



2010 - 2011 Course Guide

MORRIS COUNTY SCHOOL OF TECHNOLOGY

**400 East Main Street
Denville, NJ 07834
973-627-4600
www.mcvts.org**

MISSION STATEMENT

The Morris County Vocational School District, the source for state-of-the-art Professional and Technical Education will provide all students with academic skills for proficiency in the Core Curriculum Content Standards, technical skills, civic responsibility and exploration in partnerships with business, labor, industry and post-secondary institutions.

AFFIRMATIVE ACTION STATEMENT

The Morris County Vocational School District declares the intent of this Affirmative Action Statement is to ensure educational equality for all our students regardless of race, ethnicity, religion, affection or sexual orientation, gender, nation of origin or disability. This includes, but is not limited to, recruitment, testing, interviewing, transferring in or out of district, grade promotion, social activities and recreational programs the District sponsors and supports.

BOARD OF EDUCATION

Ms. Barbara Dawson, President
Honorable Reginald B. Stanton, Vice-President
Mr. Lawrence J. Colasurdo
Mr. John P. Hyland
Dr. Kathleen Serafino, Executive Morris County Superintendent

ADMINISTRATION

Dr. Patrick Pelosi, Interim Superintendent/Principal
Scott Moffitt, Assistant Superintendent for Business
Athena Borzeka Director of Student Personnel Services & Special Education
Shari Castelli, Supervisor of Math & Science
Miriam Faber, Supervisor of Grants & Program Management
Fred Finck, Supervisor of Vocational & Technical Careers
MaryAnne E. Regan, Director of Curriculum and Instruction
Scott Shaw, Supervisor of Humanities
Neil Torino, Director of Athletics and Student Affairs
Kenneth Williams, Director of Instructional Support Services

ACCREDITATION

Morris County Vocational School District holds national accreditation from The Middle States Commission on Secondary Schools.

COUNSELING SERVICES

CEEB Code: 310281

The mission of the counseling department is to ensure quality guidance and counseling services for each student at Morris County School of Technology. To fulfill this mission, counselors will assist students to:

- * Assess their strengths, aptitudes and interests
- * Plan their educational program
- * Develop decision-making and problem-solving skills
- * Identify their career options
- * Build a foundation for a fulfilling life

Contact Information for the Counseling Department

Main Telephone Number 973-627-4600, ext. 230/238

Ms. Athena Borzeka	Director of Student Personnel Services	Ext. 229
Mrs. Gloria Davison	School Counselor	Ext. 228
Mrs. Diane Girona	School Counselor	Ext. 220
Mrs. Amanda Hamm	School Counselor	Ext. 205
Mr. James Reidy	School Counselor	Ext. 221

Child Study Team Services

A fully-staffed Child Study Team (CST) serves the students of Morris County School of Technology. Athena Borzeka, Director of Student Personnel Services, supervises the interdisciplinary work of the CST, while also serving on the team. The CST is a multidisciplinary team of professionals that includes:

- a learning disabilities teacher-consultant (LDT-C), Stacy Pendergrast, Ext, 124
- a school psychologist, Robin Mutter, Ext. 203
- a school social worker. Tina Bibbo, Ext. 204

The Morris County Vocational School District will provide communication aids, auxiliary aids and services for effective communication to all secondary and post-secondary prospective and current students with hearing impairment, at no cost to the student being served in accordance with the student's individual educational plan or section 504 plan.

Members of the CST consult with classroom teachers, administrators and parents regarding instructional methods and/or counseling necessary to meet the specific needs of individual students. CST members:

- Participate in the evaluation of students who may need special education programs and services;
- Participate in the determination of eligibility of students for special education programs and services;
- Deliver appropriate related services to students with disabilities (e.g., school-related counseling);
- Provide appropriate preventive and support services to non-disabled students;
- Provide services to the school staff regarding techniques, materials and programs for students experiencing difficulties in learning;
- Consult with school staff and parents in order to optimize learning for students; and
- Assist with designing, implementing and evaluating techniques to prevent or remediate educational difficulties.

The MCST Child Study Team's focus centers on developing creative ways to help students realize their potential in school. This focus is not to be restricted to diagnosis, labels or categories, but to look at students as individuals, and to involve students, parents and teachers in a problem-solving process leading to student success.

Morris County School of Technology
Graduation Requirements

Students who desire an Academy Endorsed Diploma will be required to acquire a minimum of 160 credits and meet all graduation requirements in accordance with New Jersey Administrative Code 6A:8-5.1.

Required Courses:

- Four years of English (20 credits)

- Four years of Health/Physical Education (20 credits)

- Three years of Mathematics (15 credits)

- Three years of Science (15 credits)

- Three years of Social Studies (15 credits)

- Two years of a World Language (10 credits)

- One year of Visual or Performing Arts (5 credits)

- One Semester of Financial Literacy (2.5 credits)

- Academy Program (60 credits)
including a structured learning experience*

*Defined as an internship.

In addition, students **must** demonstrate proficiency on the New Jersey High School Proficiency Assessment (HSPA) administered in the spring of the junior year and on End of Course Assessments as specified.

Four Year Course Offerings

Required	Selection
English (4 years) *Honors courses available	<ul style="list-style-type: none"> • English I* • English II* • English III* • English IV
Health/Physical Education (4 years)	<ul style="list-style-type: none"> • Physical Education/Health I • Physical Education/Health II and including Driver's Education • Physical Education/Health III and <u>may</u> include First Aid and CPR certification • Physical Education/Health IV
Mathematics (3 years) *Honors courses available	<ul style="list-style-type: none"> • Algebra I* • Geometry* • Algebra II/Trigonometry* • Pre-Calculus* • Calculus*
Science (3 years) *Honors courses available	<ul style="list-style-type: none"> • Physics* • Biology* • Chemistry* • Integrated Physical Science I and II
Social Studies (3 years) *Honors courses available	<ul style="list-style-type: none"> • World History* • US History I* • US History II* • Macroeconomics • Global Studies
World Language (2 years)	<ul style="list-style-type: none"> • Spanish, French or Chinese I • Spanish, French or Chinese II • Spanish or French III • Chinese III/IV • Spanish or French IV
Visual or Performing Arts (1 year) Subject to availability	<ul style="list-style-type: none"> • Advertising Art and Design • Computers in Art • Creative Movement • Creative Writing • Drama • Film Literacy • Fundamentals of Music • Music History • Music and Culture of Spanish Countries • Public Speaking
Electives (2 per year) Subject to availability	<ul style="list-style-type: none"> • Anthology of Spanish Literature • Contemporary Issues of Sociology • English as a Second Language • Environmental Science • Exercise Science • Flexibility and Strength Training • Genetics • HSPA Mathematics, English and Writing • Human Behavior I • Human Behavior II • Integrated Physical Science • Introduction to Video Game Programming Using C# • Introduction to Java I • Introduction to Java II • Laboratory Sciences • Medieval History • Resource Center Study Skills Support • SAT Preparation • Spanish Cultures and Communication • Study Skills Support
Academy Program	<i>Career and Technical courses as per Academy Program</i>

Grade Point Average

A cumulative grade point average (GPA) is maintained on all students beginning with the freshman year based on final grades in each course. It is essential that all students recognize the importance of GPA in the college admissions process. At Morris County School of Technology, transcripts contain a student's class rank as well as his/her grade point average (GPA). In calculating GPA, the converted quality points are multiplied by the number of credits assigned to the course. The resultant course quality points are totaled and divided by the total credits attempted by the student. Thus, the following formula is used:

$$\frac{\text{Total Course Quality Points}}{\text{Total Credits Attempted}} = \text{GPA}$$

In computing rank, grades of all subjects are included. This system of determining class rank is recommended by the National Association of Secondary School Principals and approved by the Board of Education.

Grading System and Quality Points

Listed below, is the weighted Grading System Structure:

		<u>College courses & Honors courses</u>	<u>General</u>
97-100	A+	4.8	4.3
94-96	A	4.5	4.0
90-93	A-	4.2	3.7
87-89	B+	3.8	3.3
84-86	B	3.5	3.0
80-83	B-	3.2	2.7
77-79	C+	2.8	2.3
74-76	C	2.5	2.0
70-73	C-	2.2	1.7
67-69	D+	1.8	1.3
64-66	D	1.0	1.0
60-63	D-	.7	.7
Below 60	F	0.0	0.0

I = Incomplete M = Medical Exemption A = Audit	WP = Withdrawn Passing WF = Withdrawn Failing P = Passing S = Satisfactory
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Honor Roll

To be distinguished as a High Honor Roll student, one must have a numerical average of at least 91% with no grade lower than a "B+".

To be distinguished as an Honor Roll student, one must have a numerical average of 84% and have no grade lower than a "B-".

Valedictorian – Salutatorian

Valedictorian and Salutatorian will be determined based on a total cumulative average at the conclusion of the third marking period in senior year. The student(s) with the highest academic average will be declared the valedictorian(s) for the class. The second highest academically averaged student(s) will be declared the salutatorian for the class. In the event of a tie for the highest cumulative average, the student who has elected the most credits in the highest level courses will be declared the valedictorian. To be declared the valedictorian or the salutatorian, the student must have completed the required number of credits for graduation in mainstreamed courses and be in residence either on the Denville campus or at County College of Morris for the entire senior year.

