



2017-2018 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 is to provide vocational and enrichment programs that inspire and prepare students to succeed in today's world and pursue tomorrow's opportunities.

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

Barbara Dawson, President
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Mary Dougherty, Board Member
John P. Hyland, Board Member
Roger A. Jinks, Sr., Interim Morris County Executive Superintendent of Schools
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ADMINISTRATION

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Shari Castelli, Assistant Superintendent for Curriculum & Instruction
Lynne Jackson, Principal
Athena Borzeka, Director of Student Services and Special Education
Kerry Eberhardt, Director of Programs
Mark Menadier, Assistant Principal
Rori Benson, Instructional Supervisor, CTE Programs
Doreen Dransfield, Instructional Supervisor, Academic Programs
Michael Gowdy, Grants Program Manager

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 Guidance Counseling Department

Main Telephone Number 973-627-4600 Ext. 230/238

Athena Borzeka	Director of Student Personnel Services	Ext. 229
Marisa Dillon	School Counselor	Ext. 220
Kevin Elias	School Counselor	Ext. 221
Jennifer Katz	School Counselor	Ext. 205
Stephen Ward	School Counselor	Ext. 228

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 Services, supervises the interdisciplinary work of the CST, while also serving on the team. The CST is a multidisciplinary team of professionals that includes:

- School Psychologist, Amanda Montani, Ext. 202
- School Psychologist, Robin Ravotto, Ext. 203
- 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)
- ☑ Two semesters of Visual and Performing Arts Electives (5 credits)
- ☑ One semester of Financial Literacy (2.5 credits) ◇
- ☑ Academy Program (50 credits) including a Structured Learning Experience* +
- ☑ Three semesters of Electives (7.5 credits)

(* Defined as an internship.)

(+ Senior students attending County College of Morris are required to complete 45 credits of their academy program.)

(◇ Students in the Finance and International Business Academy are exempt from this requirement.)

In addition, students **must** demonstrate proficiency on one of the following assessments:

ENGLISH LANGUAGE ARTS	MATHEMATICS
PARCC ELA Grade 9 \geq 750 (Level 4) <i>or</i>	PARCC Algebra I \geq 750 (Level 4) <i>or</i>
PARCC ELA Grade 10 \geq 750 (Level 4) <i>or</i>	PARCC Geometry \geq 725 (Level 3) <i>or</i>
PARCC ELA Grade 11 \geq 725 (Level 3) <i>or</i>	PARCC Algebra II \geq 725 (Level 3) <i>or</i>

SAT Reading * ≥ 400 <i>or</i>	SAT Math * ≥ 400 <i>or</i>
ACT Reading or ACT PLAN Reading ≥ 16 <i>or</i>	ACT or ACT PLAN Math ≥ 16 <i>or</i>
Accuplacer Write Placer ≥ 6 <i>or</i>	Accuplacer Elementary Algebra ≥ 76 <i>or</i>
PSAT10 Reading or PSAT-NMSQT Reading** ≥ 40 <i>or</i>	PSAT10 Math or PSAT-NMSQT Math** ≥ 40 <i>or</i>
ACT Aspire Reading ≥ 422 <i>or</i>	ACT Aspire Math ≥ 422 <i>or</i>
ASVAB-AFQT Composite ≥ 31 <i>or</i>	ASVAB-AFQT Composite ≥ 31 <i>or</i>
Meet the Criteria of the NJDOE Portfolio Appeal	Meet the Criteria of the NJDOE Portfolio Appeal

Note: *SAT taken prior to March 2016; **PSAT taken prior to October 2015. The College Board will establish new “cut scores” in December 2015 for the new PSAT and in May 2016 for the new SAT.

Four Year Course Offerings

Required	Selection
English (4 years)	<ul style="list-style-type: none"> ● English I* ● English II* ● English III* ● English IV*^
Mathematics (3 years)	<ul style="list-style-type: none"> ● Algebra I ● Geometry* ● Algebra II/Trigonometry* ● Pre-Calculus* ● Calculus ● AP Calculus AB ● Foundations of College Mathematics ● Probability and Statistics
Physical Education/Health (4 years)	<ul style="list-style-type: none"> ● Physical Education/Health 9 ● Physical Education/Driver's Ed 10 ● Physical Education/Health 11 ● Physical Education/Health 12
Science (3 years)	<ul style="list-style-type: none"> ● Anatomy and Physiology I ● Biology* ● Chemistry* ● Environmental Science^ ● Physics ● AP Physics I
Social Studies (3 years)	<ul style="list-style-type: none"> ● World History* ● US History I* ● US History II* ● Economics*^ ● Global Studies
World Language (2 years)	<ul style="list-style-type: none"> ● Chinese I, II, III ● French I, II, III, IV ● Spanish I, II, III, IV
Visual and Performing Arts Electives (1 year) Subject to availability	<ul style="list-style-type: none"> ● Advertising Art and Design ● Art and Composition I ● Art and Composition II ● Computers in Art I ● Computers in Art II ● Drama ● Fundamentals of Music ● Laboratory Band I ● Laboratory Band II ● Laboratory Band III

	<ul style="list-style-type: none"> ● Laboratory Band IV ● Music History ● Music Technology I ● Music Technology II ● Public Speaking I ● Public Speaking II
<p>Other Electives (2 per year)</p> <p>Subject to availability</p>	<ul style="list-style-type: none"> ● ACT/SAT Preparation in English and Writing ● ACT/SAT Preparation in Mathematics ● Civil & Criminal Law ● Contemporary Issues in Sociology ● Creative Writing ● Exercise Science ● Film Literacy ● Financial Literacy~ ● Flexibility and Strength Training ● Human Behavior I ● Human Behavior II ● Introduction to Computer Programming and Problem Solving ● Journalism I ● Journalism II ● Medieval History ● Pathway to Success ELA ● Pathway to Success Math ● Philosophy and Logic ● Video Game Programming Using C# 1 ● Video Game Programming 2 ● Yearbook 11 ● Yearbook 12
<p>Academy Programs</p> <p><i>(Course descriptions by grade level starting on page 20)</i></p>	<ul style="list-style-type: none"> ● Computer & Information Sciences ● Culinary Arts ● Education & Learning ● Finance & International Business ● Design ● Health Care Science ● Law & Public Safety ● Sports Medicine ● Veterinary Science ● Visual & Performing Arts - Drama ● Visual & Performing Arts - Multimedia
Other	<ul style="list-style-type: none"> ● Option II Learning ● Self Directed Learning (no credit)
Special Education	<ul style="list-style-type: none"> ● English Skills ● Math Skills ● History Skills ● Study Skills
Structured Learning Experience (SLE)	160 hour required internship in field of study
<p>*Honors course available ^College credit available ~Required elective</p>	

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:

		College courses & Honors courses	General
97-100	A+	5.3	4.3
94-96	A	5.0	4.0
90-93	A-	4.7	3.7
87-89	B+	4.3	3.3
84-86	B	4.0	3.0
80-83	B-	3.7	2.7
77-79	C+	3.3	2.3
74-76	C	3.0	2.0
70-73	C-	2.7	1.7
67-69	D+	2.3	1.3
64-66	D	1.0	1.0
60-63	D-	0.7	0.7

Below 60	F	0.0	0.0
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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 95% with no grade lower than a 90 (A-).

To be distinguished as an Honor Roll student, one must have a numerical average of 90% and have no grade lower than an 87 (B+).

*****Incomplete grades, or change of grades after honor roll has been run, can affect eligibility.*****

Valedictorian – Salutatorian

Valedictorian and Salutatorian will be determined based on a total cumulative average at the conclusion of the sixth semester at the end of their junior 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.

Honors Course Eligibility and Expectations

Honors Programs

Honors Courses are available in specific disciplines: 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.

Entrance Requirements for Freshman Year

Honors level placement is determined by a placement rubric that accounts for previous academic performance and standardized test scores. Mathematics, World History and Biology requires a placement exam. (NOTE: Honors level world language courses are not offered, but incoming students do have the opportunity to take a specific world language placement exam if they aspire to gain placement in a level two course.)

