



NEWBURGH FREE ACADEMY

CHARTING YOUR COURSE

CAREER AND TECHNICAL EDUCATION (CTE) EXCERPT

Career and Technical Education

Department Vision

The Newburgh Free Academy Career Pathway programs will prepare all students to be lifelong learners who can adapt to a changing world. Our graduates will be ready to transition to a career or college.

Department Mission

The mission of the Visual Arts and Career and Technical Education program is to cultivate the potential in our students by integrating rigorous classroom instruction with relevant, work-based experiences that inspire, guide and empower them for post-secondary college and careers. Our CTE program will bridge the academic, employability and technical skills that prepare our students for leadership roles in the working world.



Notes on choosing your Pathway Program

The Newburgh Free Academy Career Pathway programs emphasis is on developing workplace skills and academic rigor that enables our students to become better qualified to compete for a career of their choosing. Our career courses allow students to discover their talents, skills, and abilities and then chart an appropriate path toward career choices to produce a more informed, satisfied, and productive workforce.

Students will be required by 10th grade to lock in their Pathway course of study. Each Pathway program is a course of study that leads to a special designation on the diploma upon graduation. Additionally, the description of the courses listed for each Pathway must be taken sequentially as they are specific to the New York State approved national CTE assessment.

Career and Technical NYSED Approved Programs

Program Pathway	College and Trade School Articulations Agreements
Auto Technology	Alfred State College & Rockland Community College
Barbering	Bryant and Stratton
Construction	Alfred State College & SUNY Delhi
Cosmetology	Bryant and Stratton
Criminal Justice	Bryant and Stratton & Columbia Greene Community College
Culinary	Affiliated with the New York Restaurant Association
Electrical	Bryant and Stratton
Fashion Design	Bryant and Stratton
Graphics	Bryant and Stratton
Health Occupations	Bryant and Stratton Monroe College
Welding	SUNY Delhi & Alfred State College

Art Design and Visual Communications Multiple Pathways	
English 9	
US History	
Algebra 1	
Liv. Env. or Earth Science (Lab)	
Phys. Ed.(Opposite Science Lab)	
Foreign Language	
Studio Art 6001	
Visual Communications I 6041	
Digital Studio Art 6011	
English 10	
Global I	
Geometry	
Liv. Env. or Earth Science (Lab)	
Phys. Ed.(Opposite Science Lab)	
Health	
Comprehensive Drawing 6021	
Ceramic I 6941	
English 11	
Global II	
Algebra II	
Phys. Education (Opposite Sci. Lab)	
Chemistry (or Sci. Elective)	
Ceramics II 6951	
English 12	
Government/Economics	
Physical Education	
Ceramics III 6961	

Art Design and Visual Communications Course Descriptions

Digital Studio in Art - CRS 6011 1.0

Main Campus In this class, students will study a variety of media, art styles, and artists. Students use image editing, compositing, animation, and digital drawing to put into practice the art principles discussed in the program. They explore career opportunities in the design, production, display, and presentation of digital artwork.

Pre-requisites: None

Course Requirements: Completion of projects, work process, and portfolio

Studio in Art - CRS 6001 1.0

Both Campuses - As a Drawing and Painting foundation course in this department, Studio in Art introduces students to a variety of concepts, skills, and techniques necessary for successful visual expression. Many different media will be used in areas of exploration and experimentation. Students will learn to analyze their work, study important works of art and participate in discussions about art.

Prerequisites: None

Course Requirements: Completion of projects, work process, and portfolio

Ceramics 1 - CRS 6941 1.0

Both Campuses - An introductory course is offering a study of basic clay working processes using hand building techniques as well as the potter's wheel. Design and craftsmanship will be stressed.

Prerequisites: Studio in Art

Course Requirements: Completion of projects

Ceramics 2 - CRS 6951 1.0

Main Campus - This course will emphasize extensive operation of the potter's wheel; as well as the history and theory of ceramics. Students will also research the use of clay as art, and as a craft.

Prerequisites: Ceramics 1

Course Requirements: Advanced hand-building/production on the wheel and a final project.

Ceramics 3 - CRS 6961 1.0

Main Campus - This course is designed for the serious-minded student contemplating a career in ceramics. Projects will be tailored toward career options in higher education or employment. Development of personal style will be encouraged.

Prerequisites: Ceramics 2

Course Requirements: Advanced hand-building/production on the wheel and a final project.

Art Design and Visual Communications Multiple Pathways (Continued)	
English 9	Visual Communications Design I 6041 Digital Studio Art 6011
US History	
Algebra 1	
Liv. Env. or Earth Science (Lab)	
Phys. Ed.(Opposite Science Lab)	
Foreign Language	
English 10	Visual Communications Design II 6051
Global I	
Geometry	
Liv. Env. or Earth Science (Lab)	
Phys. Ed.(Opposite Science Lab)	
Health	
English 11	Visual Communications Design III 6061
Global II	
Algebra II	
Phys. Education (Opposite Sci. Lab)	
Chemistry (or Sci. Elective)	
English 12	
Government/Economics	AP Studio 6931
Physical Education	

Visual Communications Course Descriptions

Visual Communications & Design I - CRS 6041

 1.0

Main Campus - This foundation course is the entry-level experience in the Vis Com sequence where the fundamentals of design are introduced

- What is design? •Why does man create?
- How do designers create? •How does creativity work?
- Can I improve my creativity?

The focus on these vital questions sets the stage for a journey onto the student designers road ahead. Traditional beginnings in project work are the focus as the student transitions from tools that are traditional to tools that are digital. Basic fundamental and intermediate skills in Adobe Photoshop and InDesign are taught from a tutorial perspective, which builds on small steps to increase skill at a deeper level.

Prerequisites: None

Course Requirements: Sketchbook and portfolio including projects, research, and a final evaluation.

Visual Communication & Design II - CRS 6051

 1.0

Main Campus - This intermediate course builds on the successes established in Vis Com I. Creativity takes a level of commitment. It is in this regard that the overarching focus of 'being a designer's' furthered. Harnessing the creative process, time management, and making deadlines is further supported along with tackling higher-order design projects. Adobe Illustrator is introduced as well. Along with increasing the skill level in using Adobe Photoshop and InDesign, Illustrator rounds out the student designers options in their quest to arrive at the best design answers. Careers in this field are also discussed as well as portfolio preparation for post-high school educational paths.

Prerequisites: Visual Communication & Design 1

Course Requirements: Additionally, students are required to maintain a sketchbook, folder, and portfolio; as well as attend various field experiences.

Visual Communication & Design III - CRS 6061

 1.0






Main Campus- This upper-level course rounds out a rich and vigorous sequence of design classes that deliver marketable skills and/or collegiate preparation for a career in creative media. This course is on the books as Vis Com 3, but we are collectively known as 'The Fullerton Crew.' Our mission statement: "The Fullerton Crew is a student-driven design firm whose primary focus is meeting design needs from across the varied groups in this community. "We specialize in





- branding/logo design
- flyers/brochures/banners

Understanding the dynamic of the client/designer relationship is also articulated and supported. These students take this task seriously as they set about to meet design needs and put their skills to the test! Application of their skill and the interpersonal experiences of a designer-client relationship is fostered to enrich this upper-level design experience.

Prerequisites: Visual Communication & Design 1 and 2

Course Requirements: Portfolio generation (online & traditional) will be addressed as well for those students who see themselves furthering this endeavor beyond NFA.

Painting and Drawing	
English 9	<p>Comprehensive Drawing/Illustrations - CRS 6021  1.0</p> <p>Main Campus - The basis of most successful artistic efforts is the development of student's ability to draw. This comprehensive course is designed to aid students in developing skills necessary for success in advanced art courses. Students will draw extensively using a variety of materials. Open to all students.</p> <p>Prerequisites: None</p> <p>Course Requirements: Completion of production work, class assignments, and tests.</p>
US History	
Algebra 1	
Liv. Env. or Earth Science (Lab)	
Phys. Ed.(Opposite Science Lab)	
Foreign Language	
Studio Art 6001	<p>Painting & Drawing 1 - CRS 6901  1.0</p> <p>Both Campuses - Serious students who have demonstrated a sincere interest in drawing and painting experience a variety of media, oil, acrylic and watercolor paints, charcoal, pencil, and crayon. Of concern will be the development of individual artistic expression. Consideration will be given to theory and history of painting and the works of important artists.</p> <p>Prerequisites: Studio in Art</p> <p>Course Requirements: Completion of sketchbook and painting portfolio</p>
English 10	
Global I	
Geometry	
Liv. Env. or Earth Science (Lab)	<p>Painting & Drawing 2 - CRS 6911  1.0</p> <p>Both Campuses -This is an advanced painting course for students whose interest, seriousness and talent have been demonstrated in the first year of study. Considerable emphasis will be placed on coordinating technique with personal expression.</p> <p>Prerequisites: A grade of 85% or higher in Painting & Drawing 1</p> <p>Course Requirements: Completion of sketchbook and painting portfolio</p>
Phys. Ed.(Opposite Science Lab)	
Health	
Comp. Drawing/Illustrations 6021	
Painting & Drawing I 6901	<p>Painting & Drawing 3 - CRS 6921  1.0</p> <p>Both Campuses -This course continues the development of skills presented in Painting and Drawing 2 as well as provides an opportunity for individualized instruction for those students contemplating a career in the fine arts. Particular emphasis will be placed on the methods, techniques, and practices of contemporary art and artists.</p> <p>Prerequisites: Painting & Drawing 2</p> <p>Course Requirements: Completion of sketchbook and painting portfolio</p>
English 11	
Global II	
Algebra II	
Phys. Education (Opposite Sci. Lab)	
Chemistry (or Sci. Elective)	<p>AP Art & Design - CRS 6931  1.0</p> <p>Main Campus - This course is a focused, in-depth study of media, techniques, and the creative process. It is intended for students who wish to pursue serious study in the arts. This is a college-level course that prepares the students for advanced work.</p> <p>*Assessment by the College Board may qualify a student for college credit.</p> <p>Prerequisites: Studio in Art and one other art course</p> <p>Course Requirements: Completion of all AP Portfolio Criteria</p>
Painting and Drawing 2 6911	
English 12	
Government/Economics	
Physical Education	
Painting and Drawing III 6921	
AP Art & Design 6931	

