U.S. Department of Education
2013 National Blue Ribbon Schools Program
A Public School - 13NJ9

	Charter	Title 1	Magnet	Choice
School Type (Public Schools):	☐	☐	☑	☐

Name of Principal: Mrs. Gwendolyn Ryan

Official School Name: Union County Magnet High School

School Mailing Address: 1776 Raritan Road
Scotch Plains, NJ 07076-2997

County: Union State School Code Number*: 39-5260-040

Telephone: (908) 889-8288 E-mail: gryan@ucvts.tec.nj.us

Fax: (908) 889-3196 Web site/URL: http://www.ucvts.tec.nj.us/ucvts

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.

_____ Date _____
(Principal's Signature)

Name of Superintendent*: Mr. Peter Capodice Superintendent e-mail: pcapodice@ucvts.tec.nj.us

District Name: Union County Vocational Technical School District District Phone: (908) 889-8288

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.

_____ Date _____
(Superintendent's Signature)

Name of School Board President/Chairperson: Mrs. Jane Lorber

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.

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

**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

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

All data are the most recent year available.

DISTRICT

1. Number of schools in the district 0 Elementary schools (includes K-8)
   0 Middle/Junior high schools
   5 High schools
   0 K-12 schools
   5 Total schools in district
2. District per-pupil expenditure: 15818

SCHOOL (To be completed by all schools)

3. Category that best describes the area where the school is located: Suburban

4. Number of years the principal has been in her/his position at this school: 7

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	45	32	77
10	35	40	75
11	43	28	71
12	34	33	67
Total in Applying School:			290

6. Racial/ethnic composition of the school:

0 %	American Indian or Alaska Native
29 %	Asian
10 %	Black or African American
9 %	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: 1%

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 ***to*** the school after October 1, 2011 until the end of the school year.	0
(2)	Number of students who transferred ***from*** the school after October 1, 2011 until the end of the school year.	4
(3)	Total of all transferred students [sum of rows (1) and (2)].	4
(4)	Total number of students in the school as of October 1, 2011	288
(5)	Total transferred students in row (3) divided by total students in row (4).	0.01
(6)	Amount in row (5) multiplied by 100.	1

8. Percent of English Language Learners in the school: 0%

Total number of ELL students in the school: 0

Number of non-English languages represented: 0

Specify non-English languages:

9. Percent of students eligible for free/reduced-priced meals: 10%

Total number of students who qualify: 29

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: 2

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

0	Autism	0	Orthopedic Impairment
0	Deafness	2	Other Health Impaired
0	Deaf-Blindness	0	Specific Learning Disability
0	Emotional Disturbance	0	Speech or Language Impairment
0	Hearing Impairment	0	Traumatic Brain Injury
0	Mental Retardation	0	Visual Impairment Including Blindness
0	Multiple Disabilities	0	Developmentally Delayed

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

	Full-Time	**Part-Time**
Administrator(s)	1	1
Classroom teachers	21	0
Resource teachers/specialists (e.g., reading specialist, media specialist, art/music, PE teachers, etc.)	4	0
Paraprofessionals	0	0
Support staff (e.g., school secretaries, custodians, cafeteria aides, etc.)	2	0
Total number	28	1

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: 14:1

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	97%	97%	97%	97%	97%
High school graduation rate	100%	100%	100%	100%	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:	69
Enrolled in a 4-year college or university	100%
Enrolled in a community college	0%
Enrolled in vocational training	0%
Found employment	0%
Military service	0%
Other	0%
Total	**100**%

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? 2004

PART III - SUMMARY

Our school's mission statement reads, "The Union County Magnet High School for Science, Mathematics, and Technology prepares selected students of Union County to become self-directed, responsible, and productive individuals within the challenging landscape of society. Our engineering based, college-preparatory/vocational-technical program emphasizes the utilization of and responsible application of technology through problem-solving, project based learning, and interdisciplinary education."

The Magnet High School for Science, Mathematics and Technology is part of the Union County Vocational-Technical School District. Union County, New Jersey has twenty one different municipalities which span urban to suburban areas, and vary culturally, economically, educationally and otherwise. Each of these municipalities is represented in our school community and as a result, our community models the county's diversity in every way. Nearly half of our student body is an ethnic minority, with many of these students speaking multiple languages. Forty-six percent are female and fifty-four percent are male.