Entrance Requirements for Honors Programs

Honors Courses are available in specific courses: English, Social Studies, Mathematics and Science. These courses offer enrichment in the scope of material presented, in the depth of exploration and in the expectation of student performance. To enter an Honors level course, the student must complete the Honors Program Application. Honors level placement is determined by previous academic performance, standardized test scores, student questionnaire and teacher recommendation. The Honors Program Application is available on the website beginning in February of each school year.

Students' Rights and Responsibilities in the Honors Program

- If it becomes evident that a student is unable to achieve at least a "C" average, as evidenced by marking period or midyear exam grade, the placement will be reviewed. If the recommendation is that the student be reassigned to the regular academic program, a conference with the student parent, teacher and school counselor will be scheduled. Decisions regarding reassignment will be made on a case by case basis.
- Students receiving a final grade of "C" or lower will automatically lose the opportunity to continue in the Honors program within that discipline during the next school year.

Challenger Program Grade 12 College Options

The Challenger program and Grade 12 Initiative Program afford seniors the opportunity to take college courses at the County College of Morris. The following criteria must be met by your child to be eligible to attend County College of Morris:

1. Complete the 11th grade with an **overall** GPA of 3.0 or better.
2. Pass all portions of the HSPA given in March, 2010.
3. Achieve **one** of the following:
 - a. An SAT score of at least 540 in Verbal **and** 530 in Math, **or**
 - b. A score of 23 or better on the ACT English **and** Math portions, **or**
 - c. Successfully pass the Accuplacer test given by County College of Morris
 - d. **Students who do not successfully clear for all academic courses may be considered individually to take only their occupational course at the college dependent upon the academic requirements of the coursework and subject to the approval of the college**
4. Complete the County College of Morris Challenger application.

To meet admission requirements, students must also meet the Guidelines for Pre-College Students as outlined by the respective college.

OPTION II: Expanded Opportunities for Fulfilling High School Graduation Requirements

Option II establishes alternate pathways for students of the Morris County Vocational School District to satisfy requirements for high school graduation and meet the New Jersey Core Curriculum Content Standards in accordance with the New Jersey Administrative Code (N.J.A.C. 6A:8-5.1(a)1ii).

The purpose of Option II is to provide educational experiences that are meaningful and relevant and that provide students with opportunities to explore and achieve at high levels. In order to maximize student achievement and meet diverse pathways for learning, Option II permits students to employ alternative learning experiences that are stimulating and intellectually challenging and that enable students to fulfill or exceed the expectations set forth in the Core Curriculum Content Standards.

Option II may include but is not limited to one or more of the following alternatives: student exchange programs, interdisciplinary or theme-based programs, independent study, internships, community service, accredited college coursework, meaningful research and structured learning experiences.

Option II alternatives requested by eligible students must meet or exceed the proficiencies established by the New Jersey Core Curriculum Content Standards, receive prior approval by the principal and/or the Option II Review Committee and demonstrate satisfactory performance as measured by district-approved competency assessment instruments in order for credit to be awarded.

Grade 12 Structured Learning Experience

Each student is to complete a structured learning experience such as an internship (paid or unpaid). A structured learning experience allows students to explore advanced professional skills in their chosen area by working closely with industry professionals in the field.

Students are to complete a structured learning experience that encompasses a minimum of 160 work hours to equal 10 credits. Up to one half of these hours may be completed during the summer months pending the structured learning experience coordinator and School Board approval.

STUDENT ORGANIZATIONS

Extracurricular Activities

Clubs and student activities provide students an opportunity to develop their interests and “round out” their high school experience. Students are encouraged to take advantage of the many activities and services available during the school year. Extracurricular activities are under the direct leadership and supervision of interested members of the faculty who take pride in providing a meaningful extracurricular experience. These activities present opportunities to participate in both competitive and non-competitive organizations. Activities provide an opportunity for students to socialize with their classmates while contributing to the development of their interests and serving the school community.

Athletics

FALL	WINTER	SPRING
Cross Country (Girls and Boys)	Basketball (JV & Varsity Girls - Varsity Boys)	Baseball- (Varsity Boys)
Soccer (Varsity Girls - JV & Varsity Boys)	Bowling (Varsity & JV)	Golf (Varsity)
Volleyball (JV & Varsity Girls)	Cheerleading	Softball- (Varsity Girls)

Clubs/Activities

American Welding Society Chorus Drama Club Environmental French Honor Society Health Occupations Students of America Jazz Band Key Club Le Club (French Club) National Dance Honor Society	National Honor Society National Technical Honor Society Photography Club Poetry Club Ski Club SkillsUSA Student Government Environmental Club Weightlifting Club Yearbook Club
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COURSE DESCRIPTIONS

ENGLISH

English I

This course focuses on types of literature as well as the study of language and composition. Literature study includes short stories, poetry, drama, novels, essays and biography/autobiography. Language activities involve spelling, usage and grammar. Paragraphing and the writing process, as well as research, are emphasized in composition study. Instruction is coordinated with the student's study of World History. Interdisciplinary connections encourage students to think critically while working on fundamental skills that cross disciplines. This course is designed to be the interdisciplinary partner of Humanities-World History/Social Studies.

English I - Honors

This course focuses on types of World Literature as well as the study of language and composition. The core curriculum in World Literature will be enhanced with advanced vocabulary study, advanced literature and extended readings designed to challenge the student to a high degree of comprehension, analysis and inference. Honors students will be expected to respond through expository writings, discussion, oral presentations and graphic arts. Creative expression will be encouraged and emphasized. Students will read and react to complex themes, interpretations and inferences.

English II

This is an inter-related course that examines selected British and World Literature using a historical approach. Chaucer, Shakespeare, Dante, Camus, Milton and Tennyson will be studied along with movements in Renaissance, Elizabethan, Neo-Classical, Romantic and Victorian literature. A student will complete critical analyses of poems, plays, essays and novels, and have the ability to demonstrate the connections between a nation's political, social and cultural history and its literature. Students will also receive instruction in sentence completions, analogies and reading comprehension and be expected to take the SAT examination.

English II - Honors

This course focuses on a chronological and thematic study of British authors and their cultural influences. All literary genres are included: the epic through the Anglo-Saxon epic poem, Beowulf, the verse narrative through a study of Chaucer's Canterbury Tales, Shakespeare's plays, the classic novel, the modern novel, poetry, short stories and essays. Development of the English language is also studied from the time of Beowulf through the present. Students examine important historical events and the cultural influence of the age during which each writer lived. Students are actively involved in all areas of the language arts. The course includes expository and creative writing, portfolio development, class lectures and discussion, and a demanding reading schedule.

English III

This course examines a survey of significant works of American Literature. Fundamentals of writing, vocabulary, grammar, usage, spelling, punctuation, sentence structure and paragraphing receive careful attention. All students write a research paper as part of the course requirement.

English III - Honors

This course focuses on types of American Literature as well as the study of language and composition. The core curriculum in American Literature will be enhanced with advanced vocabulary study, advanced literature and extended readings designed to challenge the student to a high degree of comprehension, analysis and inference. Honors students will be expected to respond through expository writings, discussion, oral presentations and graphic arts. Creative expression will be encouraged and emphasized. Students will read and react to complex themes, interpretations and inferences.

English IV

The objectives of English IV are to enable students to further develop their communication skills through reading, writing, researching and speaking. Students are exposed to a broad selection of fiction and nonfiction and are encouraged to achieve a deeper level of understanding and analysis as they explore a wide range of literary elements and devices. Students will utilize skills in critical and creative thinking, independent inquiry and affective processes to write essays of analysis and evaluation, present panel discussions and oral reports, participate in group discussion and work independently at problem solving and research. Students will also develop college essays, prepare for SAT exams and complete an electronic portfolio. Throughout the course, students will apply the skills learned to their specific academies. College credit in Technical Communication is available to students achieving grades of 'B' or better.

HSPA Preparation English and Writing

This course is required for all students who achieve below the state minimum level of proficiency. This class is designed for those students in grades 9 or 10 who have not yet taken the HSPA and have scored below the minimum level of proficiency on the administered standardized test or GEPA. The course curriculum prepares students in areas such as grammar, sentence structure, punctuation, comprehension and writing as well as in test taking skills.

English as a Second Language

English as a Second Language is designed to meet the needs of the non-native speakers of English in our community. The curriculum and texts vary with the needs of the population served in any year. The course provides individual instruction in reading, writing and speaking American English.

MATHEMATICS

Algebra I

Algebra I is a college preparation level mathematics course. This course blends an understanding of algebraic basic concepts and principles with applications. Each unit is devoted to the study of an important algebraic concept and how it can be applied in the workplace. Emphasis is placed on data and patterns, real number operations, variables, linear equations and inequalities, operations with polynomials, functions and formulas as tools for problem solving. Translation, interpretation and analysis of problem solving situations are integrated throughout the course. The scientific and graphing calculator is used as both problem-solving and learning tools.

Algebra I - Honors

This course follows a logical spiral development with techniques of problem-solving interwoven with algebraic manipulations as they arise. Deductive reasoning is emphasized. Topics include operations and properties of real numbers, algebraic problem-solving, solving of linear, quadratic, fractional and simultaneous equations; operations on polynomial expressions; polynomial factoring; rational expressions; inequalities; and graphing and radicals.