Photography Pathway		Photography Course Descriptions	
English 9		Digital Studio in Art - CRS 6011	 1.0
US History		<p>Main Campus- In this class, students will study a variety of media, art styles, and artists. Students use image editing, compositing, animation, and digital drawing to put into practice the art principles discussed in the program. They explore career opportunities in the design, production, display, and presentation of digital artwork.</p> <p>Prerequisites: None</p> <p>Course Requirements: Completion of projects, work process, and portfolio</p>	
Algebra 1			
Liv. Env. or Earth Science (Lab)			
Phys. Ed.(Opposite Science Lab)			
Foreign Language			
Digital Studio Art 6011		Photography - CRS 6071	 1.0
English 10		<p>Main Campus - Designed for beginning and advanced students, this program is a rigorous combination of technical, aesthetic and historical presentations, digital and darkroom work, studies in photographic composition, critical group discussions and written responses to readings, lectures, and gallery visits. In addition to the digital camera and editing concepts, students will be introduced to film photography, darkroom printing, and scanning of film images for manipulation in the digital editing format. Students will learn about digital printing and preparation of work for display. Photography students will have created a portfolio of work that can be used to present for post-high school studies and career opportunities.</p> <p>Prerequisites: Digital Studio in Art, Studio in Art, Visual Communications & Design I</p> <p>Course Requirements: Participation in class work, homework, and class discussions. Creation of a photographic portfolio.</p>	
Global I			
Geometry			
Liv. Env. or Earth Science (Lab)			
Phys. Ed.(Opposite Science Lab)			
Health			
Photography 6071		Advanced Photography - CRS 6081	 1.0
English 11		<p>Main Campus - This course explores advanced photographic procedures and techniques. Continuation of aesthetic concepts in photographic composition, students will learn advanced digital camera work and Photoshop editing techniques. Delving deeper into darkroom film photography, students will work with alternative films and camera formats. Research and written component involving documentary photography history and practicum. An independent portfolio of thematic work will be created over the course of the school year to expand subject matter choices and composition approaches.</p> <p>Pre-requisites: CRS 671 Photography</p> <p>Course Requirements: Participation in class work, homework and class discussions. Independent work and research project. Creation of a photographic portfolio.</p>	
Global II			
Algebra II			
Phys. Education (Opposite Sci. Lab)			
Chemistry (or Sci. Elective)			
Advanced Photography 6081		Advanced Photography 2 - CRS 6091	 1.0
English 12		<p>Main Campus - This course further expands the knowledge and techniques in advanced B&W darkroom photography and digital photography. You will work with medium and large format film cameras in this class. Alternative types of film, developing, printing and chemical processes will be explored. Creative techniques will be explored using Photoshop software. We will examine the work of contemporary photographers and incorporate their ideas and techniques into our own work. Work on independent themes are emphasized as well as creation of a senior portfolio of prints. You will create your own photographic based website using Wixsites. Work will be submitted for display in the photo exhibition in the NFA Art Gallery.</p> <p>Prerequisites: Advanced Photo 672</p> <p>Course Requirements: Participation in class work, class discussions. Independent work and research project. Creation of college level photographic portfolio.</p>	
Government/Economics			
Physical Education			
Advanced Photography 2 6091			

Auto Body Repair Pathway	
English 9	
US History	
Algebra 1	
Liv. Env. or Earth Science (Lab)	
Phys. Ed.(Opposite Science Lab)	
Foreign Language	
Required Art Credit	
English 10	
Global I	
Geometry	
Liv. Env. or Earth Science (Lab)	
Phys. Ed.(Opposite Science Lab)	
Health	
Basic Auto Body 7081	
English 11	
Global II	
Algebra II	
Phys. Education (Opposite Sci. Lab)	
Chemistry (or Sci. Elective)	
Auto Body I -7811 (2 Periods)	
Auto Body I 7812 Lab	
English 12	
Government/Economics	
Physical Education	
Auto Body II 7821 (2 Periods)	
Auto Body II 7822 Lab	
Optional – Workstudy 7761 and 7781	

Auto Body Repair Course Descriptions

Basic Auto Body - CRS 7081  0.5

Main Campus - Students entering this course should be considered a sequence in Occupational Education and have a strong interest in auto body repair or vehicle maintenance. Good reading skills and mature work behavior is a must. Instruction will include:

1. Auto body safety and work attitudes
2. Career opportunities
3. Basic auto body repair materials, and repair procedures.
4. Basic hand tools and dolly repairs

Practical application will be done on test panels, not live autos. This course will not include student-owned vehicle repair and repainting.

Prerequisites: None
Course Requirements: Students should expect to get dirty, and use of appropriate occupational clothing is required.

Auto Body 1 - CRS 7811 / 7812  2.0

Main Campus - This course is intended for the student who is seriously considering Auto Body Repair and Refinishing as a career. The course will require a two-period time block for a full year.

The course will include:

1. Auto Body Shop practical, appropriate work behavior, attitude and career opportunities
2. Automotive Repair Welding Systems. Oxyacetylene, MIG & Resistance Spot Welding
3. Practical application of Auto Body repair materials and repair procedures for metal, fiberglass, and plastic.
4. Advanced application of abrasives with air and electrical power tools
5. Removal, repair, and replacement of Auto Body panels
6. Introduction to painting and refinishing materials and techniques

Prerequisites: Basic Auto Body #722
Course Requirements: Students must provide suitable work clothes and work shoes.

Auto Body 2 - CRS 7821 / 7822  2.0

Main Campus - This course is intended to further prepare the student for Auto Body Repair, to accept entry-level employment in the field or secondary education in auto body. Full-year 2 periods a day, every day. The second-year instruction will stress skills such as:

1. Advanced repair of sheet metal, fiberglass, and plastics
2. Collision estimating and basic frame straightening for autos
3. Advanced paint systems as used on modern cars and light trucks, including acrylic enamel, polyurethane enamels, epoxies for spot, panel, and overall repainting; base coat/clear coat technology




Prerequisites: Auto Body 1 #702

WorkStudy - CRS 7761 & 7781  0.5 & 1.0

Mentor/Mirror/ Job shadow professionals in the field. Make connections for YOUR SUCCESSFUL Career in your area of study.

Prerequisites: CRS 722 & 702
Course Requirements: Students will be required to prepare a project and do a presentation at the end of the course.

*** Articulation Agreement with Alfred State College

Automotive Technology Pathway		Automotive Technology Course Descriptions	
English 9		Basic Technology - CRS 7701  0.5	
US History		Main Campus - This course is designed for students who know little about cars. Basic Auto Technology provides detailed information on how basic automotive systems work, how to maintain automobiles and do simple repairs. Designed for beginners, the everyday needs of the automobile owner/operator are addressed in this course. Some topics include engine tune-up, tire inspection, rotation, wheel balancing, brake inspection and repair, and exhaust inspection, repair, engine oil, and fluids. When completed, this hands-on course can lead the student into a three-year automotive technology sequence or provide the student with enough knowledge and experience to be self-sufficient in basic automotive repairs and save them money for years to come!	
Algebra 1		Prerequisites: None	
Liv. Env. or Earth Science (Lab)		Course Requirements: Students should expect to get hands dirty and use appropriate occupational clothing.	
Phys. Ed.(Opposite Science Lab)			
Foreign Language			
Required Art Credit			
English 10		Auto Technology 1 - CRS 7711 / 7712  2.0	
Global I		Main Campus - This course is designed for the serious automotive student after completing Fundamentals (Basic Auto). Students can expect to learn engine mechanics including engine performance and design, as well as, starting and charging systems, maintenance of cooling and lubrication systems. Also, chassis mechanics, including brakes, suspension, and driveline maintenance, and an introduction to the use of testing equipment is stressed.	
Geometry		Prerequisites: Basic Auto Mechanics #721	
Liv. Env. or Earth Science (Lab)		Course Requirements: Students must provide suitable work clothes and work shoes.	
Phys. Ed.(Opposite Science Lab)			
Health			
Basic Technology 7701			
English 11		Auto Technology 2 - CRS 7721 / 7722 / 7723  3.0	
Global II		Main Campus - The second year builds upon material learned in Occupational Auto 1, as well as an introduction to more advanced automotive technology. Vehicle driveline, suspension systems, wheel alignment, engine diagnosis, electronic ignition, fuel injection, and an introduction to computerized engine controls are covered detail. Completion of this course will allow the student to begin a career in Automotive Mechanics on an entry level. The course will also guide students who choose to obtain a post-secondary education in Automotive Technology.	
Algebra II		Prerequisites: Completion of Auto Mechanics I #700	
Phys. Education (Opposite Sci. Lab)		Course Requirements: Students must provide suitable work clothes and work shoes. Completion of assignments.	
Chemistry (or Sci. Elective)			
Auto Technology 1 - 7711 (2 Periods)			
Auto Technology 1 7712 Lab			
English 12			
Government/Economics			
Physical Education			
Auto Technology 2 7721 (3 Periods)			
Auto Technology 2 7722/7723 Lab			
Optional - Workstudy 7761 and 7781		WorkStudy - CRS 7761 & 7781 0.5 & 1.0	
		Mentor/Mirror/ Job shadow professionals in the field. Make connections for YOUR SUCCESSFUL Career in your area of study.	
		Prerequisites: CRS 721 &700	
		Course Requirements: Students will be required to prepare a project and do a presentation at the end of the course.	
		* NYSED APPROVED PROGRAM	
		** NYS CTE PATHWAY with Technical Assessment/NYS CDOS Pathway	
		*** Articulation Agreement with Rockland Community College & Alfred State College	

Barbering Course Descriptions

Barbering Pathway	
English 9	Barbering I - CRS 7161 ✍️ 1.0
US History	
Algebra 1	
Liv. Env. or Earth Science (Lab)	
Phys. Ed.(Opposite Science Lab)	
Foreign Language	
Required Art Credit	
	Barbering II - CRS 7171 / 7172 ✍️ 2.0
English 10	<p>Main Campus - This course includes the practice and study of the fundamentals of soft skills, advanced haircutting techniques, facial/neck straight razor shaving, hands-on experience in the senior clinic, preparation for the New York State Practical Licensing exam. Students will have access to laptops containing eBooks, and the ability to notetaking, highlight, and self-test through digital means. Students will be required to pass practical and written exams. A passing grade, 250 hours, and an apprenticeship at a barbershop is required to be eligible to sit for the New York State Licensing Examination.</p> <p>Prerequisites: 250 hours, Apprenticeship, Barbering I</p> <p>Course Requirements: Purchase of towels, water bottle, shaving cream, shampoo cape, massage cream, cleansing cream, and shampoo are necessary extra supplies for the New York State Licensing exam.</p>
Global I	
Geometry	
Liv. Env. or Earth Science (Lab)	
Phys. Ed.(Opposite Science Lab)	
Health	
English 11	
Global II	
Algebra II	*NYSED APPROVED PROGRAM
Phys. Education (Opposite Sci. Lab)	** NYS CTE PATHWAY with Technical Assessment/NYS CDOS Pathway
Chemistry (or Sci. Elective)	*** Articulation Agreement with Bryant and Stratton
Barbering I 7161	
English 12	
Government/Economics	
Physical Education	
Barbering II 7171 (2 periods) (eligible for NYSED certification exam)	
Barbering II b 7172 Lab	

Computer Science and Coding Pathway	
English 9	
US History	
Algebra 1	
Liv. Env. or Earth Science (Lab)	
Phys. Ed.(Opposite Science Lab)	
Foreign Language	
Introduction to Computer Science 7411	
Motion Graphics and Animation for Web 7421	
English 10	
Global I	
Geometry	
Liv. Env. or Earth Science (Lab)	
Phys. Ed.(Opposite Science Lab)	
Health	
Web Design I 7131	
English 11	
Global II	
Algebra II	
Phys. Education (Opposite Sci. Lab)	
Chemistry (or Sci. Elective)	
Programming-Python and Java 7451	
English 12	
Government/Economics	
Physical Education	
ECCHS Marist	

Computer Science and Coding Course Descriptions

Introduction to Computer Science - CRS 7411 0.5

Introductory computer science course, students will learn the basics of designing a web page and fundamentals of computer science. Students will learn the basics of HTML, CSS, basic programming, machine learning, hardware and software and game development using programming.

