2023-2024 Course Guide

MORRIS COUNTY SCHOOL OF TECHNOLOGY

400 East Main Street
Denville, NJ 07834
973-627-4600

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 of 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
Lawrence J. Colasurdo, Vice-President
John P. Hyland, Board Member
Angelica Allen-McMillan Morris County Executive Superintendent of Schools
James Rollo, Board Secretary

ADMINISTRATION

Scott Moffitt, Superintendent
James Rollo, School Business Administrator
Shari Castelli, Assistant Superintendent for Curriculum & Instruction
Lynne Jackson, Principal
Mark Menadier, Assistant Principal
Athena Borzeka, Director of Student Services & Special Education
Michael Gowdy, Grants Program Manager
Lisa Adams, Instructional Supervisor
Scott Shaw, Instructional Supervisor

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 Services & Special Education	Ext. 229
Marisa Dillon	School Counselor	Ext. 220
Ashley Brooks	School Counselor	Ext. 221
Jennifer Katz	School Counselor	Ext. 205
Tracy Amadeo	College and Career Counselor	Ext. 228
Steve Ward	Share Time School Counselor	Ext. 269

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 & Special Education, 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, Robin Ravotto, Ext. 203
- School Social Worker, Briana Spann, Ext. 204
- School Social Worker/SAC, Jennifer Geuther, Ext. 222

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 155 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 World Language (10 credits)
- ☑ VPA electives (5 credits)
- ☑ Elective Courses (7.5 credits)
  -
- ☑ Academy Program
  - 40 credits CTE (including senior capstone)+
  - 5 credits Structured Learning Experience*
  - 2.5 credits Financial Literacy◊

* A 5-credit course that includes an approved 120-hour internship.

\+ Senior students attending County College of Morris are required to complete 35 credits of their academy program.)

◊ Beginning with the class of 2027, students will need to take 2.5 credits of Financial Literacy. For the class of 2024 - 2026 The Financial Literacy Graduation requirement and associated standards will be met through academy studies.

In addition, students **must** meet the following assessment requirement:

CLASS OF 2023-2025		
THREE PATHWAYS AVAILABLE	ENGLISH LANGUAGE ARTS	MATHEMATICS
First Pathway New Jersey Graduation Proficiency Assessment in grade 11	Demonstrate proficiency on the New Jersey Graduation Proficiency Assessment in grade 11	Demonstrate proficiency on the New Jersey graduation Proficiency Assessment in grade 11
Second Pathway Students who sat for the New Jersey Graduation Proficiency Assessment in grade 11 and did not demonstrate proficiency are able to demonstrate proficiency in ELA and/or mathematics by meeting the designated cut score on one of these assessments.	• NJSLA/PARCC ELA Grade 9 • SAT Critical Reading (taken before 3/1/16) • SAT Evidence-Based Reading and Writing Section (taken 3/1/16 or later) • SAT Reading Test (taken 3/1/16 or later) • ACT Reading or ACT PLAN Reading* • ACCUPLACER WritePlacer • ACCUPLACER WritePlacer ESL • PSAT10 Reading or PSAT/NMSQT Reading (taken before 10/1/15) • PSAT10 Reading or PSAT/NMSQT Reading (taken 10/1/15 or later) • ACT Aspire Reading* • ASVAB-AFQT Composite	• NJSLA/PARCC Algebra 1 • NJSLA/PARCC Geometry • NJSLA/PARCC Algebra II • SAT Math (taken before 3/1/16) • SAT Math Section (taken 3/1/16 or later) • SAT Math Test (taken 3/1/16 or later) • ACT or ACT PLAN Math • ACCUPLACER Elementary Algebra • Next-Generation ACCUPLACER Quantitative Reasoning, Algebra, and Statistics (QAS) (beginning January 2019) • PSAT10 Math or PSAT/NMSQT Math (taken before 10/1/15) • PSAT10 Math or PSAT/NMSQT Math (taken 10/1/15 or later) • ACT Aspire Math* • ASVAB-AFQT Composite
Third Pathway -Students who completed the New Jersey Graduation Proficiency Assessment in grade 11 and did not demonstrate proficiency are able to demonstrate proficiency in ELA and/or mathematics through a portfolio appeal in grade 12.	Meet the criteria of the NJDOE Portfolio Appeal for ELA	Meet the criteria of the NJDOE Portfolio Appeal for Math

Four Year Course Offerings

Required	Selection
English (4 years)	● English I ● English II* ● English III* ● English IV*^
Mathematics (3 years)	● Algebra I ● Geometry* ● Algebra II/Trigonometry* ● Pre-Calculus* ● Calculus ● Calculus Honors ● Foundations of College Mathematics ● Probability and Statistics
Physical Education/Health (4 years)	● Physical Education/Health 9 ● Physical Education/Driver's Ed 10 ● Physical Education/Health 11 ● Physical Education/Health 12
Science (3 years)	● Anatomy and Physiology * ● Biology ● Chemistry* ● Environmental Science ● Forensic Science ● Physics ● Physics Honors
Social Studies (3 years)	● World History ● US History I* ● US History II* ● Economics Honors*^
World Language (2 years)	● French I, II, III*, IV* ● Spanish I, II, III*, IV*
Visual and Performing Arts Electives (1 year) Subject to availability	● Advertising Art and Design ● Art and Composition I ● Art and Composition II ● Computers in Art I ● Computers in Art II ● Fundamentals of Music ● Laboratory Band I ● Laboratory Band II ● Laboratory Band III ● Laboratory Band IV ● Music Technology I ● Music Technology II ● Yearbook
Other Electives (2 per year) Subject to availability	● ACT/SAT Preparation in English and Writing ● ACT/SAT Preparation in Mathematics ● Algebra I Workshop ● Cinema Studies ● Civil & Criminal Law ● Computer Science Principles ● Creative Writing ● Current Affairs ● Flexibility and Strength Training ● Financial Literacy ● Genocide Studies ● Global Studies ● Human Behavior I ● Introduction to Computer Programming and Problem Solving ● Journalism ● Superheroes: Modern Mythology ● Philosophy and Logic ● Social Media Marketing ● Unmanned Aerial Vehicles (Drones) - 11th/12 ● Video Game Programming Using C# 1

	● Video Game Programming 2 ● Virtual Enterprises International - 11th/12th ● Gender Studies ● Yearbook
Academy Programs** *(Course descriptions by grade level starting on page 20)*	● Animal Science ● Biotechnology ● Computer & Information Sciences ● Culinary Arts ● Design ● Education & Learning ● Global Commerce o Finance & International Business o Global Supply Chain Management ● Health Care Science ● Law & Public Safety ● Multimedia
Other	● Option II Learning ● Self Directed Learning (no credit)
Special Education	● Study Skills
Structured Learning Experience (SLE)	5-Credit course which includes an approved 120-hour internship in academy field of study
*Honors course available ~graduation requirement ^College credit available	

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 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:

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

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

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

***Courses dropped after drop/add deadlines will receive a WP or WF for a grade**

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.*****

Academy Scholars

Due to the uniqueness of MCST and the individualized nature of each academy and it's students, MCST made the decision to no longer rank students or select a valedictorian or salutatorian. Instead, there is a process to select an Academy Scholar for each Academy.

Academy Scholars exemplify the vision and mission of MCST through outstanding academic achievement, leadership and a strong interest in learning with a focus on their academy/career cluster. These students are well-pointed and work to reach their fullest potential with consistent effort to excel and grow and inspire others both educationally and personally.

At the end of Junior year, the top four students in each academy (determined by GPA) are invited to apply for distinction of Academy Scholar. Students are required to submit a high school resume, one letter of recommendation and video statements. Applications are reviewed by the Academy Scholars Committee. Two students from each academy are then chosen to move on to a final interview by an administrative panel. Students are scored based on a rubric. Academy Scholar distinction is awarded to the student with the highest composite score.

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.

Freshman Year

MCST does not have an honors designation for freshmen year courses.

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. This holds true for movement from an honors to an AP course.

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 590 in Verbal **and** 560 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 Challenger 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: Centenary University (Animal Science, Education & Learning, Law & Public Safety); Ramapo College (Multimedia, Law & Public Safety); FDU (Multimedia only). 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 or exceed the New Jersey Student Learning Standards (NJSLS) in accordance with the New Jersey Administrative Code (N.J.A.C. 6A:8-5.1(a)1ii).

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

Option II alternatives requested by eligible students must meet or exceed the proficiencies established by the NJSLS, 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 procedures and guidelines (available on the Guidance website in the spring).

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 a variety of texts from various authors, students will learn the "basics" of Language Arts, including elements of reading, writing, speaking, listening, language, and research. Students will have the opportunity to engage in in-depth critical analyses of various genres of literature, non-fiction texts, poetry and drama while utilizing a variety of media. 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. This writing intensive course emphasizes Language Arts skills and critical thinking based on texts from a variety of authors and multiple perspectives.

