

**U.S. Department of Education**  
**2013 National Blue Ribbon Schools Program**  
*A Public School - 13NJ8*

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

Name of Principal: Mrs. Gloria Griffith

Official School Name: Academy for Information Technology

School Mailing Address: 1776 Raritan Road  
Scotch Plains, NJ 07076-2928

County: Union State School Code Number\*: 39-5260-030

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

Fax: (908) 889-6831 Web site/URL: www.ucvts.tec.nj.us

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: Ms. 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**

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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   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:   3
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	27	69
10	40	24	64
11	34	30	64
12	40	20	60
<b>Total in Applying School:</b>			<b>257</b>

6. Racial/ethnic composition of the school: 0 % American Indian or Alaska Native  
16 % Asian  
9 % Black or African American  
12 % Hispanic or Latino  
1 % Native Hawaiian or Other Pacific Islander  
59 % White  
3 % 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 <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.	3
(3)	Total of all transferred students [sum of rows (1) and (2)].	3
(4)	Total number of students in the school as of October 1, 2011	252
(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: 9%  
 Total number of students who qualify: 23

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: 6%  
 Total number of students served: 14

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>3</u> Autism	<u>0</u> Orthopedic Impairment
<u>0</u> Deafness	<u>8</u> Other Health Impaired
<u>0</u> Deaf-Blindness	<u>1</u> Specific Learning Disability
<u>1</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>1</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>15</u>	<u>0</u>
Resource teachers/specialists (e.g., reading specialist, media specialist, art/music, PE teachers, etc.)	<u>3</u>	<u>0</u>
Paraprofessionals	<u>0</u>	<u>0</u>
Support staff (e.g., school secretaries, custodians, cafeteria aides, etc.)	<u>2</u>	<u>0</u>
Total number	<u>22</u>	<u>0</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:

17:1

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

	<b>2011-2012</b>	<b>2010-2011</b>	<b>2009-2010</b>	<b>2008-2009</b>	<b>2007-2008</b>
Daily student attendance	97%	96%	96%	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:	<u>60</u>
Enrolled in a 4-year college or university	<u>80%</u>
Enrolled in a community college	<u>15%</u>
Enrolled in vocational training	<u>0%</u>
Found employment	<u>0%</u>
Military service	<u>2%</u>
Other	<u>3%</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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### **MISSION STATEMENT**

The Academy for Information Technology (AIT) is a small, four-year career academy that fosters critical thinking skills in its culturally diverse student population. By stressing intellectual curiosity, hard work, ethical behavior, and technological expertise with business integration, the school community guides its students to achieve their greatest potential. The AIT graduate is prepared academically, technologically, and interpersonally for the challenges of the future.

AIT is dedicated to advancing the learning and well-being of all students. The school opened in September 2002 with an initial class of 51 students, who comprised the first graduating class of 2006. AIT is committed to ensuring high standards and challenging opportunities to students through the integration of academic and technical education. We also strive to develop self-awareness, confidence, character, sensitivity to the environment and leadership skills. Academic and technical disciplines are fully integrated; students are consistently called upon to challenge their levels of learning through assignments and projects requiring application of knowledge across all disciplines. In its tenth year (2011-2012), the school enrolls 252 students representing the various municipalities in Union County.

According to the Union County Economic Development Corporation profile, Union County has an estimated population of 536,499. It is among the most densely populated counties in the state of New Jersey with a population density of 5,216 persons per square mile. Union County's population is racially, ethnically and culturally diverse. According to the 2010 Census about 57.5% of Union County's residents were Hispanic/Latino, African-American, Asian or multi-racial. According to the 2006-2010 American Community Survey, 28.8% of Union County residents were born outside of the United States.

Eighth grade applicants from the twenty-one municipalities of Union County are selected from this very diverse population to attend our school. The school population reflects the diversity of Union County. Students are admitted to the school through a competitive process. All courses are designed and taught at the honors or enriched levels; there is no tracking. The AIT day is divided into four block-time instructional periods in an alternating A/B day schedule. AIT graduation requirements exceed those mandated by the New Jersey Department of Education. Courses designed to prepare students for the Advanced Placement examination have been approved by the College Board and are authorized for designation as "AP." We currently offer AP courses in Calculus A/B, Calculus B/C, Statistics, Biology, Chemistry, Economics (Macro/Micro), Physics C (Mechanics), English (Literature and Composition), Spanish and US History. AIT also has an agreement with the New Jersey Institute of Technology (NJIT) that will allow students to receive college credit for designated course work, if they choose to attend NJIT after high school.

Information technology courses focus on productivity software, computer hardware, operating systems, database design and development, and computer programming. All AIT students are expected to earn industry-recognized certifications, in Microsoft Office Word, Power Point and Excel and Comp TIA, A+. Students also have the opportunity to earn certifications in Oracle 11g SQL, and Java Programming. Our school has also entered into partnership with the Oracle Corporation. Based on the unprecedented superior performance of the school, AIT was named an Oracle Academy of Distinction. AIT also provides a series of Business courses designed to expose students to the basic functional units of a business in order for them to better understand how technology can be used in a business environment.