The Magnet High School is quite a unique place. We have a competitive admissions process which looks at three main criteria; placement testing in mathematics and language arts, seventh and eighth grade academic performance, and standardized testing scores. Students who attend our school are challenged academically and all courses are designed and taught at the honors or enriched level. We have no tracking. Our school defined graduation requirements far exceed those defined by the state of New Jersey, especially in STEM related areas. As we are a vocational-technical school with an engineering focus, all students become Certified Drafters through the American Design Drafting Association by the end of their sophomore year. One-hundred percent of our students attend four year colleges and universities.

Our math, science, and technology, college preparatory program utilizes curriculum which focus on not only advanced content, but also problem solving, writing across content areas, project-based learning, interdisciplinary education, and the responsible use of technology. We strive to always make better what we do by creating a continuous process for revising our curriculum to meet the needs of changes in industry, in education, and in our student population. Our day is divided into four block-segmented instructional periods which alternate on an A/B day schedule. This method of scheduling allows faculty and student to develop more in-depth learning experiences which support achievement.

Our school nurtures high-end academics, but always works to instill strong personal values such as respect, tolerance, and social responsibility. Magnet's belief in the importance of community service is evidenced in the large variety of volunteer and service opportunities in which our students participate. These values are reinforced when academic and social education extends beyond the classroom through meaningful and diverse student activities. This combination of classroom and extracurricular experiences allows students to gain not only subject specific knowledge but also the desire to become lifelong learners.

Teachers are committed to each of their students, giving of their time and energy to make sure that everyone succeeds and reaches their potential. The majority of our faculty members have graduate and/or advanced degrees. Four hold doctorates in technical fields such as chemical engineering, mathematics and physics. Nearly half of our teaching staff has an industry background, which well suits the specialized career focus of our school. With an active Parent School Association (PSA) and a strong involvement in the lives of their children, parents are included in and play an important role in all that we do.

The Magnet High School community accomplishments are many and are reflected in accolades such as our top school rankings in New Jersey, a Governors School of Excellence Award, 100% passing rate with a marked number of students scoring in the advanced proficiency range on state testing, consistently high Advanced Placement and SAT scores, recognized charitable fundraising, Middle States accreditation and many other noteworthy honors. Since our school's inception, we have successfully expanded our Advanced Placement options, implemented more science and engineering related electives and have grown our programs to better meet the academic needs of our students. As such, we see our greatest accomplishments reflected in the successes of our students.

PART IV - INDICATORS OF ACADEMIC SUCCESS

1. Assessment Results:

A. The High School Proficiency Assessment (HSPA) is the standardized test administered by the New Jersey Department of Education to all New Jersey public high school students in March of their junior year. This test is used to determine student achievement in reading, writing, and mathematics as specified in the New Jersey Core Curriculum Content Standards and the Common Core State Standards. State law in New Jersey requires that all students must pass the HSPA for graduation from high school. The proficiency level results are broken down into the following categories: partially proficient, proficient, and advanced proficient. Proficient and advanced proficient are considered passing, whereas partially proficient means that students did not meet minimum standards to pass the test.

Since we are a New Jersey public school, the HSPA is the standardized test that is administered in our school to determine graduation. We expect all of our students to pass the HSPA, as an absolute minimum standard for graduation. Since our school has extremely high standards, we look at the advanced proficient percentages as an indicator of our success. Our goal is to attain high advanced proficient scores, as opposed to all students passing at the proficient level.

Since all of our students are college bound, we look more closely at national standardized test results to help identify our students' strengths and weaknesses. These tests include the ACT, SAT and Advanced Placement examinations. Additionally, all students in grades nine through eleven take the PSAT. We use the results of the New Jersey Biology Competency Test (NJBCT) as an indicator of our students' success at the advanced proficient level in our ninth grade Biology course.

B. Our data tables show consistency in the last five years in the number of juniors who are tested each year. All of our juniors, with a class size ranging from sixty six to seventy, are tested. No students were alternatively assessed in those years. We have also been consistent in our overall results where all juniors were deemed 100% Proficient plus Advanced Proficient for all five years in both Language Arts and Mathematics on the NJ HSPA.