Geometry

(Pre-requisite is Algebra I)

This course aids the student in understanding the basic structure of geometry and developing the powers of spatial visualization while gaining knowledge of the methods of how geometry and algebra complement each other. Topics include congruence, parallelism, perpendicularity, similarity, areas and perimeter, fundamental definitions, postulates, theorems, parallelism, and graphing and proofs. The course integrates plane geometry with arithmetic, algebra and numerical trigonometry.

Geometry - Honors

The course introduces the student to the idea of a mathematical system through work with problems and proofs involving postulates and theorems and through work in logic and problem-solving. Students completing this course will demonstrate knowledge and understanding of the following areas: basic geometric objects in the plane; deductive reasoning; parallel lines and planes; congruent triangles, quadrilaterals, inequalities in geometry; similar polygons; right triangles; circles; areas of plane figures, areas and volumes of solids and coordinate geometry.

Algebra II/Trigonometry

(Pre-requisites are Algebra I and Geometry)

Topics include sequences of real numbers, linear functions and relations, polynomials and rational algebraic expressions, irrational numbers and quadratic equations, polynomial functions, exponential and logarithmic functions and quadratic relations. The student is helped to understand algebra as the study of the structure of real and complex numbers and to recognize the techniques of algebra as reflections of the structure.

Algebra II/Trigonometry – Honors

(Pre-requisites are Algebra I and Geometry)

This course is designed for students who have demonstrated proficiency in Algebra I-Honors and Geometry-Honors and who continue to qualify for placement in honors classes. Through rigorous problem-solving exercises, the student will acquire competencies in algebraic and trigonometric techniques, become prepared for Pre-Calculus and see the connections among algebra, geometry and trigonometry. Topics include real number system, operations over real and complex numbers, solutions of equations and inequalities including polynomials, absolute value and rational functions, solutions of quadratic and cubic equations, graphs of functions and relations including the conic sections, solutions of systems of equations and trigonometric functions, evaluations of trigonometric and logarithmic expressions and matrices and determinants.

Pre-Calculus

(Pre-requisite is Algebra II/Trigonometry)

This course is suitable for students who have demonstrated proficiency in Algebra II/Trigonometry. Topics include relations and functions, transformations, trigonometry, vectors and parametric equations, polar coordinates and complex numbers, conics and exponents and logarithms. Students will investigate the limits of functions and use limits to determine rates of change. Students will also explore topics in discrete mathematics including iteration and fractals.

Pre-Calculus Honors

(Pre-requisite is Algebra II/Trigonometry)

This course is suitable for students who have completed Algebra II/Trigonometry Honors. A strong background in linear, quadratic and trigonometric functions is required. Students will explore transformations, composition and continuity of functions, and will study in depth the characteristics of polynomial and rational functions. Students will build on previous knowledge of trigonometric functions, and use these functions to model real world data. Vectors, parametric equations, and conic sections will be introduced. Graphing skills will be extended from the Cartesian plane to the polar and complex planes. Fractals in the complex plane will be investigated. Exponents and logarithms will be reviewed briefly. The study of sequences and series will lead to a discussion of limits. The course will conclude with an introduction to Calculus, including derivatives and integrals.

Calculus

Topics include a review of basic algebraic skills involving the Cartesian Coordinate System, polynomials, functions, radicals, operations on rational expressions, exponents and trigonometry, formally differentiating algebraic and transcendental functions, using differentiation to solve real life problems, integrating and transcendental functions both indefinitely and definitely.

Calculus – Honors

(Pre-requisites are Algebra I, Geometry, and Algebra II/Trigonometry)

Students completing this highly advanced mathematics course will develop skills in Calculus and its applications in Mathematics, Science and Engineering. Topics include a review of basic algebraic skills involving the Cartesian Coordinate System, polynomials, functions, radicals, operations on rational expressions, exponents and trigonometry, formally differentiating algebraic and transcendental functions, using differentiation to solve real life problems, integrating algebraic and transcendental functions both indefinitely and definitely.

Medical Mathematic – 2.5 credits

(Health Care Science Majors Only)

This course will provide a review of basic mathematical calculations and will instruct the student on how to convert equivalents from one system to another and accurately mix and measure drugs. Emphasis will be placed on how these techniques are used in the administration of medication for patient use. The goal is to provide the student with the necessary mathematical background needed for pharmacology. Students will take a comprehensive examination prepared by University of Medicine & Dentistry of New Jersey upon completion of the course and, if successful, earn three college credits from UMDNJ.

Probability and Statistics

This is an advanced math course for students who have completed Algebra II. Students will collect, analyze and display data, and will use statistical methods to solve real-world problems. Students will design surveys and experiments, use probability to understand random behavior, and make inferences about a population by analyzing a sample of the population. Students will evaluate statistics in the media. Graphing calculators and statistical software will be utilized to explore data.

HSPA Preparation Mathematics

This course is required for all students who achieve below the state minimum level of proficiency. The class is designed for those students in grades 9 or 10 who have not yet taken the HSPA and have scored below the minimum level of proficiency on the administered standardized test or GEPA. The course curriculum prepares students in areas covered by the HSPA as well as in test taking skills.

PHYSICAL EDUCATION/HEALTH and WELLNESS

Physical Education and Health I

(Includes Mental Health, Wellness, Family Life Education, HIV, and Drug and Alcohol Abuse)

This course is designed to enhance the physical, mental, emotional and social well-being of the student. A scientific approach highlighting exercise physiology is the foundation of student learning. Integration of kinesiology and principles of anatomy and physiology heighten students' understanding of how the body relates to exercise and the science of human performance. Students will understand and consistently demonstrate the components of physical fitness: cardiovascular endurance, muscular strength, muscular endurance, flexibility and body composition. Activities, which incorporate these components and enable students to meet their personal fitness needs, are emphasized.

Physical Education and Health II

(Includes Safety and Driver Education Theory)

This course is designed to enhance the physical, mental, emotional and social well-being of the student. A scientific approach highlighting exercise physiology is the foundation of student learning. Integration of kinesiology and principles of anatomy and physiology heighten students' understanding of how the body relates to exercise and the science of human performance. Students will understand and consistently demonstrate the components of physical fitness: cardiovascular endurance, muscular strength, muscular endurance, flexibility and body composition. Activities, which incorporate these components and enable students to meet their personal fitness needs, are emphasized.

Physical Education and Health III

(Includes First Aid, CPR, Death and Dying)

This course is designed to enhance the physical, mental, emotional and social well-being of the student. A scientific approach highlighting exercise physiology is the foundation of student learning. Integration of kinesiology and principles of anatomy and physiology heighten students' understanding of how the body relates to exercise and the science of human performance. Students will understand and consistently demonstrate the components of physical fitness: cardiovascular endurance, muscular strength, muscular endurance, flexibility and body composition. Activities, which incorporate these components and enable students to meet their personal fitness needs, are emphasized.

Physical Education and Health IV

(Includes Family Life Education and Interpersonal Relationships)

This course seeks to provide students with an understanding of the physical, emotional and social aspects of human relationships and sexuality and how they support a healthy, active lifestyle. Students will learn how to develop and maintain relationships with friends and family. Additionally, students learn medically accurate information about abstinence and contraception and learn skills to enact behaviors to reduce or eliminate the occurrence of sexually-transmitted diseases, HIV/AIDS and unintended pregnancy.

Any student whose parent/guardian presents to the school principal a signed statement that any part of instruction in family life is in conflict with their personal, religious or moral convictions shall be excused from that portion of the course where such instruction is given. The student shall not be penalized by loss of credit or denial of a diploma otherwise earned. In such instances where the parent/guardian has requested removal of their child from a portion of the family life instruction, the teacher shall provide an alternate assignment of equal weight and value.

****Dance students will meet the Physical Education/Health requirement through their occupational course. Drivers Education theory is therefore not offered to Dance students.**

SCIENCE

Anatomy and Physiology I

(Health Care Science Majors only)

This is a laboratory oriented course designed for students who are involved in Health Care Sciences. It consists of the study of the human body and the related areas of health and disease. Laboratory work is a major component of the course and students will perform various physiological experiments that include the dissection of a representative animal for human anatomy, blood count, urine analysis, hearing and visual perception, computerized EKG and EEG and biofeedback. *This course will provide the student an opportunity to earn four college credits as a full laboratory science from University of Medicine & Dentistry of New Jersey.*

Anatomy and Physiology II

(Health Care Science Majors only)

(Prerequisite is Anatomy and Physiology I)

This one-year laboratory science course is designed to provide the students with knowledge and appreciation of the anatomy and physiology of the human body. The content covered will provide the scientific foundation for the students who are interested in health, wellness and their integration with human physiology. Anatomy & Physiology II is the study of the major life systems in the human body. The focus is to integrate each function to demonstrate the total function of the human body as a living machine. Beginning with the cardiovascular system and its unique linkage to the respiratory system, the student will follow each metabolic pathway, incorporating those physiology principles to the concept of the whole human machine. Labs will include dissection of a sheep heart and a fetal pig, slides and studies of metabolic function in health and malfunctions resulting in disease. *This course will provide the student an opportunity to earn four college credits as a full laboratory science from University of Medicine & Dentistry of New Jersey.*

Biology

This course is designed to give students an introduction to life in all its forms. The major biological topics studied are: ecology, human biology, cellular biology, biochemistry, taxonomy, diversity, systemics, genetics, Theory of Evolution, microorganisms, plants, invertebrates and vertebrates. The course will include observation and experimentation done in a laboratory.