English II (10)
In order to provide an all-inclusive experience, students will study a selection of classic novels, drama, non-fiction, and poetry by diverse authors. 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 tenth grade Honors students an opportunity to examine the relationship between individuals and society through a diverse selection of classic novels, drama, short stories, contemporary essays, poetry, and various non-fiction texts. Students will work to improve research, communication, collaboration, presentation, and problem solving skills with a focus on analyzing and implementing rhetorical and persuasive strategies, developing critical thinking skills, and participating in robust, text-based discussions. In addition, this course provides opportunities for students to engage in in-depth critical analyses of cultural and social norms through various media formats.

English III (11)
Through a study of the varied voices of American literature, students in this course will analyze the American Dream, develop an understanding of the nature of self-reliance, grapple with the ideas of perception and reality, and finally look at the past and present to help define the future. Students will read a diverse selection of 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 Honors students an in-depth study of the multiple perspectives of American literature. Students 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 a diverse selection of fiction and non-fiction works that allow opportunities for interdisciplinary connections. In addition to reading an all-inclusive collection of texts, students will 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 provides students with opportunities to practice the critical thinking, reading, and writing skills they have been developing and honing during their years of secondary education. With an emphasis on the skills students will need to be successful as they continue their education and/or enter the workforce, English IV presents a variety of reading, writing, and discussion activities and projects for continued practice and development of skills, while simultaneously providing opportunities for students to think metacognitively about what it truly means to be deeply, thoughtfully, and critically engaged with the world as students, workers, and community members.

English IV – Honors (12)
As the culminating year in a four year course of study, English IV Honors provides students with ample and varied opportunities to demonstrate the critical thinking, reading, and writing skills they have been developing and honing during their years of secondary education. Whereas both English IV and English IV Honors emphasize the skills students will need to be successful as they continue their education and/or enter the workforce, by offering a variety of reading, writing, discussion activities and projects for continued practice and development of skills while

simultaneously providing opportunities for students to think metacognitively about what it truly means to be deeply, thoughtfully, and critically engaged with the world as students, workers, and community members, English IV Honors requires students to engage more deeply and broadly. Accordingly, the course encompasses a wide body of sophisticated texts which require students to perform more sophisticated critical analyses, and it asks students to respond effectively and comprehensively through writing and discussion to complex issues and areas of inquiry.

MATHEMATICS

Algebra I (9)
Algebra I is a first-year algebra course in which students will learn to reason symbolically. The key content involves writing, solving, and graphing linear, quadratic, and exponential equations and inequalities, including systems of linear equations and inequalities in two variables. Quadratic equations are solved by factoring, completing the square, graphically, or by application of the quadratic formula. The course also includes the study of monomial and polynomial expressions, exponents, and functions. Students will be exposed to various data displays and measures of central tendency and will develop an understanding of correlation and standard deviation. Algebraic skills are applied in a wide variety of problem-solving situations, with the focus on modeling.

Geometry (9)
(Prerequisite: Algebra I)
This course blends the investigation and understanding of geometric concepts and properties with applications. Emphasis is on developing problem-solving skills. Topics include linear and angular measurement, parallel and perpendicular lines, triangle relationships, congruent triangles, properties and measurement of plane figures and solids, similarity, and right triangle measurement. Throughout the course, computer applications are used as problem-solving and learning tools.

Geometry (10)
(Prerequisite: Algebra I)
This course blends the investigation and understanding of geometric concepts and properties with applications. Emphasis is on developing problem-solving skills. Topics include linear and angular measurement, parallel and perpendicular lines, triangle relationships, congruent triangles, properties and measurement of plane figures and solids, similarity, and right triangle measurement. Throughout the course, computer applications are used as problem-solving and learning tools.

Geometry – Honors (10)
(Prerequisite: Algebra I)
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)
(Prerequisite: Algebra I and Geometry)
Topics include sequences of real numbers, linear functions and relations, polynomials and rational algebraic expressions, irrational numbers and quadratic equations, polynomial functions, exponential and logarithmic functions and quadratic relations. The student is helped to understand algebra as the study of the structure of real and complex numbers and to recognize the techniques of algebra as reflections of the structure.

Algebra II/Trigonometry (10-11)
(Prerequisite: Algebra I and Geometry)
Topics include sequences of real numbers, linear functions and relations, polynomials and rational algebraic expressions, irrational numbers and quadratic equations, polynomial functions, exponential and logarithmic functions and quadratic relations. The student is helped to understand algebra as the study of the structure of real and complex numbers and to recognize the techniques of algebra as reflections of the structure.

Algebra II/Trigonometry – Honors (10-11)
(Prerequisite: Algebra I and Geometry)
Students will continue their study of the concepts introduced in Algebra 1, going more in depth with each topic and by adding more challenging topics and problems. This course more formally explores functions and graphs, systems of equations and inequalities, polynomial, rational, radical and quadratic functions, series and sequences, conic relationships, and trigonometry. Problem solving strategies and applications are introduced throughout the course and serve to connect algebra with daily life and higher order thinking. Students will see how the visual displays and summary statistics they learned in earlier grades relate to different types of data and to probability distributions. This

course is challenging, certain topics are covered at an accelerated pace, allowing time for more advanced topics. Supplementary assignments are required.

Pre-Calculus (10-12)
(Prerequisite: Algebra II/Trigonometry)
The Precalculus course is designed for students who are planning to pursue a college education which will require Calculus. A thorough study of linear relations, functions, and circular functions and their inverses will be included. A focus will be on trigonometric functions and their applications. Additional topics will include exponentials, logarithms, complex numbers, nature of graphs, and conic sections. All topics will be explored numerically, graphically and algebraically. Recommended timelines are included with each topic allowing sufficient classroom time for the completion of supplemental activities, exercises, and projects, as well as instruction. Throughout the course, graphing calculators and computer software are used as both problem-solving and learning tools.

Pre-Calculus Honors (10-12)
(Prerequisite: Algebra II/Trigonometry)
This course is suitable for students who have completed Algebra II/Trigonometry Honors. A strong background in linear, quadratic and trigonometric functions is required. Students will explore transformations, composition and continuity of functions, and will study in depth the characteristics of polynomial and rational functions. Students will build on previous knowledge of trigonometric functions and use these functions to model real world data. Vectors, parametric equations, and conic sections will be introduced. Graphing skills will be extended from the Cartesian plane to the polar and complex planes. Fractals in the complex plane will be investigated. Exponents and logarithms will be reviewed briefly. The study of sequences and series will lead to a discussion of limits. The course will conclude with an introduction to Calculus, including derivatives and integrals.

Calculus (11-12)
(Prerequisites: Precalculus)
Topics include a review of basic algebraic skills involving the Cartesian Coordinate System, polynomials, functions, radials, operations on rational expressions, exponents and trigonometry, formally differentiating algebraic and transcendental functions, using differentiation to solve real life problems, integrating and transcendental functions both indefinitely and definitely.

Calculus Honors (11-12)
(Prerequisites: Precalculus)
Students completing this highly advanced mathematics course will develop skills in Calculus and its applications in Mathematics, Science, and Engineering. Topics include a review of basic algebraic skills, involving 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, and integrating algebraic and transcendental functions both indefinitely and definitely.

Calculus Honors develops the students' 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, limits, approximation, and 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: Traditional College Algebra topics such as Real Numbers, Graphing Functions and Systems, Geometry and Trigonometry as well as practical applications of mathematical ideas such as Counting Methods, Probability and Statistics, Graph Theory, Personal Finance, and Voting and Apportionment.

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.

SCIENCE

Biology (9)

Biology is a full year, laboratory-based course. It is designed to develop students' understanding of key concepts that help them make sense of life science. The "Big Ideas" for each unit build upon students' science understanding of disciplinary core ideas, science and engineering practices, and crosscutting concepts outlined in the Next Generation Science Standards. The performance expectations for the course are designed to support students in gathering knowledge that can be applied across the science disciplines. Students will build, deepen, and apply their knowledge of what scientists do to investigate the natural world and what engineers do to design and build systems for investigating scientific problems. Through laboratory exercises and investigation into current biological topics, students will explore the relationship between biological theory and the world around them. Students will be able to apply the concepts to everyday life and gain a further understanding of the issues in the life science discipline.

Biology for Health Sciences (9) Health Care Science, Animal Science & Biotechnology only

Biology for Health Sciences is a full year, laboratory-based course. It is designed to develop students' understanding of key concepts related to life sciences while also putting it into the context of health sciences career practices. The "Big Ideas" for each unit build upon students' science understanding of disciplinary core ideas, science and engineering practices, and crosscutting concepts outlined in the Next Generation Science Standards. The performance expectations for the course are designed to support students in gathering knowledge that can be

applied across a broad spectrum of science disciplines. Students will build, deepen, and apply their knowledge of what scientists do to investigate the natural world, what engineers do to design and build systems for investigating scientific problems, and the critical thinking skills health professionals use to problem solve through patients' disease states. Through laboratory exercises and investigation into current biological topics, students will explore the relationship between biological theory and the world around them. Students will be able to apply the concepts to everyday life and gain a further understanding of the biological techniques employed in the health science disciplines.