Prerequisites: None

Course Requirements: Participation in hands on activities and completion of assignments.

Motion Graphics and Animation for Web - CRS 7421 0.5

Students will get an introduction to the basic principles of animation as they use Adobe After Effects, Adobe Animate and CSS to create digital animations. Students will combine graphics, sound, text and video to create and deliver interactive media for web and gaming applications. Students will leave the class with a portfolio of work.

Prerequisites: None

Course Requirements: Participation in hands on activities and completion of assignments.

Web Design I - CRS 7131 1.0

Web Design I is a project-based course that teaches students frontend and backend web development. Q1 & 2 students will learn coding languages HTML and CSS and JavaScript. Q3 & 4 students will develop skills in cloud computing using Amazon Web Services.

Prerequisites: None or Introduction to Computer Science

Course Requirements: Participation in hands on activities and completion of assignments

Programming-Python and Java - CRS 7451 1.0

AP Computer Science A is an introductory college-level computer science course. Students cultivate their understanding of coding through analyzing, writing, and testing code as they explore concepts like modularity, variables, and control structures.

Prerequisites: Introduction to Computer Science

Course Requirements: Participation in hands on activities and completion of assignments

ECCHS Newburgh/Marist Partnership

The ECCHS Newburgh/Marist partnership courses are within the CTE Department. The first course Digital Citizenship is for 9th grade students that are accepted into the program. The second course, Software Development is for 10th grade students that are accepted into the program.

Course Requirements: Be a participant of the Marist class.

Construction Pathway	
English 9	
US History	
Algebra 1	
Liv. Env. or Earth Science (Lab)	
Phys. Ed.(Opposite Science Lab)	
Foreign Language	
Design & Drawing 7661	
English 10	
Global I	
Geometry	
Liv. Env. or Earth Science (Lab)	
Phys. Ed.(Opposite Science Lab)	
Health	
Intro to Carpentry 7301	
(Not required/ recommended)	
Architecture Design 7681	
English 11	
Global II	
Algebra II	
Phys. Education (Opposite Sci. Lab)	
Chemistry (or Sci. Elective)	
Carpentry I 7311 (2 periods)	
Carpentry I 7312 Lab	
English 12	
Government/Economics	
Physical Education	
Carpentry II 7321 (3 periods)	
(eligible for NYSED certification exam)	
Carpentry 7322 Lab	
Carpentry 7323 Lab	
Optional – Work Study 7761 and 7781	

Construction Course Descriptions

Design and Drawing for Production - CRS 7661

✍ 1.0

The Design and Drawing for Production (DDP), course of study, are focused on technical drawing techniques, the different styles of drafting, and promote creative problem solving through design. Projects will be centered on a variety of drawing styles, the design process, 3-dimensional modeling skills using AutoCAD, and model making. Assignments will include all forms of technical drawing and presentations. Students who plan to enter into the architectural field, engineering design or other technical studies should consider this fundamental course as early as possible.

Prerequisites: None

Introduction to Carpentry - CRS 7301

✍ 0.5

Main Campus - Course will introduce Basic Woodworking skills using hand machine tools. Projects will be tailored to incorporate various methods of furniture and cabinet construction.

Prerequisites: None

Course Requirements: Completion of assignments

Architectural Drafting and Design - CRS 7681

✍ 1.0

Main Campus - The Architectural Drafting and Design course of study is focused on residential structures and 3-dimensional modeling skills. Projects will be centered on the design process, floor plan drafting, 3D model making, and sustainable building methods. Students will study the history of architectural design and techniques used in designing and planning residential structures.

Prerequisites: Design & Drawing for Production CRS 660

Carpentry 1 - CRS 7311 / 7312

✍ 2.0

Main Campus - A First-year course designed for students that intend to enter construction as a career. This is an introduction to carpentry as related to building and construction trades. Students will learn to read and interpret blueprints, estimate building costs, safe handling of hand tools and portable power tools, and techniques and processes involved in "rough" carpentry such as framing-floor, wall roof, sheeting, roofing, and siding.

Prerequisites: None

Course Requirements: Students must provide suitable work clothes and work shoes. Students must be willing to work outside.

Carpentry 2 - CRS 7321/ 7322 / 7323

✍ 3.0

Main Campus - Second-year course for students that intend to enter construction as a career. Students will continue to refine skills developed in the first year. Also, they will learn finish carpentry skills; such as drywall installation and finishing trim door and window installation, finish floor installation.

Prerequisites: Building Construction/Carpentry 1 CRS 740

Course Requirements: Students must provide suitable work clothes and safety-type shoes. Willingness to do physical labor and work outside required.

*NYSED APPROVED PROGRAM

** NYS CTE PATHWAY with Technical Assessment/NYS CDOS Pathway

*** Articulation Agreement with Alfred State & SUNY Delhi

Cosmetology Pathway	
English 9	
US History	
Algebra 1	
Liv. Env. or Earth Science (Lab)	
Phys. Ed.(Opposite Science Lab)	
Foreign Language	
Required Art Credit	
English 10	
Global I	
Geometry	
Liv. Env. or Earth Science (Lab)	
Phys. Ed.(Opposite Science Lab)	
Health	
Into to Cosmetology 7131	
English 11	
Global II	
Algebra II	
Phys. Education (Opposite Sci. Lab)	
Chemistry (or Sci. Elective)	
Cosmetology I 704 (4 periods) 7141/7142/7143/7144	
English 12	
Government/Economics	
Physical Education	
Cosmetology II 7151/7152/7153/7154 (4 periods) (eligible for NYSED certification exam)	

Cosmetology Course Descriptions

Introduction to Cosmetology - CRS 7131

✍ 0.5

Main Campus - This is a ½-year hands-on course in the basics of cosmetology. Students will explore roller sets, finger waving, permanent wave wrapping, pin curls, thermal curling techniques, hair styling, and paraffin hand wax. Also, the students will practice soft skills for entry-level employment. Our theory includes the history of cosmetology, life skills, professional image and communication skills. Students will be required to take notes, practical assessment and chapter exams.

Prerequisites: None

Course Requirements: Complete practical and theory assignments. Attendance is critical to ensure students' success.

Cosmetology I - CRS 7141/7142/7143/7144

✍ 4.0

Main Campus - This course includes the practice and study in the fundamentals of manicuring, shampooing, styling, permanent waving, chemical texture services, haircutting, and soft skills necessary for entry-level employment. We stress the importance of sanitation, sterilization, and personal and public hygiene. A passing grade, 500 hours, and complete notebook are necessary advance to Cosmetology II.

Prerequisites: Must be in 11th or 12th grade (12th Graders will need to complete coursework in Cosmetology II program outside school district)

Course Requirements: Purchase of Kit (Approximately \$250.00), three ring binder with 20 dividers

Cosmetology II - CRS 7151/7152/7153/7154

✍ 4.0

Main Campus - The second year provides further mastery of the basic skills with an emphasis on general science, nail enhancement procedures, skin care, hair color, advanced hair cutting, preparing for employment, and basic skills necessary to pass the New York State licensing examinations. The weekly senior clinic offers the students an opportunity to practice their skills in a real work environment.

Completion of senior cosmetology requires a notebook, 500 hours, and a passing grade. Upon this completion, students will be eligible to sit for the New York State Licensing Exams.

Prerequisites: 500 hours completed Cosmetology I and passing grade cosmetology I

Course Requirements: Update Cosmetology Kit, Three Ring Binder with 20 Dividers

WorkStudy - CRS 7761 & 7781

✍ 0.5 & 1.0

Mentor/Mirror/ Job shadow professionals in the field. Make connections for YOUR SUCCESSFUL Career in your area of study.

Prerequisites: CRS 704

Course Requirements: Students will be required to prepare a project and do a presentation at the end of the course.

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** NYS CTE PATHWAY with Technical Assessment/NYS CDOS Pathway

*** Articulation Agreement with Bryant and Stratton

Criminal Justice & Security Pathway		Criminal Justice & Security Course Descriptions	
English 9		Introduction to Criminal Justice - CRS 7851	1.0
US History		North Campus	
Algebra 1		• Experience how a Criminal Mind operates	
Liv. Env. or Earth Science (Lab)		• Participate in simulations and labs	
Phys. Ed.(Opposite Science Lab)		• Discover the justice system (police courts corrections services)	
Foreign Language		• Prepare for a Career in Security, Law, and Forensics	
Required Art Credit		Prerequisite: None	
		Course Requirements: Completion of assignments	
		Emergency and Disaster Management - CRS 7871	1.0
English 10		North Campus	
Global I		• Learn emergency management skills	
Geometry		• Learn emergency communication skills.	
Liv. Env. or Earth Science (Lab)		• Emergency Dispatch Certification	
Phys. Ed.(Opposite Science Lab)		Prerequisite: None	
Health		Course Requirements: Completion of assignments	
Intro. to Criminal Justice 7851		Criminal Procedures/Security - CRS 7861	1.0
		North Campus	
English 11		• Apply Real Life Criminal Justice career skills	
Global II		• Fingerprint, Criminal photography, Crime scene processing	
Algebra II		• Examine Drawing and Court presentations for evidence	
Phys. Education (Opposite Sci. Lab)		• Solve the Crime!	
Chemistry (or Sci. Elective)		• New York State Security Certification and Job Opportunities!	
Criminal Procedure 7861 (eligible for NYSED certification exam)		Prerequisite: Introduction to Criminal Justice	
Emergency and Disaster Management 7871		Course Requirements: Completion of assignments	
		WorkStudy - CRS 7761 & 7781	0.5 & 1.0
English 12		North Campus	
Government/Economics		• Mentor/Mirror/ Job shadow professionals in the field	
Physical Education		• Explore Careers as Police Officer, 911 Dispatcher, and Security Guard	
WorkStudy 7761 & 7781		• Make connections for YOUR SUCCESSFUL Career in Law Enforcement or Security!	
		Prerequisites: Law Enforcement /Security pathway- Introduction to Criminal Justice #714N, Criminal Procedures#716	
		Course Requirements: Students will be required to prepare a project and do a presentation at the end of this course.	
		*NYSED APPROVED PROGRAM	
		** NYS CTE PATHWAY with Technical Assessment/NYS CDOS Pathway	
		*** Articulation Agreement with Bryant and Stratton & Columbia Greene Community College	

Culinary Arts and Restaurant Management Pathway	
English 9	
US History	
Algebra 1	
Liv. Env. or Earth Science (Lab)	
Phys. Ed.(Opposite Science Lab)	
Foreign Language	
Required Art Credit	
English 10	
Global I	
Geometry	
Liv. Env. or Earth Science (Lab)	
Phys. Ed.(Opposite Science Lab)	
Health	
Intro to Food Service 7201	
English 11	
Global II	
Algebra II	
Phys. Education (Opposite Sci. Lab)	
Chemistry (or Sci. Elective)	
Culinary Career Choice 7211 (2 Periods)	
Culinary Career Choice Lab 7212	
English 12	
Government/Economics	
Physical Education	
Advanced Culinary Arts 7221 (3 Periods) (eligible for NYSED certification exam)	
Advanced Culinary Arts Lab (3 Periods) 7222/7223	
WorkStudy 7761 and 7781	

Culinary Arts and Restaurant Management Course Descriptions

Introduction to Food Service CRS 7201 1.0

Main Campus

- Build skills toward success in NFA Culinary Arts Program
- Understand Culinary Management
- Develop skills to prepare healthily and appetizing foods

Prerequisites: None

Course Requirements: Completion of assignments

Culinary Arts CRS 7211/7212 2.0

Main Campus

- This is a 2-period course
- Basic food preparation knowledge and skills
- Instruction by Culinary Experts in the operation of commercial food service equipment
- Course consists of both a lecture and lab component which is competency driven
- Preparation for college-level Culinary and Hospitality Schools, job ready domestic cooking.