Biology - Honors

This biology course is designed to introduce the student to the major concepts in biological sciences. Through laboratory exercises and investigation into current biological topics, students will explore the relationship between biological theory and the world around them. The student will be able to apply the concepts to every day life and gain a further understanding of the issues in the life science discipline. Topics include ecology and environmental biology, biochemistry, cellular and molecular biology, genetics and evolution. Laboratory activities are designed to reinforce the scientific process and incorporate the pervasive standard of writing in research reports.

Chemistry

This course is designed to acquaint the student with the fundamentals of chemistry through experimentation, demonstration, discussion and reading. Laboratory experience is an integral part of the course. Emphasis is on quantitative skills in treating experimental data. Symbolism, theory and mathematical implications of the theory of matter and the changes in its composition are discussed. Topics include the study of matter and energy, atomic theory and structure, reactions, chemical bonds, the nature of gases, liquids and solids, nuclear energy and radioactivity. Students are also introduced to the underlying societal issues that involve chemistry such as water needs, chemical resources, petroleum and foods.

Chemistry – Honors

(Pre-requisite is Algebra I)

This course is designed for motivated students with a high interest in science and who meet the qualifications for placement in an Honors program. Students should have completed Algebra I prior to enrolling in this course. Chemistry is the study of matter and the changes that it undergoes. The course will cover matter and energy as well as the mathematical implications of the theory of matter and energy. Other topics include atomic structure and theory, chemical reactions, bonding theory and molecular geometry, stoichiometry, states of matter, the nature and property of gases, radioactivity, nuclear reactions and equilibrium. The laboratory experience, student inquiry and mathematical applications are an integral part of this course as well as individual and group research.

Exercise Science

This course is a **semester** elective. It is designed to develop student's understanding of physiology of exercise. Students will be able to apply the knowledge gained to their own individual lives. Physiological concepts will be enforced through practical application. In addition, students will be expected to keep a personal log throughout the course to monitor and reflect on their fitness progression. Topics covered include functional anatomy, muscle and cardiovascular physiology, nutrition, fitness assessments, and training. Upon completion of this course, students will have one year to pass an exam for personal trainer certification through the National Council of Strength and Fitness. Prerequisites for this course: Biology or Honors Biology AND Chemistry, Honors Chemistry or a full year of Integrated Physical Science.

Integrated Physical Science

This is an individualized laboratory course in the introduction of the study of the physical sciences. Students will explore and learn about matter and the physical world around them. Students will be encouraged to make connections and problem-solve by inquiry learning. Topics in part one will include states of matter, atomic structure, the periodic table, chemical reactions, chemical bonding, motion and forces, work, energy. In part two, students will learn about the Earth and its place in the universe, weather, climates, the atmosphere and the environment. Integrated Physical Science will provide the knowledge, prerequisite skills, and habits of mind needed for problem solving and ethical decision making about matters of scientific and technological concern. Integrated Physical Science provides a basic foundation for advanced studies in chemistry and physics.

Physics

The student is introduced to 14 broad-based physics concepts relevant to the technological workplace. These units include the study of force, work, rate, resistance, energy, power, force transformers, momentum, waves and vibrations, energy converters, transducers, radiation, light and optical systems and time constraints. The student upon completion of this course will understand modern, interdisciplinary systems where mechanical, fluid, electrical and thermal devices work together and where the principles are applied. Daily physics laboratory exercises provide students with hands-on applications of concepts presented.

Physics – Honors

This course is designed for students with a high interest in science and who meet the qualifications for placement in an Honors program. Students should have completed Algebra II prior to enrollment in this course. Physics is the study of the interactions of matter and energy. A higher level of critical thinking ability and mathematical sophistication is expected in Honors sections. The laboratory program is closely correlated with the discussion of topics, and the student develops skill in laboratory techniques by setting up experiments, using instruments, interpreting data and evaluating experimental error. Experimentation, individual student inquiry and mathematical applications are an integral part of the course.

Nutrition – 2.5 credits

(Health Care Science Majors only)

Scientific principles of nutrition outline the relationship of diet, lifestyle and the prevention of disease. An overview of the digestion, absorption, and metabolism of protein, carbohydrates, fat, vitamins and minerals is provided. Nutrition needs at various stages of the life span are stressed. Applying the science of nutrition to your life including needs for fitness and physical activity, evaluating nutrition claims, food labeling and other consumer concerns are emphasized. The student will be provided with basic knowledge of the science of nutrition and its application in health and the prevention of disease. *This course will provide the student an opportunity to earn three college credits as a full laboratory science from University of Medicine & Dentistry of New Jersey.*

SOCIAL STUDIES

World History

This course examines the ideas, individuals, and movements from the Renaissance through the 19th century, which have been significant in shaping today's world. The contributions of civilizations and Eastern and Western Societies through time will be examined. Students will become familiar and appreciate the complexity of major issues in the contemporary world.

World History - Honors

This course examines the ideas, individuals, and movements from the Renaissance through the 19th century which have been significant in shaping today's world. Honors students will examine social, political and economic principles of the past and draw correlations between contemporary principles. This course will challenge students' ability to research and interpret select historical topics, as well as develop appropriate analytical skills and creative means of applying them.

U.S. History I

The course covers the political, economic, social and cultural growth of our nation from the Colonial period to 1900. Throughout the year, current problems are related to past events. An emphasis is placed upon those themes in the United States which have proven to be part of contemporary North American life. Activities are used throughout this course to develop the student's reading, writing, thinking and oral communication skills.

U.S. History I - Honors

The course covers the political, economic, social and cultural growth of our nation from the Colonial period to 1900. The Honors portion of this course will utilize critical thinking skills to assess the foundations of the United States. Honors students will focus on primary documents and recorded evidence to establish a clear understanding of the adversity faced in creating a new nation and gaining credibility on the world stage. Honors U.S. History I will also investigate the political, social and cultural divides present in 19th century America. Students will conclude with their assessment of Reconstruction as a success or failure. Activities are used throughout this course to develop the student's reading, writing, thinking and critical thinking skills.

U.S. History II

This course covers the time period from 1900 to the present. Emphasis will be on a broad-based view encompassing the Progressive reform movement of the early 1900s, the emerging United States domination of political, economic and cultural values, the multi-ethnic contributions to American Society and the United States' leadership in a constantly changing global environment.

U.S. History II - Honors

The course examines the 1880s through to the modern era. Topics of study will include: Urbanization and Industrialization, American Imperialism, World War I, the Roaring 20s, the Great Depression, World War II, the Cold War, the Civil Rights Movement and the Vietnam War. The focus of this course will be how the stated events have molded the world in which we live today. Students will probe primary accounts and documents, as well as film and literature pertaining to the stated topics. Students will demonstrate their understanding of the course content through written work, technological applications and various styles of presentations.

Macroeconomics – 2.5 credits
(Grade 12 Social Studies)

Macroeconomics will be offered to seniors as a semester social studies elective. This course is concerned with the behavior of the economy as a whole, with a focus on fluctuations in economic activity. Students will analyze the determinants of GNP, unemployment, the rate of inflation and the growth of output to determine how these factors affect the economy. Macroeconomics will place an emphasis on students' abilities to identify economic trends on a national level. The course will carry a strong emphasis on writing and multimedia presentations as students will be formulating their findings into a variety of reports. College credit is available in Macroeconomics to students achieving grades of "B" or better.

Global Studies – 2.5 credits
(Grade 12 Social Studies)

Global Studies will be offered to seniors as a semester social studies elective. This interdisciplinary course will focus on cultural and historical developments in three regions of the world: Africa, Asia and Latin America. The course will revolve around the geographical composition, religious beliefs and practices, the art and the contemporary economic, political and environmental issues facing these societies. Global Studies will place an emphasis on improving several academic skills including: active reading, oral articulation, map reading, research and writing. Students will be required to complete a comprehensive research project consisting of written, oral and multimedia presentations.

WORLD LANGUAGES

Chinese I

Chinese I is a course of elementary Chinese for students with little or no background in Mandarin. The training focuses on Hanyu Pinyin, pronunciation, tones, speaking and listening comprehension, daily dialogues, basic Chinese characters and phrases. The class activities make learning enjoyable and are aimed at helping students develop further communication in Chinese, as well as demonstrate the possibilities of using simple language to communicate more meaningfully and extensively with others.

Chinese II

Chinese II will teach students to focus on the four language skills of listening, speaking, writing and reading. This course will serve to help intermediate level students understand Chinese in a real world framework.

Chinese III

This course will emphasize listening comprehension in Chinese, reading with accurate pronunciation, writing Chinese characters in correct order of strokes, and improve students' fluency in conversation. This course will guide the students to extend their use of Chinese words to Chinese sentences and paragraphs; it will introduce relevant and interesting Chinese history and culture. ***Qualified students may be provided Chinese IV as an independent study.***

French I

This course is designed to provide students with the basic communication skills and cultural understanding required to use the French language in task oriented and social situations. Students will communicate at a literacy level with increasing logic and accuracy. Students will explore and appreciate similarities and differences among various cultures. Oral, reading, writing and listening skills are stressed throughout the curriculum. Entering freshman may elect to take Challenge Examinations to enter the French II program.