We made steady increases overall in our Advanced Proficient percentages in both Language Arts and Mathematics. In Language Arts in March 2008, we had only 32.8% Advanced Proficient and steadily increased to 61.8%, 75.8%, 74.3%, and finally to 86.8% Advanced Proficient in March 2012. This was an overall increase of 54% in our Language Arts Advanced Proficient percentage. In Mathematics in March 2008, we had 83.6% Advanced Proficient and steadily increased to 88.2%, 89.4%, 95.7%, and finally to 97.1% Advanced Proficient in March 2012. This was an overall increase of 13.5% in our Mathematics Advanced Proficient percentage.

Our school goals, in coordination with our Middle States goals defined in 2008, were created in part to increase our students' advanced proficient scores on the HSPA and overall SAT scores. Goals were specifically created by the faculty and administration to improve writing in all curriculum areas and to increase problem solving and critical thinking in the mathematics, science, and technology subject areas. Teacher teams met and worked together over a several year period to address these goals. The writing team subsequently created a school-wide rubric for writing across the curriculum and presented it to the faculty for school implementation. The problem solving team created a four-step approach to problem solving, in addition to a rubric, which was also presented to the faculty for implementation. Posters were made for each classroom for the writing rubric and problem-solving approach for teachers to use in making students aware of these processes. More detailed materials in both areas were given to teachers for use in their classroom teaching.

Additionally, our English instructors worked collaboratively at all four grade levels to determine specific writing and grammar skills that should be focused on at each level. This piece was added to the established curriculum for each grade level of Language Arts. They also specifically articulated the writing level expectations for each grade level's research paper. Magnet has established "Writing Help" sessions in the master schedule. These 35 minute daily, time periods are coordinated with our students' lunch period. Students voluntarily work with English teachers during that time on various writing assignments.

In mathematics, teachers analyzed our Mathematics Analysis course and rearranged the order of units in this curriculum to make sure that specifically, the units on Probability, Statistics, and Data Analysis were covered prior to the HSPA; our students' last exposure to these topics had been during their freshman year. "Math Help" sessions are offered in the same manner that "Writing Help" sessions are offered. Many students come to these sessions voluntarily for extra help. Volunteer, peer tutors from the National Honor Society, are available for in-school tutoring.

Every spring our freshmen and sophomore students are given a standardized test created by an outside company, which simulates the HSPA, in both Language Arts and Mathematics. We utilize the results of these tests, in addition to teacher recommendation, to assign students mandatory math and/or writing help. Specifically, those students deemed in need of extra test preparation, are assigned to "HSPA Prep" sessions, taught by our math and English teachers, for approximately six weeks prior to taking this state test.

2. Using Assessment Results:

The factors that contributed to significant gains over the last five years in our HSPA advanced proficient scores in mathematics and language arts was Magnet's specific focus on analyzing the assessment data each year to improve our curriculum in both of these subject areas. Writing and grammar were identified as growth areas in the HSPA and PSAT, as well as on teacher-driven assessments. Consequently, specific writing and grammar skills were added to the English curriculum at each grade level. The writing team subsequently created a school-wide rubric for writing across the curriculum for school implementation. In the area of mathematics, as related to the clusters on the HSPA, Data Analysis, Probability, and Discrete Mathematics were an area determined in need of improvement through analysis of the assessment data. Consequently, we rearranged our Math Analysis curriculum and also worked with our freshman science teachers to improve the curriculum and instruction of these topics in our half-year Scientific Data Analysis course.

Every spring our freshmen and sophomores are given a standardized test called the S-Test, which simulates the HSPA. We analyze this assessment data to help us identify areas for student growth. Utilizing the data, students may be assigned mandatory math and/or writing help. In their junior year, students are given a teacher-made pre-HSPA assessment in the fall in each subject area. This data is used to identify juniors who would benefit from additional test preparation and these students are assigned to preparation sessions for about six weeks prior to taking this state test.

We also analyze the results of our school-specific industry credential, the American Design Drafting Association's (ADDA) Certified Drafter exam, given each spring to our sophomores. Our sophomore technology curriculum has been adjusted, as the testing has changed for certification in recent years. Teacher instruction is regularly adjusted and refined to meet the needs of the students in their progress towards earning the CD credential.