Prerequisites: Course 780

Course Requirements: Completion of assignments. New York State ProStart Curriculum

Advanced Culinary Arts CRS 7221/7222/7223 3.0

Main Campus

- This is a 3-period course
- Craft amazing and fun food using flames, knives, and creative chemistry
- Work with professional chefs to create gourmet foods, cakes, and pastries
- Develop entire food plans for unique diet plans
- Course consists of both a lecture and lab component which is competency driven
- Prepares students for job ready, domestic cooking and higher education at Culinary and Hospitality Schools

Prerequisites: CRS 780 & CRS 778 (Intro to Food and Culinary Career Choice)

Course Requirements: Completion of assignments

Work Study CRS 7761 & 7781 0.5 & 1.0

Mentor/Mirror/ Job shadow professionals in the field.

Make connections for YOUR SUCCESSFUL Career in the Food Industry.

Prerequisites: CRS 780 & 778

Course Requirements: Students will be required to prepare a project and do a presentation at the end of this course.

The Nationwide, ProStart curriculum gives our students the exciting opportunity to learn about the art of cooking and managing restaurants by training with professional chefs and getting valuable classroom instruction. It is also a way to earn college credit and make money while in high school.

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** NYS CTE PATHWAY with Technical Assessment/NYS CDOS Pathway

*** Articulation Agreement Affiliated with the New York Restaurant Association

Electronics Pathway	
English 9	
US History	
Algebra 1	
Liv. Env. or Earth Science (Lab)	
Phys. Ed.(Opposite Science Lab)	
Foreign Language	
Required Art Credit	
English 10	
Global I	
Geometry	
Liv. Env. or Earth Science (Lab)	
Phys. Ed.(Opposite Science Lab)	
Basic Electronics 7471	
English 11	
Global II	
Algebra II	
Phys. Education (Opposite Sci. Lab)	
Chemistry (or Sci. Elective)	
Electronics I 7481	
English 12	
Government/Economics	
Physical Education	
Electronics 2 7491 (eligible for NYSED certification exam)	
WorkStudy 7761 and 7781	

Electronics Course Description

Basic Electricity - CRS 7471 0.5

Main Campus - This course covers fundamentals of electricity and electronics. Topics covered will be basic housing wiring, electronics, low-voltage applications, tool identification and application, measuring, and basic audio systems. Students will make an electronics project and practice house wiring.

Prerequisites: None

Course Requirements: Completion of assignments

Electronics 1 - CRS 7481 1.0

Main Campus - This course includes a review of basic mathematics and algebra and the introduction of basic physics. Basic electricity, DC and AC theory, and residential wiring and code compliance are emphasized. Lab work includes building sample residential walls to emphasize the application of schematic diagrams, proper wiring installation, and other test equipment.

Prerequisites: None

Course Requirements: Completion of assignments

Electronics 2 - CRS 7491 1.0

Main Campus - This course continues the work and experience gained in Electronics 1. This course will continue to build the student's knowledge through applying their skills in various new situations. They will gain a deeper understanding of electrical code and safety issues that can arise. High voltage circuits and electrical panel work will be explored through classroom sample models. Students will learn to assess and troubleshoot common electrical issues and learn to repair and install new electrical components.

Prerequisites: Electronics

Course Requirements: Completion of assignments

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** NYS CTE PATHWAY with Technical Assessment/NYS CDOS Pathway

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Emergency Management Pathway
English 9
US History
Algebra 1
Liv. Env. or Earth Science (Lab)
Phys. Ed.(Opposite Science Lab)
Foreign Language
Studio Art
English 10
Global I
Geometry
Liv. Env. or Earth Science (Lab)
Phys. Ed.(Opposite Science Lab)
Health
Introduction to Emergency First Responder 7823
English 11
Global II
Algebra II
Phys. Education (Opposite Sci. Lab)
Chemistry (or Sci. Elective)
Emergency and Disaster Management 7831
English 12
Government/Economics
Physical Education
WorkStudy 7761 & 7781

Emergency Medical Services /Fire Science Course Descriptions

Introduction to Emergency First Responder - CRS 7823 ✎ 1.0

North Campus

- How to respond to medical, fire or mass casualty events
- Learn survival and rescue skills
- Learn how to prepare for disasters

Prerequisite: None

Course Requirements: Completion of assignments

Emergency and Disaster Management - CRS 7831 ✎ 1.0

North Campus

- Learn emergency management skills
- Learn emergency communication skills.
- Emergency Dispatch Certification

Prerequisite: Introduction to Emergency First Responder

Course Requirements: Completion of assignments






WorkStudy - CRS 7761 & 7781 ✎ 0.5 & 1.0

North Campus

- Mentor/Mirror/ Job shadow professionals in the field
- Explore Careers in EMS and Fire Science

Prerequisites: Introduction to Emergency Response and Emergency, Disaster Management

Course Requirements: Students will be required to prepare a project and do a presentation at the end of this course.

Architecture & Engineering Pathway		Architecture & Engineering Course Descriptions	
English 9		Design and Drawing for Production CRS 7661	 1.0
US History		<p>The Design and Drawing for Production (DDP) course of study are focused on technical drawing techniques, the different styles of drafting, and promote creative problem solving through design. Projects will be centered on a variety of drawing styles, the design process, 3-dimensional modeling skills using AutoCAD, and model making. Assignments will include all forms of technical drawing and presentations. Students who plan to enter into the architectural field, engineering design or other technical studies should consider this fundamental course as early as possible.</p> <p>Prerequisites: None</p>	
Algebra 1			
Liv. Env. or Earth Science (Lab)			
Phys. Ed.(Opposite Science Lab)			
Foreign Language			
Design & Drawing 7661		Introduction to Carpentry CRS 7301	 0.5
English 10		<p>Main Campus - Course will provide an introduction to Basic Woodworking skills using hand machine tools. Projects will be tailored to incorporate various methods of furniture and cabinet construction.</p> <p>Course Requirements: Completion of assignments</p>	
Global I			
Geometry		Engineering Drafting and Design CRS 7671	 1.0
Liv. Env. or Earth Science (Lab)		<p>Main Campus - The Engineering Drafting and Design course involves advanced technical design and is focused on the design process and prototyping skills. Projects will be centered on the processes of research, brainstorming, sketching, template design, 3D modeling using Autodesk software, and 3D printing fundamentals. Students will study everyday physical objects and mechanical devices, attempting to replicate or make improvements to these items. Students will develop and test a variety of 3-dimensional models made both by hand and with 3D printers.</p> <p>Prerequisites: CRS 660 - Design & Drawing for Production</p>	
Phys. Ed.(Opposite Science Lab)			
Health			
Intro. To Carpentry 7301			
English 11		Architectural Drafting and Design CRS 7681	 1.0
Global II		<p>Main Campus - The Architectural Drafting and Design course of study is focused on residential structures and 3 dimensional modeling skills. Projects will be centered on the design process, floor plan drafting, 3D model making, and sustainable building methods. Students will study the history of architectural design and techniques used in designing and planning residential structures.</p> <p>Prerequisites: CRS 660- Design & Drawing for Production</p>	
Algebra II			
Phys. Education (Opposite Sci. Lab)			
Chemistry (or Sci. Elective)			
Engineering Design 7671		Carpentry 1 - CRS 7311/ 7312	 2.0
English 12		<p>Main Campus - This is an introduction to carpentry as related to building and construction trades. Students will learn to read and interpret blueprints, estimate building costs, safe handling of hand tools and portable power tool and techniques and processes involved in "rough" carpentry such as framing- floor, wall roof, sheeting, roofing, and siding.</p> <p>Course Requirements: Students must provide suitable work clothes and work Shoes. Students must be willing to work outside.</p>	
Government/Economics			
Physical Education			
Architecture Design 7681			
Carpentry I 7311 (2 Periods)			
Carpentry I 7312 Lab			
WorkStudy 7761 & 7781			




Fashion Course Descriptions

Fashion Design Pathway	
English 9	
US History	
Algebra 1	
Liv. Env. or Earth Science (Lab)	
Phys. Ed.(Opposite Science Lab)	
Foreign Language	
Clothing Textile/Inter. Design 7621	Clothing and Textile/Interior Design - CRS 7621 1.0
	Main Campus- The content of this course includes the cultural and historical aspects of textiles and clothing, personal appearance, the design, construction and selection of clothing and related career opportunities. Students will learn basic pattern use and sewing machine skills. Students will learn the elements and principles of design and how to use color. The content of this course studies housing history and current trends in interior design. Prerequisites: None Course Requirements: The completion of one clothing project. The purchase of patterns and notions is required by the student.
English 10	
Global I	
Geometry	
Liv. Env. or Earth Science (Lab)	
Phys. Ed.(Opposite Science Lab)	
Health	
Clothing Textile/Inter. Design 7621	Clothing Construction - CRS 7631/7632 2.0
	Main Campus- This course allows students to explore designs of clothing to create a clothing line. All facets of promoting a clothing line are researched and explored. Implementation of sewing line techniques will produce a full clothing line to be evaluated and graded by the teacher. Completed clothing lines will be presented during a runway fashion show during the school year. Prerequisites: Clothing, and Textile Design Course Requirements: Portfolio and final exam and project. Successful completion of a clothing line. The student must purchase patterns, fabric, and notions.
English 11	
Global II	
Algebra II	
Phys. Education (Opposite Sci. Lab)	
Chemistry (or Sci. Elective)	
Clothing Construction 7631 (2 Periods)	Advanced Clothing Construction - CRS 7641 1.0
Clothing Construction 7632 Lab	
	Main Campus- This course is a continuation of clothing construction. Students are required to demonstrate independent efforts to create a larger and more detailed clothing line then done in Clothing Construction. Students in this level course will learn to play a leadership role in the production and running of the Newburgh Free Academy fashion show. Prerequisites: Clothing Construction Course Requirements: Portfolio and final examination/project, successful completion of a three-piece clothing line. The students must purchase patterns, fabric and notions.
English 12	
Government/Economics	
Physical Education	
Advanced Clothing Construction 7641 (eligible for NYSED certification exam)	
Advanced Clothing Construction Lab	