French II

This course continues to develop the student's skills in reading, writing, speaking and listening. There is increased oral and written expression required as well as the further study of culture and geography. Conversation and composition are more original and of greater length. Structural patterns are on an intermediate level. Reading selections consist of a variety of authentic French documents and literature. Videos, transparencies, interactive CD-Rom, music and creative projects are integrated within the program.

French III

Emphasis in French III is placed on the francophone world. Students will study Europe, Western Africa and the Caribbean via music, literature and film. Students will continue to use media resources and online interactive media to build upon the grammar and vocabulary foundation of the previous years' study. French III students may write a short story, a poem or song, create an ad campaign for a fashion product, research a facet of the Olympics and/or create a short movie clip.

French IV

This course is designed for students interested in the in-depth study of French. French IV focuses on comprehensive and in-depth work with language acquisition skills via the Aurolog software program, encompassing vocabulary, grammatical constructs, culture, dialogue and pronunciation. This is supplemented by reading, analysis and synthesis of select French texts and films. Clear, effective communication within the language is expected

Spanish I

This course is designed to provide students with basic communication skills and cultural understanding to apply the Spanish language in task oriented and social situations. Students will communicate at the novice proficiency level. They will explore and appreciate similarities and differences among various cultures. Oral, reading, writing and listening skills are stressed throughout the curriculum. Videos, transparencies, interactive CD-Rom, other technologies, music and creative projects are integrated within the program. Entering freshmen may elect to take Challenge Examinations to enter the Spanish II program.

Spanish II

This course builds on basic communication skills and further develops reading, writing, speaking and listening skills. Students strengthen their foundation in oral and written expression through presentations, compositions and other projects. Structural patterns and communication are at the novice mid-proficiency level. Various cultural topics will be explored to encourage growth and understanding. Videos, transparencies, interactive CD-Rom, other technologies, music and creative projects are integrated within the program.

Spanish III

This course continues to develop the students' skills in reading, writing, speaking and listening. There is increased oral and written expression required as well as the further study of culture and geography. Conversation and composition are more original and of greater length. Structural patterns and communication are at the novice high-proficiency level. Videos, transparencies, interactive CD-Rom, other technologies, music and creative projects are integrated within the program.

Spanish IV

This course is designed for upper-level students and heritage speakers. It combines authentic literature, grammar and vocabulary. Fundamental language skills are practiced and refined. Emphasis is placed on oral and written expression through research, projects and compositions. Cultural topics are studied through literature and projects as well. Videos, transparencies, interactive CD-Rom, other technologies, music and creative projects are integrated within the program.

ELECTIVES MEETING VISUAL AND PERFORMING ARTS REQUIREMENT – 2.5 credits each

Advertising Art and Design

This course bridges the historical traditions of art making with the aesthetics of computer technology. Students will develop visual literacy and skill, basic vocabulary of art and experience in manipulating the vocabulary through actual projects, principles of composition, color theory and concepts of space. Training will be provided in the use of pen, pencil, paint, collage techniques and painting, drawing and photo-image manipulation using Macintosh computers. Students will trace the development of art in advertising and create business cards, logos, brochures and advertisements.

Computers In Art

This course serves as an introduction to the use of computers in fine and commercial art. The use of computers to create graphics, animation and layouts and presentations will be explored. The use of capturing data or artwork through video, scanners, CD ROMs and digitizers and altering it will be covered, as well as use of software programs for drawing and animation. Additionally, reproduction of the computer art will be addressed through exploration of color printers and video cassettes. Careers in computer animation and graphics will also be explored, as well as advances in the industrial use of computer art.

Creative Movement

During this semester elective, students will learn movement concepts and skills to foster lifelong physical conditioning, flexibility, cardiovascular endurance and muscular endurance. Topics include Yoga, aerobic exercise, Jazzercise, Pilates and Laban Movement Analysis. Not offered to Dance Majors.

Creative Writing

This course is designed to develop the student's ability to write clearly and effectively from original ideas. It is expected that a student who completes this course will be able to write short stories, a one-act play, objective and subjective descriptions, structure fiction for an emotional response, identify standards of dramatization, criticize film and other media using standard terminology and develop the ability to revise, proofread and edit.

Drama

This course is designed to increase a student's skills in the fundamentals of drama and theatre. It is structured to enhance a student's awareness of voice and movement. Although students will learn about theatre history, the course will focus on active participation in which students perform daily. Activities include pantomime, improvisation, monologue and much more. The development of dramatic interpretation and effective critiquing will also be stressed. Students will study specific traits of dramatic and comedic characters along with elements of stage, film and television performances. Student will role play as directors, producers, play writers, set designers and stage hands to gain insight into all aspects of theatre.

Film Literacy

Students will explore various genres of film and media. Silent, independent and blockbuster films will be analyzed for their aesthetic, technical and commercial qualities. Students will make connections between motion picture and television and learn how to enhance their writing skills through film study. The role of literature in film will also be examined. Students will apply their skills developed throughout the course to create original short films.

Fundamentals of Music

This course would be a survey class designed to explore the fundamentals of music theory, form and style in several music genres by exploring basic scales, key systems, chords, rhythms and melody. Musical excerpts will be used to show the application of each concept. Technology includes the use of Finale Notepad to instruct and assess students' understanding.

Music & Culture of Spanish Countries

This course provides students with an overview of cultural mores, classical and popular music, trends, literature and folklore of Spanish and Latin American countries. Students will not only gain an understanding of Hispanic cultures but also key insights into the influence these cultures have had upon our own society.

Music History

Designed as an introductory music survey course, *Music History* will study concert music from the Middle Ages and Renaissance in a cultural and stylistic context with emphasis on the Baroque, Classical and Romantic periods as well as with a study of national differences in style. This course develops informed listening skills through direct and guided listening which will help students to more clearly understand the changes in musical styles, genres, and compositional techniques over the centuries. Students will also learn the basic European history that will help them to understand the context in which composers and performers made their music.

Public Speaking

This course is designed to increase a student's skills in the fundamentals of oral communication. It is structured to enhance a student's self confidence by improving their ability to write, prepare and deliver speeches, including the demonstration speech, persuasive and the informative speech and PowerPoint presentations. The development of dramatic interpretation and effective discussion techniques will also be stressed. Students will study specific characteristics of effective speechmaking including appearance, non-verbal expression, voice, tone, speech habits and organization. Speech writing will include the use of structure, content and the mechanics of written communication.

ELECTIVES- 2.5 credits each

(does not include electives that satisfy the Visual and Performing Arts requirement---See Electives Meeting Visual and Performing Arts requirement)

Anthology of Spanish Literature

This course provides an opportunity to immerse oneself in Spanish literature representing various historical periods, literary movements, genres, geographic areas and population groups within the Spanish speaking world.

Computer Applications

This course focuses on several concentrations in business technology and covers computer concepts in detail. Students will acquire skills in word processing, spreadsheet and database applications. Students will become proficient with Microsoft Office tools including Word, Excel and Access.

Contemporary Issues in Sociology

This semester course is designed for students to examine social, political and economic issues shaping our past and future. The internet, newspapers, magazines and television will be an integral part of this course. Topics include research, the cultural context of social life, socialization and gender, social groups and structure, inequality, deviance, social control and societal change.

Environmental Science

This half-year elective course is designed to develop a student's understanding of the natural environment and the existing problems that the world faces. Students will be able to apply the knowledge gained to their own ecological surroundings. Course content will be enforced through laboratory practices, as well as field work. An emphasis will be placed on local environments. In addition, students will develop an understanding of ecology in relation to making ethical decisions. Topics covered include ecological principles, population dynamics, natural resources, pollution, human interaction with the environment, and civic responsibility. Prerequisites for this course: None

Exercise Science

(Pre-requisites are Biology or Honors Biology AND Chemistry, Honors Chemistry, or a full year of Integrated Physical Science)

This half year course is a Senior-only elective. It is designed to develop a student's understanding of the physiology of exercise. Students will be able to apply the knowledge gained to their own individual lives. Physiological concepts will be enforced through practical application. In addition, students will be expected to keep a personal log throughout the course to monitor and reflect on their fitness progression. Topics covered include functional anatomy, muscle and cardiovascular physiology, nutrition, fitness assessments, and training. Upon completion of this course, students will have one year to pass an exam for personal trainer certification through the National Council of Strength and Fitness.

Flexibility and Strength Training

This course is a semester elective where students study human anatomy and physiology, kinesiology, nutrition, ergogenic aids and their relationship and application to conditioning and weight training. Students participate in and develop individual weight training and conditioning programs to improve cardio-respiratory endurance, flexibility, muscular endurance and overall body strength.

Genetics

(Pre-requisite is Biology)

This half-year elective course is designed to improve student's understanding of basic cellular biology and genetic principles. Students will be able to apply the knowledge gained to their own patterns of inheritance. Using a variety of hands-on activities and laboratory experiments, students will investigate the relationships between cellular components and physical traits. Topics covered include cellular biology, mitosis, meiosis, Mendelian genetics, protein synthesis and genetic analysis.

HSPA Preparation in Mathematics

The HSPA Preparation course is designed to prepare high school students for the New Jersey assessment in mathematics. Content and instruction is based upon individual identified needs in four major content clusters: Number and Numerical Operations; Geometry and Measurement; Data Analysis, Probability, and Discrete Mathematics; and Patterns and Algebra. The calculator is an integral part of both computation and problem solving. This class is an elective offered to grades 9, 10, and 11 for one marking period. It is combined with an additional marking period of student in HSPA Language Arts Literacy for a total of 2.5 credits.