Entrance Requirements for Sophomore, Junior, and Senior Year

To qualify for honors-level course placement, students enrolled in a non-honors course must achieve an “A” average (90%) through marking periods 1-2, as well as scoring an 87% or above each marking period. If a

student meets this criterion, he/she will be scheduled for honors-level coursework. Each student's placement will be revisited at the conclusion of the school year. Any student who fails to maintain an "A" average or score below an 87 during the 3rd & 4th marking periods may forfeit his/her eligibility to enter an honors class.

Students who do not meet the grade requirements, but wish to apply for an honors-level course, must complete an Honors Program Appeal Form for each discipline. The window for submitting the form will be open at the beginning of May of each school year. (The exact appeal due date and the appeal form will be sent to students via email.) In addition to several student-generated responses, the Honors Program Appeal Form also consists of a teacher recommendation. When recommending students, teachers take into account classroom behavior and attitude, student motivation and work ethic, reactions to setbacks, and the student's acceptance of responsibility.

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 one and two grades, the placement will be reviewed. Communication between the teacher, parent, student, and school counselor will occur. If the recommendation is that the student be reassigned to the regular academic program, a conference with the student, parent, teacher and school counselor may 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.

Should the student be moved to a non-Honors class for any reason during the school year, the student will not be eligible for honors the following school year. If a student is removed from an Honors section, their cumulative grade will be determined based on the general scale.

Grade 12 Options

The CCM Pre-College Age Program

The CCM Pre-College Age Program affords 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:

1. Complete the 11th grade with an **overall** GPA of 3.0 or better.
2. Meet the minimum passing score on at least one of the state approved assessments for graduation.
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 CCM Pre-College Age Program application and accompanying paperwork.
5. Attendance, academics and discipline records must be in good standing.

Eligible students may opt to enroll in other participating institutions when available. 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. Please see the Option II Application for rules and guidelines.

Grade 12 Structured Learning Experience (Internship)

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 100 of these hours may be completed during the summer months (between Junior and Senior year) pending the approval of the Structured Learning Experience Coordinator and the School Board.

Service learning experience may be substituted on a case by case basis.

COURSE DESCRIPTIONS

ENGLISH

English I (9)

This course is structured as a survey that introduces students to the various units of study that they will be required to examine, analyze, and understand during their years of high school. Through the use of specific pieces of text, students will learn the “basics” of Language Arts, including elements of reading, writing, speaking, listening, language, and research. Students will develop basic Language Arts Skills, as well as the ability to think critically, and articulate thoughts coherently in both written and verbal formats.

English I – Honors (9)

This course provides the ninth grade Honors level students with opportunities to engage in in-depth critical analyses of various genres of literature, non-fiction texts, poetry and drama while utilizing a variety of media. Through examining specific texts, students will gain a deeper understanding of effective reading, writing, speaking, listening, language, and research. This writing intensive course emphasizes Language Arts skills, as well as critical thinking and self-directed learning.

English II (10)

Students will study a selection of classic novels, Shakespearean drama, non-fiction, and poetry. The overarching theme of this year asks students to examine the relationship between themselves and society. In order to become a truly engaged member of our MCST learning community and beyond, it is important that each student develop an appreciation for informed citizenship and grapple with the intricacies of group dynamics. Therefore, particular emphasis is placed on developing research skills, analyzing/implementing rhetorical and persuasive strategies, and actively participating in various group discussion formats.

English II – Honors (10)

This course provides the tenth grade Honors level student with opportunities to engage in in-depth critical analyses of cultural and social norms through various media formats. In addition to British, American and global literature, contemporary essays, along with a variety of technological resources, elucidate the dominant theme of Self and Society. This course emphasizes the informed use of language in speech, writing, and various technological formats and culminates in a research project.

English III (11)

All students study American literary classics and they will have the opportunity to reflect on and develop their own aspirations. This course is designed to take the eleventh grade students on a journey analyzing the American Dream, developing and understanding the nature of self-reliance, grappling with the ideas of perception and reality, and finally looking at the past and present to help define the future. Students will read many fiction and non-fiction works, continue to develop their persuasive writing and speaking skills, enhance their research skills, and take the next step in preparing for their senior experience.

English III – Honors (11)

This course provides eleventh grade Honor students an in-depth study of American literary classics. They will have the opportunity to reflect on and develop their own aspirations, analyze the American Dream, develop and understand the nature of self-reliance, grapple with the ideas of perception and reality, and finally look to the past and present to help define the future. Students will read many fiction and non-fiction works, continue to develop their persuasive writing and speaking skills, enhance their research skills, and take the next steps in preparing for their senior experience.

English IV (12)

As the culminating year in a four-year course of study, English IV challenges students to further develop and apply the critical thinking, reading, writing, and listening skills they have been acquiring and honing during the past three years, to today's dynamic and rapidly changing world. By providing opportunities to explore the cutting-edge ideas of contemporary writers and thinkers, this course is designed to empower learners to actively develop their unique voices, as is essential to their engagement as productive students, workers, and citizens. Simultaneously, the course presents a variety of reading, writing, and discussion activities and projects for continued practice and development of skills that are crucial to effective communication in the 21st century. (NJIT credit available)

English IV – Honors (12)

As the culminating year in a four-year course of study, English IV Honors provides a heightened challenge to students to further develop and apply the critical thinking, reading, writing, and listening skills they have been acquiring and honing during the past three years, to today's dynamic and rapidly changing world. By providing opportunities to explore the cutting-edge ideas of contemporary writers and thinkers, this course is designed to empower learners to actively develop their unique voices, as is essential to their engagement as productive students, workers, and citizens. Simultaneously, the course presents a variety of reading, writing, and discussion activities and projects for continued practice and development of skills that are crucial to effective communication in the 21st century. The English IV Honors coursework is designed to prepare students for advanced college-level coursework, and is therefore more rigorous in expectations for reading load, text complexity, writing expectations, student autonomy, and overall level of dedication to personal growth in the subject area. (NJIT credit available)

MATHEMATICS

Algebra I (9)

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 understanding and solving rational expressions and equations, linear and exponential relationships, quadratic and exponential functions, complex solutions to equations, fluency with functions, using descriptive statistics, and linear modeling. Translation, interpretation and analysis of problem solving situations are integrated throughout the course. The scientific and graphing calculators are used as both problem-solving and learning tools.

Geometry (9-10)

(Prerequisite: Algebra I or qualifying placement exam)

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 (9-10)

(Prerequisite: Algebra I or qualifying placement exam)

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 (9-11)

(Prerequisite: Algebra I and Geometry or qualifying placement exam)

Building on Algebra I, this course will extend function concepts to include polynomial, rational, and radical functions. Students will explore the effects of transformations on graphs of functions and identifying an appropriate model for a given situation. Students will be introduced to trigonometry and they will learn to relate data to probability distributions. Samples, surveys, experiments and simulations will be used as methods to collect data. Throughout the course, the students are 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 (9-11)

(Prerequisite: Algebra I and Geometry Honors or qualifying placement exam)

Building on Algebra I, this course will extend function concepts to include polynomial, rational, and radical functions. This course is designed for students who have demonstrated proficiency in Algebra I and Geometry Honors and who continue to qualify for placement in honors classes. This course covers the topics in Algebra II with a stronger emphasis on problems solving and critical thinking. The students will acquire competencies in algebraic and trigonometric techniques and become prepared for Pre-Calculus and see the connections among algebra, geometry and trigonometry. The computational level and pace is more demanding, and the course is extended to cover topics on logarithms, conics, sequences and series and trigonometry.

Pre-Calculus (11-12)

(Prerequisite: 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 (11-12)

(Prerequisite: Algebra II Honors/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 (11-12)

(Prerequisites: Algebra I, Geometry, and Algebra II/Trigonometry)

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.