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** NYS CTE PATHWAY with Technical Assessment/NYS CDOS Pathway

*** Articulation Agreement with Bryant and Stratton

Graphic Communication Pathway		Graphics Descriptions	
English 9		Basic Graphic Arts - CRS 7921	 0.5
US History		<p>Main Campus - This course provides general knowledge and procedures in the Graphic Arts field and how it relates to the business world. The student is introduced to Computer Design on the Macintosh computer, using cutting-edge software including, Photoshop, In-Design, and Microsoft Word. Many projects are done in class.</p> <p>Prerequisites: None Course Requirements: Completion of assignments</p>	
Algebra 1			
Liv. Env. or Earth Science (Lab)			
Phys. Ed.(Opposite Science Lab)			
Foreign Language			
Required Art Credit		Graphics 1 - CRS 7931	 1.0
English 10		<p>Main Campus - This course is intended for students who are interested in the Graphic Arts field and its relationship with the business world. This course will cover Typography, Desktop Design, Computer Design, Graphics Manipulation, and copy preparation. Turning Words, Images, into media Masterpieces all with the Macintosh computer. Learning to market ourselves with cutting edge software Inc. Photoshop, In-Design, Microsoft Word</p> <p>Prerequisites: None Course Requirements: Completion of assignment.</p>	
Global I			
Geometry			
Liv. Env. or Earth Science (Lab)			
Phys. Ed.(Opposite Science Lab)			
Health		Graphics 2 - CRS 7941	 1.0
Basic Graphics 7921		<p>Main Campus - This course is intended for students who are seriously interested in the mastering of computer technologies on the Macintosh platform. This course will cover Typography, Desktop Design, and Computer Design, Graphics Manipulation, copy preparation, resume, and many other helpful applications towards marketing yourself. Turning Words, Images, into media Masterpieces all using the Macintosh computer, learning to market ourselves with cutting edge software Inc. Photoshop, In-Design, Microsoft Word, and I-Movie Many projects are done in class.</p> <p>Prerequisites: Completion of Graphic Arts 1 Course Requirements: Completion of assignments</p>	
English 11			
Global II			
Algebra II			
Phys. Education (Opposite Sci. Lab)			
Chemistry (or Sci. Elective)		<p>*NYSSED APPROVED PROGRAM ** NYS CTE PATHWAY with Technical Assessment/NYS CDOS Pathway *** Articulation Agreement with Bryant and Stratton</p>	
Graphics Arts I 7931			
English 12			
Government/Economics			
Physical Education			
Graphic Arts II 7941 (eligible for NYSED certification exam)			

Personal Fitness Foundations Pathway		Personal Fitness Foundations Course Descriptions	
English 9		Advanced Personal Fitness - CRS 7231 /7232	✎ 0.5 CTE & 0.5 H
US History		<p>Main Campus - The main focus at the start of this course will be on diet and fitness (learn to prepare healthy foods). Students will learn the basic study of the structure and function of the human body and its response to nutrition and specific exercise. The students will each be able to demonstrate a basic understanding of the fundamental principles of anatomy and physiology by the end of this course. Course fulfills the NYSED Health requirement.</p> <p>Prerequisites: None</p> <p>Course Requirements: Participation in hands on activities and completion of assignments.</p>	
Algebra 1			
Liv. Env. or Earth Science (Lab)			
Phys. Ed.(Opposite Science Lab)			
Foreign Language			
Required Art Credit			
English 10		Health and Fitness Foundations I - CRS 7241	✎ 1.0
Global I		<p>management. Students are expected to prepare and participate in creating sports information, event and facility planning, program promotion, media relations and sports finance. The students will begin participating in the hands-on education-assistance program, working with the District Athletic Trainer in preventative services, emergency care, clinical diagnosis, therapeutic intervention, and rehabilitation of injuries.</p> <p>Prerequisites: CRS 7501 Advanced Personal Fitness</p> <p>Course Requirements: Participation in hands on activities and completion of assignments.</p>	
Geometry			
Liv. Env. or Earth Science (Lab)			
Phys. Ed.(Opposite Science Lab)			
Health			
Advanced Personal Fitness 7231/7232			
English 11		Health and Fitness Foundation II - CRS 7251	✎ 1.0
Global II		<p>Main Campus - The final component of this program will have each student take an in-depth focus to a specific field of interest that was discovered from Health and Fitness Foundations 1. Students must take part in the work in a work-study (education-assistance) environment based on career goals of each student. Students are required by the end of this course to take the for Personal Training, First-Aid, CPR, and AED Certifications.</p> <p>Prerequisites: CRS 7501 and 7502</p> <p>Course Requirements: Complete</p>	
Algebra II			
Phys. Education (Opposite Sci. Lab)			
Chemistry (or Sci. Elective)			
Health & Fitness Foundations I 7241			
English 12			
Government/Economics			
Physical Education			
Health & Fitness Foundations II 7251			

Alternative Medicine Pathway	Alternative Medicine Course Description
English 9 US History Algebra 1 Liv. Env. or Earth Science (Lab) Phys. Ed.(Opposite Science Lab) Foreign Language Studio Art	Principals of Natural Health- CRS 7531  0.5 In this course, we will discuss the various stages of health and illness, and you will discover that true health means wholeness of the mind, body, and spirit. In this course, we will explore in depth the six global traditions: Ayurvedic medicine of India, the indigenous medicine of Central and South America, Native North American healing, the healing traditions of South Africa, traditional Chinese medicine, and Unani medicine of Eastern Europe. We will review a variety of methods like diet, hydrotherapy, positive attitude, relaxation, yoga, chiropractic, natural remedies and more; you will explore a way to achieve total health in mind, body, and spirit. Prerequisites: None Course Requirements: Participation in hands on activities and completion of assignments
English 10 Global I Geometry Liv. Env. or Earth Science (Lab) Phys. Ed.(Opposite Science Lab) Health Principals of Natural Health 7531 Meditation 7571	Meditation – CRS 7571  0.5 Focuses on intentionally training a person's attention and concentration. Meditation practices have been used by cultures around the world for thousands of years. In this certificate program, you will explore the many meditation techniques that can be used to support the mind-body connection and promote healing and wellness. This course will guide you as you discover how the practice of meditation can be used to increase mindfulness, reduce stress, deal with pain and illness, and support overall well-being. Prerequisites: None Course Requirements: Participation in hands on activities and completion of assignments
Evidence-Based Medicine 7581 Acupressure Course 7591 English 11 Global II Algebra II Phys. Education (Opposite Sci. Lab) Chemistry (or Sci. Elective)	Evidence-Based Medicine – CRS 7581  0.5 In this course, the focus is on all animal life depends on the existence of plants. They are necessary to produce Oxygen, to supply food and to provide shelter. When the early man started to look for a cure for his ailments, it was towards plants that he turned. Today 75% of Medicines around the world are derived from herbs. In this course, we will guide students through research/discovery of the world of medicines & methods in which they are applied. Prerequisites: Principles of Natural Health Course Requirements: Participation in hands on activities and completion of assignments
Evidence-Based Medicine 7581 Acupressure Course 7591 English 12 Government/Economics Physical Education	Acupressure Course – CRS 7591  0.5 Acupressure is the application of pressure to the body to enhance the flow of energy. This therapy is widely used in China where more emphasis is given to people's responsibility for their own health than it is in the Western world. It has the same principles as Acupuncture, but the pressure is applied directly to the Acupoints of the body mainly by using the hands, fingers, thumbs or knuckles. Stimulation of the body's meridian system by touch is perhaps one of the oldest and most effective healing systems. Prerequisites: Principles of Natural Health Course Requirements: Participation in hands on activities and completion of assignments
Business in Health and Healing 7601	Business in Health and Healing - CRS 7601  0.5 Becoming an entrepreneur in this growing field can provide you with independence, flexibility, personal fulfillment, control over your own life, and incredible financial rewards. In this innovative program, you will learn how to make your dreams of building a health-related business a reality. This program will guide you through the steps to building your own business. You will explore the different options for creating your business and learn how to develop a successful business plan. You will gain information about financing your business, and see how to create an effective marketing strategy to help ensure your success Prerequisites: Principles of Natural Health & Evidence Based Medicine Course Requirements: Participation in hands on activities and completion of assignments

Nutrition Pathway	Nutrition Course Pathway
English 9	Principles of Nutrition and Wellness – CRS 7561  1.0
US History	Nutrition and Wellness is an applied laboratory-based course designed to educate students about food preparation and the functional components of foods. Students also learn about food safety, sanitation, and students complete the industry recognized Food Handlers Certificate. Through an examination of food labels, dietary guidelines, meal planning, and dietary analysis, students become aware of practical techniques of maintaining and improving health. The course also explores the role of food in respect to its historical, social, environmental context through the preparation of Regional Foods of the United States.
Algebra 1	Prerequisites: None
Liv. Env. or Earth Science (Lab)	Course Requirements: Participation in hands on activities and completion of assignments
Phys. Ed.(Opposite Science Lab)	
Foreign Language	
Studio Art	
English 10	
Global I	Nutritional Management – CRS 7541  1.0
Geometry	Nutritional Management provides an in-depth study of nutrition and how it affects the human body. Topics include extensive study of major nutrients, nutrition/food choice influences, technological and scientific influences, special diets, and career exploration in this field. Attention will be given to nutrition, menu planning, industry-based food safety, and sanitation. Laboratory experiences will be utilized to develop food handling and preparation skills. Nutritional Management is geared toward students interested in careers involving dietetics, education and health and wellness related fields.
Liv. Env. or Earth Science (Lab)	Prerequisites: Principles of Nutrition and Wellness
Phys. Ed.(Opposite Science Lab)	Course Requirements: Participation in hands on activities and completion of assignments
Health	
Principles of Nutrition and Wellness 7561	
English 11	
Global II	
Algebra II	Nutrition Science and Diet Therapy – CRS 7551  1.0
Phys. Education (Opposite Sci. Lab)	Nutrition Science and Diet Therapy is an applied knowledge course in nutrition for students interested in the role of nutrition in health and disease. Upon completion of this course, proficient students will be able to develop a nutrition care plan as part of the overall healthcare process, use methods for analyzing the nutritional health of a community, and understand the relationship of diet and nutrition, homeopathic to specific diseases. The course emphasizes the role of diet as a contributor to disease and its role in the prevention and treatment of disease.
Chemistry (or Sci. Elective)	Prerequisites: Nutritional Management
Nutritional Management 7541	Course Requirements: Participation in hands on activities and completion of assignments
English 12	
Government/Economics	
Physical Education	
Nutrition Science and Diet Therapy 7551	

Health Science Education Pathway Overview

Healthcare is the largest and fastest-growing industry in the United States and is one of the largest employment areas within the Hudson Valley.

NFA Health Science/ NYS Nurse Aide Certification Pathway offers High Quality Career and Technical Education. The NFA Nurse Aide program is a NYS Career and Technical Model Program as recognized and awarded by NYS Department of Education. While enrolled in the Health Science Career Cluster, you will prepare for a career that promotes health, wellness, diagnosis, and treat injuries and diseases. Students in the health science education pathway learn and practice skills that prepare them for diverse post-high school education and training opportunities, from apprenticeships and two-year college programs to four-year college and graduate programs.