HSPA Preparation in language Arts Literacy and Writing

The HSPA Preparation course is designed to prepare high school students for the New Jersey Assessment in grade 11 in Language Arts Literacy and Writing. Content and instruction is based upon individual needs identified in the cluster areas of Language Arts Literacy and Writing. This class is an elective offered to grades 9, 10, and 11 for HSPA Mathematics for a total of 2.5 credits.

Human Behavior I

The student will study and analyze human behavior from the conceptual framework that sociocultural items greatly influence the development of the individual's behavior and view of the world. The primary social science discipline is psychology. Emphasis is given to the development of personality, learning, thinking, emotion, motivation, conflict adjustment and troubled personality. Opportunity is given for the student to develop attitudes and practices that will strengthen a healthy mental attitude and the understanding of self and others.

Human Behavior II

(Pre-requisite is Human Behavior I)

This course offers a basis for human understanding. Emphasis is given to understanding social problems such as crime, women's liberation, drug addiction, segregation, technological unemployment, changes in the family, preparation for marriage and child rearing, plight of the poor and problems of the aged.

Integrated Physical Science I

This is an individualized laboratory course in the introduction to the study of the physical sciences. Students will explore and learn about matter and the physical world around them. Students will be encouraged to make connections and problem-solve by inquiry learning. Topics will include states of matter, atomic structure, the periodic table, chemical reactions, chemical bonding, motion and forces, work, and energy. Integrated Physical Science will provide the knowledge, prerequisite skills, and habits of mind needed for problem solving and ethical decision making about matters of scientific and technological concern. Integrated Physical Science provides a basic foundation for advanced studies in chemistry and physics.

Integrated Physical Science II

(Pre-requisite is Integrated Physical Science I)

Students will learn about the Earth and its place in the universe, weather, climates, the atmosphere and the environment. Integrated Physical Science will provide the knowledge, prerequisite skills, and habits of mind needed for problem solving and ethical decision making about matters of scientific and technological concern. Integrated Physical Science provides a basic foundation for advanced studies in chemistry and physics.

Introduction to Java I

This course will provide an introduction to the object-oriented programming paradigm using the Java™ programming language. Students will learn how to create objects, classes, and applications using Java™ to solve business and other real world problems. This course will cover the Java™ language fundamentals.

Introduction to Java II

(Pre-requisite is Java I)

This course will further explore the object-oriented programming paradigm using the Java™ programming language. Topics will include the Java Language API (application programming interface) and GUI (graphical user interface) applications. Students will create a working application to solve a real world problem using Java™.

Laboratory Sciences

This is an individualized laboratory course in the introduction of the study of technology used in the science laboratory. Students will explore and learn about matter and the physical world around them and be encouraged to make connections and problem-solve by inquiry learning. This course will incorporate the necessary skills and safety procedures required in a science laboratory. These skills are necessary for the complete understanding of procedures and techniques performed during lab sciences. Particular emphasis will be given to strengthen technical and problem-solving skills. This course will also cover technical writing in the form of scientific research and scientific laboratory reports.

Medieval History

This course will cover the time period from the fall of the Roman Empire to the era known as the Renaissance in the 15th century including selected topics of political, social, economic, and intellectual history. Students will gain an understanding of the ways medieval society functioned as a pioneer civilization, compelled to reorganize itself after the total collapse of the ancient world as well as the important interplay between the material and cultural forces in the process of social organization. Through a study of the crusades, students will also gain an understanding of the important interaction between the Western and Middle Eastern worlds.

Resource Center/Study Skills Support

This pull-out resource center program is focused on the science and art of *how to learn*. The primary goal of the course is to equip individual students with personal strategies that will help them become independent thinkers and learners in high school and beyond. To this end, a workshop approach provides a forum where teacher and students become partners in the experience of learning. In mini-lessons, students are exposed to a wide range of motivational tips and learning strategies. As students sample these techniques, they quickly learn what works best for them. Students develop a repertoire of learning strategies that help them achieve their goals for their high school classes. Units of study which address the New Jersey Core Curriculum Content Standards include: goal setting, organizational skills and habits, time management, test rehearsal and test-taking, note-taking, content-area strategies (reading, writing and mathematics) and self-advocacy skills. Based on academic load and individual needs, the Learning Disabilities Teacher-Consultant in consultation with the student, parent, counselor and teacher (as appropriate) will decide the number of semesters the student will be scheduled in the Resource Center.

SAT Preparation in English and Writing

SAT Preparation is a course designed to help students improve their SAT scores through the study of vocabulary and reading comprehension. Lessons are designed to help students become increasingly proficient in essay construction, written expression, sentence completions and responding to critical reading passages.

SAT Preparation in Mathematics

SAT Preparation is a course designed to help students improve their SAT scores through the study of mathematics, word problems and vocabulary traditionally found on the SAT.

Spanish Culture and Communication

(Pre-requisites are Spanish I and Spanish II)

This course is designed for students who have already completed Spanish I and II but who would benefit from a non-traditional Spanish course (as identified by the Spanish faculty and administration). Students focus on utilizing Spanish in oral/aural situations, especially those situations specific to their different Academies. In addition, the students examine various aspects of culture through translations of Hispanic literature, current events, web-quests and other projects.

Study Skills Support

If a student needs additional assistance to be successful, then he/she is assigned to this elective. Units of study include goal setting, organizational skills and habits, time management, test rehearsal and test taking, note-taking, content area strategies and self-advocacy skills. The student's instructors, guidance counselor, parents and students will make recommendations for participation in this course.

Video Game Programming using C#

Students will develop computer science knowledge and skills by learning how to program in C# using the Microsoft® XNA Game framework and Visual Studio® platform to create games. XNA Game Studio 3.0 will be used to create video games for Microsoft Windows®, the Microsoft Zune® digital media player, and Xbox 360.®

Although students learn how to create games, this curriculum unit is “serious” computer science. It covers most of the fundamental concepts that high school students need to know in order to succeed in introductory college-level computer science courses. The topics that are explored in this course are applicable to the wider scheme of computer science and interactive media studies.

ACADEMY AND SPECIALIZED SCHOOL CLUSTERS

Child Related Careers

The Child Related Careers Cluster is designed for ninth grade students who wish to major in child growth and development, early childhood education or social services. Studies are concentrated in career exploration, child growth and development and all early childhood curriculum areas. Students will observe and work with preschoolers in our specially equipped child care laboratory during their course of studies. Students will explore a variety of careers involving children, educational opportunities for private, public and special education, design and advertising careers related to the childhood development. Students will prepare to master competencies needed to obtain their Child Development Associate Credential (CDA) in accordance with New Jersey Department of Education Preschool Teaching & Learning Expectations.

Construction Arts Cluster

The Construction Arts Cluster is designed for ninth grade students who wish to major in one or more of the occupational areas of Construction. The course will provide students with instruction in the New Jersey Core Curriculum Content Standards Mathematics and in occupational specific proficiencies in Carpentry, Electrical Trades, Plumbing and Welding. Each unit is ten weeks in length and will give students an overview of the trade, instruction in health and safety, instruction in the use of hand and power tools and provide hands-on applications in the completion of projects. The course is an excellent prerequisite for advanced studies in Carpentry, Plumbing, Electrical Trades or Welding. Sophomores will select one area of concentration in Carpentry, Electrical Trades, Plumbing or Welding Technology for ten credits. Instruction will be on alternating days in a double-block period. Juniors will continue their advanced studies in their area of concentration for 20 credits in a daily double block of instruction.

Culinary Arts Cluster

Designed for the student who wishes to major in the field of Culinary Arts, this program focuses on providing learners with a solid foundation of proven culinary theory on which they can build a repertoire of professional skills. Emphasis is placed on current industry cooking and baking methods and techniques, while providing an extensive hands-on experience in our commercial kitchen. Freshmen start with safety and sanitation, food service equipment and knife skills. Sophomore and junior students are challenged with menu planning, recipe evaluation and development, cost control, classical cooking methods and regional cuisine.

Finance and International Business Cluster

Students learn business and financial strategies for success in a business management or financial consulting career in a global marketplace. Career pathways include Financial Services, Business Management, Financial Planning and Accounting. Grade 9 studies include Introduction to Business Law, International Business Strategies, Public Relations and Computer Applications.

Specialized academy courses include Financial Planning, International Finance, International Business Strategies, Securities Operation, Banking and Credit, Real Estate/Mortgage Financing and Accounting, Commodities Challenge and Stock Market games. Students will also operate their own business in an international closed financial network. Participating partners include the County College of Morris, Johnson and Wales University and Pennsylvania College of Technology.

Health Care Sciences Cluster

Health Care Sciences I is designed as an orientation of health care services and delivery from an interdisciplinary perspective. Students are focused on process skills including critical thinking, ethical reasoning, concept of professionalism, legal concept in health care, effective communications and foundations of personal development. Emphasis is placed on the role of the health care practitioner as both a provider and consumer of health care services. Students engage in activities in health and illness concepts, safety and infection control. Medical terminology concepts are incorporated into each lesson, providing students with the specialized language of health care profession. Students are exposed to health care industry through guest speakers, films, and field trips to health care agencies. Occupational skills include Universal Precautions, OSHA and First Aid certifications. Part I of Dynamics of Health Care in Society and Medical Terminology college courses are satisfied in this course.