HSPA testing has been administered to members of the AIT classes from 2006 through the class of 2012. One hundred percent (100%) of students in the seven classes have been rated proficient or advanced proficient in Mathematics and Language Arts Literacy—thus ranking our school as one of the highest

performing high schools in New Jersey. U.S. News & World Report awarded AIT a 2008 & 2009 America's Best High Schools Silver Medal and a 2012 Gold Medal award. AIT was also named one of the nation's "Best High Schools for Math and Science" by US News & World Report and a 2012 "America's Best High Schools" award from Newsweek.

The Class of 2012 SAT average scores were 597 in critical reading, 625 in mathematics, and 580 in writing. These scores compare favorably with National and New Jersey averages. Ninety-seven percent of AIT graduates of the class of 2012 are continuing their education beyond high school at colleges, universities, the military or post-secondary technical institutions.

The Academy for Information Technology is accredited by the independent Middle States Association of Colleges and Schools. To become accredited AIT went through a rigorous process that involved a year of examining every aspect of the school and then hosting a three-and-a-half day onsite visit by a team of objective educators from around the Mid-Atlantic region. AIT's accreditation spans seven years. A Mid-Term Review was concluded in June 2012. Because of the dedication of its faculty and staff, the commitment of students and the support of parents, AIT continues to make progress toward its goals of improving students' responsible and ethical behavior, increasing students' critical thinking and problem solving skills, and expanding communication between AIT and its students, parents, and staff.

## **PART IV - INDICATORS OF ACADEMIC SUCCESS**

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### **1. Assessment Results:**

A. The New Jersey High School Proficiency Assessment (HSPA) is administered each March to all 11th grade students. This assessment measures student knowledge and skills specified in the New Jersey Core Curriculum Content Standards for mathematics and language arts. These standards describe what a student needs to know in order to perform as a productive citizen, and to succeed on the job, in college, or in the military. The HSPA Mathematics Section measures a student's ability to solve problems by applying mathematical concepts. The areas tested are: number and numerical operations; geometry and measurement; patterns and algebra; and data analysis, probability, statistics, and discrete mathematics. The Language Arts Literacy Section of the test includes reading and writing activities that measure student achievements in interpreting, analyzing, and critiquing text. In addition, students write an extended response using an expository prompt and one using a persuasive prompt.

Performance levels in both sections are advanced proficient, proficient, and partially proficient. The Academy for Information Technology expects all students to achieve the proficient level or advanced proficient in mathematics and language arts literacy. For the 2011-2012 school year our goal was for 74% of students to earn an advanced proficiency performance level in Mathematics and 45% to earn the advanced proficiency level in Language Arts. This goal was surpassed with 90% of juniors earning advanced proficient in mathematics and 58.3% achieving advanced proficient in Language Arts Literacy. However, with our strong mathematics and language arts programs the ultimate goal is for 100% of our students to perform at the advanced proficient level in both mathematics and language arts literacy.

B. Over the past five years one hundred percent (100%) of the 11<sup>th</sup> grade students at the Academy for Information Technology have earned a performance level of proficient or higher in mathematics. In 2007-2008, 2008-2009, and 2009-2010 school years the percentage of students earning a performance level of advanced proficient in mathematics ranged from 61.5% to 65.5%. In 2010-2011 the percentage of students earning the advanced proficient level rose to 80.3% and in 2011-2012, 90% of our juniors performed at the advanced proficient level. This significant gain in student performance at the advanced proficient level is attributable to several factors: inclusion of more tasks in our mathematics courses correlated to the higher levels of Bloom's taxonomy, incorporation of more algebra into our Geometry-Trigonometry sophomore level course, an increase in the number of times during the week math help is offered during the co-curricular period, promotion of the National Honor Society peer tutoring program to assist students in meeting the challenges of an advanced math course, and the offering of HSPA Enrichment classes in the summer, during the co-curricular period and after school.

In 2007-2008, 98.2% of the 11<sup>th</sup> grade students at the Academy for Information Technology earned a performance level of proficient or advanced proficient in Language Arts Literacy. For the past four years, 100% of our 11<sup>th</sup> grade students have earned a performance level of proficient or higher in Language Arts Literacy. The number earning advanced proficient has steadily risen from 18.2% in 2007-2008 to 58.3% in 2011-2012. This significant gain in student performance at the advanced proficiency level is attributable to a greater emphasis in writing across the curriculum and the participation of our English teachers in a vertical articulation. These steps have resulted in the creation of a continuum to focus on literal thinking skills, plot terminology and application to readings in 9<sup>th</sup> grade, inferential thinking, elements of plot in reading and writing in 10<sup>th</sup> grade, and in 11<sup>th</sup> grade a concentration on critical/creative thinking skills, the analysis of writer's techniques and the introduction of concepts of style. In addition, the English teachers instituted writing benchmarks for each year starting in 9<sup>th</sup> grade with concentration on the development of the basic 5 paragraph essay format with students earning a minimum passing score of "4" (to advance to "5" or "6," ultimately) as determined by New Jersey Registered Holistic Scoring Rubric (NJRHSR), persuasive and speculative writing earning minimum score of "5" in 10<sup>th</sup> grade and the honing of all previous writing skills with essays being written in the present tense and 3<sup>rd</sup> person singular

in 11<sup>th</sup> grade earning a minimum score of “6.” Timed writings ranging from 10 minutes in 9<sup>th</sup> grade to 25 minutes in 11<sup>th</sup> grade were also instituted.