Health Science Education Pathway is a program of interest for the student who is considering a professional career in any of the following professional disciplines: Nurse Aide, Home Health Aide, Licensed Practical Nurse, Registered Nurse, Phlebotomist, Medical Tech/Assisting, Pharmacist, and more.

NFA Health Science pathway will provide students with a competitive edge to be the better candidate for either entry into the global healthcare marketplace and the post-secondary institution of their choice to continue their education and training in a Healthcare/Medical Profession. Students become leaders through aligned curriculum and participation in our Student-Centered Organization HOSA- Future Healthcare Professionals.

Recommended Academic Alignment for all students in Health Science Pathway:

Science: Living Environment, Chemistry, Anatomy, and Physiology, Biology/Microbiology

Math: Algebra, Medical Math, Prob. & Stat

Students considering post-secondary education in Healthcare/Medical programs education will need to have strong Math, English/Writing, Science skills.

Required Health Science Career Pathway courses: (course descriptions on following pages)

- Introduction to Health Science (10th grade)
- Allied Health Science 1 (11th grade)
- Allied Health Science 2 (12th grade)

Certification Opportunities for students completing this pathway:

- American Heart Association Basic Life Support for Healthcare Providers
- American Heart Association Heart Saver CPR/AED
- American Heart Association First Aid
- NYS Nurse Aide Certification
- NYS Home Health Aide Certification
- Medical Assisting Certification
- Practical Nurse pathway students will be eligible to sit for the PN-NCLEX Licensing

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** NYS CTE PATHWAY with Technical Assessment/NYS CDOS Pathway

*** Articulation Agreement with Bryant and Stratton and Monroe College

Health Science Career Multiple Pathway	
English 9	
US History	
Algebra 1	
Liv. Env. or Earth Science (Lab)	
Phys. Ed.(Opposite Science Lab)	
Foreign Language	
Required Art Credit	
English 10	
Global I	
Geometry	
Liv. Env. or Earth Science (Lab)	
Phys. Ed.(Opposite Science Lab)	
Health	
Intro to Health Science Education 7001	
English 11	
Global II	
Algebra II	
Phys. Education (Opposite Sci. Lab)	
Chemistry (or Sci. Elective)	
Human Anatomy 5052	
Allied Health Pathway I 7011	
English 12	
Government/Economics	
Physical Education	
Medical Math 3521	
Methods in Medical Technology 7021	
Allied Health Pathway II 7021 (2 Periods) (eligible for NYSED certification exam)	
Allied Health Pathway II 7022 Lab	

Program at NFA North Campus
Health Science Career Pathway

Introduction to Health Science - CRS 7001

✍ 1.0

This is the first of many courses offered to students interested in pursuing a career in the healthcare field. During this first course, students are introduced to healthcare history, careers, law and ethics, cultural diversity, health care language and math, infection control, professionalism, communication, basics of the organization of healthcare facilities.

Prerequisites: None

Course Requirement: Students must have 80% or higher to enroll in Allied Health I
*Students that are eligible for Practical Nurse pathway must meet eligibility criteria including TABE/TEAS exam, Interview, Essay, and Letter of Recommendation.

Allied Health Science 1 - CRS 7011

✍ 1.0

As students continue their journey into Allied 1, they will apply their knowledge from Introduction to Health care and expand on the content while learning skills of the healthcare profession. Anatomy, disease processes, and care skills will allow students at this level to begin their clinical rotation. Students will job shadow and practice skills both in a clinical lab within the classroom and at a variety of health care facilities. Students will learn about infection control, "Transmission Based Precautions" and become more familiar with OSHA, HIPPA, and the CDC. Students will learn how to take vital signs, record them and learn what the data means. This course will provide the foundation for further advancement in Health Science.

Prerequisites: 80 % or higher in CRS 775, good attendance, and teacher recommendation.

Course Requirements: Required to have a recent physical and immunization on record for this course. During clinical rotation, students must wear Uniform.

*Students must have an 80% or higher to enroll in Allied Health Science 2

Allied Health Science 2 - CRS 7021/7022

✍ 2.0

Students will work to be First Aid and CPR certified before participating in any healthcare experience outside of the classroom. Instructional hours, lab skills practice hours, and clinical placement hours required by the state as a prerequisite to completion of the nurse aide training and registering for NYS Nurse Aide exam.

Prerequisites: Required have an 80% score or higher, good attendance, and a teacher recommendation in course 755 & 777.

Course Requirements: Recent physical and immunization on record for this course.

During clinical rotation, students must wear Uniform. Students will complete a research poster in collaboration with Mount Saint Mary College Nursing Team from PALS program.

Certification Opportunities possible for students completing this pathway:

- American Heart Association Basic Life Support for Health Care Providers
- NYS Nurse Aide Certification
- NOCTI Industry Based Home Health Aide Certification
- NOCTI Industry Based Medical Assisting Certification

Medical Mathematics (North Campus Only) - CRS 3521

✍ 1.0

North Campus- This course prepares students in the LPN program to strengthen the fundamental mathematics skills that are essential to the nursing field. Completion of this course will help students prepare for the TAPE and TEAS exams as well as for the foundational mathematics they will encounter in the nursing field. Topics include reading measurements, basic operations, ratio/proportion, solving equations, percentages, military time units, rounding and place value, exponents, unit conversions, exponential growth, formula manipulations, budgeting, estimations, data analysis, interpreting graphs, etc.

Prerequisites: Successful completion of two math credits one being Geometry Common Core

Course Requirements: All tests, quizzes, assignments, and local final exam must be completed.

Human Anatomy & Physiology (11, 12) - CRS 5052

✍ 1.0

Human Anatomy and Physiology is an honors level course designed for both 11th and 12th grade students interested in learning more about the human body and/or may be interested in pursuing careers in the health sciences. The course is designed to introduce and expand the students' knowledge of the structure and function of the human body. This course will study basic biochemistry, cytology, histology, the maintenance of homeostasis, all body systems, and common diseases/disorders. An emphasis will be placed on the diagnosis, treatment, and the effects of various diseases on the human body using real life scenarios. An intense laboratory investigation program is built into the course allowing students to apply and exhibit their conceptual knowledge through hands-on applications. Double lab period on alternate days.

Prerequisites: Successful completion of Regents Living Environment and Regents Chemistry courses. Juniors and Seniors meeting these requirements are eligible for enrollment.

Course Requirements: Students must successfully complete all laboratory activities, chapter tests, case studies, and essays. Participation in class presentations and collaboration with peers is also required. A comprehensive final exam will be administered at the completion of the course.

Methods in Medical Technology (11, 12) - CRS

✍ 1.0

North Campus - This course may be used as the 3rd unit of science to meet diploma requirements for a Regents Diploma. The course may not be used for Regents credit. This course is the study of the principles and practice of clinical laboratory medicine, including approaching the patient, professional ethics, laboratory procedures, and the ECG technique. Use of technology to develop standard curves and determine clinical parameters like glucose and/or hemoglobin is studied. Students will prepare Levi-Jennings control charts, including determination of the mean, median, mode, standard deviation, and coefficient of variation configurations. Students will learn laboratory techniques in basic hematology using simulated human specimens, microbiology using non-pathogenic organisms, and immunology using simulated human specimens. Research in health care professions, interaction with guest speakers of healthcare professions and site visits to hospital departments are included. Correlated with lectures are readings and laboratory exercises to develop independent study. This is aligned with the Health Care Pathway at NFA North Campus. Students may be eligible for a certificate as a Medical Assistant.

Prerequisites: Successful completion of Regents Living Environment, Regents Chemistry, Regents Algebra I, all corresponding Regents exams, permission of the instructor.

Course Requirements: Completion of all prescribed laboratory work and rotation assignments in healthcare settings.

Air Force Junior Reserve Officer Training Corps

The fundamental purpose of Air Force Junior Reserve Officer Training Corps (AFJROTC) is to build citizens of character dedicated to serving their nation and community. The program is governed by the U.S. Air Force, and the citizenship training is conducted under the framework of an aerospace science program designed for high school students. It will acquaint students with the Air Force and aerospace environment, promote leadership skills, develop communications skills and encourage physical fitness.

The curriculum is divided into a four-year program, with students earning one academic credit for each year of JROTC they complete. There is no minimum number of years a student must remain in JROTC, but motivated students gain rank and increased responsibility with each additional year, so the students that remain the longest get the most benefit. (Note: AFJROTC is not a military recruitment program, and there is no military obligation for participating. However, wear of the Air Force uniform, one day per week, is a mandatory part of the program.)

The AFJROTC program consists of three components: Aerospace Science, Leadership Education, and Wellness (i.e., physical training and healthy living).

Aerospace Science (AS). The academic portion of the program consists of several courses listed below. It acquaints students with the history of aviation and well as the current aerospace environment. It introduces aircraft and spacecraft technology, principles of flight, human requirements of flight, earth's atmosphere and the space program. Other courses focus on global awareness or survival.








Leadership Education (LE). The leadership portion of the curriculum is designed to develop leadership skills and acquaint students with the practical application of life skills. It emphasizes discipline, responsibility, leadership, followership, citizenship, customs and courtesies, cadet corps activities, study habits, time management, communication skills, and drill and ceremonies.




Wellness Program. This part of the program consists of participation in physical fitness activities, as well as training in first aid, health, and nutrition. The objective is to motivate cadets to lead healthy, active lifestyles.

The following are the AFJROTC courses offered at NFA and the projected schedule for the next four school years:

- AS-100: Milestones in Aviation History
- AS-200: Science of Flight: A Gateway to New Horizons
- AS-220: Cultural Studies: (An Introduction to Global Awareness)
- AS-300: Exploring Space: The High Frontier
- AS-410: Survival: Survive and Return
- LE-100: Traditions, Wellness, and Foundations of Citizenship
- LE-200: Communication, Awareness, and Leadership
- LE-300: Life Skills and Career Opportunities
- LE-400: Fundamentals of Management
- LE-500: Drill and Ceremonies

Cadet Year	2020/2021	2021/2022	2022/2023	2023/2024
1/2/3/4	AS-300 Ch 2-8 LE-100 Ch 1-4	AS-220 Ch 1-4, 6 LE-100 Ch 1 (Lsn 1-5) LE-200 Ch 1,2,5-8	AS-100 Ch 1,2,4-6 LE-100 Ch 1 (Lsn 1-5) LE-300 Ch 3-8	AS-200 Ch 1-4 LE-100 Ch 1 (Lsn 1-5) LE-400 Ch 1,3-8,10