Each year, our Advanced Placement teachers have access on-line to their students' results on the Advanced Placement examinations each year and are encouraged to use this data to analyze their instruction to improve student learning. We also analyze the results for the freshmen on the NJBCT (New Jersey Biology Competency Test.) Our Biology teacher looks at the overall cluster results to help improve instruction through curriculum modification in identified areas for the following school year.

Since the Magnet High School is a public vocational-technical high school of choice, the district sponsors five Fall information sessions where each of our district career academies makes a presentation and gives a tour of their school. These sessions are open to all prospective students from Union County and their families. Magnet assessment data, including state test results and college acceptances, is presented at these sessions.

We have a school profile pamphlet that is updated each school year and is submitted with college applications, given out at information sessions to prospective students, and posted to our school website. The profile provides the previous class' statistics, including the average QPA, SAT average in comparison to New Jersey and nation-wide, ACT score averages, Advanced Placement results, and SAT subject test averages.

At our monthly Parent School Association (PSA) meetings, assessment data results are regularly presented and discussed. This includes results from the HSPA and NJBCT, as well as for the Magnet industrial credential Certified Drafter exam, given each spring to our sophomores. Parents who cannot attend these meetings can access these minutes from the PSA website.

Overall results of the state tests and SAT average scores are presented annually at Board of Education meetings for each of the schools on campus and in comparison to other schools in the county. Students are recognized at Board of Education meetings for their high achievements and awards based on their performance on these tests and others, such as the ACT and Advanced Placement examinations.

We mail individual results to the parents of our students for all of our state tests, which include the New Jersey High School Proficiency Assessment (HSPA), the New Jersey Biology Competency Test (NJBCT), and the Algebra End-of-Course Test (EOC) when it was given. We administer the PSAT to all students in grades 9-11 each school year and mail those results home as well.

3. Sharing Lessons Learned:

Our students, teachers, and administrators leverage our close proximity to our other district schools to share successful strategies. Informal conversations during lunch periods and duty periods often contribute to the sharing ideas as much as the planning time teachers have during the day. Our district administrators meet faithfully each week to share ideas and collaborate on school and district related decisions.

There are also numerous formal opportunities for our faculty to share successes. Many professional development days/times are planned for the specific purpose of sharing ideas within the context of developing curriculum. This school year, four of our twenty faculty meetings have been devoted to district discipline related sharing opportunities. In an effort to analyze our curriculum and ensure the integration of the Common Core State Standards, district teacher groups worked together closely to identify lesson plans and activities which address each of the required standards. Valuable conversation happens amongst our schools in sharing successes and the integrating of those successes in other programs.

"Mini-professional" development opportunities in our district are teacher generated and presented. After school, teachers present to their colleagues successes they feel could be useful for others. Recent examples of Magnet teacher presentations include, using Schoolwires for teacher websites, Edmodo for instruction, and use of "clickers" in student engagement.

Our faculty, professional staff, and administrators are active members of a number of state and national professional associations such as NACAC, NCTM, and the NCSSSMST. Magnet participates in the New Jersey Council of County Vocational Schools meetings for superintendents and principals. At these semi-annual meetings, we shared our successes regarding block scheduling, teacher evaluation, and curriculum

development. Also, Magnet is currently participating in a new accreditation cycle through the Middle States Association. Specifically, we are piloting a new project based protocol with other schools in New Jersey. A regular part of our participation includes meetings with the other schools who will complete a trial of the new protocol. These meetings are also designed to be an opportunity for our schools to share our experiences in an effort to create growth and success in our schools.

4. Engaging Families and Communities:

The Magnet High School has a Parent School Association (PSA) that is extremely active and an invaluable support for our programs. This organization provides volunteers for various school events such as Relay for Life, dances, and field trips. The PSA organizes events that consistently reinforce the importance of communication and reflection in the growth process. For example, our PSA hosts a "Town Hall Meeting" where the superintendent and the principal answer parent questions and discuss important changes in our school and curriculum. At Back to School Night, the PSA welcomes families, answers questions, sells spirit-wear, and provides refreshments. PSA funds provide for student enrichment experiences such as school assemblies and extracurricular programs. In addition, funds have been utilized to enhance school equipment, for instance a 3-D printer for use in design classes and several student response clicker systems.

A critical component of student success at Magnet is effective, team focused communication with families. Our faculty, professional staff, and administrators proactively engage students and families in a dialogue regarding student performance. Additionally, standardized procedures allow tracking of student's strengths and growth opportunities across disciplines.