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.

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 laboratory experience, student inquiry and mathematical applications are an integral part of this course as well as individual and group research.

Environmental Science (11-12)

Environmental Science is a full-year, elective, laboratory science course. In this course, students will gain a foundational understanding of the basics of environmental science--an interdisciplinary study of how the earth works, how we interact with it, and how we can deal with the environmental problems that we face. Students will use this foundation to understand the environmental problems that we face and evaluate solutions to them. We will view environmental problems and solutions by examining them through the perspective of sustainability and apply the six principles of sustainability in our evaluations. Topics covered include ecological principles, population dynamics, natural resources, pollution, human interaction with the environment, and civic responsibility.

Forensic Science (10-12)

(Prerequisite: Algebra I and Biology)

This full year elective course is designed to survey key topics in forensic science, including the application of the scientific process to forensic analysis, procedures and principles of crime scene investigation, physical and trace evidence. This course emphasizes critical thinking and problem solving by using real-world forensic science methodologies. Through lessons, virtual and hands-on labs, and analysis of fictional and historical crime scenarios, students learn about forensic tools, technical resources, forming and testing hypotheses, proper data collection, and responsible conclusions.

Physics (11-12)

This is an individualized, algebra-based laboratory course in the study of physics. Students will explore and learn about the physical world. The course encourages students to make connections and problem solve via inquiry-based and hands-on learning. Topics will include motion in one and two dimensions, forces and the laws of motion, work, energy, harmonic motion and waves, sound waves, light and modern physics, electrical forces, electrical energy and circuits. The language of physics is mathematics and therefore students will be required to use math in virtually every component of the course. Physics will provide the knowledge, skills, and habits of mind needed for problem solving and technological concern. This course provides a basic foundation in the field of physical science.

Physics Honors

(*Prerequisite: Algebra II or math teacher recommendation)*

Physics Honors balances the study of a broad scope of different physics topics with an in-depth quantitative and qualitative focus in various areas of science. These topics include kinematics, dynamics, work-energy, electricity, waves, circuitry, and magnetism. These concepts encompass core scientific principles, theories, and processes that cut across traditional boundaries and provide a broad way of thinking about the physical world. In addition, extended labs will be developed and carried out by students throughout the course. The concepts discussed in class are supplemented with labs and demonstrations. An emphasis is on problem solving and Algebra II skills are used frequently. Students may elect to take the AP Physics exam to potentially earn college credit.

Anatomy and Physiology I Honors (11-12)

Anatomy and Physiology is the study of the structure and function of the human body. This course follows a sequential development of the major body systems in an organized and structured curriculum. The course is designed to give the students a selective overview of human anatomical structure and an analysis of human physiological principles. Labs will include slide work, dissection of various animals and studies of the human skeleton. The course will also use computer simulated dissection.

Astronomy
This half year (1 semester) course explores the fundamentals and history of astronomy. Topics will include the formation of the Sun and solar system, the relationships between the Earth & Moon system, the type, formation, and life of stars, and what evidence exists that shows how our Universe was born and what affected its growth. Students will become familiar with the night sky and space exploration. Laboratory activities include modeling astronomical systems, computer simulations, and field outings.

SOCIAL STUDIES

World History (9)
This course examines the ideas, individuals, and movements from the Renaissance through the 20th century which have been significant in shaping today's world through a humanistic lens.. Students will examine social, political and economic principles of the past and draw relationships between all content and contemporary principles. Throughout the course, students will examine history through multiple perspectives and hear from a variety of voices to create an inclusive curriculum. 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 Emergence of Modern America. 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)
Students will hone a wide variety of academic skills while studying the political, economic, social, and cultural growth of our nation from the Colonial period to the Emergence of Modern America. Using critical thinking skills to assess the foundations of the United States, honors students will focus on primary documents and recorded evidence to establish a clear understanding of the adversity faced in creating a new nation and gaining credibility on the world stage. In order to gain a better understanding of the human experience, Honors U.S. History I will also investigate the political, social, and cultural divides present in 19th century America through interdisciplinary study of philosophy, literature, language, and art. Various activities are used throughout this course to develop the student's reading, writing, thinking and critical thinking skills. Students will conclude the course with the study of American Imperialism and Progressivism.

U.S. History II (11)
This course covers the time period from World War I 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)
This course examines World War I through to the modern era. Topics of study will include: Urbanization and Industrialization, 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 Honors (11-12)
This course is a comprehensive introduction to both macroeconomic and microeconomic topics including economic reasoning, economic indicators, a study of markets, consumer and producer behavior, various market structures, factor markets, the role of government and public policy, and international trade. Students who elect to take the honors level course will think critically about the relationship between economics and politics, and 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 how scarcity informs personal and business decisions, how the structure of markets impact both consumers and producers, the extent to which economic indicators can inform us about the economy and our well-being, and how much influence should the government have on the

economy. (This course fulfills the graduation requirement for Financial Literacy.) (FDU and Seton Hall Credit available)

WORLD LANGUAGE

French II - Online
(Prerequisite: French I or Placement Examination)
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 webquests, music and creative projects are integrated within the program with the goal of exclusive target language employment in the classroom with and among students.

French III - Online
(Prerequisite: French II)
This course is offered to students that are completing their second year of the high school language requirement. 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 with target language use employed and expected almost exclusively. Reading selections consist of a variety of authentic French documents and literature. In French III Honors, the students further explore cuisine and related conversation. Individual comprehension skills are honed and assessed in terms of written and spoken word, as well as conversational. 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. Students may write essays, learn poems and employ presentational learning methods throughout the year.

Spanish Language and Culture
The course is an introduction to Spanish Language and Culture. It is designed for students who are completely new to the study of world languages and have had no exposure to the subject. Students will learn exciting aspects about the Hispanic culture and will be able to identify cultural concepts and vocabulary through reading, writing, listening and speaking activities. Students will be exposed to authentic materials and various media sources to acquire knowledge of the geography, cultural traits and people of Spanish-speaking regions around the world.

Spanish I
The course is designed for students new to the study of world languages with minimal or no exposure to the Spanish language and culture. Students will learn exciting aspects about the Hispanic culture and will be able to express themselves through reading, writing, listening and speaking activities. Students will be exposed to authentic materials and various media sources to acquire knowledge of the geography, cultural traits and people of Spanish-speaking regions of the world. Students will be able to communicate regarding topics including likes and dislikes, leisure activities, school, the community, food, family and celebrations. Communication is the number one goal for the district, meeting the New Jersey Student Learning Standards.

Spanish II
(Prerequisite: Spanish I)
This course is intended for students who have completed the equivalent of Spanish 1. Students will improve their knowledge about the Hispanic culture and expand their communication skills to include discussions about school and extracurricular activities, daily routines, shopping and clothing, culture, and travel. Students will continue to improve their communication skills through an emphasis to combine reading, writing, listening, and speaking skills into daily lessons and forms of assessment. Various cultural topics will be explored to encourage growth and understanding. Communication is the number one goal for the district, meeting the New Jersey Student Learning Standards.

Spanish III
(Prerequisite: Spanish II)
This course initiates the intermediate level of study and further develops the four basic skills developed in Spanish 1 and Spanish 2. The students will be exposed to topics including sports and entertainment, outdoor activities, the arts and artists, family, and the environment. There is increased oral and written expression as well as in depth study of culture and geography of major Spanish speaking countries. The students will become more comfortable expressing themselves in the interpretive, presentational, and interpersonal modes of communication. Communication is the number one goal for the district, meeting the New Jersey Student Learning Standards.

Spanish III Honors

(Prerequisite: Spanish II and teacher recommendation)
This course is designed for highly self-motivated students with an interest in the Spanish language and culture. The students will demonstrate an intermediate degree of proficiency in understanding and speaking the target language. The students will profit from more advanced authentic reading selections and listening practices. Students enrolled in the Spanish III Honors course will proceed more rapidly with language structure exercises. The class will be instructed entirely in Spanish. The students will demonstrate an intermediate degree of proficiency in understanding and speaking the target language through daily discussion and oral presentations. Students in this course will continue to advance their interpretive, interpersonal, and presentational modes of communication. Communication is the number one goal for the district, meeting the New Jersey Student Learning Standards. Spanish III Honors is intended to prepare students for success in Spanish IV Honors.

Spanish IV Honors
(Prerequisite: Spanish III and teacher recommendation)
Spanish IV Honors is an advanced language course that continues with a more in depth study of Spanish in multiple areas. Student proficiency is increased through an intense approach involving listening, grammar, reading, and vocabulary (including idiomatic expressions), speaking and writing skills. Students are required to use more sophisticated vocabulary and more complex grammatical structures. Reading and writing assignments are more challenging as they include more authentic reading including literature, news, articles, and essays. Student to student interaction is emphasized as the focus of the course is more student centered. Cultural knowledge plays a pivotal role in this course through the integrated and thematic study of art, history, film, literature, and music. The activities and assessments are performance based and well aligned with New Jersey Core Curriculum Content Standards. Students will also be expected to incorporate modern technology by utilizing a variety of tools such as podcasting, and multimedia.