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

The Academy for Information Technology uses standardized testing to gauge student mastery of New Jersey Core Curriculum Content Standards in mathematics and language arts. Each March, 9<sup>th</sup> and 10<sup>th</sup> grade students participate in pre-High School Proficiency Assessment testing using either the S-test or more recently the NJ Pass test in the areas of mathematics and language arts. At the same time students in 11<sup>th</sup> grade take the New Jersey High School Proficiency Assessment in mathematics and language arts literacy. In addition, the Preliminary Scholastic Aptitude Test (PSAT) is administered to freshmen, sophomore and junior students in October. In December of junior year a teacher designed HSPA pre-test is administered.

Results of each standardized assessment and pre-test are reviewed by mathematics and English staff along with the teaching supervisor for trends in school and individual performance. Data for each grade level is compiled and analyzed to identify students who could benefit from attendance at co-curricular help sessions for math and/or language arts, peer tutoring, summer enrichment sessions, enrichment sessions during the school year, and SAT prep classes. These assessment reviews are used to determine student strengths and weaknesses, guide and differentiate instruction, and modify activities designed to foster learning, understanding and application of concepts, critical thinking and problem solving skills. Appropriate scaffolding is put in place to aid students in mastering curricular objectives. In addition, grade level reviews of scores in each cluster/standard are conducted to determine which specific topics need reinforcement or re-teaching. Mathematics teachers address topics identified as needing strengthening on standardized tests in two ways: incorporation into “Do Now” activities and redesign of activities used to present topics. English teachers viewing of the High School Proficiency Assessment CD containing a “pdf” of each student’s expository and persuasive essays along with the scores earned for these essays leads to an analysis of the writing component of courses and aids in determining appropriate adjustments to the writing process. In class writing workshops have been instituted in English classes. During these workshops students engage in peer review and individual conferences with teacher.

Our intervention strategies are working. For the past five years not only have 100% of our juniors earned a performance level of proficient or advanced proficient in mathematics, the number of students achieving the level of advanced proficient has greatly increased. There has been a similar growth in the number of students earning a performance level of advance proficient in Language Arts Literacy.

Academic achievement is conveyed to parents and students through a variety of means. Prior to 2010, report cards and interim reports were mailed home. More recently course grades are accessible through the, Power School Parent Portal (web based data system). Not only can marking period grade and teacher comments be viewed, grades earned on specific assignment are readily accessible. For each standardized test an Individualized Student Report (ISR) of student progress on the assessment accompanied by explanatory information is mailed home to parents/guardians. The principal conveys the test results through a congratulatory message over the school’s public address system on the same day the New Jersey Department of Education has released the scores. The Academy for Information Technology’s HSPA scores are announced to the community at the May Board of Education meeting and at the June meeting of the Parent School Organization. In the fall, the combined percentages of students earning proficient or advanced proficient on HSPA in mathematics and language arts literacy are announced at 8th grade information sessions for prospective students and parents and results are published in the New Jersey School Report Card.

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

Our school district (UCVTS) allows for teachers to share teaching strategies with others around campus. Each year teachers decide which strategies/activities they would like to share with others and based on

their responses a series of “mini- professional development” activities are organized. For example an AIT instructor presented a mini PD on Winplot and GeoGebra to other teachers throughout all of our high schools. A social studies teacher offered a mini-professional development lesson on project-based learning and another on using technology in the curriculum. Faculty also have an opportunity to collaborate with other faculty members during monthly faculty meetings, inter-disciplinary meetings or district interdisciplinary meetings.

For the past two years, AIT has participated in the CTEP/SREB (Career and Technical Education Partnership Grant Program/Southeastern Region Education Board) Global Logistics/Supply Chain curriculum development. The goal of this project is to create four years of project-based units related to the growing field of supply chain and logistics management for high school students. The vision of the program is to prepare students for careers in supply chain/logistics whether they plan to go to college after high school or decide to start their work life upon graduation. The program is being created through collaboration among high school teachers, post-secondary instructors, and industry experts. AIT’s contribution is to ensure that the common core math standards are being incorporated at every appropriate opportunity. The nature of supply chain/logistics lends itself easily to address many of the statistics standards required by the new Common Core math standards. The final curriculum will be offered at no charge to adopting high schools for implementation promoting college and career readiness. The ninth grade program will be piloted by at least two high schools in the 2013-2014 school year. As a collateral benefit to AIT, industry contacts were made that allowed our sophomore Introduction to Business students to take a field trip to a warehouse in the spring of 2012 to experience supply chain and logistics in action. AIT is also pursuing possible internships with contacts made at these workshops.