AP Calculus AB (11-12)

(Prerequisites: Algebra I, Geometry, and Algebra II/Trigonometry)

Calculus AB develops the student's understanding of the concepts of calculus and provides experience with its methods and applications. The course emphasizes a multi-representational approach to calculus, with concepts, results, and problems being expressed graphically, numerically, analytically, and verbally. Broad concepts and widely applicable methods are emphasized. Through the use of the unifying themes of derivatives, integrals, differential equations, limits, approximation, applications and modeling, the course is a cohesive whole rather than a collection of unrelated topics. Students may elect to take the AP Calculus AB exam to potentially earn college credit.

Foundations of College Mathematics (12)

This is a college preparatory class designed to provide twelfth grade students with the core mathematical principles required for success in an entry-level college math course. Topics covered will include: Number Theory, Set Theory, Symbolic Logic, Traditional College Algebra Topics, Counting Methods, Probability, and Personal Finance.

Probability and Statistics (11-12)

(Prerequisite: Algebra II)

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.

PHYSICAL EDUCATION/HEALTH and WELLNESS

Physical Education and Health 9

(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 Driver Education Theory 10

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 11

(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 12

(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 participate in the Physical Education and Health requirement beginning with the Class of 2018****

SCIENCE

Anatomy and Physiology I (11-12)

This course 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.

Biology (9)

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 observations, laboratory activities, lessons and assessments are aligned to the New Generation Science Standards.

Biology – Honors (9)

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 everyday 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 (10)

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. The course will include inquiry, laboratory activities, lessons and assessments are aligned to the Next Generation Science Standards.

Chemistry – Honors (10)

(Prerequisite: 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 course will include observations, laboratory activities, lessons and assessments that are aligned to the Next Generation Science Standards.

Environmental Science (11-12)

This full 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 and how they themselves are contributing to the overall Human impact upon the environment. Course content will be enforced through laboratory practices, research projects, as well as field work. 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.

Physics (11-12)

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.

AP Physics I (11-12)

(Prerequisite: Algebra II or teacher recommendation)

Students explore principles of Newtonian mechanics (including rotational motion); work, energy, and power; mechanical waves and sound; and introductory, simple circuits. The course is based on six Big Ideas, which encompass core scientific principles, theories, and processes that cut across traditional boundaries and provide a broad way of thinking about the physical world. Students may elect to take the AP Physics I exam to potentially earn college credit.

SOCIAL STUDIES

World History (9)

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 (9)

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 (10)

The course covers the political, economic, social and cultural growth of our nation from the Colonial period to the early 1900s. 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 (10)

The course covers the political, economic, social and cultural growth of our nation from the Colonial period to the early 1900s. The Honors portion of this course will utilize critical thinking skills to assess and evaluate the foundations of the new nation. 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 the course with the study of industrialization, immigration, and imperialism setting the stage for the emergence of modern America. Activities are used throughout this course to develop the student's reading, writing, thinking and critical thinking skills.

U.S. History II (11)

This course covers the time period from World War I (1914) to the present. Emphasis will be on a broad-based view encompassing 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 (11)

The course examines World War I through to the modern era. Topics of study will include: 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.

Economics (11-12)

The Economics course is designed to offer students the opportunity to gain a greater understanding of the fundamentals of economic thinking, the laws of the marketplace, government's role in the economy, production, distribution, and consumption of goods and services with emphasis on current events to help students make sense of daily news events. Economics is a full year course which encompasses both macroeconomic and microeconomic topics. The first semester is focused on establishing a base of fundamental economic knowledge by introducing the role of scarcity, different macroeconomic models, and a study of different economic systems. The course then transitions into microeconomic topics such as the market forces of supply and demand, elasticity and its application, and the efficiency of markets. Throughout the year, students will explore several macroeconomic as well such as measuring a nation's income, unemployment, inflation, and the influence of monetary and fiscal policy. (NJIT credit available)

Economics Honors (11-12)

In addition to covering all the material associated with the standard economics course, students who elect to take the honors level course will think critically about the relationship between economics and politics and analyze concepts at an advanced level. The students will be required to apply economic theory to contemporary social, political, and economic issues. Students will also be asked to formulate and support opinions on several topics, including the degree of influence the government should have on the economy, whether the government should balance its budget, and the collection and distribution of tax revenue. (NJIT credit available)

Global Studies (11-12)

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 LANGUAGE

Chinese I

Chinese I is a course for students with little or no experience with Mandarin. The curriculum focuses on speaking and listening comprehension as well as some simple reading, character writing and typing skills. The class activities are designed to make learning enjoyable and helping students develop communication skills in Chinese. These activities are also intended to demonstrate the possibilities of using simple words to communicate more meaningfully and extensively with others.

Chinese II

Chinese II is designed for students who already have some basic experience with Mandarin. Students will keep their focus on the four skills of language: listening, speaking, writing and reading. They will continue to develop their vocabulary capacity. This course will allow students with intermediate level language skills to practice Mandarin in a real world framework.

Chinese III

Chinese III will emphasize listening comprehension, speaking with accurate pronunciation, writing Chinese characters and improving students' fluency in conversation. Students will need to apply what they learned to create real world projects, such as, making an order in a Chinese restaurant, announcing a weather broadcast, writing a diary entry about traveling to China. The students' concept of Chinese history and cultural events will also broaden.

French I

French I is designed to provide students with the basic communication skills and cultural understanding required to use elementary French language in task oriented and social situations. Students will communicate at a literacy level with increasing logic and accuracy. Students will explore the geography of France and appreciate the similarities and differences among various francophone cultures. Oral, reading, writing and listening skills are stressed throughout the curriculum. (Entering freshmen must take a Placement Examination to enter the French II program.)

French II

French II continues to develop 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 couture. Conversation and composition are encouraged with more support given to those skills. Structural patterns are progressing toward intermediate level. Reading selections consist of elementary literature in French. Films, short videos, interactive web quests, music and creative projects are integrated within the program. (Entering freshmen must take a Placement Examination to enter the French II program.)

French III

French III emphasizes more depth of grammar and conversation while students also explore the phonetics of the language. Composition and conversation are more original and of greater length. Reading selections consist of a variety of authentic French documents and literature. In French III, the students explore cuisine and related conversation. Major events and personages throughout the history of France and Europe are also studied. Students will continue to use media resources and online interactive sites to build upon the grammar and vocabulary foundation of the previous year's study.

French IV

French IV 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 various text and digital resources. Clear, effective communication within the language is expected. The program encompasses vocabulary, phonetics, grammatical constructs, culture, dialogue and pronunciation. These are promoted by reading, analysis, and synthesis of select French texts and films. French IV students explore early and mid 20th century "avant-garde" artists and writers with Paris as the epicenter of those movements. Students may write essays, stories, poems or create multimedia presentations to enhance research of elements learned throughout the course.

Spanish I

The Spanish I course is designed for students with little or no Spanish background and will provide students with basic communication skills and cultural understanding to apply the Spanish language in task oriented and social situations. They will explore and appreciate the similarities and differences among various Hispanic cultures. Oral, reading, writing, and listening skills are stressed throughout the curriculum. Videos, other technologies, music, and creative projects are integrated within the program. Additionally, various online activities are utilized to enhance the classroom experience. (Entering freshmen must take a Placement Examination to enter the Spanish II program.)

Spanish II

The Spanish II 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. Various cultural topics will be explored to encourage growth and understanding.

Videos, other technologies, music, and creative projects are integrated within the program. Additionally, various online activities are utilized to enhance the classroom experience. (Entering freshmen must take a Placement Examination to enter the Spanish II program.)

Spanish III

The Spanish III 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. Videos, other technologies, music, and creative projects are integrated within the program. Additionally, various online activities are utilized to enhance the classroom experience.

Spanish IV

The Spanish IV course is a literature-based course which utilizes authentic Spanish texts. Students analyze the literature using the Spanish language and they learn new Spanish grammatical structures and vocabulary through the literary pieces studied. Emphasis is placed on oral and written expression through research, projects and compositions. Cultural topics are studied through literature and projects as well. Videos, other technologies, music and creative projects are integrated within the program. Additionally, various online activities are utilized to enhance the classroom experience.