Health Care Sciences II is designed as the second year of study of the basic Health Care Sciences course. Students explore the various career opportunities through shadowing professionals in the work environment. Health care team concept is visualized in field experiences. Students focus on advocacy, various client environments and unique deliveries of health care services. Students complete skills of vital signs, CPR for Health Care Providers and American Red Cross First Aid for certifications. Students learn basic concepts of nutrition through out the life span. Part II of Dynamics of Health Care in Society, Medical Terminology and Emergency and Clinical Care include college credits that are satisfied in this course.

Health Care Sciences III is designed to introduce the student to the technical components of health care delivery. Students will learn basic health assessment and physical assessment, and incorporate developmental considerations across the life span. They will learn principles of pharmacology, classifications of medications and preparation of medications using medical mathematics principles. Students will learn the intricate components of managing a health care office, the legal and ethical considerations of health care employment and medical office management. They will complete the principles and skills of basic care of clients in a health care setting. In each section, students will apply the theory to occupational practice through clinical experiences. They will engage in laboratory exercises, further career exploration with professionals engaged in specific technical activities and prepare for the SOCAT in Nursing Assistant Care. Students will prepare their resume, goals, objectives and internship agreements for their 12th grade experience. Concurrently, students will take Medical Mathematics, Nutrition and Anatomy & Physiology I through the UMDNJ articulation.

Health Care Science IV will prepare the student for entry-level positions in a health care related occupation or further education at the post-secondary level. Reinforcement of previously learned material in Nutrition and Health Prevention will be stressed as the student recognizes the importance of Wellness and Preventive care as part of the Healthy People 2110 initiative. The course will also expand on the acquired knowledge in area of professional relationships in varying health care settings as well as increased content of pharmacology and electrocardiography. The Grade 12 Option will include further science and professional courses in the areas of nursing, respiratory, dietary and general pre-medicine or therapist careers

Networking, Information Technology and Communications Cluster

CREATIVE—Multimedia	TECHNICAL—Networking
The course sequences is as follows:	The course sequence is as follows:
Freshman Year Design Concepts	Freshman Year IT Essentials I & II Computer Troubleshooting and Repair
Sophomore Year Animation Digital Video	Sophomore Year Networking I (CCNA semesters I and II)
Junior Year Understanding Mass Media Portfolio Structure and Development Visual Communications Web Design	Junior Year Networking II (CCNA semesters III and IV) Computer Forensics Wireless LAN Technology
Senior Year 3D Studio Max	Senior Year Linux I and II Network Administration
<i>Providing they meet the academic criteria, students have the option of attending County College of Morris or taking advanced courses at MCST in their senior year.</i>	

Course Descriptions for Networking and Communications

3D Studio Max—Grade: 12

Students utilize 3D Studio Max modeling and animation software to create three dimensional parts, scenes, characters, and animated imagery for video and multimedia applications. Students also explore the design and development of portfolios and create a Professional Portfolio of their work along with a Resume and Cover Letter.

Animation—Grade: 10

This course will explore techniques and practices of 2D and 3D animation. Students will gain skills in Macromedia Flash MX 2004 and Alias Maya 5. Students will develop hands-on skills by working on a number of individual assignments as well as group projects.

Computer Forensics—Grade: 11

Computer Forensics is the use of specialized techniques for recovery, authentication and analysis of electronic data when a case involves issues relating to reconstruction of computer usage, examination of residual data, and authentication of data by technical analysis or explanation of technical features of data and computer usage. Computer Forensics requires specialized expertise that goes beyond normal data collection and preservation techniques available to end users or system support personnel.

Computer Troubleshooting and Repair—Grade: 9

In *Computer Troubleshooting and Repair*, students will troubleshoot and repair computers, from monitor to mouse, from memory to motherboard. Many PC repairs involve easy disassembly followed by quick plug-in replacement parts; many other problems are fixed by running diagnostic programs and letting the software guide the work.

Design Concepts—Grade: 9

This course will explore techniques and practices of digital design, fine arts, and multimedia. Students will gain skills in the use of several software including Adobe Photoshop, Illustrator, Quark, and Macromedia Flash. Students will develop hands-on skills by working on a number of individual assignments as well as group projects. Students will also explore art appreciation, sketching, drawing, and painting. Design Concepts is a five-credit course which forms the freshman exploratory curriculum of the Academy for Networking, Information Technology, and Communications.

Digital Video—Grade: 10

This course will explore techniques and practices of digital video production. Students will gain skills in tools such as Final Cut Pro and iMovie. Students will develop hands-on skills by working on a number of individual assignments as well as group projects.

IT Essentials I—Grade: 9

This course will explore Information Technology theories and practices. Students will study concepts relating to software and hardware, networking, the Internet, Databases and E-commerce, and Information Systems. Students will develop hands-on skills by working on a number of individual assignments as well as group projects.

IT Essentials II—Grade: 9

(Pre-requisite is IT Essentials I)

This course will explore Information Technology theories and practices. Students will study concepts relating to HTML and the WWW, programming fundamentals and algorithmic problem solving. Students will develop hands-on skills by working on a number of individual assignments as well as group projects.

Networking I—Grade: 10

This course focuses on network terminology and protocols, LAN's and WAN's, Open System Interconnection (OSI) Models, Internet Protocol (IP) addressing, Ethernet, network standards, router programming & configuration, IOS software management, TCP/IP and creating and using access control lists. This course prepares students for the first half of the CCNA certification (INTRO).

Networking II—Grade: 11

(Pre-requisite is Networking I)

Students will learn concepts and practical application of switching basics, intermediate routing, variable length subnet masking (VLSM), intermediate routing protocols (RIPv2, single area OSPF, EIGRP), CLI switch configuration, Virtual LANS (VLANS), Spanning Tree Protocol (STP), and VLAN Trunking Protocol (VTP). This course prepares students for the second half of the CCNA certification (ICND, Interconnecting Networking Devices).

Network Administration—Grade: 12

Students will learn about the various kinds of servers and their functions that are found in a network as well as learn how to install, maintain, and administer network operating systems such as Redhat Linux and Microsoft Windows Server 2003/8. Students will also learn how to create network users and groups, assign users rights and privileges, be introduced to Active Directory, create and manage group policies, and develop and implement strategies for network security. In addition to the above, students will implement software and hardware RAID for data security, data backup, and basic Network Attached Storage (NAS) and Storage Area Networks (SANs) fundamentals.

Portfolio Structure and Development--Grade: 11

In this course, students have an opportunity to formally develop and design individual pieces for their professional portfolios and to structure the contents. Students will explore various frameworks and the structures targeted for professional career portfolio development or for portfolios required for admission to higher education programs in Art, Design, Film and Advertising and Marketing.

Red Hat Linux I Essentials—Grade: 12

This course is for individuals who have no command-line experience in Linux or UNIX and want to develop skills for using and customizing their own Red Hat Linux workstation. *Updated* for building skills on Red Hat Enterprise Linux 4! A power user who can effectively use, customize and script a Red Hat Enterprise Linux system for common command line processes as well as use basic network utilities. A student who successfully masters the material in RH030 is ready to begin learning system administration (RH130).

Red Hat Linux II Essentials—Grade: 12

(Pre-requisite is Red Hat Linux I Essentials)

For users of Linux (or UNIX) who want to start building skills in systems administration on Red Hat Enterprise Linux to a level where they can attach and configure a workstation on an existing network. This course provides intensive hands-on training on Red Hat Enterprise Linux 4. *Updated* for building skills on Red Hat Enterprise Linux 4! A Linux system administrator is one who has proven competency by passing the RHCT Exam, a realistic performance-based lab exam that tests his/her actual ability to install, configure and attach a new Red Hat Linux system to an existing production network.

Understanding Mass Media--Grade: 11

This course will explore Mass Media theories and practices. Students will study media planning and buying, print media, broadcast and online media, creative advertising, copywriting, design and production. Students will develop hands-on skills by working on a number of individual assignments as well as group projects.

Visual Communications—Grade 11

This course will explore the theory and practice of Visual Communications. Students will study the history of printing, graphic design and advertising principles, color theory and branding. Students will develop hands-on skills by working on a number of individual assignments as well as group projects.

Web Design—Grade: 11

This course will explore techniques and practices of Web Design. Students will gain skills in Web technologies such as HTML and JavaScript. Students will develop hands-on skills by working on a number of individual assignments as well as group projects.

Wireless LAN Technology—Grade: 11

Wireless LAN Technology is a complete course of study in the basics of network infrastructure protection. Techniques involved in this course of study utilize both hardware and software configuration in preventative problem-solving.

Veterinary Sciences Cluster

Veterinary Science Cluster course is designed for ninth grade students who wish to specialize in veterinary technology, large and small animal care, preventive medicine, practice management and research. Within the first three years, students engage in specialized courses of biology and chemistry for veterinary studies, medical terminology, comparative anatomy and physiology, microbiology for veterinary science, pharmacology, and business management and ethical and legal issues. In 10th and 11th grades, students participate in projects in preventive small animal care, emergency care of small animals, biotechnology, animal research principles, and veterinary practice management.