As part of our focus on vocational education, the Magnet High School has an industry advisory board that assists our school in making programmatic decisions. Over the past five years, our advisory board has grown into an essential component of our decision making process. Members of our advisory board include local industry professionals with careers in chemical engineering, civil engineering, and architecture as well as a representative from a local college, a parent, a student, our engineering/technology teachers, a curriculum coordinator and an administrator. Our advisory board meetings have helped to shape the direction of our vocational curriculum and school programs. For example, recommendations from board members have resulted in the addition of many new engineering electives. This diverse and active group has also made suggestions which have been successfully implemented regarding our facilities, design equipment, curriculum, career days, and certification credentials.

Our internship program is an example of how Magnet works within the community for both student success and school improvement. This ten credit senior experience provides valuable learning opportunities for students by bridging the educational and corporate worlds beyond our campus. We utilize our industry partnerships to create opportunities for our interns to gain on the job experience, as well as apply the knowledge they have obtained in their four years at Magnet.

PART V - CURRICULUM AND INSTRUCTION

1. Curriculum:

New Jersey schools are responsible for both the integration of the New Jersey Core Curriculum Content Standards as well as the newly adopted Common Core State Standards. Magnet teachers have at least one curriculum writing period worked into their daily schedules so that is a regular focus. We continuously review the content we offer and how it matches the goals of our school and state standards. Standards are documented in each of our curricula and all standards are addressed by the time a student graduates.

Curriculum documents are structured in units, each of which include; objectives, learning activities, assessments, resources, and pacing. At Magnet, curriculum drives our coursework. Multi-media resources such as textbooks, the internet and scholarly journals are used to reinforce curriculum content. All of our curricula is designed to exceed state defined standards, providing the rigor that drives student success.

Magnet's graduation requirements also exceed the state graduation requirements. In addition to four years of English, four years of health, safety & physical Education, three years of social studies, one year of financial literacy, and one year of visual and performing arts, Magnet students are also required to complete four years of mathematics, four years of science, three years of a world language, and four years of advanced technology as related to design and engineering. Our financial literacy course is an example of how Magnet meets graduation requirements in innovative ways. It is taught in the sophomore year through an online course taught by on-site faculty and utilizes *Money U* and *Edmodo* as instructional venues and the foundation for online discussion. In all of our courses our curriculum offers rigor and challenge to students.

Strong interdisciplinary connections are made through-out Magnet's curriculum. Non Language Arts curricula integrate writing standards and their rubrics. Elements of instruction regarding critical thinking, problem solving, presentation, communication and technology skills can be found consistently in all of our coursework. Furthermore, these skills are scaffolded between grade levels so as to prepare students for both what will be expected in college and also in the career world beyond.

At Magnet we are particularly proud of our sequence of technology courses which support our vocational-technical, engineering based focus. As part of this curricula, students become proficient in *AutoCAD, 3-D Studio Max*, programming, and architectural principles. All students become Certified Drafters through the American Design Drafting Association (ADDA) by the end of their sophomore year. Students can choose from a variety of engineering electives such as Chemical Engineering, Robotics, and Engineering Technology. Further courses have been designed with our engineering focus in mind. For example, students have access to Advanced Placement math and science classes that have been adapted to not only meet the requirements defined by the College Board, but to also cover information in alignment with college-level engineering based curriculum. Course such as AP Physics and AP Calculus have been expanded to prepare students for advanced college studies in STEM related fields.

As a result of the advanced rigor and curriculum offerings, many Magnet graduates are able to advance beyond introductory college course work. Students' high performance on Advanced Placement exams and on college generated placement exams allows many of our graduates to begin college with advanced standing.

2. Reading/English:

Magnet High School has quite a unique English program. Each grade level focuses on a specific time period that coincides with the lessons taught in our history classes. This connection gives our students a

strong background in not only interpreting literature, but in how historical events play a role in the literature we read. This relationship also helps us plan thought-provoking lessons that explore the historical content and critical analysis of literary works. These works include classic novels, contemporary prose, poetry, drama, fiction and non-fiction. The goal of our English program is to not only expose students to a wide variety of literature, but to help students develop critical thinking and processing skills through a variety of pedagogical strategies for students of all learning styles. Along with developing these skills, it is our goal to help students make strong connections between what they read and the literature's place in the real world.