VISUAL AND PERFORMING ARTS ELECTIVES – 2.5 credits each

The following satisfy the Visual and Performing Arts graduation requirements.

Advertising Art and Design (9-12)

Students will develop visual literacy, 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, photo-image manipulation, screen printing and a variety of mixed media. Students will trace the development of art in advertising and create projects that support a specific type of arts process.

Art and Composition I (9-12)

Drawing is designed to foster student interest and ability in rendering and expanding experiences in two-dimensional expression. Portraiture, figure drawing, perspective, still life, landscape, variety of technique and design approaches are investigated. Emphasis is placed on a concentrated study of drawing skills within the context of each lesson and topic area. Variety of media, historical references and aesthetic inferences are used to enhance knowledge and application.

Art and Composition II (10-12)

(Prerequisite: Art and Composition I)

Students will take their understanding of basic composition learned in Art and Composition I and apply color theory. Students will explore ways of achieving color harmony within a composition throughout a variety of media, such as painting on canvas, mural painting, digital painting, etching, collage, screen printing, etc. The goal of the course is to further develop a personal artistic style through critiques, references to art history and arts practice.

Computers In Art I (9-12)

This course serves as an introduction to the use of computers in fine and commercial art. The use of computers to create graphics, animations, layouts and presentations will be explored. The use of capturing and altering data or artwork through digital skills 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 student websites. Careers in computer animation and graphics will also be explored as well as advances in the industrial use of computer art.

Computers In Art II (10-12)

(Prerequisite: Computers in Art I)

Students will take their basic understanding of digital tools in Adobe Photoshop, Illustrator and Flash to explore ways of creating complex compositions. Students will explore new programs like Adobe After Effects and have opportunities to further explore personal style by using preferred software to develop dynamic digital composites. Careers in computer animation and graphics will also be explored as well as advances in the industrial use of computer art.

Drama (9-12)

This course is designed to increase the students' skills in the fundamentals of drama and theater. It is structured to enhance the students' 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 stagehands to gain insight into all aspects of theater.

Fundamentals of Music (9-12)

This course is 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.

Laboratory Band I (9-12)

(Prerequisite: Must play and own a musical instrument)

This course is designed to broaden the students' concept and knowledge of music by developing the skills to perform in various ensembles of various genres including jazz, folk, classical and rock. In addition to the skills needed to properly execute a performance, the students should know the general and historical setting of the composition as well as understand the rhythmic, melodic, harmonic and design principles used by the composer. They should also be able to relate the style of each composition to the works that they have heard or played. Through the use of music composition software and instruction in music theory, students will be able to arrange, construct and compose their own parts as related to their specific instrument and incorporate those parts into the context of the ensemble.

Laboratory Band II (10-12)

(Prerequisite: Lab Band I - Must play and own a musical instrument)

This course is designed to continue to broaden the students' concept and knowledge of music by developing the skills to perform in various ensembles of various genres including jazz, folk, classical and rock. Through the use of music composition software and instruction in music theory, students will be able to arrange, construct and compose their own parts as related to their specific instrument and incorporate those parts into the context of the ensemble. The emphasis in Lab Band 2 will be on student arrangements of musical selections and how that arrangement utilizes the topics and proficiencies covered in class. A constant striving toward excellence in technical and musical skills will be valuable long after the final performance. In addition to the skills needed to properly execute a performance, the students should know the general and historical setting of the composition as well as understand the rhythmic, melodic, harmonic and design principles used by the composer. They should also be able to relate the style of each composition to the works that they have heard or played.

Laboratory Band III (11-12)

(Prerequisite: Lab Band II - Must play and own a musical instrument)

This course is a continuation of music theory concepts, including diatonic harmony, major and minor scales, modes and key systems and improvisation techniques. Music technology will feature music writing software and the setup and operation of live sound reinforcement systems, microphone types and selection, monitor systems and their application with musical groups.

Laboratory Band IV (12)

(Prerequisite: Lab Band III - Must play and own a musical instrument)

This course is a continuation of music theory concepts including seventh chords, secondary dominants and leading tone chords, modulation, binary and ternary form of improvisation topics over standard blues and jazz chord progressions. Lab Band VI will also feature music writing software and audio recording studio in a small environment, microphone selection and placement, creating sound treatments, application of plug-in effects and the use of auxiliary tracks and busses as well as mixing in a digital format.

Music History (9-12)

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.

Music Technology I (9-12)

Music Technology is a course in the principles of audio and sound recording. Topics include sound waves, acoustics and the audio spectrum, console and signal flow, equalization and compression, microphones and their placement, effects, digital audio formats, and MIDI basic concepts. Emphasis is placed upon advancing students' digital literacy and technical abilities through projects that develop the students' skills in the realm of music technology. Students will gain proficiency in music writing software and DAWs (Digital Audio Workstations). These skills can apply to career opportunities that exist in the 21st Century job market: Film scoring, commercial advertising, media production, acoustic engineering, TV/Radio production, e-media/web production, electronic systems design, music composing, and arranging.

Music Technology II (10-12)

(Prerequisite: Music Technology I)

Music Technology II is a continuation of the principles of audio and sound recording. Topics include sound waves, acoustics and the audio spectrum, console and signal flow, equalization and compression, microphones and their placement, effects, digital audio formats, and MIDI basic concepts. Emphasis is placed upon advancing students' digital literacy and technical abilities through projects that develop student's skills in the realm of music technology. Students will gain proficiency in music writing software and DAWs (Digital Audio Workstations). These skills can apply to career opportunities that exist in the 21st Century job market: Film scoring, commercial advertising, media production, acoustic engineering, TV/Radio production, e-media/web production, electronic systems design, music composing, and arranging.

Public Speaking I (10-12)

This course is designed to develop student fundamentals of oral communication and to enhance student self-confidence by improving writing, speaking and listening skills. Students will participate in collaborative class discussions to strengthen informal speaking and active listening abilities. Creative writing, organization strategies and presentation techniques will also be stressed. Students will study specific characteristics of effective speechmaking including appearance, non-verbal expression, voice, tone, speech habits and dramatic interpretation. Speech writing will include the use of structure, content and the mechanics of written communication. Students will improve their ability to write, prepare, and deliver speeches by paying attention to the subject, purpose and audience of each speech. Speeches will include (but are not limited to) the following: personal experience speech, demonstration speech, persuasive speech, motivational speech, eulogy/tribute, speech to inform, and speech to entertain. This course will include instruction on presenting speeches using a variety of media and developing effective interview skills which will be utilized in creation and development of the school wide Friday Video.

Public Speaking II (10-12)

A continuation of Public Speaking I where students assume leadership roles in bringing projects together, this course is designed to develop student fundamentals of oral communication and to enhance student self-confidence by improving writing, speaking and listening skills. Students will participate in collaborative class discussions to strengthen informal speaking and active listening abilities. Creative writing, organization strategies and presentation techniques will also be stressed. Students will study specific characteristics of effective speechmaking including appearance, non-verbal expression, voice, tone, speech habits and dramatic interpretation. Speech writing will include the use of structure, content and the mechanics of written communication. Students will improve their ability to write, prepare, and deliver speeches by paying attention to the subject, purpose and audience of each speech. Speeches will include (but are not limited to) the following: personal experience speech, demonstration speech, persuasive speech, motivational speech, eulogy/tribute, speech to inform, and speech to entertain. This course will include instruction on presenting speeches using a variety of media and developing effective interview skills which will be utilized in creation and development of the school wide Friday Video.

OTHER ELECTIVES- 2.5 credits each

The following do not satisfy the Visual and Performing Arts graduation requirements.

ACT/SAT Preparation in English and Writing (10-12)

ACT/SAT Preparation is a course designed to help students improve their ACT or 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.