Visual & Performing Arts Cluster

The Academy for Visual and Performing Arts Cluster is a full-time, four-year high school program for students entering ninth grade. Students major in either Dance or Digital Imaging/Multimedia and participate in specialized interdisciplinary studies in Theater Arts, Humanities, Arts History and Visual Arts. Students participate in specialized academy courses. Career pathways for students include, but are not limited to, dance, television and media arts, advertising and design, screenwriting, computer graphics and animation, technical theater, movement science and film production.

Professional guest artists collaborate with the teaching staff in presentation of instruction. Participating partners include the Carolyn Dorfman Dance Company, Randy James Dance Works, the Bickford Theater at the Morris Museum, the Arts Council of the Morris Area, the NJ State Council on the Arts-a partner agency of the National Endowment for the Arts, Arts Horizons, the Institute for Arts and Humanities Education, Young Audiences of NJ, Dance Theater Workshop and Rutgers State University-Mason Gross School of the Arts.

SHARED TIME CAREER AND TECHNICAL PROGRAMS

20 credits

Grades: 11 and 12

Morris County School of Technology provides students the opportunity to receive daily career and technical training as part of their junior and/or senior high school program. Academic subjects are taken at the home school. Students are then transported to Morris County School of Technology for specialized career and technical training.

Minimum Requirements:

1. Be enrolled as a 11th or 12th grader in the home high school. Tenth graders may be considered for career and technical courses on an individual basis.
2. Have an acceptable academic, attendance and behavior record in the home school.
3. File an application signed by the parent or guardian and the home school counselor.
4. Have a sincere interest in the program.
5. Possess sufficient motivation to succeed in the chosen program.
6. Have sufficient maturity to work in a shop setting.

Academic Infusion Program:

Applications of Mathematics and/or Science may be experienced and credits earned in specific courses. Students receive 15 credits for their career and technical course and five credits for infused math and/or science.

MATHEMATICS AND SCIENCE INFUSION PROGRAM

Credit Awarded

Program	Credits	Academic Area
Auto Body Collision/Repair	5	Year 1 - Science Year 2 - No academic credit
Auto Body Collision/Repair (special needs)	5	Year 1 - Science Year 2 - No academic credit
Auto Service Tech I and II	5	Year 1 - Science Year 2 - Math
Auto Service Tech I and II (special needs)	5	Year 1 - Science Year 2 - Math
Building Construction (special needs)	5	One year Math for each year of participation
Building/Grounds Maintenance (special needs)	5	One year Math for each year of participation
Carpentry	5	One year Math for each year of participation
Computer Drafting & Graphics Studio	5	Year 1 - Math Year 2 - No Academic Credit
Cosmetology	5	Year 1 - No academic credit Year 2 - Science
Food Services (special needs)	0	No academic credit
Electrical Trades	5	Year 1 - Science Year 2 – Math
Plumbing	5	Year 1 - Science Year 2 – Math
Retail Supermarkets (special needs)	5	One year Math for each year of participation
Welding	5	One year Science for each year of participation

SHARED TIME PROGRAMS

AUTO BODY/COLLISION REPAIR

Grades: 11-12

Within this two-year program, students will study basic auto body repair, painting, welding, restoration, panel replacement, frame damage, repair, custom painting and the use of all tools and materials. Graduates are employed as technicians, painters and apprentices.

AUTOMOTIVE SERVICE TECHNOLOGY I and II

Grades: 11-12

To meet the needs of a changing technology, this exciting two-year program offers students the opportunity to master the needed skills to pass the Automotive Service Excellence Certification (ASE) Examinations. Training by ASE certified instructors is offered in basic automotive systems, electrical systems, braking systems, chassis and steering, computerized engine controls, selected shop skills and ASE test preparation.

CARPENTRY

Grades: 11-12

Within this one- or two-year program, students are introduced to transit and concrete wall forms, column forms, step and landing forms. Framing includes floor, wall and roof framing and common rafters. Advanced instruction includes stair building, exterior and interior trim and more complex roof frames such as hip, valley and jack rafters. Students develop a thorough understanding of the aspects of residential home construction and an understanding of basic architectural principles. Graduates have started their own businesses, worked with local contractors, entered union apprenticeships or pursued a post-secondary education.

COMPUTER DRAFTING & GRAPHICS STUDIO

Grades: 11-12

In this one- or two-year program, students transform architectural and engineering designs into finished drawings using state of the art computer equipment and the latest software releases. The first year of the program includes the basic concepts, commands and operations of the AutoCAD® software, and introduces the student to advanced techniques such as 3D Design. An optional second year is available for students who wish to pursue skills in advanced customization and photo-realistic graphics and animation techniques utilizing 3D Studio Design software.

COSMETOLOGY I and II

Grades: 11-12

The goal of this two-year program is for graduates to successfully pass the state licensing examination and become employed in the field. The units of instruction and clinic are designed to meet licensing standards of the Board of Beauty Culture. Future beauticians and barbers experience instruction in hair care, styling, perms, manicures, facials, facial massage, waxing, coloring and barbering. Second year students operate a clinic in which customer relations, shop management and professionalism are stressed.

ELECTRICAL TRADES

Grades: 11-12

The Electrical Trades program is a two-year program that covers Telecommunication, computer installations, low voltage wiring, fire and burglar alarm systems, as well as residential, commercial and industrial wiring. All of these trades overlap in scope and basic training and offer an excellent opportunity to obtain employment. Algebra is a requirement in order to pursue entrance into the union apprenticeship program.

PLUMBING

Grades: 11-12

Blueprint reading, design, layout, troubleshooting, repair, and installations are included as units of study. Students in this one- or two-year program learn plumbing codes, principles and practices concerning plumbing and heating in residential environments. In the laboratory, students will receive hands-on training in copper sweating, cutting and threading, cast iron, PVC and ABS work, underground drainage waste, vent systems and mechanical piping of gas fired heating systems. Design and installation of fixtures for bathrooms, kitchens and hot water heaters is included.

WELDING TECHNOLOGY

Grades: 11-12

This course offers students an opportunity to obtain a strong foundation in welding to meet American Welding Society (AWS) Entry-Level and Industry Standards in; Gas Metal Arc Welding (MIG), Flux Core Arc Welding, Gas Tungsten Arc Welding (TIG), Shielded Metal arc Welded (Stick), Plasma Arc Cutting, Carbon Arc Cutting, and Oxy/fuel gas processes. Students are also encouraged to use creative thinking to fabricate sculptures, design and fabricate ornamental projects, and perform repairs using various tools and equipment. Many of these students secure structured Learning Assignments with area businesses during their senior year. Upon graduation, most of these students are employed with these businesses while some will go on to pursue advanced training at any two-year or four year college.

SPECIAL NEEDS PROGRAMS

The Morris County School of Technology is committed to serving students with special needs. Accordingly, five programs are dedicated to meet these needs. The five programs respond to industry needs and are designed to equip the student with the skills he/she will need for gainful employment after graduation. These programs are available to classified students enrolled in public secondary schools who are 15-20 years of age. A complete set of Child Study Team records must accompany the application.

Applications are available from the local high schools. Any additional questions may be directed to (973) 627-4600 Ext. 238.

AUTO BODY/COLLISION REPAIR

Grades: 10-12

Within this two-year program, students will study basic auto body repair, painting, welding, restoration, panel replacement, frame damage, repair, custom painting and the use of all tools and materials. Graduates are employed as technicians, painters and apprentices.

AUTOMOTIVE SERVICE TECHNOLOGY I AND II

Grades 10-12

To meet the needs of a changing technology, this exciting one to three year program offers students the opportunity to master the needed skills to pass the Automotive Service Excellence Certification (ASE) Examinations in Braking Systems. Training by ASE certified instructors is offered in basic automotive systems, braking systems, chassis and steering, select shop skills and ASE test preparation.

BUILDING CONSTRUCTION

Grades: 10-12

This program provides hands-on training in all phases of the construction industry. Instruction begins with the use of hand and power tools. Units of study include carpentry, electrical wiring, plumbing, sheet rocking and roofing. Upon completion, students may elect to pursue advance training in one specific trade area.

BUILDING & GROUNDS MAINTENANCE SERVICES

Grades: 10-12

This course includes the study of interior and exterior maintenance of a building and the surrounding grounds. Students gain knowledge of basic electricity, plumbing, carpentry, landscaping, painting, general cleaning and maintenance.

FOOD SERVICES

Grades: 10-12

The program is designed for the special needs learner who may indicate an interest in Culinary Arts but lacks the requisite academic skills. It will specifically prepare students for employment in food service occupations in hospitals, corporate cafeterias, banquet halls, nursing homes, hotels and restaurants. Students are trained in basic food sanitation, preparation and service. Occupational training is for entry level positions in most kitchens.

RETAIL/SUPERMARKET CAREERS

Grades: 10-12

This hands-on program provides great opportunities for students interested in pursuing occupations in the retail and/or supermarket industries. Students in this program will learn about supermarket and retail business operations, product placement and display design, food safety and sanitation procedures, how to operate a small scale bakery, customer service skills, money handling skills, cash register operations, general produce knowledge, and proper grocery bagging techniques. Additionally, students in this program will acquire the life skills of resume development, job interview techniques for success and the knowledge of proper business attire. Students will be able to directly apply their knowledge and skills in practical experience in the MCST supermarket open to the campus community.

NOTES