In addition, the four levels of English are designed to provide a broad knowledge base of literary terms that can be used to comprehend and interpret both works of fiction and non-fiction. Through the continuous use of multiple intelligence activities and experiences, students develop an appreciation and enjoyment of great works and become better readers and writers.

All Magnet students read at or above grade level. As a result, our English faculty continually challenges them with activities that emphasize a cross-curricular approach to help our students advance. Students work in cooperative groups on many activities throughout the year. English teachers work with history teachers on creating a "Speak Easy" or a Renaissance Fair. Specifically, the "Speak Easy" allows students to research and play the part of an important individual from the early 1900's. Students come together for a full day of presentation where a student audience is invited to enter the world of that time period, witnessing firsthand, the success of the learning that happens.

While we are proud of our students' accomplishments, we recognize that all students can benefit from help in refining their reading and writing skills. As such, our English team has one member on duty every day during co-curricular period to help any student develop his/her reading, writing and grammar skills in a one on one or small group setting.

3. Mathematics:

All Magnet students take a minimum of four mathematics courses, all of which are taught at the honors level. Our coursework has been adapted to meet the needs of the advanced caliber of our students. As such, our mathematics course sequence extends to include AP Calculus II/BC and Multivariable Calculus, as well as other advanced electives. In an effort to allow all students to advance to their potential, we have eliminated the traditional Algebra II/Trigonometry course and re-distributed these topics/skills into Magnet courses titled Combined Algebra, Geometry/Trigonometry, and Mathematical Analysis. This ensures that all of our students will take, at a minimum AP Calculus I/AB, by the time they graduate. However, it is important to note that nearly half of our students place into course work beyond this introductory structure.

Throughout the curriculum there is an emphasis on developing students' problem solving and reasoning skills by giving the students concrete examples through the use of manipulative materials, graphing calculators, and computers, in appropriate situations. The use of real life problems in collaborative learning environments provides an important link between mathematics and everyday situations. Integration of mathematical topics with other subjects is emphasized, allowing students to relate information and increase retention.

This instructional method is clearly demonstrated in our scientific data analysis course. This half-year, required freshman course gives students a strong foundation in statistics and probability and a context for application. Students learn to use mathematical skills in analyzing and reporting data for research purposes.

Magnet prepares students for careers in the twenty-first century, as well as for the rigors of competitive four-year college programs. Part of this preparation is evidenced in the structure of our calculus

curriculum. Both our Calculus I and Calculus II courses are modeled after college level curricula. Rather than follow only the College Board curriculum for Advanced Placement, these courses cover more topics, to a much greater depth, and are separated into two distinct, full year classes.

While we are proud of our students' accomplishments, we recognize that all students can benefit from help in refining their mathematics skills. As such, our mathematics team has one member on duty every day during co-curricular period to help any student develop his/her mathematics skills in a one on one or small group setting.

4. Additional Curriculum Area:

Having gained experience through the years, we have not only refined our engineering program, but have also attracted a student body whose primary interest is in that engineering focus. While the technology coursework has existed from our start, we have revised these curricula to adapt to the changes we see in industry and in our community. With the addition of new STEM electives, we are able to better prepare our students for the demands of engineering related careers.

By modifying our master schedule and better utilizing the specialized backgrounds of our faculty, we are able to offer more engineering focused electives. This work includes, adding chemical engineering courses which utilize an adapted version of *CAD* to simulate chemical interactions and plant production of related products. Our traditional Anatomy and Physiology course was adapted to include design and biological engineering principles and reinstituted as Human Body Design. Course work in Robotics was developed to support our FIRST Robotics Team. An Art and Architecture class was designed to meet the needs of students who desired technical drawing skills in creating portfolios for admission to architecture schools. A Biochemistry class was created in an effort to expose students to connections amongst advanced science courses. Other elective additions include Character Animation, Engineering Technology, and access to related district electives.

In addition to extensive STEM coursework and elective opportunities, senior magnet students can participate in our internship program. This ten credit senior experience provides valuable learning opportunities for students by bridging the educational and corporate worlds beyond our campus. We utilize our industry partnerships to create opportunities for our interns to gain on the job experience, as well as apply the knowledge they have obtained in their four years at Magnet.