In our district, math teachers from all schools are collaborating on the implementation of the new Common Core standards. Our math program is unique and has always gone above and beyond established standards as evidenced by our students achieving 100% proficient on the NJ High School Proficiency Assessment each year they have taken it. Teachers work together to ensure that standards are met, then exceeded, while ensuring that each student masters the knowledge and skills for each course.

District math teachers have created a database of worked out examples of algebra topics for Geometry/Trigonometry teachers to tap into as starter activities that will help students maintain their algebra skills while taking Geometry/Trigonometry. Teachers in the social studies share practices across courses. Freshmen in World History to seniors in Advanced Placement classes benefit from Document-Based Question assessments that are a result of shared practices among teachers.

Teachers at the Academy for Information Technology have ample professional development opportunities in house, in the district, through professional organizations and in local colleges and universities. Teachers are encouraged to share teaching strategies, pedagogical approaches, and classroom techniques.

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

The strategy found to be most successful in working with family and community members for students success and school improvement is communication. Each month the principal attends the Parent Student Organization (PSO) meetings to inform parents of what is going on in the school. This is also an opportunity for parents to ask questions, discuss policies and address concerns. It is continually reinforced that we work as a team to ensure the success of students and the school program. Parent/Guardian e-mail addresses have been collected from all students. Each year this information is updated. E-mails are generated from an "AIT News" address. These messages keep families advised of activities that are occurring at school. For example, the implementation of a new school requirements, a college fair or a financial aid night, changes to school days, etc. Access to these addresses also allows the PSO to contact parents regarding their monthly meetings, projects and fundraising activities.

The school currently uses a database system (Power School) which allows parents to access student’s assignments and grades. Teachers update progress at least every ten days. This access has allowed more

parent/teacher communication. Parents can e-mail teachers directly from the site. Parents are able to work in sync with the teacher to address the needs of the student. Teachers are always in close contact with parents. Parents are informed of any grade that falls below 70%. This method has allowed us to put supports in place in ample time to increase the possibility for success. AIT also maintains a website. A bulletin of school activities and events are posted weekly. Important information, accolades, staff/ faculty contact information, school to home documents, forms, etc. can all be found on our website.

Each year the district holds a series of Information Sessions for the community. The sessions are primarily for 8<sup>th</sup> grade students and their families who are interested in attending one of our schools. During these sessions, prospective applicants are able to hear about and receive information on each of our specialized high school programs. Our course of study is reviewed and those interested may also take a tour of our facilities. Current students provide the tours and share their experiences with prospective applicants.

Through June 2010, the Academy for Information Technology, in conjunction with Union County College in Cranford, NJ provided its students with the opportunity to earn college credit in Information Technology during the course of the regular school day.

In 2010, an articulation agreement with the New Jersey Institute of Technology (NJIT) was signed. Students who meet the conditions of the agreement and choose to attend NJIT have the opportunity to earn college credit and continue their education at NJIT after graduation. All students accepted to AIT will be eligible for joint admission under this agreement.

The Academy for Information Technology has enjoyed its business partnership with Novo Nordisk, a global healthcare company. The corporation has provided opportunities for our students to visit their facilities and shadow individuals in both the information technology and business fields. For the last six years, Novo Nordisk has also arranged an annual career day for our students. Selected individuals from the corporation come to the school to present information on their career path and current assignment at Novo Nordisk. Topics have included cyber security, teleconferencing, project management, computer information systems, sales, etc. Novo Nordisk also provides scholarship opportunities for our students who have been accepted to a 4 year degree program and intend to study Information Technology or a related field.

# **PART V - CURRICULUM AND INSTRUCTION**

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## **1. Curriculum:**

Teachers in every discipline focus on meeting the New Jersey Core Curriculum Content Standards and the new Common Core standards. English/Language Arts teachers are collaborating across the district to replace the New Jersey Core Curriculum Content Standards with the Common Core standards. Teachers in science, social studies, business, information technology, health and fitness, world language, and visual and performing arts are also working across the discipline to address the Common Core standards for reading and writing that need to be incorporated in their lessons. Many of the standards are already being met while there are a few that need to be integrated in the curriculum and lesson plans for the future.

The suggested minimum coursework for the Academy for Information Technology includes four years of English, four years of Health, Safety and Physical Education, four years of Science, three years of Social Studies, four years of Mathematics, three years of World Language, one year of Visual, Performing, and/or Practical Arts and one half year of Financial Literacy.

