Free/Reduced-Price Meals/Socio-economic Disadvantaged Students</b>					
3 & 4	88	85	80	91	91
4	42	43	30	48	39
Number of students tested	33	40	30	23	33
<b>2. African American Students</b>					
3 & 4	88	83	79	93	94
4	48	39	21	50	36
Number of students tested	40	46	29	28	31
<b>3. Hispanic or Latino Students</b>					
3 & 4	0	0	0	Masked	0
4	0	0	0	Masked	0
Number of students tested				1	
<b>4. Special Education Students</b>					
3 & 4	0	Masked	0	Masked	Masked
4	0	Masked	0	Masked	Masked
Number of students tested		1		1	1
<b>5. English Language Learner Students</b>					
3 & 4	0	0	0	Masked	0
4	0	0	0	Masked	0
Number of students tested				1	
<b>6. White Students</b>					
3 & 4	93	96	87	95	98
4	55	67	47	75	66
Number of students tested	42	49	55	57	56
<b>NOTES:</b>					
Masked indicates data were not made public because fewer than 10 students were tested.					

13SC6

## STATE CRITERION-REFERENCED TESTS

Subject: Reading                      Grade: 10 Test: High School Assessment Program (HSAP)

Edition/Publication Year: 1998 Publisher: Pearson

	2011-2012	2010-2011	2009-2010	2008-2009	2007-2008
Testing Month	Apr	Apr	Apr	Apr	Apr
<b>SCHOOL SCORES</b>					
3 & 4	92	92	89	95	98
4	41	64	59	62	62
Number of students tested	84	97	85	86	87
Percent of total students tested	100	100	100	100	100
Number of students alternatively assessed	0	0	0	0	0
Percent of students alternatively assessed	0	0	0	0	0
<b>SUBGROUP SCORES</b>					
<b>1. Free/Reduced-Price Meals/Socio-economic Disadvantaged Students</b>					
3 & 4	88	83	93	91	94
4	24	50	47	52	46
Number of students tested	33	40	30	23	33
<b>2. African American Students</b>					
3 & 4	93	85	93	93	94
4	38	46	52	50	39
Number of students tested	40	46	29	28	31
<b>3. Hispanic or Latino Students</b>					
3 & 4	0	0	0	Masked	0
4	0	0	0	Masked	0
Number of students tested				1	
<b>4. Special Education Students</b>					
3 & 4	0	Masked	0	Masked	Masked
4	0	Masked	0	Masked	Masked
Number of students tested		1		1	1
<b>5. English Language Learner Students</b>					
3 & 4	0	0	0	Masked	0
4	0	0	0	Masked	0
Number of students tested				1	
<b>6. White Students</b>					
3 & 4	93	98	87	97	100
4	45	80	64	67	75
Number of students tested	42	49	55	57	56
<b>NOTES:</b>					
Masked indicates data were not made public because fewer than 10 students were tested.					

13SC6