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)
This course focuses on creating unique designs through a mix of traditional art techniques and computer technology. Students will develop their creative skills, and create projects that incorporate principles of composition, color theory and space. We will explore a variety of artists, art processes and materials such as drawing, painting, mixed media, two & three-dimensional design, and also create digital art using Apple computers.

Art and Composition I (9-12)
This course focuses on building fundamental drawing skills. Students will learn basic techniques such as shading, controlling tones, composition and drawing methods. Additionally, we learn how to see with an artist's eye and capture what we see on paper. Portraiture, perspective, still life, landscape and a variety of techniques and design approaches are explored. Emphasis is placed on a concentrated study of drawing skills within the context of each lesson and topic area and a 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, 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 introductory course explores the many facets of using computer technology to produce an artistic image. Students will learn computer illustration techniques, graphic design, image manipulation, basic animation and the principles and elements of art in composition. Some art movements such as Pop Art and Surrealism will also be

studied as they relate to student projects. From painting to photography and now to computers, the ways in which art is made will always change, and this class is a wonderful, comprehensive introduction to creating art with computers.

Computers In Art II (10-12)
(Prerequisite: Computers in Art I)
In this course, students will build upon the previous course of foundational principles to explore advanced compositions and digital projects. Students will problem solve and further develop their individual skills in concept development and creation. Throughout the semester, students will collaborate, plan and produce in a variety of creative art areas including design, photo manipulation, illustration and animation. We'll gain an appreciation of media through the study of historic and contemporary trends and apply that appreciation to our own artwork.

Fundamentals of Music (9-12)
This course is designed to explore the fundamentals of music through the core elements of music including Rhythm, Melody, Texture, Form and Harmony through varied music genres. This is a project based class that explores music through listening as well as having a hands on approach to music writing software and a DAW (digital audio workstation) to facilitate the application of each concept. Fundamentals of Music is recommended for students who have a minimal background in music.

Music History (9-12)
This course surveys the progression and development of Western music from the Medieval Period to the present. Emphasis will be on the comparison of different styles, forms, instrumentation and composers from various historical periods. Music History will give the students the vocabulary, knowledge and analytical skills to identify music from contrasting periods as well as introduce them to major masterworks as well as develop a deeper understanding of music as an art form and cultural phenomenon.
The class will explore different themes; music as a reflection of the political and social climate of culture, the causes/ reasons behind the progression and development of musical styles, and the influences of the composers and their music.

Laboratory Band I
(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 many 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; notice and 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 that of 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
(*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 many 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; notice and 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 that of the works that they have heard or played.

Laboratory Band III
(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. The students of this class will also arrange their own pieces for the ensemble.

Laboratory Band IV
(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. Students will feature their own arrangements of music from various genres.

Music Technology I (9-12)
Music Technology is a course in the principles of audio and sound production. Topics include: loops,editing, signal flow, equalization, 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 DAW's (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 (9-12)
(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, sampling,equalization and compression, microphones and their placement, remixes, digital audio formats, music theory and composition. 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 DAW's (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, nonverbal 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.

Public Speaking II (10-12)
(Prerequisite: Public Speaking I)
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, nonverbal 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.

OTHER ELECTIVES- 2.5 credits each

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

Algebra I Workshop (9-10)
Algebra I Workshop will help students master conceptual understanding and procedural fluency by providing additional time and individual attention in a support model that will assist students in overcoming deficiencies as they affect performance in Algebra I. This course will focus on algebraic content, techniques, and strategies needed develop mathematical proficiency and fluency. Students will develop the confidence and appreciation for using mathematics, so they can be more successful as they progress in their high school math courses. Emphasis will be placed on written and oral communication of mathematics as well as the ability to justify mathematical decisions. Skill reinforcement is essential for success in mathematics. There will also be a focus on complex problem-solving, which enables students to think mathematically, persevere, and apply techniques and strategies to be independent learners.

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

In this course, students will learn general information about the SAT and ACT exams. Strong focus will be placed on reading comprehension and writing strategies. After learning about reading and writing strategies, students will apply these skills through various drills and practices. This course will prepare students to take timed SAT and ACT drills by exposing them to types of questions, strategies, and how to best tackle the test utilizing their strengths.

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.

Cinema Studies (9-12)
In this half-year long course, students will explore various genres of film and media. The Cinema Studies curriculum is designed to present a general overview of the history, business, genres, and stylistic innovations of recorded cinema and the motion picture industry. The curriculum features 10 units of study designed to focus specifically on major cinematic genres, techniques, or historical periods. The goal of this class is to teach students how to "read" films for structure, style, subtext, and cultural significance -- as well as to explore how the medium of film expands and enhances the conventional study of narrative, character, and symbol. This course explores a wide variety and range of film types, including film history, shot composition, scriptwriting basics, story mapping and editing techniques, and individual genre-based units of study. Additionally, students are introduced to basic script formatting, writing, "pitching," and rewriting skills. Focus includes the development of techniques for analysis in shot composition, story structure mapping, appreciation of silent and scored films, and character development through the visual medium of film. Students begin to analyze works of cinema, research film history and genres, and create original scripts using techniques studied in class. This course is designed for students ***not*** in MultiMedia.

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.

Computer Science Principles (11-12)
Computer Science Principles introduces students to the foundational concepts of computer science and challenges them to explore how computing and technology can impact the world. With a unique focus on creative problem solving and real-world applications, Computer Science Principles prepares students for college and career.

Creative Writing (9-12)
The Creative Writing elective semester course is designed to help all students realize and tap their creative potential, develop writing skills by engaging deeply in the writing process, explore strategies for collaborative creativity, give and receive useful, constructive criticism, and reinforce their emerging voices by carefully considering the impact of rhetorical choices. Throughout this course, students will engage in reading and writing in a wide variety of creative modes, styles and genres, while exploring how story works, where creativity comes from, and how the skills of creative writing can be applied to any discipline or communicative circumstance.

Current Affairs (9-12)
This semester course is designed for students to examine world and local issues that affect students' everyday lives, such as social, political and economic issues. This course utilizes online media, newspapers, magazines, cartoons and newscasts to support class discussions. Students will participate in group projects, presentations and work with primary resources in order to better understand the world around them.

ELA Workshop
ELA Workshop will help students master areas such as reading comprehension, text analysis, grammar, sentence structure, punctuation, and writing as well as test taking skills. Students will work on overcoming deficiencies in language arts. This content will help develop techniques and strategies needed to increase writing and reading proficiency and fluency. Students will develop confidence and skills, so they can be more successful as they progress in their high school courses. Emphasis will be placed on written and oral communication as well as the ability to analyze texts. There will also be a focus on critical thinking, which enables students to persevere and apply techniques and strategies to be independent learners.

Financial Literacy (9-12)

Beginning with the class of 2023 the Financial Literacy graduation requirement and associated standards will be met through academy studies.

Students will demonstrate understanding about how the economy works and their own role in the economy. They will 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. (There are a limited number of spots available for students who would like to take Financial Literacy online.)

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 cardiorespiratory endurance, flexibility, muscular endurance and overall body strength.

Gender Studies (9-12)

This semester course challenges students to consider various conceptions of gender, gender roles, and gender norms across time and space. Students will analyze how gender informs identity, trace the historical trends surrounding gender, evaluate the treatment of subordinate gender identities at home and abroad, and decode gendered media messages. Students will understand the shifting notions of gender over time and how these notions impact identity, politics, social life, economics, and culture.

Genocide Studies (10-12)

This course will provide students with a greater understanding of the psychological, sociological, cultural, and political roots of Genocide, human cruelty, and mass violence. Students will discuss the Holocaust and World War II as well as other global genocides such as Armenia and Rwanda. Ultimately, this course seeks to uncover the various themes and patterns of Genocides, honor those who have been lost in ethnic conflict, and remember their history and legacy in order to prevent this pattern from occurring again.

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**.**

Human Behavior (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.

Journalism (9-12)

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.

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.

Social Media Marketing (10-12)
In today's business landscape, social media has become a fundamental tool for communication. This course takes a look at how organizations capitalize on social media, and consumer-to-consumer interactions, to support their marketing efforts. Students will learn to create an effective social media strategy to spark conversation on various social communities, and ultimately enhance the consumer's brand experience. Students will also explore ways to measure the effectiveness of their social media presence to ensure optimal brand reputation.

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 Student Learning Standards (NJSLS) 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.

Superheroes: Modern Mythology (9-12)
The Superheroes: Modern Mythology elective is designed to capitalize upon the extraordinary cultural phenomenon of superhero films, comic books, and graphic novels in the 21st century. Drawing on students' inherent interest in the subject matter, the course helps students to think and express themselves critically about art, history and pop culture by examining the emergence of modern superheroes, from their roots in ancient classic mythology and world religions, and in historical/current events. From Odysseus to Hawkeye; Thor to, err, Thor; Hippolyta to Wonder Woman; and Zeus to Superman, students in this course will examine why people are so fascinated by these characters, how stories serve as both cultural litmus tests and normative vanguards, and where the line blurs between myth and media.