All of our curriculum, in particular those centered on STEM, are developed with students' acquisition of essential skills in mind. For example, problem solving and transferable skills are integrated into all components of a Magnet students' education. Through the creation of a four-step problem solving model, faculty across disciplines provide students with consistency.

5. Instructional Methods:

Instruction is modified at Magnet both in the classroom and through the structure of our programs to differentiate in such as a way to ensure every student meets his/her potential. As we teach in a block schedule, teachers plan a variety of activities which address different learning styles in this eighty-three minute chunk of time. As freshman, Magnet students are administered the Gregorc Style Delineator. This gives them an idea of how they learn best. This information is passed along to the teachers who then utilize it to create individualized lesson plans.

In the classroom, teachers are very adept at planning activities for our high performing student body that allow for students to progress at their individual pace. Differentiation is supported by the implementation of activities which are rich in critical thinking and personal connection opportunities.

The use of technology assists us greatly in providing opportunities for students to work with "state of the art" equipment. We have five computer labs in our building, as well as a set of laptops, to which teachers and student have regular access. Our technology teachers, specifically, create tutorials and working environments, which students access from our website and network drive space. Students are able to work at their own pace with these tutorials as learning experiences. This allows for teachers to provide one-on-one assistance. Other resources, such as our *Student Response Systems,* allow students to be engaged individually in more traditional learning settings. Magnet teachers also utilize the *Edmodo* interface to engage students in interactive learning via an online-social platform.

Magnet students are high achieving and have diverse educational backgrounds. We support exceptional students who are seeking advancement within our programs by allowing them to pursue opportunities to advance through our mathematics and world language courses at a more rapid pace.

6. Professional Development:

The Magnet professional development program empowers our teachers to help create a growth plan which supports our high student achievement. School improvement is generated from a professional development team. Surveys, given to teachers and students, gather information which identifies growth areas. A development plan is created based upon this information and is reevaluated every year.

The goals defined in our professional development plan overlapped and aligned with several of our Middle States academic goals. As such, efforts for both were coordinated and our school was able to proceed with a clearer focus. Examples of focus areas include cross curricular writing, problem-solving and critical-thinking.

Each faculty member was assigned to a group related to a specific professional development goal and were then given time during faculty meetings to work with their team in creating a plan to guide achievement of those goals. Teachers collected and utilized student problem solving and writing samples to guide the creation of strategies to support student growth. Team progress presentations were made regularly to our entire faculty.

The writing team subsequently created a school-wide rubric for writing across the curriculum and presented it to the faculty for school implementation. The problem solving team created a four-step model for problem solving, in addition to a rubric, which was also presented to the faculty for implementation. Posters were made for each classroom to display the writing rubric and problem solving model for consistency and utilization. Over the past five years we have made significant strides in increasing our standardized testing scores.

Additionally, there are many district professional development opportunities offered to teachers. *My Learning Plan* (MLP) software was implemented to assist teachers in keeping track of their hours, while also involving administrators as a support to teacher growth. Our professional development program through MLP is aligned with the NJ State Standards and our district goals. There are opportunities for collaboration amongst district content disciplines, as well as half and full day in-service workshops offered to our staff, based on their needs.

7. School Leadership:

The leadership philosophy at Magnet is team oriented and driven by high expectations with an open-door approach and support in accomplishing the goals that are set-forth by its stakeholders. With only one principal and one teaching supervisor as the administrative unit, there are few layers to the system, allowing easy access to the individuals who guide decision making. Parents, students, teachers, support staff, and other community members are able to discuss action items, ideas, issues or concerns with these individuals directly.

While the administrators' role at Magnet is to guide, there are many leaders in our small community. We house a curriculum coordinator whose role is to assist teacher with the development of the documents which drive instruction and therefore learning. A student activities advisor role was created to maintain the school calendar and help coordinate all activities that happen both during and outside of the school day. Club advisors assist students lead organizations such as, Student Council, Class Council, National Honor Society, Math League, and Robotics. These organizations then elect student officers, who in turn, lead decisions within the context of their focus. It is the policy of Magnet to allow teachers to be instructional leaders who have the flexibility and autonomy to not only make instructional decisions, but to also guide their curriculum development.