In addition, AIT students also participate in an intensive progression of information technology (IT) courses. The ninth grade program focuses on the Microsoft Office suite of software leading to the opportunity for students to attain certification in Word, PowerPoint and Excel by the end of freshman year. The tenth grade program, a computer system design course provides students with the basic computing knowledge and skills to design and troubleshoot technological related issues. This multi-faceted course allows students to participate in different aspects of system design and implementation. Students hone their technical skills by learning how to analyze, design, and build a task oriented computer systems. All students are required to take the Comp TIA A+ certification exams by the end of tenth grade. The eleventh grade program focuses on Oracle® database management. All junior students take a one-semester introduction to Oracle database software course. Juniors may elect to continue the course for another semester which prepares them to take the Oracle certification exam. Twelfth grade students are required to take one-semester of the Java™ programming language and then may elect to continue their studies leading to the opportunity of earning a Java programming certification by the end of their senior year. After completion of this course, students are also prepared to take the AP Computer Science exam. Junior and senior AIT students, who choose not to pursue certification in Oracle or Java, may select to take an IT elective in Web Design, Data Integrity/Security, or Project Management.

The AIT curriculum supports college and career readiness through teaching that ensures that all students retain discipline-specific content and develop the habits of mind of a proficient post-secondary student and/or full-time productive worker. Assignments vary from traditional essays, math problems, and readings to non-traditional activities such as the creation of three-minute video public service announcement which addresses the dangers of texting and driving; the development of mathematical models to describe and predict real-life data found in the news; the carrying out of a mock trial of the 26th Amendment to the U.S. Constitution; the publishing of a travel brochure of a Spanish-speaking destination; the creation of shot lists, storyboards and director's notes for one battle scene from Beowulf. AIT teachers strive to develop non-content-specific knowledge and skills that will carry students beyond high school. Time management, materials organization, study skills, note taking strategies, productive group discussions, and encouragement of students to take responsibility for their own learning are part of every course.

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

People are dependent upon language both to understand and order their world and to communicate with others. The four year required study of English language and literature promotes these abilities. By developing written and verbal communication skills, students improve their capacity to make meaningful

connections with others. Through the study of literature, students gain a better understanding of the values, attitudes, and communication styles of a variety of cultures over approximately 1400 years. These skills are more necessary than ever before, since advances in technology have made a “global village” an increasing reality.

Our English course sequence is designed to enhance students’ critical thinking skills through the study of a variety of literary genres, focusing on the basic premise of humans’ need to communicate. Through course immersion in literary works students will better understand contemporary values, mores, and ethics, both within and beyond the classroom setting. The course closely parallels and integrates concepts students are introduced to in the history domain, in order to engage meaningful connections between past and present, allowing students to become adept decision-makers.

The courses are geared so as to elicit interest and foster mastery in all aspects of Language Arts Literacy, adhering to, but not limited by, New Jersey Core Curriculum Standards. Focusing upon reading, writing, listening, speaking, viewing, interfacing with technology, and the visual and performing arts, students use a variety of texts (written, aural, visual, technological) to promote critical and creative products within the English classroom. The courses rely heavily upon the Writing Process Approach, integrating grammar and vocabulary development while students actively interact with literary and real world textual materials. It is a chronologically-historically-based study of universal themes present throughout various genres. Students are encouraged to explore and connect their own positions concerning these timeless messages thus constructing secure, valuable individual relationships with humankind. Students are encouraged to establish a connection among the works, authors, and times in which each lived and wrote. Additionally, students are to identify reasons for each era’s reactions to the previous age’s policies through the writings and histories of the peoples. Understanding throughout time, the need to relay messages is the basis of humanity and is accomplished through language.

Since the ability to communicate is vital to success in society, students are equipped with the necessary tools to gather information, research, analyze, evaluate, and create individual and group presentations based upon course readings and viewings. Technology, grammar, critical thinking, study skills, writing practices, thematic learning and reflective thinking are all part of the American Literature experience. Students are evaluated using multiple measures-traditional test-based, as well as performance-based, in order to best assess student strengths and needs. Upon completion of course work, students will be better able to integrate essential information from a myriad of disciplines, relay intended ideas to diverse peoples, and apply acquired knowledge to cultivate understanding between selves and others for personal and collective success in the real world.

A variety of instructional methods are utilized in the Language Arts classroom ranging from lecture for background information to games for vocabulary, to writing workshops for essays. Class discussion is a primary method of instruction. Since discussions are multi-layered, this method allows students to contribute regardless of their abilities. As such, a student who only understands the basic plot can contribute just as much as a student who understands all the nuances. Moreover, English Help (during the school day), as well as afterschool is available when necessary. Students who fail a writing assignment may be allowed to complete revisions after sitting with the teacher to discuss their performances on the writing task.

### **3. Mathematics:**

AIT offers a unique high school math program that exceeds standards. The expectation is that all AIT students will take calculus by the time they graduate. Because we admit students from both public and parochial schools across Union County, students arrive with a variety of math backgrounds. Teachers and students work hard to achieve success in our challenging program. Incoming ninth graders take Combined Algebra, an accelerated course that covers what is conventionally covered in separate Algebra I and half of an Algebra II course. A percentage of incoming students who score high on the math placement test, are permitted to pass out of Combined Algebra and go into Geometry/Trigonometry as their freshman math course. Incoming students may also choose to take a Geometry placement test which would allow

them to pass out of Geometry/Trigonometry and enter directly into Math Analysis (Pre-Calculus) in their freshman year.