Unmanned Aerial Vehicles (UAVs or Drones) (11-12)
Students will apply science, math and engineering skills while enhancing teamwork, collaboration and other Career Ready Practices. The course explores the current uses, future needs and variety of applications of drone technology across career fields.

Video Game Programming 1 (9-12)
Students will develop computer science knowledge and skills by learning how to program in C# using the Monogame engine and Visual Studio® platform to create games. Monogame will be used to create video games for modern operating systems and mobile devices, including Windows, Mac, Linux and Android. The curriculum covers most of the fundamental concepts that high school students need to know in order to succeed in introductory college-level computer science courses.

Video Game Programming 2 (9-12)
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. Students will work collaboratively on a series of projects, simulating the experience of a small game development studio. They will be introduced to larger ideas of the programming profession such as project management, digital product distribution channels, and career opportunities.

Entrepreneurship (11-12)

This course introduces students to the core business competencies and innovation needed in the development of an enterprise highlighting the importance of strategy and assisting students to identify opportunities to creatively problem solve. Through project-based, collaborative learning and the development of 21st-century skills, students will investigate the advantages and disadvantages of entrepreneurship including global business, communication, personal finance, and technology.

Yearbook
This is an elective course that gives students experience in photography, computer graphics, graphic design, and software management. Students will generate content from a variety of sources in order to produce a pictorial history of the current year. Students will collaborate on all aspects of production that include: designing a cover, coordinating

sheets, creating section designs, determining photo layouts, producing advertising materials, finalizing completed computer pages, editing pages, and meeting publication deadlines.

The following electives are available to 11th grade students in the Academy for Computer & Information Sciences enrolled in classes on the Denville campus. The semester classes below are dual credit courses as part of an agreement between the County College of Morris (CCM) and the Morris County Vocational School District. Students may be eligible to earn 3 CCM credits per course.

Introduction to Data Sciences (11 grade only)
Introduction to Data Science will provide students with data literacy skills in order to understand techniques in data manipulation, visualization and interpretation. This project based course will allow students to utilize a toolkit of statistical software to perform data science methods. Ethical issues related to data privacy, authenticity and security will be addressed alongside an introduction to artificial intelligence.

Fundamentals of Programming (11th grade only)
This is a fundamental course in problem solving and programming. This course introduces concepts such as how to solve problems by designing and implementing algorithms using a popular programming language. Topics include: pseudocode, algorithms, variables, constants, using decisions and loop structures to construct effective code, using built-in functions, creating functions and modules, and simple debugging techniques for detecting errors. Use of real-world problems in Web Development, Cybersecurity and Data Science are explored. No prior programming experience is required.

ACADEMIES
CAREER & TECHNICAL EDUCATION (CTE) PROGRAMS

ACADEMY FOR ANIMAL SCIENCE

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 Animal 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. Animal 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 this first year of study, students have the opportunity to discover the fundamentals of animal care and the origins of wild and domestic species. Students learn how zoologists classify animals according to their evolutionary connections, and explore the scientific principles which enable them to ascertain those relationships. They learn about the physical adaptations, starting with cell and tissue types, and then trace the evolutionary process through the skeletal, circulatory, and digestive systems of several groups. Throughout the year, students deepen their knowledge of the practices employed by professionals who work within the animal industry. They use veterinary terms, including Greek prefixes, suffixes, and routes pertaining to animal anatomy and conditions as those practices are demonstrated while working with the program's live animal collection.

Sophomore Year (Animal Ethics & Careers)
The primary objective of this course is to offer students tools with which to objectively investigate potential career pathways. Units explore various aspects of the animal industry and the themes, norms and procedures which are inherent to all of them. The overarching questions from an opening unit focusing on the ethics of animal usage are revisited throughout investigations of agriculture, biomedical research, wildlife management, zoos, and veterinary care. Students discover industry organizations and several opportunities within each arena.

Junior Year (Animal Physiology & Pathology)
During their final year within the Animal Science Academy, students assume responsibility for the live animal collection. These responsibilities are complex and diverse in nature, and account for more than half of the students' time in class. The balance of the learning focuses on animal reproductive cycles and strategies, as well as animal diseases. An opening unit discussing the symptoms and clinical signs of disease indicated by selected parts of sample animal CBC's and urinalyses, is applied in subsequent units which focus on parasites and other pathogens. The year concludes with subject matter relevant to that of the Practice NOCTI and focuses on skills relevant to this academy's completer exam.

Senior Year (See Senior Options on p. 30)

ACADEMY FOR BIOTECHNOLOGY

The Academy for Biotechnology is a rigorous STEM program that prepares students for post-secondary studies in majors related to the biotechnology industry. Students in the Academy will develop research and laboratory skills that will enable them to learn in a hands-on, project-based model.

Experimental Design (9) Full year, 5 credits
Much of the lessons that take place in science classes at the secondary level are limited in their ability to accurately represent some of the most critically important realities of real science and true inquiry. These realities are aptly termed the “Nature of Science (NOS)” in science education research and NOS lessons are seldom intertwined into science curricula. This is often due to a lack of time, as content coverage historically trumps ancillary concepts like NOS. In Experimental Design, NOS is at the forefront of the course and serves as the very foundation of the entire curriculum. The course is divided into two halves split over four units. The first half serves to answer the driving question of, “What does it mean to ‘experiment’ in science?” This question cannot be answered unless students understand what the nature of science is and thus, NOS is explored over the first unit, Unit 1: NOS. In Unit 2: Literature Review, students continue to look at what it means to experiment, but this time, in the specific context of real-life, seminal experimental designs of the past. Students explicitly connect how past scientists and previous scientific research exemplified the aspects of NOS covered in the previous unit. The latter half of this course is based on answering the second driving question of, “What does it mean to ‘design’ an experiment in science?” With a thorough understanding of NOS and prior experiments at hand, students can now start to explore the more technical aspects of design, with an initial exploration of standard lab procedure (Unit 3: Lab Technique). Upon successfully learning common biotechnological lab techniques, students are tasked with designing their own novel experiments in which they will collect data and formally present their conclusions (Unit 4: Design).

Bioethics (9) Full year, 5 credits
Bioethics is a full-year course designed for students to explore the underlying ethical issues surrounding biotechnology, the environment, research, life and death choices, and medicine. Students will be asked to consider multiple perspectives as well as deepen their understanding of downstream repercussions of decisions regarding ethical issues. This course gives students the opportunity to grapple with some of the most challenging and engaging problems our society is facing as consequences of advances in the life sciences. Throughout the course, students will be using real-life cases to introduce a core set of ethical considerations on each topic that are important for analyzing ethical issues in medicine and the life sciences. Design elements emphasize key bioethical concepts and analytic methods, cutting-edge science content and real world-scenarios. Activities promote active and collaborative learning to help students develop their ethical reasoning and critical thinking skills.

Introductory Biotechnology (10) 1 Semester (Fall), 5 credits
Introduction to Biotechnology is a laboratory-based course that builds upon the knowledge and skills students bring from Experimental Design and Biology for Health Sciences to establish a strong foundation in biotechnology. As students work to master content and understand the broader impact on society, they will work on actual and simulated laboratory work and independent research. Students will develop critical thinking and communication skills that are fundamental to biotechnology industry and academic research. This course will serve as a springboard to applied and advanced biotechnology where students will develop deeper understandings of biotechnology and the real-world uses of laboratory skill gained in the program.

Applied Biotechnology (10) 1 Semester (Spring), 5 credits
Applied Biotechnology is a laboratory-based course that builds upon the knowledge and skills students bring from Introduction to Biotechnology. While allowing the continuation of skill and content knowledge building in biotechnology, the course focuses student learning around the central idea that biotechnology can be applied to feed, heal, and sustain the world we live in. Therefore, the course explores the application of biotechnology in two major industries, agriculture and medicine. These areas of study will allow students to explore technologies used to grow crops for food, develop medicine, and produce alternative fuels. Engineering concepts will be used to develop student understanding of the role of synthetic biology in the healthcare industry and to prototype solutions of their own. As in Introduction to Biotechnology, students will also continue to explore an independent research topic in the lab and demonstrate skills in communication and presentation as they share their results.

Advanced Biotechnology (11) Full-year, 10 credits
Advanced Biotechnology is a laboratory-based course that builds upon students' knowledge and skills from their 9th and 10th-grade Biotechnology coursework. Therefore, this next course continues to explore the application of biotechnology in multifaceted ways while building students’ career-ready skills. Students will continue to explore and engage in new topics, such as environmental biotechnology. They will develop their communication and collaboration skills as they work together to explore cell and tissue culture dynamics or the intricacies of industry regulatory mechanisms. Students will lead their peers through challenging engineering and design problems and develop workable solutions to complex issues. Students will also grow as scientists, engineers, and STEM leaders by continuing to work on and share their independent research projects in the laboratory with others.