ACT/SAT Preparation in Mathematics (10-12)

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

Civil and Criminal Law (11-12)

Most of us are familiar with the criminal law from movies and television; however few of us realize that we encounter the civil law every day of our lives. Whether we are going to school, getting married or divorced, renting, buying or selling a home, using a computer or cell phone, or just walking down the street the civil law governs our conduct. The Civil and Criminal Law course starts with a unit on legal philosophy and addresses questions such as: "Why do we need laws?", "Is there an obligation to obey the law?" and "When is breaking the law justified?" as well as others. The course also includes a brief survey of legal history to better understand where our legal traditions come from. We then cover Civil Law including Torts, Contracts, and Family Law. Basic concepts relating to Criminal Law and Criminal Procedure will be covered next, as well as the elements of major crimes such as homicide. The constitutional protections afforded to those accused of crimes will be examined in detail. The course concludes with a brief study of the law of evidence and a mock trial project.

Contemporary Issues in Sociology (9-12)

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.

Creative Writing (9-12)

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.

Exercise Science (10-12)

(Prerequisite – Flexibility and Strength)

This half year course is designed to develop 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.

Film Literacy (9-12)

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.

Financial Literacy (9-12)

Students will demonstrate understanding about how the economy works and their own role in the economy, and also develop the necessary skills to effectively manage personal finances. Students will apply knowledge, skills and ethical values when making consumer and financial decisions that impact self, the family, and local and global communities.

Flexibility and Strength Training (9-12)

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.

Human Behavior I (9-12)

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 (10-12)

(Prerequisite: 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.

Introduction to Computer Programming and Problem Solving (9-12)

Introduction to Computer Programming and Problem Solving is designed to introduce students to the fundamentals of programming through the development of problem solving and communications skills. The emphasis is on problem solving, programming methodology, algorithms, communications and the ethical use of computers. Students will learn these skills through the Alice Computer Programming Environment, a three dimensional virtual world where students create animations that implement a given scenario. Although students may have had previous computer experience, no programming knowledge is assumed. Students use object-oriented techniques to design and implement their programs in Alice.

Journalism I (10-12)

This course will introduce students to the various aspects of the field of journalism. Students will analyze print and digital media while exploring the history of journalism and how it has evolved in this digital age. Students will learn how a newsroom operates as well as the basic functions of newspaper, magazine, and live broadcast productions. In addition, students will be responsible for creation of content for the online school newspaper. There will be a focus on the ethics and responsibilities of journalists, as well as an emphasis on the writing process through the development and publishing of their own writing, including interviewing, photojournalism, opinion writing, and basic reporting.

Journalism II (10-12)

(Prerequisite: Journalism I)

This course is a continuation of Journalism I where students will assume leadership roles in bringing together the online school newspaper. The course will continue to analyze print and digital media while exploring the history of journalism and how it has evolved in this digital age. Students will continue to learn about newsroom operation as well as the functions of newspaper, magazine, and live broadcast productions. Ethics and responsibilities of journalists will continue to be explored, as well as the emphasis on the writing process through the development and publishing of their own writing, including interviewing, photojournalism, opinion writing, and basic reporting.

Medieval History (9-12)

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.

Pathway to Success ELA (9-12)

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 – 12 who have not yet demonstrated proficiency on the PARCC assessment in English Language Arts. The course curriculum prepares students in areas such as grammar, sentence structure, punctuation, comprehension and writing as well as in test taking skills. For seniors, this class will also assist with building a portfolio should the appeals process become necessary.

Pathway to Success Mathematics (9-12)

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 - 12 who have not yet demonstrated proficiency on the PARCC assessment in Algebra I, Geometry or Algebra II. The course curriculum prepares students in areas covered by the PARCC as well as in test taking skills. For seniors, this class will also assist with building a portfolio should the appeals process become necessary.

Philosophy and Logic (9-12)

The Philosophy & Logic course is designed to equip students with the critical thinking skills they will need in order to be successful adults and informed citizens. The course starts with a brief survey of Western philosophy as well as a comparison between Eastern and Western philosophy. Students will ponder questions such as: “What is real?” “How is knowledge constructed?” “How should one act?” and “How should society be organized?” as well as many others. The second half of the course deals specifically with logical reasoning and critical thinking skills. Students will identify the basic elements of an argument and examine the major logical fallacies in detail. Students will develop strong logical reasoning skills including determining whether a statement could be true or must be true, identifying assumptions, spotting faulty arguments, making valid inferences, and strengthening and weakening arguments.

Study Skills (9-12)

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.

Video Game Programming 1 (9-12)

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.

Video Game Programming 2 (10-12)

This intermediate level programming course is intended as the second half of a pair of courses that includes Introduction to Video Game Programming. It is designed to build on the experience gained by students in the first course in areas such as the C# programming language, Visual Studio, and proper programming technique. This will be accomplished primarily through game development for the Xbox and PC utilizing the XNA game studio software. While the students will learn how to create games, the course should really be regarded as one which teaches programming. All of the issues that are explored are also applicable in the wider scheme of software development.

Yearbook 11

This is an elective course that gives students experience in photography, computer graphics, design, creative writing, and business. Students will use critical thinking skills as well as creativity to create a book that appeals to various audiences, for different purposes. Students also have the opportunity to work as a group and collaborate on all aspects of production. This elective is very different from other classes in that it works toward the completion and distribution of a finished product.

Yearbook 12

A continuation of Yearbook 11 where students assume leadership roles in bringing projects together. This is an elective course that continues to provide students experience in photography, computer graphics, design, creative writing, and business. Students will use critical thinking skills as well as creativity to create a book that appeals to various audiences, for different purposes. Students also have the opportunity to work as a group and collaborate on all aspects of production. This elective is very different from other classes in that it works toward the completion and distribution of a finished product.

ACADEMY CLUSTERS

COMPUTER AND INFORMATION SCIENCES ACADEMY CLUSTER

This academy program provides students with a comprehensive overview of computers, Internet technology, networking administration and security, computer programming and software engineering.

Freshman Year (Foundations of Computer Science)

This year students will gain general knowledge about computer hardware, software, languages, networks, and their impact on the modern world. Students will gain a conceptual understanding of the principles of computer organization, the basic steps in algorithmic problem solving, computer networks, organization of Internet elements, web design and hypermedia. Students will be introduced to basic computer programming.

Sophomore Year (Computer Logic & Object Oriented Design)

Students will develop the computer science skills of algorithm development, problem solving, and programming while using software engineering principles. While the emphasis of the course will be on programming, students will also be introduced to other important topics, such as interface design, the limits of computers, and societal and ethical issues of software engineering.

Junior Year (Networking/AP Computer Science)

Students will explore specific career-related topics in computing. Using the skills and knowledge obtained in the previous two years, students will explore current topics crucial to maintaining smooth-functioning network systems. Topics include: network security, virtualization, cloud Computing, VMWare and network administration. Juniors will also take *AP Computer Science A*, a course and exam in introductory computer science. The course emphasizes object-oriented programming methodology with a concentration on problem solving and algorithm development, and is meant to be the equivalent of a first-semester college-level course in computer science. It also includes the study of data structures, design, and abstraction.

Senior Year (Independent Projects in Computer Science/Unmanned Aerial Vehicle Technology)

During the senior year, students will have the opportunity to explore, in a project-based setting, topics related to various disciplines in computer science. Examples of projects include: Robotics Programming, Video Game Programming, Web Programming, Emerging Technologies (i.e. app development for smart phones and tablets) or Industry Certification Programs.

CULINARY ARTS ACADEMY CLUSTER

This academy 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.