In the sophomore year, most students take Geometry/Trigonometry which combines the typical topics of a high school geometry course combined with trigonometry which includes right triangle trigonometry, trigonometric functions and trigonometric identities. As juniors, the majority of AIT students take math analysis, a pre-calculus course. As seniors, students may choose between AP Calculus AB or non-AP Calculus. Accelerated students may choose between AP Calculus BC or Multivariable Calculus. In addition, some students choose to take AP Statistics in the junior or senior year.

Math classes combine lecture, skills practice, and application problems and include the use of calculators and software when appropriate for discovery and reinforcement activities. AIT teachers introduce non-traditional activities and projects whenever possible to assist students in the transference of complex mathematical ideas. AIT offers a variety of interventions for students who are not performing up to expectations. Our National Honor Society chapter offers peer tutoring that takes place during the school day, most math teachers are scheduled every day for math help during the midday co-curricular period, teachers differentiate lessons and offer after-school help on an as needed basis. Teachers also routinely recommend online lessons such as those available at [www.khanacademy.com](http://www.khanacademy.com) that students can do on their own at their own pace.

Elective math courses, AP Statistics and Probability & Statistics, have been successful with the flipped classroom model where teacher-created video lessons are assigned for homework along with a coordinated reading from the textbook or other relevant source. Students arrive in class with questions from the lesson and then work on problems and activities in class both independently and collaboratively. The teacher is then available to circulate among students while they are working, to assess their knowledge and skills. To be successful, students have to take responsibility for their own learning. Student feedback has been positive. Lessons can be viewed and reviewed as necessary at a time the student deems conducive to his or her learning. Students are forced to make meaning of the lessons on their own and come to class prepared to ask questions about the lesson objectives.

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

According to AIT's unique mission, to “*foster critical thinking skills . . . By stressing intellectual curiosity, hard work, ethical behavior, and technological expertise with business integration, the school community guides its students to achieve their greatest potential.*”, our business curriculum provides an excellent opportunity for students to develop a familiarity with market behavior, business organizations, terminology, and mathematical principles in an applied project-oriented environment.

Beginning with our 9th grade class, Computer Applications in Business, students gain practical experience creating and using business oriented documents in Word, Excel, and PowerPoint. Although the emphasis is on acquiring technical expertise using these 3 software packages; demonstrated by achieving Microsoft Office Certifications, the applications are all derived from real-world business cases. As a result, students gain valuable insight into how these basic tools are utilized in management.

During sophomore year, AIT students are enrolled in Business Concepts and Practices which provides them with hands-on experience in operating a simple business. Business Concepts and Practices exposes students to basic economic principles, as well as the primary functional areas of any business including marketing, finance, operations, human resources and risk management. Students are tasked with making “real-life decisions” such as pricing, promotion, hiring, ordering, and security. They then use those decisions in a computer simulation to evaluate their effectiveness. Further, the computer simulation allows students to compete against one another to achieve the highest level of profits, mimicking a competitive market scenario.

Students in their junior and senior year can then choose from several business oriented electives such as: accounting, business communications, economics, and marketing. These classes allow students to gain in-depth knowledge regarding key business disciplines as well as practical experience communicating in a professional environment. Our accounting class provides students with basic bookkeeping skills allowing them to create balance sheets and income statements; then employs these skills in the accounting software package QuickBooks for Small Business. Economics provides students with foundational individual market concepts. An Advanced Placement Economics class provides students with both macroeconomic and microeconomic concepts for those students wanting a more challenging and comprehensive class. Marketing has the students explore the 7 major functions: distribution, promotion, pricing, selling, information management, product/service management and the marketing plan with hands on project based learning. For example, students will analyze customer profiles to determine target markets, create print and video advertisements, SWOT (Strength, Weakness, Opportunity, Threat) analysis, and consider ethical business behavior through case studies.

## **5. Instructional Methods:**

In general, AIT teachers use differentiated instruction when possible and appropriate by giving students choices in methods and products, by providing leveled assignments, and by presenting content to appeal to different learning styles. When revising curriculum, teachers are asked to relate activities and assessment to the four learning styles identified as abstract random, abstract sequential, concrete random, and concrete sequential and to attempt to address each learning style in each unit.

AIT English teachers allow students to choose from among a list of novels for summer reading, to address an essay assignment according to their interests, require students in need of assistance to attend English help during co-curricular periods, and plan for student-directed discussions of assigned readings.

AP Statistics and Probability & Statistics have been successfully flipped. Students take more responsibility for their own learning as they are expected to come to class having viewed the assigned teacher-created video and read the assigned textbook or other supplemental reading. Time in class is not wasted on concepts that students can understand and apply; valuable face-to-face class time is used to dispel misconceptions, clarify difficult concepts, and work through activities and exercises under the watchful eyes of peers and the teacher.