ACADEMY FOR COMPUTER & INFORMATION SCIENCES

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

Foundations of Computer Science (9)
This introductory course is designed to acquaint the student with the fundamentals of Computer Science through experimentation, demonstration, discussion, problem solving, programming, and reading. The laboratory experience is an integral part of the course that allows the student to explore concepts through project-based learning. This includes using Java to solve design challenges as well as designing video games in a professional development environment.

Students will also discover the building blocks of the tool they code on – the computer. They will actively participate in designing and building a PC and create simple circuits in a simulator. Students will explore other important topics, such as the limits of computers, societal and ethical issues of software engineering, an introduction to how the internet works, and learn elements of web design/web development. Additionally, students will have the opportunity to interact with experienced guest speakers from the Computer Engineering industry so they can explore career and educational opportunities.

Introduction to Java Programming (9)
This introductory course is designed to acquaint the student with the fundamentals of Computer Science through experimentation, demonstration, discussion, problem solving, programming, and reading. The laboratory experience is an integral part of the course that allows the student to explore concepts through project-based learning. This includes using Java to solve design challenges in a professional development environment. Students will become proficient in non-object-oriented programming using Java. They will be introduced to Data Basics, Logical Operators, Looping, Methods, Arrays, and Graphics.

Software Design/AP Computer Science Principles (10)
Students will continue to develop their computer science skills including algorithm development, problem solving, and Object Oriented and Procedural 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 requirements management, interface design, testing, and creating, managing, and delivering group projects to an actual customer.

AP Computer Science Principles offers a multidisciplinary approach to teaching the underlying principles of computation. The course will introduce students to the creative aspects of programming, abstractions, algorithms, large data sets, the Internet, cybersecurity concerns, and computing impacts. AP Computer Science Principles will give students the opportunity to use technology to address real-world problems and build relevant solutions.

Students will again interact with industry professionals to further refine their educational and career aspirations. Together, these aspects of the course make up a rigorous and rich curriculum that aims to broaden participation in computer science.

Emerging Technologies/AP Computer Science A (11)

Emerging Technologies provides a broad review of new, emerging, and rapidly evolving technologies that industry advisors have identified as needed by today's and tomorrow's workforce. This year's focus is Cybersecurity and Artificial Intelligence. The course covers background on related elements and enough detail to facilitate understanding of the topics. It covers technology ethics, terminology and tools of the field, and hands-on lab experience.

Cyber Security: Major security topics such as introduction to the Linux environment and virtual machines, ethical hacking, vulnerability assessment, virus attacks, hacking, spyware, network defense, passwords, firewalls, VPNs and intrusion detection are covered. Crucial issues from industrial espionage to cyber bullying are discussed. Students research and debate current events at the intersection of data, public policy, law, ethics, and societal impact. This course is designed to inform and make students aware of cyber principles including the following: Ethics and Society, Security Principles, Classic and modern Cryptography, Malicious Software, Physical Security, Web Security

Artificial Intelligence: We are partnering with Intel to deliver an "AI for Workforce " program in hopes to inspire AI-readiness for employability in the digital economy. At the end of this program, we hope you will gain technical confidence to learn and apply AI skills independently. This program will enable everyone in this class to build necessary technology, career growth and social skills on AI for jobs ahead. At the end of the program you will be able to demonstrate industrial impact through solutions in AI. Students will be learning the different stages involved in a typical AI Project including the following: Problem scoping framework, Identifying relevant data to pursue an AI

solution. Machine Learning, including basic modeling types such as Supervised and Unsupervised Learning. Introduce evaluation metrics and platforms to deploy models. Neural Networks introduction

AP Computer Science A is 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 (See Senior Options on p. 30)

ACADEMY FOR CULINARY ARTS

The Academy for Culinary Arts Academy focuses on providing learners with a solid foundation of proven culinary skills backed by theory on which they can build a repertoire of professional experience. Heavy emphasis is placed on current industry cooking and baking methods and techniques, while providing an extensive hands-on experience in our commercial kitchen.

Introduction to Culinary Arts (9)
This program is designed for Freshman students who wish to major in the Culinary Arts field. Professional training will be provided in a commercial kitchen. Areas of instruction include professional expectations, food safety and sanitation, knife skills, basic baking and egg cookery. Academic work in conjunction with hands-on practice and production will provide students with these important culinary foundations.

Cooking Foundations (10)
This course builds upon Introduction to Culinary Arts. Professional training will be provided in a commercial kitchen. Areas of instruction include cooking methods, stocks and sauces, vegetable identification and preparation. Academic work in conjunction with hands-on practice and production will provide students with further development of standard Culinary foundational skills.

Advanced Culinary Skills (11)
This course builds upon Introduction to Culinary Arts and Cooking Foundations, focusing on more advanced culinary practices. Professional training will be provided in a commercial kitchen. Areas of instruction include food costing, poultry identification, fabrication and cookery, laminated dough production, ice cream production. This course heavily focuses on career ready practices and preparation for Senior year Structured Learning Experiences.

Senior Year (See Senior Options on p. 30)

ACADEMY FOR DESIGN

The Academy for Design provides students with the foundational skills required of the various and diverse careers in the creative world. With connections and partnerships throughout multiple arms of industries reliant upon design and creativity, students will gain valuable exposure and immersion in relevant fields that require the skills they will learn. While our Design programs present opportunities in fine arts and proficiency in current industry design programs, the program is structured to provide learning attributes to lead students on a 10-year trajectory. Creativity is currently a major asset in any industry; cultivating students to possess future-focused attributes including agility, flexibility and adaptability will allow them to transfer what they learn now into new and evolving contexts in their futures. Our program not only creates artists, but innovators positioned to be leaders in their chosen fields.

Design Concepts I (9)
This course provides an initial foundation for the 9th grade Academy for Design students. Students will explore the elements and principles of design through a two-pronged approach involving both theory and practice. During the year, students will learn basic drawing techniques, two-dimensional design principles, color theory and digital design concepts and skills. Students will begin to build a portfolio for future use. Students will have the opportunity to explore various career pathways in the design field.

Design Concepts II (10)
This course builds upon an initial foundation of the 9th grade Design Concepts I course. Students will deepen their exploration of the elements and principles of design through a two-pronged approach involving both theory and practice. During the year, students will continue to refine and develop drawing techniques. Students will explore the techniques and skills required to create three-dimensional designs. In this course, students will have the opportunity to delve into the art of photography in order to apply and extend design techniques. Students will also be able to practice and apply more advanced graphics fundamentals such as typography, logo development and design.

During the course, students will continue to develop their portfolios and build exhibitions of their work. Throughout the academy program, students will explore various career pathways in design and continue to refine their goals and individual learning plans.

Design Concepts III (11)
In this course, students will build upon the previous two years of foundational design principles to explore advanced topics in design. Students will create complex, challenging design pieces and further develop and refine their individual portfolios. Throughout the year, students will work in a variety of design areas including interior design, architecture, form development and digital animation.

Senior Year (See Senior Options on p. 30)

ACADEMY FOR EDUCATION & LEARNING

This Academy introduces students to the field of education. Students interested in becoming teachers, guidance counselors, social workers, therapists, psychologists, and the like, would find this Academy to be a great start to a successful career in those fields. In addition to the theoretical coursework, students in all grade levels have exposure to an on-site preschool class as well as off-site educational settings. Students in all grade levels will work on Career Ready Practices, 21st Century Skills, and college and career exploration to ensure they have a wide-range of marketable skills for any workplace or college setting.

Introduction to the Field of Education (9)
The first year in the Academy for Education and Learning will serve as an introduction to the field of education. This course will introduce students to potential careers in education by allowing them to research different roles in the school community that are of interest. Students will explore the overall characteristics of functioning in a professional environment, the process by which one becomes a professional educator, and the educational requirements needed to do so. In addition, students in this program will explore the qualities of effective educators. This includes identifying personal strengths and weaknesses and working toward improving oneself to be able to be successful in a professional educational setting. Furthermore, students will be introduced to the curriculum content standards associated with instruction in the state of New Jersey. Students will learn the role of educational standards by introducing students to the basic components of a lesson plan. Finally, this course will introduce students to the multiple aspects that contribute to an educator's ability to manage an educational setting. In doing so, students will learn the importance of establishing a safe and conducive learning environment. Utilizing the knowledge attained through the development of lesson plans for Pre-K- elementary aged children, students will learn how well-planned lessons contribute to effective classroom management. Students will engage in various teaching strategies that promote student-centered learning. Students will transfer their skills by planning developmental activities for pre-k students across a realm of subject areas, including literacy, math, science, and the arts. Freshmen will also explore the historical foundations of American education. Students will gain an appreciation of how education in America has changed over time, with respect to race, socioeconomic status, age, gender, and a rapidly developing technological society.