Freshman Year (Intro to Culinary Arts)

Students are introduced to the field of culinary arts. Students will learn basic fundamentals and techniques associated with becoming a professional chef. Topics covered include knife skills, cooking techniques, product identification, and an overview of the history of and careers within the culinary arts profession, as well as tasting, kitchen equipment, classical vegetable cuts, thickening agents, palate development, culinary terms, and food costing. Additionally, students will learn food safety and sanitation, an introduction to food production practices governed by federal and state regulations. New skills specific to high-production preparation and serving will be taught. Exploration emphasizes high-volume food production, cooking with consideration for dietary needs and menu concept development and execution. Vegetarian & vegan menus will also be introduced. An overview of the food preparation and serving techniques used by the casual dining, on-site catering, non-commercial, and retail segments focusing on application of fundamental cooking theories and techniques. Emphasis is placed on individual as well as team production.

Sophomore Year (Cooking Foundations)

Students will continue to learn and perfect skills acquired during freshman year. Sample topics of study include stock production, soup preparation, grand sauces, palate development, culinary terms, and food costing. Skills specific to high-production preparation and serving will be taught.

Junior Year (Baking & Pastry and Advanced Culinary Skills)

An introduction to the principles and techniques used in the preparation of high quality baked goods and pastries will be provided. Baking fundamentals include the process of understanding ingredients, weights and measurements, formula conversion and costing of recipes. Students will also use equipment associated with baking and develop different types of breads, pastries, and pastry related showpieces. Students will research, report and prepare, taste, serve, and evaluate traditional regional dishes representative of the United States. Students will also research, report and prepare products using ingredients and preparation methods indigenous to international geographical regions around the world. Emphasis will be placed on ingredients, flavor profiles, preparations and techniques. Additionally, students will examine the basic concepts and principles of nutrition. Students learn about basic nutrients, food labeling, nutritional principles, current issues in nutrition, and the application of nutritional principles to menu development. Students will also be involved in nutritional analysis of recipes.

Senior Year (Capstone and Independent Career Exploration)

During the senior year, students will draw from their experiences of the previous three years, apply their knowledge and have the opportunity to explore, in a project-based setting, topics related to various disciplines in culinary arts.

DESIGN ACADEMY CLUSTER

This program gives students a foundation in careers in art, animation, film, 2D and 3D design, advertising, marketing, web design, illustration, multimedia, television, public relations, special effects and animation. The academy course sequence includes:

Freshman Year (Design Concepts)

This year students will explore techniques and practices used in digital design. Students will learn the skills of the trade by creating various project pieces in Adobe Photoshop, Illustrator, Quark, and Macromedia Flash.

Sophomore Year (The Moving Image)

This year, students will build upon their knowledge of Macromedia Flash to create more complex 2D animations. Students also learn how to use Alias Maya to generate 3D animations, as well as explore techniques and practices of digital video production. Students will learn how to use Final Cut Pro and iMovie to create videos.

Junior Year (Visual Communication & Media Arts)

Students will explore Mass Media theories and practices. Students study media planning and purchasing; print media, broadcast and online media, creative advertising, copywriting, design and production. They will also students study the history of printing, graphic design, advertising principles, color theory and product branding. Students will also explore techniques and practices of web design. Students will use HTML and JavaScript to create websites.

Senior Year (Structured Portfolio)

Students formally develop and design individual pieces for their professional portfolio. Students may opt to further explore 3D animation by using 3D Studio Max.

EDUCATION AND LEARNING ACADEMY CLUSTER

This program is designed for the student who wishes 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.

Freshman Year (Introduction to the Field of Education)

Education & Learning Academy students will start their experience at the Morris County School of Technology by exploring how to provide care and educational instruction to children. Material covered in class will include over-arching topics such as preparing the classroom environment and developing guidance skills. As the class progresses, student will delve into more specific subject matter, such as storytelling experiences sensory experiences, and nutrition. Students will complete a yearlong child study consisting of monthly progress reports and evidence of the child's development.

Sophomore Year (Childhood Development and the Learning Process)

During sophomore year in the Education & Learning Academy students investigate the application of subject specific activities in the pre-school classroom. Topics of study include guided experiences in math, science, and social studies. Students also continue to work off the foundation established during their freshman year by probing deeper into nutrition by learning about healthy meals and snacks for children. Students complete a second child study and bulletin board, as well as developing an anthology consisting of a variety of materials for a specific season, holiday, or theme.

Junior Year (Social, Political, and Economic Trends in Education)

Students begin to hone their understanding of the practical applications of classroom instruction. Students will spend more time teaching the pre-school children and will be required to develop a comprehensive five-day sequential unit plan on a specific area of study. Students are responsible for developing main activities and table time dittos, as well as coordinating music that suits the selected theme. Throughout the year, students continue to develop bulletin boards and conduct child study activities. Junior students will also take *Child Psychology*, a required junior year elective consisting of the interplay of biological, psychological, and cultural forces that shape the growing child from prenatal development through adolescence. Students will learn to interpret relevant research using a critical-thinking approach. Special emphasis will be placed on cognitive, language, physical, social, and emotional development. It will cover a variety of factors that influence child development.

Senior Year (Professional Roles & Responsibilities of Educators)

Senior year requires students to draw from their experiences of the previous three years and to apply their Knowledge towards assisting MCST teachers or other institutions in their educational endeavors. Students are responsible for logging their progress and have the opportunity earn additional points towards their cumulative grade. Senior students in the Education & Learning Academy also engage in a Senior Focus project that allows them to design a program to explore a specific area of interest.

FINANCE AND INTERNATIONAL BUSINESS ACADEMY CLUSTER

Students learn business and financial strategies for success in a business management or financial consulting career in a global marketplace. Students will also operate their own business in an international closed financial network.

Freshman Year (Introduction to Business Law & International Business Strategies)

This ninth grade introductory course allows students to explore the various topics of international business including the study of the influences on global business, the role governments play global business, the structures of international Business organizations, importing and exporting goods, trade relations, foreign exchange and international finance. The course also covers legal agreements around the world, global entrepreneurship & small business management.

Sophomore Year (Introduction to Accounting, Banking and Credit)

The second year of study includes introductory topics in accounting and banking. Students explore such topics as accounting in business, analyzing and recording transactions, adjusting accounts and preparing financial statements. Students learn the development of U.S. banking systems, how the Federal Reserve System works. The course also covers how interest works, the system of deposits in banks, negotiable instruments, bank loans, mortgages, and commercial lending.

Junior Year (Accounting I – Financial Planning and Principles of Finance)

The junior year focuses on more in-depth accounting principles such as inventories, cost of sales, cash and internal controls, long-term assets, and current liabilities. Students also learn about topics in finance including financial environment of business, financial management planning, financial Records, short-term and long-term financial activities and business insurance.

Senior Year (Accounting II – Independent Projects in Business and Marketing)

Seniors in the Finance and International Business Academy continue their studies in accounting while also learning about the basics of marketing. Marketing Topics include socially responsive marketing, marketing & economics, basics of marketing, marketing information & research, understanding consumer behavior, competition & marketing, E-commerce & virtual marketing, marketing strategy & marketing planning.

HEALTH CARE SCIENCES ACADEMY CLUSTER

Health Care Sciences is a comprehensive program delivered from an interdisciplinary perspective. See below for academy program specifics:

Freshman Year (Medical Terminology I/Dynamics of Healthcare I)

Dynamics of Healthcare in Society is an orientation to health care, with a focus on process skills to include critical thinking, ethical reasoning, effective communication, and self-directed learning abilities. The professional competencies stress application to general issues and topics common to all health care providers. Emphasis is placed on the role of the health care practitioner as both provider and consumer of health care services. Additional focus on Infectious Disease, OSHA standards and First Aid will be covered over the two years.

Sophomore Year (Medical Terminology II/Dynamics of Healthcare II)

Medical Terminology is the study of words that pertain to body systems, anatomy, physiology, medical processes and procedures and a variety of diseases. It provides specialized language for the health care team, enabling health care workers to communicate in an accurate, articulate and concise manner. This course is designed to give the students a comprehensive knowledge of word construction, definition and use of terms related to all areas of medical science. The course includes but is not limited to terms related to anatomy of the human body, functions of health and disease, and the use of language in processing medical/dental records and claim forms.