Students with IEPs or 504 plans may have their instruction modified by the addition of extra time on assessments, preferential seating, class notes, and/or extended time on projects. While teachers differentiate lessons in all departments, struggling students may require supplementary help. The Academy of Information Technology offers support outside the classroom in multiple ways. For example, if a calculus or geometry student is grappling with key concepts, he/she can attend a math help session during a district-wide co-curricular period; after school sessions are held on a case-by-case basis. In addition, peer tutoring is available during a co-curricular period or after school between 3 and 5 p.m.

Technology allows teachers to meet the needs of diverse learners. AIT is fortunate to employ an array of technology. All classrooms have projectors and many have interactive whiteboards. Teachers and students have access to 5 computer labs and a portable cart with 24 laptops. All 4 science labs have desktop computers on all laboratory tables. In addition, many classrooms have one or two desktop computers connected to the Internet for student use during lessons. AIT has a document camera that can be signed out and has sets of student-response systems, (QWIZDOM). Some teachers use tablet computers to remotely access their laptops which allows them to be free to move around the room during the lesson while continuing to use the interactive whiteboard. Some teachers use Internet-based applications to diversify instruction such as student polling applications. Math and Physics classes are issued classroom sets of TI-84, TI-89, and TI-Nspire graphing calculators. The Math Analysis teacher is piloting a class set of ipads loaded with applications.

## **6. Professional Development:**

The school district takes pride in its summer new teacher orientation program. This is a two-week program for any teacher new to our district. The program is designed to acclimate individuals to our school culture and expectations. Individuals receive professional development in a variety of areas that include team building, curriculum writing, learning styles, brain based learning, grading, learning groups, lesson planning, student personnel issues, classroom management, etc. This orientation also includes a reflection component. Those who have gone through the orientation program indicate that after the training, they feel equipped to meet the challenges of the school year.

By contract, teachers are permitted to attend various professional development activities both inside and out of the district. The district employs a professional development coordinator who assists in providing activities for the district and shares professional development opportunities when known. Each school also has a professional development coordinator who leads our learning community in determining what goals we would like to achieve and what activities are necessary to meet them. Teachers are also able to select opportunities that they have found on their own generally related to teaching or their subject area. In district, two full-day and two half-day professional development days are provided. Faculty and interdisciplinary meetings are each held on a monthly basis, and have developed into working meetings where teachers have the opportunity to work on school and district initiatives that directly affect the students, such as developing a school growth plan, fulfilling Middle States requirements, and other needs as they arise.

Other professional development opportunities available at AIT include discipline and grade level meetings; summer articulation meetings; Middle States teams; teacher-taught, “mini” professional development classes; Project Adventure activities; distributive leadership series; and Educational Technology and Training Center (ETTC) classes.

One of our professional development activities involved the new regulations for reporting bullying. The staff was introduced to our district and school specialists. The training provided an opportunity for staff to ask questions and understand the procedures. Staff are aware of how to report incidents and how to address acts of bullying with students.

Professional development time has also provided an opportunity for teachers around the district to meet and discuss both vertical and horizontal articulation. Teachers have also been exposed to the requirements of the new Common Core standards and have begun to work together to make the curriculum adjustments needed to meet the new standards.

## **7. School Leadership:**

We are educators. Our goal is to prepare students to become well-rounded productive members of society and to demonstrate the skills necessary to meet the growing demand of our workforce in whatever career a student decides to pursue. We hope they will become lifelong learners, critical thinkers and individuals who follow strong ethical behaviors. Leaders must have an understanding that the assignment cannot be successful without a strong team of members who share in the goal and vision of the school and believe they are stakeholders in the process. The job cannot get done efficiently without a team effort. This includes administration, teachers, staff, students and parents.

A leader must be “fresh”. They must keep in pace with new trends in society as well as trends in the education world. They cannot be afraid to try new things, reflect, adjust, ask for input and try again. The leader sets the tone for the school culture.

The Academy for Information Technology has two administrators (a principal and teaching supervisor) and a teacher who serves as the curriculum coordinator. There are no department heads. Leadership takes full responsibility for developing, designing and implementing policies and structure that ensure students

are safe and the school learning environment remains conducive to learning for everyone. The leadership team is visible. We operate using an open door policy. We take pride in being able to call students by name, are readily able to call on parents for support and welcome ideas and activities suggested by our staff and students.

As a team, we ensure that students and parents are aware of our school policies. Parents of incoming students attend an orientation session in the spring prior to the new school year. Freshmen students attend an orientation before the year begins to acclimate them with the school and to address school policies and expectations. A student handbook is provided to all students each year. Parents and students must sign an acknowledgement form that they have received and reviewed the handbook. On the first day of school, before attending scheduled classes students meet with teachers to address any new policies, such as in recent years HIB (Harassment, Intimidation, Bullying policy) and a new honor code policy.