Childhood Development and the Learning Process (10)
The second year of the Academy will focus on childhood development and the learning process. It begins with an in-depth study of the development of children from ages three through eighteen. All aspects of human development are studied, including the physical, emotional, intellectual, social, moral, and language milestones for each level of schooling (early childhood, elementary, middle, and high school). The development of children and its impact on the learning process will be closely analyzed through observations of the children in the on-site preschool. In addition, students will explore barriers to learning, such as medical conditions, substance abuse, loss of a family member, and bullying. Students will also learn about classroom settings that require additional consideration and planning, including inclusion classrooms, special education classrooms, gifted and talented, and ESL/ELL classrooms. Furthermore, the course will introduce students to instructional strategies and lesson planning for elementary through middle school students. Finally, students will investigate college and career opportunities that align with their future goals.

Advanced Topics in Education (11)

The third year of the Academy sequence continues with students investigating instructional strategies and lesson planning for students in the secondary level (middle-through high school). Furthermore, this class will focus on the governmental structures that impact the school system and notorious court cases that have impacted educators. The course will also analyze the relationships between schools and local institutions and individuals, such as businesses, clubs, residents, and families. Junior year also provides perspectives on various alternatives to traditional public education as well as the many job opportunities available to students interested in working with children. During this course, students will frequently visit various educational settings to get a first-hand account of diverse learners and career pathways in the field. These off-site opportunities will also help prepare students for their senior year field experiences (Structured Learning Experience-SLE). Juniors will create a digital portfolio as well as continue their college and career exploration. Students have the option to earn college credits through Seton Hall University and Rider University.

Senior Year (See Senior Options on p. 30)

ACADEMY FOR GLOBAL COMMERCE

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

Finance & International Business

Introduction to Business & International Business Strategies (9)

The ninth-grade Introduction to Business course provides an introduction to four of the main areas of business, including management, marketing, finance, and supply chain. During this introductory course students will also focus on developing 21st-century skills that are key to success in both college and careers, including communication, collaboration, critical thinking, and problem-solving. In International Business Strategies, students explore various topics including the study of the influences on global business, the role governments play in global business, the structures of international business organizations, importing and exporting goods, trade relations, foreign exchange and international finance.

Introduction to Business Law & Principles of Finance (10)

The tenth-grade year covers an introduction to business law, including ethical decision making, constitutional rights, court systems, contract law, and legal forms of business organization. Through case study analysis, students will practice developing an opinion and respectfully delivering the opinion to an audience. Principles of finance includes the strategies for executing strong personal finance routines and expands to the financial environment of business. Students will explore the areas of financial management planning, investment strategi=es, financial records, as well as short-term and long-term financial activities. The principles of finance course fulfills the graduation requirement for Financial Literacy.

College Level Accounting (11)

The eleventh-grade year focuses on accounting principles, such as analyzing and recording transactions, adjusting accounts and preparing financial statements. The accounting content expands to explore the concepts related to financial and managerial accounting, including inventories, cost of sales, corporate reporting and analysis, financial statement analysis, and the process of costing. This is a dual-enrolment course with Fairleigh Dickinson University and students are eligible to earn 3 credits for Introduction to Financial Accounting.

Virtual Enterprises International (11)

With an emphasis on college and career readiness, Virtual Enterprises International (VEI) is an in-school, live, global business simulation that offers students a competitive edge through project-based, collaborative learning and the development of 21st-century skills in entrepreneurship, global business, problem-solving, communication, personal finance and technology. Drawing on the European tradition of apprenticeships, this multidimensional, experiential learning model, which is part of a global network of student-run businesses in over 40 countries, transforms high school students into independent-thinking business professionals and their classrooms into offices. Through developing and managing businesses, students gain expertise in problem-solving, decision-making, communication, collaboration, technology, and accessing, using and analyzing information—21st-century skills that are key to success in both college and careers.

Global Supply Chain Management

Introduction to Business & International Business Strategies (9)

The ninth-grade core four course provides an introduction to four of the main areas of business, including management, marketing, finance, and supply chain. During this introductory course students will also focus on developing 21st-century skills that are key to success in both college and careers, including communication, collaboration, critical thinking, and problem-solving. In international business strategies, students explore various topics including the study of the influences on global business, the role governments play in global business, the

structures of international business organizations, importing and exporting goods, trade relations, foreign exchange and international finance.

Introduction to Supply Chain Management & Supply Chain Strategy (10)
The tenth-grade year covers an introduction to supply chain management, where students will understand the global network used to deliver products/services and the relationships between trading partners. Students will analyze the supply chain flow, strategic sourcing and supplier selection, as well as execute ethical decision making. In supply chain strategy, students will explore the areas of project management, continuous improvement strategies (LEAN manufacturing, Six Sigma), transportation and distribution functions, inventory management, and creating and maintaining business relationships. Through project based learning, students will collaborate in teams, formulate solutions and respectfully deliver their recommendations to an authentic audience.

Logistics Optimization and Sustainability (11)
The eleventh-grade year focuses on principles of supply chain, such as ethical sourcing and sustainability, logistics and optimizing production, and capacity planning.

Virtual Enterprises International (11)
With an emphasis on college and career readiness, Virtual Enterprises International (VEI) is an in-school, live, global business simulation that offers students a competitive edge through project-based, collaborative learning and the development of 21st-century skills in entrepreneurship, global business, problem-solving, communication, personal finance and technology. Drawing on the European tradition of apprenticeships, this multidimensional, experiential learning model, which is part of a global network of student-run businesses in over 40 countries, transforms high school students into independent-thinking business professionals and their classrooms into offices. Through developing and managing businesses, students gain expertise in problem-solving, decision-making, communication, collaboration, technology, and accessing, using and analyzing information—21st-century skills that are key to success in both college and careers.

Senior Year (See Senior Options on p. 30)

ACADEMY FOR HEALTH CARE SCIENCES

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

Dynamics of Healthcare I (9)
Dynamics of Healthcare I provides an orientation to health care services and their delivery. It presents an interdisciplinary perspective, focusing on process skills such as critical thinking, ethical reasoning, effective communication and ways to continue independent learning throughout life. The course shows how all health care providers acquire professional competence in dealing with the issues and problems they face as well as the role they play as informed consumers.

Health Science Foundations (9)
Health Science Foundations includes an introduction to medical terminology, human anatomy and a variety of career pathways within the healthcare industry. The course utilizes the Paxton Patterson Health Science Careers Learning System in which students explore careers related to fields of medicine, nursing, and health science programs with professional medical equipment - including but not limited to biomedical engineering, dentistry, medical imaging, pharmacology, and more.

Dynamics of Healthcare II (10)
Dynamics of Healthcare II provides an orientation to health care services and their delivery. It presents an interdisciplinary perspective, focusing on process skills such as critical thinking, ethical reasoning, effective communication and ways to continue independent learning throughout life. The course shows how all health care providers acquire professional competence in dealing with the issues and problems they face as well as the role they play as informed consumers.

Medical Terminology (10)
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 diagnosing and treating conditions related to all of the human body systems. This course replaces the earlier study of Latin and Greek for future healthcare professionals, as it focuses on words used

in the medical fields. This course serves as an important prerequisite to Anatomy and Physiology. It is useful in preparing students for every career in allied health.

Anatomy and Physiology I (11)
Anatomy and Physiology is the study of the structure and function of the human body. This course follows a sequential development of the major body systems in an organized and structured curriculum. The course is designed to give the students a selective overview of human anatomical structure and an analysis of human physiological principles. Labs will include slide work, dissection of various animals and studies of the human skeleton. The course will also use computer simulated dissection. *This course will provide the student an opportunity to earn four college credits from County College of Morris.*

Introduction to Clinical Research (11)
This course is designed to provide students with a basic understanding of what clinical research is and the scientific principles on which it is based. The course starts with a historical perspective on clinical research and then goes on to explore in detail the following topics: purpose and phases of clinical research, clinical trial development and conduct, ethical and regulatory implications, and the roles and responsibilities of all parties involved in clinical research.

Clinical Practicum (11)
The purpose of this course is to expose Academy for Health Care Students to the clinical setting. In this course, students learn how to interact with patients on location at one of our partner facilities. Students are also able to shadow a variety of health care professionals who care for the patients and/or residents in our partner facilities.

Medical Health and Wellness (11) This course provides a comprehensive overview of health and wellness. The impact of lifestyle choices on all aspects of personal health are discussed including physical, mental, emotional, social, and environmental. The course will explore topics related to nutrition, physical fitness, stress management, disease prevention, substance abuse, and healthy relationships. The information and skills necessary for making informed and healthful decisions to promote wellness will be discussed with an emphasis on self-responsibility.

Senior Year (See Senior Options on p. 30)

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.