Junior Year (Anatomy and Physiology I – Honors)

This course is a laboratory science class designed to provide 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 I H is the study of structure & function of the human body. The human systems discussed are organization of human body, chemistry as it applies to cellular function. Beginning with the cell as a the unit of life, the student will explore

cell structure and physiology, tissues and membranes. The structural foundations of the human body are discussed as student learns about the skeletal system, muscular system and the integration and coordination governed by the nervous system. In order to appreciate the mature human structure the student learns how life begins in discussion of human reproduction and the development of the fetus and the genetics properties unique to the human species. Labs will include slide work, dissection and studies of human skeleton, cellular physiology and genetic probabilities and mutations. *This course will provide the student an opportunity to earn four college credits as a full laboratory science from Rutgers University.*

(Nutrition – Honors)

This semester course outlines 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 lifespan 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 Rutgers University.*

(Medical Mathematics – Honors)

This semester 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. *This course will provide the student an opportunity to earn three college credits as a full laboratory science from Rutgers University.*

(Healthcare 11 – Introduction to Clinical Research & Medical Health and Wellness)

Students are introduced to clinical research where they gain a basic understanding of what clinical research is and the scientific principles on which it is based. Next is a comprehensive overview of health and wellness which teaches the impact of lifestyle choices on all aspects of personal health including physical, mental, emotional, social and environmental. Followed by an introduction to the clinical setting where students are provided an opportunity to work at Arden Courts, a long-term care facility for Alzheimer's patients. Additionally, students better prepare to perform a physical examination/health assessment.

Senior Year

(Anatomy and Physiology II – Honors)

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 Honors 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 Rutgers University.*

(Healthcare 12 – Medical Assisting and Assessment)

This course will prepare the student for entry-level positions in a health related occupation or for further education at the college 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 2010 initiative. Students will continue to practice basic health assessment and physical assessment considering developmental aspects. They will practice the principles and skills of basic care of clients in various health care settings. The skills of electrocardiography and venipuncture techniques will be learned as well as assisting with medical examination, minor office surgery, refocus on biometrics and administration of medication. At the end of this course and all Healthcare coursework, students will have an opportunity to sit for certification to receive a provisional certificate in order to become Certified Medical Assistants.

LAW AND PUBLIC SAFETY ACADEMY CLUSTER

The Academy for Law & Public Safety is a targeted program for students interested in law, criminal justice, forensic science, law enforcement, public affairs and humanities.

Freshman Year (Criminal and Civil Law)

The introductory unit is intended to familiarize students with basic concepts in legal thinking that they can apply throughout the year. The criminal law portion of the course includes both a criminal law and criminal procedure unit.

Students will investigate the purposes and effectiveness of criminal punishment and debate what conduct deserves to be criminally prohibited. The criminal law unit also goes into detail on crimes against the person, various states of mind and their affect on charging and sentencing, the effectiveness of the death penalty as a criminal deterrent, and the use of defenses in criminal prosecutions. The criminal procedure unit examines the 4th, 5th, and 6th Amendments (and attendant Supreme Court cases) in great detail in order to determine what rights those accused of crimes are and should be entitled to. Students will learn about the procedures governing the search, arrest, interrogation, and trial of suspected criminals. The civil law part of the course focuses on tort law and contract law before concluding with a civil law practicum. The tort unit introduces students to the distinctions between civil and criminal law as well as to the difference between intentional and unintentional torts. The bulk of the torts unit is spent investigating the law of negligence, with special attention given to the question of proximate cause.

Sophomore Year (American Law & the Constitution)

This course introduces sophomore students to additional concepts in legal thinking. The class provides students an advanced knowledge of American law as related to the constitution. Students investigate the purposes end of case law as it affects their daily lives. It provides an understanding of criminal punishment and debate. The criminal law units discuss crimes against the person from their state of mind. Discussion continues on charging and sentencing, along with the effects of the death penalty as a criminal deterrent. Discussions are on the defenses in criminal prosecutions. The criminal component discusses the Bill of Rights including but not limited to the 27 amendments. Discussion continues on an individual's rights of those accused of crimes. Students will learn in detail on the 4th amendment (search, arrest, interview and interrogation). The civil law component of the course focuses on tort law and contract law. The tort unit provides an introduction to the distinctions between civil and criminal law.

Junior Year (Crime In Society)

The goal of this course is to develop a general understanding of the criminal justice system's response to crime in society. It is important to note that the general theme of this course involves the delicate balance between community interests and individual rights that criminal justice decision-making requires. Students in this course will explore this theme by examining the criminal justice process in some detail, focusing on how the system is structured to respond to crime. This requires an understanding of the core elements of the criminal justice system: police, courts, and corrections. We will explore the criminal justice system in five instructional parts.

Senior Year (Criminalistics)

This 12th grade college preparatory program is designed to familiarize students with the basic principles and uses of forensic science in the American Criminal Justice system. Students will apply scientific methodologies as related to legal matters. Students will be presented with the theories and principles relating to the primary techniques utilized in the analysis of physical evidence. The presumption is that most of the students do not have extensive scientific backgrounds. The course will provide students with knowledge of effective crime scene management. What types of information can be learned from physical evidence as a result of laboratory analysis. The course is designed to prepare students in the legal and practical documentation, collection, preservation, evaluation, interpretation and analysis of physical evidence discovered during a criminal investigation. The scope of this course includes discovery at a crime scene, the most important location of evidence, physical evidence, analytical techniques for organic and inorganic materials, forensic toxicology, firearms, ammunition, unique tool marks, and various impressions.

SPORTS MEDICINE ACADEMY CLUSTER

The Academy for Sports Medicine provides students with a solid foundation in the growing fields of exercise science, fitness studies, physical therapy, athletic training, and injury prevention and treatment.

Freshman Year (Exercise Science 9)

The objective of this freshman level course is to introduce students to the fields within the umbrella of exercise science, and to understand the common goals of professionals in the industry. Students will get an overview understanding of the major areas of academic study necessary for all career options.

Sophomore Year (Exploration of the Lower Extremities 10)

The objective of this course is to begin to advance the students level of knowledge regarding the structure and function of anatomy relevant to movement, how various professionals interact with these areas of the body, and some of the basic skills of those interactions. The "start to finish" approach of each body part will allow students to experience the realms of expertise of a variety of professions, in order to help determine what areas are of interest to them.

Junior Year (Exploration of the Upper Extremities 11)

During their junior year, students will continue their in-depth discovery of the body, focusing on the upper extremities. Through a hands-on approach, the joints will be deconstructed to a much more detailed look into the muscles and bones of the area, their structure and function, common injuries, emergency care, treatment and rehabilitation,

wrapping and strapping techniques, return to play guidelines and strengthening techniques. This year will include concussion management, internal organ distress, and a focus on injury prevention through functional movement screening.

Senior Year (Academic Focus 12)

The 4th year in the Sports Medicine curriculum allows some room for the students to dictate their academic focus. Time will be allotted to prepare their yearlong capstone project as well as developing a business plan. Academic areas of focus will include: exercise prescription, techniques, assessments, indications and contraindications, in preparation for an optional personal training certification exam. In addition, students will participate in 160 hour internship experience of their choice.

VETERINARY SCIENCE ACADEMY CLUSTER

This academy allows students to delve into the fascinating world of animal science. Students in this academy study everything from evolutionary biology to animal ethics and common animal disorders. The Academy for Veterinary Science houses a varied collection of small animals that students interact with and care for on a daily basis. Much of the program is project-based and hands-on. The program maintains relationships with several local veterinary clinics and hospitals. Veterinary Science is designed for the student who wishes to specialize in veterinary technology, large and small animal care, preventive medicine, practice management and research.

Freshman Year (Evolutionary Biology & Taxonomy)

In their first year of study, freshmen explore the basics of animal science. Emphasis is placed on phylogeny and evolutionary relationships among species. As students progress, they are able to investigate the correlation between natural history and physical adaptations of species through the study of homology and species comparison. By the end of the year, students learn about animal behavior and practice animal training techniques.