Students participate in various programs, field trips, activities, community service projects, etc. throughout the year. In order to avoid conflicts and get appropriate support, those sponsoring an event must complete an “activities request” form. This form is processed through the activities coordinator and then to the principal. The principal ensures that the programs activities enhance the learning experiences for students. Some recent activities include FBLA leadership conference, an American Heritage Day, where students were able to share their culture with other students on campus, Career Day (sponsored by our corporate partners, Novo Nordisk), Let’s Move event, guest speaker on bullying, etc.

Each year teachers are asked to reflect on the past year and state what they would like to see differently in the new school year. They are asked to provide a list of resources that they believe will help support student learning in the classroom. This might include a new textbook, a software package to simulate learning, instructional supplies, “clickers”, Ipads, workbooks, etc. This method is helpful in planning a budget for the upcoming year and helps leadership to evaluate our needs as a whole. Leadership attempts to provide teachers with the resources (within budget constraints) they believe are needed for student success in the classroom.

# PART VII - ASSESSMENT RESULTS

## STATE CRITERION-REFERENCED TESTS

Subject: Mathematics Grade: 11 Test: New Jersey High School Proficiency Assessment  
Edition/Publication Year: 2012 Publisher: Measurement Inc.

	2011-2012	2010-2011	2009-2010	2008-2009	2007-2008
Testing Month	Mar	Mar	Mar	Mar	Mar
<b>SCHOOL SCORES</b>					
Proficient, Advanced Proficient	100	100	100	100	100
Advanced Proficient	90	80	62	62	66
Number of students tested	60	61	61	52	55
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>					
Proficient, Advanced Proficient	Masked	Masked	100	100	Masked
Advanced Proficient	Masked	Masked	42	27	Masked
Number of students tested	6	8	12	11	4
<b>2. African American Students</b>					
Proficient, Advanced Proficient	Masked	100	Masked	Masked	Masked
Advanced Proficient	Masked	60	Masked	Masked	Masked
Number of students tested	8	10	8	6	9
<b>3. Hispanic or Latino Students</b>					
Proficient, Advanced Proficient	Masked	100	Masked	Masked	Masked
Advanced Proficient	Masked	80	Masked	Masked	Masked
Number of students tested	7	10	5	7	7
<b>4. Special Education Students</b>					
Proficient, Advanced Proficient	Masked	Masked	Masked	Masked	Masked
Advanced Proficient	Masked	Masked	Masked	Masked	Masked
Number of students tested	5	1	1	1	2
<b>5. English Language Learner Students</b>					
Proficient, Advanced Proficient	0	0	0	0	0
Advanced Proficient	0	0	0	0	0
Number of students tested					
<b>6. Asian</b>					
Proficient, Advanced Proficient	100	Masked	100	100	Masked
Advanced Proficient	100	Masked	62	64	Masked
Number of students tested	10	8	13	11	4
<b>NOTES:</b> Masked indicates data were not made public because fewer than 10 students were tested.					

13NJ8

## STATE CRITERION-REFERENCED TESTS

Subject: Reading

Grade: 11 Test: New Jersey High School Proficiency Assessment

Edition/Publication Year: 2012 Publisher: Measurement Inc.

	2011-2012	2010-2011	2009-2010	2008-2009	2007-2008
Testing Month	Mar	Mar	Mar	Mar	Mar
<b>SCHOOL SCORES</b>					
Proficient, Advanced Proficient	100	100	100	100	98
Advanced Proficient	58	54	51	23	18
Number of students tested	60	61	61	52	55
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>					
Proficient, Advanced Proficient	Masked	Masked	100	100	Masked
Advanced Proficient	Masked	Masked	33	18	Masked
Number of students tested	6	8	12	11	4
<b>2. African American Students</b>					
Proficient, Advanced Proficient	Masked	100	Masked	Masked	Masked
Advanced Proficient	Masked	70	Masked	Masked	Masked
Number of students tested	8	10	8	6	9
<b>3. Hispanic or Latino Students</b>					
Proficient, Advanced Proficient	Masked	100	Masked	Masked	Masked
Advanced Proficient	Masked	50	Masked	Masked	Masked
Number of students tested	7	10	5	7	7
<b>4. Special Education Students</b>					
Proficient, Advanced Proficient	Masked	Masked	Masked	Masked	Masked
Advanced Proficient	Masked	Masked	Masked	Masked	Masked
Number of students tested	5	1	1	1	2
<b>5. English Language Learner Students</b>					
Proficient, Advanced Proficient	0	0	0	0	0
Advanced Proficient	0	0	0	0	0
Number of students tested					
<b>6. Asian</b>					
Proficient, Advanced Proficient	100	Masked	100	100	Masked
Advanced Proficient	90	Masked	54	9	Masked
Number of students tested	10	8	13	11	4
<b>NOTES:</b> Masked indicates data were not made public because fewer than 10 students were tested.					

13NJ8