Aerospace Science, Leadership Education, and Wellness Pathway	Aerospace Science, Leadership Education, and Wellness Course Descriptions	
English 9	AEROSPACE EDUCATION 1 (9, 10, 11, 12) - CRS 7341  1.0	
US History	Both Campuses -This Academic and Leadership Education course will follow the schedule above. All cadets will receive the same course of instruction for a particular year. At a minimum, field trips will be made to the West Point Confidence Course and to a regional park to participate in an orienteering competition. Other field trips to military establishments or civilian institutions associated with flying are a possibility. There will be ample opportunities to participate in leadership situations. Cadets may join the competition drill team on a voluntary basis.	
Algebra 1	Prerequisites: Be at least in the 9th grade, and a legal resident of the United States.	
Liv. Env. or Earth Science (Lab)	Course Requirements: Completion of, and passing grades in, academic and leadership assignments. Wearing of the uniform once per week and participation in fitness activities, the Annual Military Ball, Commander's Call, Annual Awards Ceremony and one of three local parades.	
Phys. Ed.(Opposite Science Lab)	AEROSPACE EDUCATION 2 (10, 11, 12) - CRS 7351  1.0	
Foreign Language	Both Campuses -This Academic and Leadership Education course will follow the schedule above. All cadets will receive the same course of instruction for a particular year. At a minimum, field trips will be made to the West Point Confidence Course and to a regional park to participate in an orienteering competition. Other field trips to military establishments or civilian institutions associated with flying are a possibility. There will be many opportunities to participate in leadership situations. Cadets may join the competition drill team on a voluntary basis.	
Aerospace Education 1 7341	Prerequisites: Successful completion of Aerospace Science 1 and recommendation by the Aerospace Science Instructors.	
	Course Requirements: Same as course 940	
English 10	AEROSPACE EDUCATION 3 (11, 12) - CRS 7361  1.0	
Global I	Both Campuses-This Academic and Leadership Education course will follow the schedule above. All cadets will receive the same course of instruction for a particular year. At a minimum, field trips will be made to the West Point Confidence Course and to a regional park to participate in an orienteering competition. Other field trips to military establishments or civilian institutions associated with flying are a possibility. There will be ample opportunities to participate in leadership situations. Cadets may join the competition drill team on a voluntary basis.	
Geometry	Prerequisites: Successful completion of Aerospace Science 2 and recommendation by Aerospace Science Instructors.	
Liv. Env. or Earth Science (Lab)	Course Requirements: Same as Course 940	
Phys. Ed.(Opposite Science Lab)	AEROSPACE EDUCATION 4 (12) - CRS 7371  1.0	
Health	Both Campuses -This Academic and Leadership Education course will follow the schedule above. All cadets will receive the same course of instruction for a particular year. At a minimum, field trips will be made to the West Point Confidence Course and to a regional park to participate in an orienteering competition. Other field trips to military establishments or civilian institutions associated with flying are a possibility. There will be ample opportunities to participate in leadership situations. Cadets may join the competition drill team on a voluntary basis.	
Aerospace Education 2 7351	Prerequisites: Successful completion of Aerospace Science 3 and recommendation by Aerospace Science Instructors.	
Studio Art	Course Requirements: Same as Course 940	
	AEROSPACE EDUCATION 1 (9, 10, 11, 12) - CRS 7341  1.0	
English 11	Both Campuses -This Academic and Leadership Education course will follow the schedule above. All cadets will receive the same course of instruction for a particular year. At a minimum, field trips will be made to the West Point Confidence Course and to a regional park to participate in an orienteering competition. Other field trips to military establishments or civilian institutions associated with flying are a possibility. There will be ample opportunities to participate in leadership situations. Cadets may join the competition drill team on a voluntary basis.	
Global II	Prerequisites: Successful completion of Aerospace Science 2 and recommendation by Aerospace Science Instructors.	
Algebra II	Course Requirements: Same as Course 940	
Phys. Education (Opposite Sci. Lab)	AEROSPACE EDUCATION 2 (10, 11, 12) - CRS 7351  1.0	
Chemistry (or Sci. Elective)	Both Campuses -This Academic and Leadership Education course will follow the schedule above. All cadets will receive the same course of instruction for a particular year. At a minimum, field trips will be made to the West Point Confidence Course and to a regional park to participate in an orienteering competition. Other field trips to military establishments or civilian institutions associated with flying are a possibility. There will be ample opportunities to participate in leadership situations. Cadets may join the competition drill team on a voluntary basis.	
Aerospace Education 3 7361	Prerequisites: Successful completion of Aerospace Science 3 and recommendation by Aerospace Science Instructors.	
	Course Requirements: Same as Course 940	
English 12	AEROSPACE EDUCATION 3 (11, 12) - CRS 7361  1.0	
Government/Economics	Both Campuses -This Academic and Leadership Education course will follow the schedule above. All cadets will receive the same course of instruction for a particular year. At a minimum, field trips will be made to the West Point Confidence Course and to a regional park to participate in an orienteering competition. Other field trips to military establishments or civilian institutions associated with flying are a possibility. There will be ample opportunities to participate in leadership situations. Cadets may join the competition drill team on a voluntary basis.	
Physical Education	Prerequisites: Successful completion of Aerospace Science 4 and recommendation by Aerospace Science Instructors.	
Aerospace Education 4 7371	Course Requirements: Same as Course 940	

Video Production Pathway		Video Production Course Descriptions	
English 9		Video Production - CRS 7901	 1.0
US History		<p>Both Campuses - This course explores elementary video production principles, practice, and operation. Emphasis is placed on the laboratory elements of scripting, lighting, audio, camera, switching, character generator and Chroma key. Practical experience in producing video projects will be reviewed.</p> <p>Prerequisites: None</p> <p>Course Requirements: Completion of all class assignments and tests</p>	
Algebra 1			
Liv. Env. or Earth Science (Lab)			
Phys. Ed.(Opposite Science Lab)			
Foreign Language			
Required Art Credit		Advanced Video Production - CRS 7911	 1.0
		<p>Both Campuses - This course continues exploring video production principles, practice and operation. Emphasis is placed on producing video projects for use on Goldback TV presentations.</p> <p>Prerequisites: CRS 686 - Video Production</p> <p>Course Requirements: Completion of all class assignments, projects and tests.</p>	
English 10			
Global I		WorkStudy - CRS 7761 & 7781	 0.5 & 1.0
Geometry		<p>Mentor/Mirror/ Job shadow professionals in the field.</p> <p>Make connections for YOUR SUCCESSFUL Career in your area of study.</p> <p>Prerequisites: CRS 686</p> <p>Course Requirements: Students will be required to prepare a project and do a presentation at the end of the course.</p>	
Liv. Env. or Earth Science (Lab)			
Phys. Ed.(Opposite Science Lab)			
Health			
Video Production 7901			
English 11			
Global II			
Algebra II			
Phys. Education (Opposite Sci. Lab)			
Chemistry (or Sci. Elective)			
Advanced Video Production 7911			
English 12			
Government/Economics			
Physical Education			
WorkStudy 7761 & 7781			

Welding Course Descriptions

Welding Pathway		
English 9	<p>Basic Welding - CRS 7501 ✍ 0.5</p> <p>Main Campus - This course provides a general knowledge of basic principles and procedures used in the welding trade. The student is introduced to oxyacetylene, MIG, TIG, electric arc welding and plasma cutting. This course is helpful to the student who intends to enter the welding, auto mechanic, and auto body field.</p> <p>Prerequisites: None</p> <p>Course Requirements: Completion of assignments. Students must provide leather work boots</p>	
US History		
Algebra 1		
Liv. Env. or Earth Science (Lab)		
Phys. Ed.(Opposite Science Lab)		
Foreign Language		
Required Art Credit		
English 10	<p>Welding 1 - CRS 7511/7512 ✍ 2.0</p> <p>Main Campus - This course is intended for the student who is seriously considering welding as a career. The course will include related theory and "hands-on" skills in oxyacetylene, electric arc, and metal inert gas "MIG" welding. Students will be introduced to the different welding positions. Welding proficiency will be gained with programmed practice skills and project construction.</p> <p>Prerequisites: CRS. 729</p> <p>Course Requirements: Students must provide suitable work clothes and safety-type shoes. Completion of assignments.</p>	
Global I		
Geometry		
Liv. Env. or Earth Science (Lab)		
Phys. Ed.(Opposite Science Lab)		
Health	<p>Welding 2 - CRS 7513/7514 ✍ 2.0</p> <p>Main Campus - This course expands greatly on blueprint reading and metallurgy and its relationship to welding. Students will gain advanced skills in oxyacetylene, electric arc "MIG" and "TIG" welding. All welding positions are covered: flat, horizontal, vertical and overhead. Students may be eligible to take the NYS DOT Welding test.</p> <p>Prerequisites: CRS- 712- Welding 1</p> <p>Course Requirements: Students must provide suitable work clothes and work shoes/boots. Completion of assignments.</p>	
Basic Welding 7501		
English 11		
Global II		
Algebra II	<p>WorkStudy - CRS 7761 & 7781 ✍ 0.5 & 1.0</p> <p>Mentor/Mirror/ Job shadow professionals in the field. Make connections for YOUR SUCCESSFUL Career in your area of study.</p> <p>Prerequisites: CRS 729</p> <p>Course Requirements: Students will be required to prepare a project and due at the end of the course.</p> <p>*NYS ED APPROVED PROGRAM ** NYS CTE PATHWAY with Technical Assessment/NYS CDOS Pathway *** Articulation Agreement with SUNY Delhi and Alfred State College</p>	
Phys. Education (Opposite Sci. Lab)		
Chemistry (or Sci. Elective)		
Welding I 7511 (2 Periods)		
Welding I Lab 7512		
English 12		
Government/Economics		
Physical Education		
Welding II 7513 (2 Periods) (eligible for NYSED certification exam)		
Welding II Lab 7514		
WorkStudy 7761 & 7781		

Third Unit Options

Third Unit Options- Using Technology Education Courses as the Third Unit of Math or Science under the Revised Graduation Requirements

- In March of 1998, a committee comprised of math, science and technology stakeholders met with State Education Department personnel to discuss criteria for a course that could be used in the third unit of math or science under the revised graduation requirements.
- The criteria of this third unit are only to be used after the student has completed the first two units in math or science.
- Students under regulations can only take one of the courses to count for their graduation requirements.

World of Technology Math - CRS 7181

 1.0

Both Campuses - This course is designed to be used for the third unit of math under the revised graduation requirements. Learning experiences designed for the course emphasize problem-solving and critical thinking utilizing acquired math skills in a technology context and real-world application. Students will have to use system approaches requiring data analysis and mathematical modeling. Projects may include small woodcrafts, electronics, and problem-solving activities. Students may need to bring in small supplies for personal touches of projects.

Prerequisites: Successful completion of two Math level courses before enrollment.

Course Requirements: Completion of all assignments, projects, and tests Note: Open to 10th-grade students by permission of Director only.

World of Technology Science - CRS 7191

 1.0

Both Campuses - This course is designed to be used for the third unit of science under the revised graduation requirements. Learning experiences designed for the course emphasize problem-solving and critical thinking utilizing acquired science skills in a technology context and real-world application. Students will have to use system approaches requiring data analysis and applied scientific principles and laws of nature. Projects may include small woodcrafts, electronics, and problem-solving activities. Students may need to bring in small supplies for personal touches of projects.

Prerequisites: Successful completion of two Science level courses prior to enrollment.

Course Requirements: Completion of all assignments, projects, and tests Note: Open to 10th-grade students by permission of Director only.

Studio Art Courses

The following course can be used for the required studio art credit for graduation.