Sophomore Year (Animal Ethics and Animal Science Career Exploration)

As sophomores, students begin to work effectively with the extensive live animal collection. To that end, they engage in discussions about the ethical treatment of animals as it applies to various careers they might ultimately choose to pursue. Second-year students learn about the industry organizations which promote animal welfare, while striving to maintain a work environment which mirrors the many aspects of industry in which an animal technician might practice.

Junior Year (Animal Physiology & Pathology/Animal Facilities Management)

Upper classmen enrolled in the Academy for Veterinary Science are responsible for the maintenance and management of the animal collection. Students make daily careful observations regarding animal health, basing their reports on knowledge gained from their ongoing study of blood disorders, bone disorders, urinary disorders, and parasitology.

Senior Year (Independent Projects in Veterinary Science)

Seniors who choose to continue practicing workplace readiness in the veterinary science room take on the responsibility of overseeing many aspects of the overall operation. They create schedules, monitor inventory, review data, and provide treatments as needed. Seniors are given the opportunity to engage in self directive initiatives while serving to enrich the experience for the entire academy.

VISUAL AND PERFORMING ARTS – DANCE ACADEMY CLUSTER

The Academy for Visual and Performing Arts four-year course of study in dance seeks to prepare serious dancers for a professional career in dance or career paths in related fields and to pursue further dance studies at the college level. It explores dance as an art form in its many dimensions both technically and academically introducing students to both the interpretive role of the dancer and the creative role of the choreographer through practical applications and through the study of dance history and aesthetics. Students are trained, encouraged and expected to develop the professional work ethic, discipline and teamwork skills required for success in this profession. Other dance related areas of instruction such as Rhythmic Training, Music for Dance, Dance Production, Sound Editing, computer-aided Music Composition for Choreography and Dance for Camera are infused into technique and production units designed to enhance the dancer's knowledge and skills for the workplace. Students participate in project-based experiences where the dancer/choreographer can explore cross-disciplinary applications in theatre, music, multimedia and technology. Students also will be exposed to various elements of technical theatre including but not limited to costuming, lighting design, sound design and front-of-house production.

Freshman Year (Introduction to Dance as an Art Form)

In their first year, students will receive foundational instruction through Modern Dance I, Ballet I, Jazz Dance I, Improvisation, Composition and Choreography and Repertory/Production I, Dance History/ Aesthetic Judgment and Criticism in Dance I, Movement Science for Dancers I, Dance Technology I, and Career Planning I. Dance History studies and experiences are complimented with Improvisation, Composition and Choreography coursework where students delve into their own personal creativity. This coursework guides students sequentially to explore, analyze and create according to structural guidelines utilizing the formal elements of dance, [Time, Shape, Space, Dynamics] and choreographic processes to express and communicate meaning.

Sophomore Year (Intermediate Dance Technique, Dance Technology & Theoretical Studies)

In their second year, students will continue to explore and build on the previous year's training through Modern Dance II, Ballet II, Jazz Dance II, Improvisation, Composition and Choreography and Repertory/Production II, Dance History/ Aesthetic Judgment and Criticism in Dance II, Movement Science for Dancers II, Dance Technology II, and Career Planning II. Technical training emphasizes the Western theatrical dance genres of Ballet, Modern Dance, and Jazz and students are expected to gain a high degree of technical proficiency in at least one of these dance genres. Students will also have introductory experiences in a variety of styles and cultural dance forms through field trips to college programs and performances, guest artist workshops and repertory and research to enhance their movement vocabularies as well as expand their understanding of the contribution of cultural and social dance to theatrical art.

Junior Year (Advanced Dance Technique, Choreography & Career Planning)

Coursework builds on skills and concepts gained in previous year's training, with increasing demands in the performance of technical skills through Modern Dance III, Ballet III, Jazz Dance III, Improvisation, Composition and Choreography and Repertory/Production III, Dance History/ Aesthetic Judgment and Criticism in Dance III, Movement Science for Dancers III, Dance Technology III, and Career Planning III. Technique training is infused with dance science and related health science coursework to serve safe practices and career longevity. These courses are designed to assist students in developing anatomically sound movement patterns and proper alignment in the full potential range of human movement. Related coursework includes but is not limited to Laban Movement Analysis, Bartenieff Fundamentals™, Experiential Anatomy for Dancers, Nutrition for Dancers, Injury Care and Prevention, Yoga, Pilates, and experiential practice and research of Fitness/Wellness principles and methodologies.

Senior Year (Independent Study Projects in Dance and Related Career Fields)

In addition to sequential coursework, seniors continue to investigate and expand upon previous year's training through Modern Dance IV, Ballet IV, Jazz Dance IV, Improvisation, Composition and Choreography and Repertory/Production IV, Dance History/ Aesthetic Judgment and Criticism in Dance IV, Movement Science for Dancers IV, Dance Technology IV, and Career Planning IV. Seniors can choose from a number of topics for independent projects in technique, theory or an area of specialized career interest such as Choreography, Dance Production, Dance for Camera, Music Composition for Choreography, or Movement Science.

VISUAL AND PERFORMING ARTS – MULTIMEDIA ACADEMY CLUSTER

Our approach to multimedia studies is interdisciplinary. Academy faculty artists and guest artists in specific disciplines collaborate to introduce students to historical and contemporary works of art from various periods and cultures and from all the arts disciplines – visual art and design, cinema, dance, drama, music, literature, etc. In addition, students are expected to apply academic skills and concepts in their multimedia projects and are encouraged to use their interdisciplinary arts skills in preparing projects for their academic courses.

Freshman Year (Foundations in Graphic Design and 2D Animation)

The first-year multimedia program introduces students to the elements and principles of visual design and to the tools and techniques needed to create a variety of projects in print design, production design, and 3D animation. Students collaborate with guest artists in technical theatre to design sets for the spring drama production, under the guidance of the multimedia and theatre arts teachers. The virtual museum project, a 3D modeling and animation based on masterpieces of art and music history provides each student with a worthy start toward a college admissions portfolio. By the end of 9th grade, students have mastered the fundamentals of graphic and typographic design and the page layout and digital imaging software used by digital media professionals in the arts and entertainment industry. Each student compiles both a binder and a digital portfolio of visual design work completed during the first year, to be added to in subsequent years of his/her Academy career.

Sophomore Year (Theater Production I – Text, Tech, and Stage Management)

In the second year, students focus on digital filmmaking, including basic non-linear editing, visual storytelling, screenwriting/story structure, and all aspects of pre-production and production. They edit their animated 3D art galleries into a class movie, crew for and act in a theatrical class movie directed by a professional, and then write and direct short independent video projects. By the end of the second year, students are able to analyze the structure and

aesthetic attributes of film/video art by professionals and peers, to be competent users of mini DV cameras, lighting/sound equipment, and screenwriting/editing software, and to have a broad understanding of various occupational pathways in the film/video industry.

Junior Year (Theater Production II – Text, Tech, and Stage Management)

For the first half of their third year, students edit the full-class and small-group movies produced the previous spring and summer. They explore more advanced editing tools and music technology, creating original sound designs and scores for their films. They complete their filmmaking work by studying a classic film and presenting selected sequences to their peers and teachers, helping all to appreciate the visual storytelling techniques used by the film artists. After this, juniors focus making a short documentary about an area of special interest and prepare for their completion exams. They also prepare themselves for senior internships, 12th grade classes at local colleges, admission to pre-college summer programs, post-secondary programs of study, and a wide variety of careers as multimedia professionals.

Senior Year (Independent Projects in Multimedia)

In senior year, students either enroll at local colleges to take courses related to their career interests or remain at MCST to focus on career research, college planning, and special topics in digital media and AV communications. Throughout their Academy careers, multimedia students are expected and encouraged to develop their own artistic voice and vision, master the tools and techniques of their intended profession, manage their time and materials efficiently, and work collaboratively as an effective, supportive, enthusiastic member of the Academy arts community.