Decision making happens through the involvement of its stakeholders. Magnet has a leadership council which is comprised of a guidance counselor, the student council advisor, the curriculum coordinator, the activities coordinator, the teaching supervisor and the principal. Often times a student liaison is included in relevant conversations. The purpose of this council is to look at school wide programs and events and make decisions which are then communicated to the school community at large through faculty meetings, classroom instruction, student meetings, parent organization meetings, etc. Other committees, both temporary and long term, exist to guide decisions regarding academics, school safety, professional development, academic honesty and other school-based matters.

Overall, decision making is met with a problem solving approach that doesn't just look for a solution, but includes feedback and perspective that results in a solution that puts student achievement first. Out-of-the-box avenues are explored and often met with success.

PART VII - ASSESSMENT RESULTS

STATE CRITERION-REFERENCED TESTS

Subject: Mathematics Grade: 11 Test: High School Proficiency Assessment

Edition/Publication Year: 2012 Publisher: Measurement Incorporated

	2011-2012	2010-2011	2009-2010	2008-2009	2007-2008
Testing Month	Mar	Mar	Mar	Mar	Mar
SCHOOL SCORES					
Proficient and Advanced Proficient	100	100	100	100	100
Advanced Proficient	97	96	89	88	83
Number of students tested	68	70	66	68	67
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
SUBGROUP SCORES					
1. Free/Reduced-Price Meals/Socio-economic Disadvantaged Students					
Proficient and Advanced Proficient	Masked	Masked	Masked	Masked	Masked
Advanced Proficient	Masked	Masked	Masked	Masked	Masked
Number of students tested	7	6	6	4	8
2. African American Students					
Proficient and Advanced Proficient	Masked	Masked	Masked	Masked	Masked
Advanced Proficient	Masked	Masked	Masked	Masked	Masked
Number of students tested	8	5	5	6	8
3. Hispanic or Latino Students					
Proficient and Advanced Proficient	Masked	Masked	Masked	Masked	Masked
Advanced Proficient	Masked	Masked	Masked	Masked	Masked
Number of students tested	7	7	5	7	8
4. Special Education Students					
Proficient and Advanced Proficient		Masked		Masked	
Advanced Proficient		Masked		Masked	
Number of students tested		1		2	
5. English Language Learner Students					
Proficient and Advanced Proficient					
Advanced Proficient					
Number of students tested					
6. Asian					
Proficient and Advanced Proficient	100	100	100	100	100
Advanced Proficient	100	93	93	85	88
Number of students tested	20	14	15	13	16

NOTES:
Masked indicates data were not made public because fewer than 10 students were tested.

13NJ9

STATE CRITERION-REFERENCED TESTS

Subject: Reading Grade: 11 Test: High School Proficiency Assessment (HSPA)

Edition/Publication Year: 2012 Publisher: Measurement Incorporated

	2011-2012	2010-2011	2009-2010	2008-2009	2007-2008
Testing Month	Mar	Mar	Mar	Mar	Mar
SCHOOL SCORES					
Proficient and Advanced Proficient	100	100	100	100	100
Advanced Proficient	87	74	76	62	33
Number of students tested	68	70	66	68	67
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
SUBGROUP SCORES					
1. Free/Reduced-Price Meals/Socio-economic Disadvantaged Students					
Proficient and Advanced Proficient	Masked	Masked	Masked	Masked	Masked
Advanced Proficient	Masked	Masked	Masked	Masked	Masked
Number of students tested	7	6	6	4	8
2. African American Students					
Proficient and Advanced Proficient	Masked	Masked	Masked	Masked	Masked
Advanced Proficient	Masked	Masked	Masked	Masked	Masked
Number of students tested	8	5	5	8	6
3. Hispanic or Latino Students					
Proficient and Advanced Proficient	Masked	Masked	Masked	Masked	Masked
Advanced Proficient	Masked	Masked	Masked	Masked	Masked
Number of students tested	7	7	5	8	7
4. Special Education Students					
Proficient and Advanced Proficient		Masked			Masked
Advanced Proficient		Masked			Masked
Number of students tested		1			2
5. English Language Learner Students					
Proficient and Advanced Proficient					
Advanced Proficient					
Number of students tested					
6. Asian					
Proficient and Advanced Proficient	100	100	100	100	100
Advanced Proficient	80	79	87	81	46
Number of students tested	20	14	15	16	13

NOTES:
Masked indicates data were not made public because fewer than 10 students were tested.

13NJ9

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