Clothing and Textile/Intern Design - CRS 7621 1.0

Main Campus- The content of this course includes the cultural and historical aspects of textiles and clothing, personal appearance, the design, construction and selection of clothing and related career opportunities. Students will learn basic pattern use and sewing machine skills. Students will learn the elements and principles of design and how to use color. The content of this course studies housing history and current trends in interior design.

Prerequisites: None

Course Requirements: The completion of one clothing project and the purchase of patterns and notions needed to complete their garment.

Design and Drawing for Production - CRS 7661 1.0

The Design and Drawing for Production (DDP), course of study, are focused on technical drawing techniques, the different styles of drafting, and promote creative problem solving through design. Projects will be centered on a variety of drawing styles, the design process, 3-dimensional modeling skills using AutoCAD, and model making. Assignments will include all forms of technical drawing and presentations. Students who plan to enter into the architectural field, engineering design or other technical studies should consider this fundamental course as early as possible.

Prerequisites: None

Digital Studio in Art - CRS 6011 1.0

Main Campus- In this class, students will study a variety of media, art styles, and artists. Students use image editing, compositing, animation, and digital drawing to put into practice the art principles discussed in the program. They explore career opportunities in the design, production, display, and presentation of digital artwork.

Pre-requisites: None

Course Requirements: Completion of projects, work process, and portfolio

Studio in Art - CRS 6001 1.0

Both Campuses - As a Drawing and Painting foundation course in this department, Studio in Art introduces students to a variety of concepts, skills, and techniques necessary for successful visual expression. Many different media will be used in areas of exploration and experimentation. Students will learn to analyze their work, study important works of art and participate in discussions about art.

Prerequisites: None

Course Requirements: Completion of projects, work process, and portfolio




Visual Communications & Design 1 - CRS 6041 1.0

Main Campus - This is a foundation course for students who are motivated toward study in advertising and graphic design. To be successful in advertising, you have to understand the creative process and how words and pictures connect. Using contemporary media similar to that used by professionals, students will engage in process-oriented projects like generating print ads. An introduction to computer graphics, desktop publishing, storyboards for television and radio spot ads makes this course the choice for students looking for a future in the communications field.

Prerequisites: None

Course Requirements: Sketchbook and portfolio including projects, research, and a final evaluation.

P-TECH (NFA North)

Computer Science and Coding Pathway	
English 9	<p>P-Tech at NFA North is a new model for teaching and learning that brings together high school, college, and the world of work in order to prepare students for the complex and ever-changing global workforce in information technology. Students in P-Tech graduate with an Associate's in Applied Science degree from SUNY Orange, in addition to their high school diploma. They also obtain the skills and knowledge they need to continue their studies or step seamlessly into well-paying, high-potential jobs in the Computer Information Technology industry. P-Tech offer project-based learning experiences and real-world applications of science, technology, engineering, and math. Students will develop important academic and career skills as they learn through projects developed in collaboration with IBM. Due to the accelerated pace of learning in P-Tech, the length of the school day and the school year is longer for enrolled students.</p>
US History	
Algebra 1	
Environmental Science	
Physical Education	
Health	
Foreign Language	
Required Art Credit	
English 10	<p>English Courses - CRS 080T  0.5</p> <p>College Success and Career Planning (10, 11, 12) This course taken for 3 college credits</p> <p>P-Tech - This is an interdisciplinary course designed to assist the student in making the transition to college, to promote the development of a successful college experience and to improve self-awareness and knowledge of the career decision-making process. Topics include self-exploration, career and career theory study, decision-making skills, information gathering from library and community resources, and the skills required for success in higher education and in career. Lectures films, individual and group exercises, reading and writing assignments will be used to provide students with an in-depth college and career planning experience. Prerequisites: Successful completion of year 1 coursework and P-Tech committee recommendation.</p>
Global I	
Geometry/ College Math Course	
Earth Science (Lab)	
Physical Education (Opposite Sci. Lab)	
College Success and Career Planning	
English 11	<p>Freshman English 1 (11, 12) - CRS 081T  0.5</p> <p>This course taken for 3 college credits</p> <p>P-Tech - This first course in the Freshman English sequence introduces college-level writing and revision, construction of expository essays, and research skills. Reading and class discussion center on the formal and informal essay. Research essay is required. Prerequisites: Successful completion of English 9 and 10 as well as appropriate score on SUNY Orange placement test in both reading and writing.</p>
Global II	
College Math / Pre-College Algebra	
Phys. Education (Opposite Sci. Lab)	
Chemistry (or Sci. Elective)	
English 12/ Freshman English	<p>Freshman English 2 (11, 12) - CRS 082T  0.5</p> <p>This course taken for 3 college credits</p> <p>P-Tech - In this second course in the sequence, students learn to read critically, to organize supporting details, and to develop coherent oral and written arguments. Fiction, drama and poetry are used as common texts. An analytical research paper is required. Prerequisites: A grade of C or better in Freshman English 1</p>
Government/Economics	
Physical Education	
<p>In addition to the coursework outlined above, students will take courses at SUNY Orange in 10th, 11th, and 12th grade that are aligned to either the Networking or Cyber Security degree requirements.</p>	

Elementary Algebra (10, 11, 12) - CRS 3202T

✎ 0.5

This course taken for 3 college credits

P-Tech - Topics include operations on polynomials and rational expressions, laws of exponents, factoring, graphing of linear equations and inequalities, and systems of equations. A knowledge of operations on signed numbers and solutions to linear equations is required.

Emphasis is placed on developing the skills necessary for further study of algebra.

Prerequisites: Successful completion of Algebra 1 and appropriate score on SUNY Orange placement test.

Intermediate Algebra (10, 11, 12) - CRS 3203T

✎ 0.5

This course taken for 3 college credits

P-Tech - Topics covered: absolute value equations and inequalities, additional factoring techniques, radical expressions, complex numbers, quadratic equations, functions, graphing techniques, coordinate geometry, mathematical modeling, applications and problem solving.

Prerequisite: A grade of C or better in Elementary Algebra

College Algebra (10, 11, 12) - CRS 3200T

✎ 0.5

This course taken for 3 college credits

P-Tech - Topics include: a thorough treatment of the concept of functions and their graphs, linear and quadratic functions, polynomial and rational functions, inverse functions, exponential and logarithmic functions and conic sections.

Prerequisite: A grade of C or better in Intermediate Algebra or appropriate score on SUNY Orange placement test.

College Trigonometry (10, 11, 12) - CRS 3201T

✎ 0.5

This course taken for 3 college credits. College Trigonometry is the second course for students who plan to continue on toward the study of Calculus. Topics include trigonometric functions, graphing techniques, right triangle applications, trigonometric identities, inverse functions, and oblique triangles.

Prerequisite: A grade of C or better in College Algebra.

Computer Information Technology - Networking

Computer Information Technology Networking	Credits
First Semester	
ENG 101 Freshman English 1	3
MAT College Algebra or higher	3
CIT 103 Management Information Systems	3
CIT 107 Introduction to C++ Programming	3
CIT 105 Data Communic. & Networking	3
CIT 100 Computer Literacy	3
Second Semester	
ENG 102 Freshman English 2	3
MAT College Trigonometry or higher	3
CIT 112 Computer Hardware and Software	4
CIT 116 Networking 1	4
PES 100 Concepts of Physical Wellness	1
Third Semester	
___ Social Science Elective	3
CIT 211 Systems Analysis	3
CIT 225 Database Fundamentals	3
CIT 217 Unix/Linux	3
CIT 203 Networking 2	4
PES ___ Physical Education	1
Fourth Semester	
___ Social Science Elective	3
CIT 212 Systems Design	3
CIT 206 Network Security	3
CIT 230 Internship	3
___ Restricted Elective*	3
Total Credits: 65	65
*Restricted Electives: CIT 111 Internet & HTML Programming CIT 115 Visual Basic Any course approved by department	

Recommended Course Sequence Program Description

The Associate in Applied Science degree program in CIT–Networking prepares students for employment in a variety of entry-level careers in computer networking and information technology occupations. The theory and practical experience students gain allows them to enter jobs with highly competitive salaries.

This degree program offers the coursework that provides background information for students to take the CompTIA's A+, Security+, Networking+, Linux+ and CISCO's CNA certification exams.

The primary focus of this degree program is networking computer systems including implementation, configuration, maintenance and administration of networking equipment, which includes creation of networking servers. The degree course work introduces students to basic computer systems and builds on theoretical and technical knowledge and skills to develop a strong understanding of networking topologies, mediums and medium access techniques in both local area and wide area networks (LANs and WANs). Classes are designed to provide students with hands-on training utilizing state-of- the-art computer facilities.

Student Learning Outcomes

Students will:

- Install and configure networking equipment.
- Implement and configure network protocols.
- Troubleshoot PC hardware problems.
- Assemble a PC.
- Identify and summarize security threats and appropriate actions to minimize those threats.
- Install, configure and manage a networking operating system.
- analyze an existing system and determine appropriate system design.
- Implementation strategies.

Cyber Security

Computer Information Technology Cyber Security	Credits
First Semester	
ENG 101 Freshman English 1	3
MAT 121 College Algebra	3
CRJ 101 Intro to Criminal Justice	3
CIT 100 Computer Literacy	3
CIT 105 Data Communications and Introduction to Networking	3
PES 100 Concepts of Physical Wellness	1
Second Semester	
ENG 102 Freshman English 2	3
CIT 116 Networking 1	4
CIT 112 Computer Hardware and Software	4
CIT 118 Operating Systems	4
Third Semester	
CIT 203 Networking 2	4
CIT 217 Introduction to Unix/Linux	4
CFR 221 Computer Forensics	3
CSS 223 Information Security	3
PSY Psychology	3
PES Physical Education	1
Fourth Semester	
CFR 222 Network Forensics	3
CSS 224 Network Perimeter Security	3
CSS 226 Cyber Crime Investigations	3
CRJ 111 Criminology	3
Math or Liberal Arts Science	3
Total Credits: 65	65

Program Description

The Associate in Applied Science degree program in Cyber Security prepares students for employment in a variety of entry level careers in Cyber Security. Today, everyone is concerned with security, and people with knowledge in this area are in high demand. Positions can include such titles as Network Administrator, network security specialist, information security technician, just to name a few. The main thrust is protection of information and limiting access to network resources. In addition to security, students will also be instructed in techniques used to track perpetrators once an attack has occurred.

In addition to basic computer and networking skills, the student will be instructed in Operating Systems, Computer Forensics, Network Forensics, Information Security, Network Perimeter Security, and Cyber Crime Investigation.

Classes are designed to provide students with hands-on training utilizing state-of-the-art computer facilities. Lab work and assignments will present real world cyber security scenarios encountered in the work place. For forensics studies, industry standard software will be used.

While A.A.S. graduates are prepared to enter the workforce immediately, many students choose to transfer to upper-level programs leading to a bachelor's degree in technology.

Student Learning Objectives

Students will:

- Develop basic network administration skills
- Perform computer forensic analysis
- Demonstrate an understanding of network forensics
- Develop an understanding of the legal issues associated with cyber security
- Document an appropriate procedure of handling case evidence