~~Criminal and Civil Law (Or Law & Public Safety 9)~~ Criminal Law (9)
The course aims to provide a practical understanding of law and the legal system. which will be of utility to students in their professional lives, through the use of academic texts, supplemental real- world case studies, role plays, mock trials and research materials. In addition, extracurricular course activities, such as field trips, film presentations and speaker symposiums are organized to further solidify and inform awareness, on the part of the student, of current issues and controversies in terms that are practical, relevant and engaging. In addition, these activities strive to improve the understanding of the roles of law, lawyers, law enforcement officers, and the legal system play in our society and will hopefully expose those enrolled to the opportunities that exist within the legal field.

~~American Law & the Constitution (Or Law & Public Safety 10)~~ Civil and Constitutional Law (10)
This course introduces sophomore students to additional concepts in legal thinking. The class provides students with 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.

Crime in Society ~~(Or Law & Public Safety 11)~~ (11)
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 (See Senior Options on p. 30)

ACADEMY FOR MULTIMEDIA

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 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. They are encouraged to use their interdisciplinary arts skills in preparing projects for their academic courses.

Being a part of the Multimedia program requires a curricular commitment outside regular school hours throughout the year. Multimedia students will be required to participate in various (after school) pre-production, production, and post-production projects. In addition, they will meet determined project expectations and timelines cultivated for Multimedia Night, a screening and gallery exhibition to showcase student work. Participation before and attendance at Multimedia Night is mandatory for Multimedia majors. Multimedia majors are required to participate in at least one of the following positions for each Multimedia Night:

- Promo & Trailer Editors
- Program Curatorial Committee
- Magazine Curatorial & Layout Committees
- Video & Photo Documentation
- Poster & Sign Creative Designers

Multi-Medium Foundations (9)

Learn the rules like a pro so you can break them like an artist. - Picasso

Multi-Medium Foundations introduces students to the elements and principles of visual design and the tools and techniques needed to create various projects. In this introductory course, students explore the roots of multiple art mediums and the technical programs that give artists the tools they need to create. They learn the art form's aesthetic/creative and technical aspects in a supportive and collaborative environment that promotes cooperation, mutual respect, personal creativity, and technical learning. By the end of this course, students will master the fundamental base skills of working with mixed media materials and technology, including cameras, lights, sound, Adobe Creative Cloud programs (Premiere, After Effects, Photoshop), and Soundtrap/Soundation music software. Creative projects, workplace simulations, work-based learning trips, and master classes with guest artists and industry specialists provide opportunities to explore possible career pathways in the arts and production. Students begin to discover and express their vision and find their voices as digital artists, mixed media artists, cinematographers, editors, motion graphics specialists, sound designers, lighting designers, production managers, and more. Students begin building a portfolio of work for future use.

Sight, Sound & Storytelling (10)

The most powerful person in the world is the storyteller. The storyteller sets the vision, values, and agenda of an entire generation that is to come. - Steve Jobs

The Arts, A/V Technology & Communications Career Cluster includes occupations and careers in designing, producing, exhibiting, performing, writing, and publishing multimedia content, including visual and performing arts and design, journalism and entertainment services. Students gain experience and proficiency through projects, workplace simulations, master classes with guest artists and industry specialists, and work-based learning trips. They learn the aesthetic/creative and technical aspects of various art forms *(sound, storytelling, documentary, abstract & narrative filmmaking, photography)* in a supportive environment that promotes cooperation, mutual respect, personal creativity, and technical learning.

Students discover that storytelling involves operating technology programs and equipment and solving visual, dramatic, technical, and aesthetic problems to develop characters and mood, affect audience response and maintain narrative interest and unique perspectives. Students express their vision and find their voices as artists as they explore using their voices across different art mediums. Throughout their Multimedia studies, students are expected and encouraged to develop their artistic voice and vision, master the tools and techniques of their intended profession, manage their time and materials efficiently, and work as influential, supportive, enthusiastic member of their art community.

By the end of Sight, Sound & Storytelling, students can analyze the structure and aesthetic attributes of digital media by professionals and peers, use camera/lighting/sound recording equipment safely and competently, understand the fundamentals of screenwriting, directing & editing, and develop technical and artistic skills needed to pursue occupational pathways in the film/video/creative art industry. Each student adds more significant workpieces to their multimedia portfolio, used for internship search and college applications in junior and senior years.

Media Studies & Exploration (11)

The desire to create is one of the deepest yearnings of the human soul. - Elder Uchtdorf

The Arts, A/V Technology & Communications Career Cluster includes occupations and careers in designing, producing, exhibiting, performing, writing, and publishing multimedia content, including visual and performing arts and design, journalism and entertainment services. Students gain experience and proficiency through projects, workplace simulations, master classes with guest artists and industry specialists, and work-based learning trips. They continue

to learn about aesthetic/creative and technical aspects of digital media and art in a supportive environment that promotes cooperation, mutual respect, personal creativity, and technical learning.

The course of Media Studies & Exploration emphasizes several complementary approaches to the study of media: multidisciplinary perspectives derived from the arts, humanities, and social and natural sciences; the historical study of various forms of communication and the representation of knowledge; theoretical and critical inquiry into how media shapes our understanding of reality; the dynamic interrelationship of media industries, policies, public, cultural texts, and communications technologies; examination of global media, including non-Western, indigenous, and oppositional media forms and practices; and practical work in media production and the use of media technologies. A central goal of the program is that all majors develop familiarity with the breadth of these approaches.

Media Studies encourage the understanding and critical evaluation of new and old media technologies; the centrality of media in politics, economics, social life, and global and local culture; and media's contemporary and historical impact on individuals and societies. "Media" includes all forms of representational media *(oral/aural, written, visual), mass media (print, television, radio, film)*, new media *(digital multimedia, the Internet, networked media)*, their associated technologies, and the social and cultural institutions that enable them and are defined by them.

Multimedia students are expected and encouraged to develop their artistic voice and vision, master the tools and techniques of their intended profession, manage their time and materials efficiently, and work as influential, supportive, enthusiastic members of the MCST arts community. Throughout Media Studies & Exploration, students hone their voices as artists. They dive deeper into a project-based independent study in an area of particular interest related to their college and/or career plans. As a result, students will create complex, challenging design pieces and further develop and refine their portfolios.

Senior Year (See Senior Options on p. 30)

SENIOR YEAR CAREER EDUCATION OPTIONS - ALL ACADEMIES

Senior year is a capstone experience for Academy students. Throughout the four years of Academy coursework, students have honed skills and explored a variety of career pathways within their career cluster. Senior Year options allow students to customize their experience to best support a transition to post-secondary pursuits.

College Coursework Option (See p.8 for details)

Students may choose to complete their Career and Technical Education (CTE) coursework requirement at County College of Morris (one approved course per semester). There is a list of approved CTE courses for each Academy which can be obtained through our Guidance Department. Other courses may be approved on a case by case basis and that process is initiated through the Guidance Department.

Eligible students may opt to enroll in other participating institutions when available: Centenary University (Animal Science only); Ramapo College (VPA only); FDU (VPA only); or others as articulation agreements are established. To meet admission requirements, students must also meet the Guidelines for Pre-College Students as outlined by the respective college.

MCST Career Coursework

The following Career and Technical Education courses are available to students who complete their Senior year at MCST. Senior Capstone is required. The elective options provide students with skills that are transferable across a variety of career clusters especially with regard to business, technology, critical thinking, service learning and project management.

Senior Capstone (Required for Seniors who stay at MCST Full-Time)

This course challenges students to further develop and apply critical thinking, problem solving, and communication skills they have been acquiring and honing during the past three years to today's dynamic and rapidly changing world. By providing opportunities to research, explore, and solve current issues, this course is designed to empower students to identify and create solutions to real-world problems, and present their findings to an authentic audience. In the process, students actively develop their research skills, digital literacy, communication abilities, and creativity. Simultaneously, the course presents a variety of discussion, presentation, and innovation activities and projects aligned with ELA and CTE standards.

MCST Electives that fulfill Senior Year CTE Requirement

Emergency Medical Technician (For students in the Academies of Health Care Sciences and Law & Public Safety)
NOTE: This is a 10-credit course offered in partnership with Atlantic Training Center and runs every afternoon during fall semester from 12:15 pm - 3:00 pm.
This course is designed to instruct a student to the level of EMT-Basic, who serves as a vital link in the chain of the healthcare team. It is recognized that the majority of prehospital emergency medical care will be provided by the EMT-Basic. This course includes all the skills necessary for the individual to provide emergency medical care at a basic life support level with an ambulance service or other specialized service.
This is a rigorous program of classroom instruction, practical skills, evaluations, and homework assignments. The student must also complete 10 hours of clinical skills in a hospital emergency room. In order to successfully complete this course and in order to take the NJ State Certifying Examination, the student must obtain a grade of 70% on all tests. All absences must be made-up prior to taking the state exam.

Entrepreneurship (11-12)

This course introduces students to the core business competencies and innovation needed in the development of an enterprise highlighting the importance of strategy and assisting students to identify opportunities to creatively problem solve. Through project-based, collaborative learning and the development of 21st-century skills, students will investigate the advantages and disadvantages of entrepreneurship including global business,, communication, personal finance, and technology.