CAREER AND TECHNICAL EDUCATION

Career & Technical Education (CTE) courses bring learning to life. Students will have opportunities for hands-on, project-based learning. It's where students have that "A-ha" moment. "Oh, that's where I'll use that." Whether it be in a Food and Nutrition class learning about crystallization, applying code to solve a math equation or just learning about torque when changing a tire. CTE brings learning to life. CTE courses offer students to develop skills in communication, organization, leadership, and problem solving, while gaining experience in a variety of career pathways. CTE offers students the opportunity to develop critical thinking skills through a combination of classes and authentic learning experiences. These opportunities allow students to make connections and apply what they have learned in all their academics to real-world problems. The CTE Department offers courses in three areas of study: STEM & Business Education, Family and Consumer Sciences and Technology Education.

STEM & Business Education Offerings for Freshmen

- Introduction to Computer Science –
  Grade: 9 - 12
  Duration: 1 Semester
  Prerequisite: None; NO PRIOR CODING EXPERIENCE REQUIRED!
  Credit: 0.5 credits
  This introduction course teaches the fundamentals of computer programming as well as some advanced features. The language this course is taught in is usually Python, but can change based on what the students are interested in learning. Students will develop an appreciation for how computers store and manipulate information by building console-based games and programs. The curriculum teaches the foundations of computer science and basic programming, with an emphasis on helping students develop logical thinking and problem-solving skills.

- Business Principles & Financial Literacy -
  Grades: 11 - 12 (or by Department Chair Approval for 9-10)
  Duration: 1 Semester
  Prerequisite: None
  Credit: 0.5
  Combining elements of personal finance, marketing, entrepreneurship, business principles and financial literacy provides a foundation in the core understandings of and skills required in today's business world. Students will learn how to make appropriate personal economic choices, investigate career options and make employment decisions, apply for a job and fill out a hiring packet, how to write a marketing plan, how to start a business, and other business topics. Topics explored in this one-semester course may include personal financial planning, economics and financial topics, career exploration, business, marketing, and entrepreneurship. Coursework will focus on the application of principles through analytical approaches and tools utilized in today's business world and will be assessed through individual and collaborative projects and performance tasks. Once the .5 requirement in Career & Technical Education has been met, credit earned in this course may be applied toward the Humanities distribution requirement.
  This course meets the state's graduation requirement for Financial Literacy/Personal Finance.

Family and Consumer Sciences Offerings for Freshmen

- Food and Nutrition –
  Grade: 9 - 12
  Duration: 1 Semester
  Prerequisite: None
  Credit: 0.5
  This course provides all the basics that you need to prepare meals confidently on your own. This fun and informative elective emphasizes nutrition based on the America's Dietary Guidelines and the major food groups. Topics Covered: Influence of Food on Society, Food Safety and Sanitation, Meal Management and Consumerism, Basic Cooking Skills, Nutrition and Healthy Eating Habits, Quick & Yeast Breads, Pies or Cakes, Cookies, Eggs and Dairy, Fruits and Vegetables, Grains and Pasta, and Meat/Fish/Poultry. Emphasis will be placed on how to select, prepare, and store food to retain their nutrient content and meal planning for a healthy diet.
  Lab work, quizzes, exams and completion of a meal project are required for this class. The meal project is a cumulative assessment of cooking knowledge that involves cooking at home.
  Text: Guide to Good Food, Largen & Bence

- Baking and Pastry Arts –
  Grades: 9 - 12
  Duration: 1 Semester
  Prerequisite: Food and Nutrition
  Credit: 0.5 per semester
  This advanced course continues to build on previous learned knowledge and skill as students learn additional baking principles and practices. Further learning will include the science of baking in relation to yeast productions and chemical and leavening, crystallization of sugars, and gelatinization of starches. Cakes, pastries, cookies, puff pastry, custards, dessert sauces, yeast bread and some candy preparation are some of the topics covered in the course. Baking lab experiences and school based entrepreneurial enterprises may be explored which includes preparing baked products for Rams Café.
  Text: About Professional Baking, Sokol, 2006
  Once the .5 requirement in Career & Technical Education has been met, credit earned in this course may be applied toward the Humanities distribution requirement.

- Baking: The Art of Making Bread –
  Grades: 10-12 or second semester 9th grader
  Duration: 1 Semester
  Prerequisite: Food & Nutrition
  Credit: 0.5 credits
  This course will focus on the ingredients, equipment and theory when baking bread. The student will master the art of preparing yeast breads, artisan breads and laminated dough.Students will have a closer look at the process of fermentation. Baking labs will include scones, rolls, Italian bread, French bread, whole grain bread, sweet breads, Danish, and Challah bread. Bread will be prepared for the student run restaurant, Rams Cafe.
  NOTE: Wheat, gluten, dairy and egg products will be used extensively in this course.
  Once the .5 requirement in Career & Technical Education has been met, credit earned in this course may be applied toward the Humanities distribution requirement.

- Child Development I and Preschool Lab Experience–
  Grade: 9 - 12
  Duration: 1 Semester each
  Prerequisite: I – None
  Credit: 0.5
  This semester course is a must for learning about how children learn and grow and for those interested in a career involving children. Students will work directly with preschool students in the NCHS Preschool. Students will develop an appreciation for the challenges of caregiving from birth through age five. The psychology-based curriculum includes the study of the physical, social, emotional and intellectual development of children. This discussion-based class will cover current issues in child development including appropriate technology use for children. Other topics include how to create appropriate environments for children, health and safety of children including childhood illnesses and handling accidents and emergencies, parenting styles, discipline and guidance of young children, observation procedures in the preschool lab, recognizing child abuse and neglect, prenatal development, pregnancy and infancy. To apply their knowledge of child development, students will create a developmentally appropriate thematic teaching lesson for preschool children. Students will help to prepare, implement and reflect on the quality of their teaching lessons in the New Canaan High School Preschool Program. For the culminating project, students design and create a developmental portfolio for a preschool student. This course requires students to complete in-class assignments, child observations, and preschool lab safety checklists and, in small groups, prepare and teach a lesson in the preschool.
  Text: The Developing Child, Brisbane 2016
  Once the .5 requirement in Career & Technical Education has been met, credit earned in this course may be applied toward the Humanities distribution requirement.

- Interior Design I –
  Grade: 9 -12
  Duration: 1 semester
  Prerequisite: None
  Credit: 0.5 credits
  This semester course enables students to explore their creativity in the field of interior design. Students will learn about career opportunities and the important concepts and skills related to these careers. Students will understand how knowledge and skills related to the living environment affect the wellbeing of individuals, families, and society. Students will demonstrate their knowledge of the elements and principles of design, floor plans and client relationships. This course will strengthen comprehension of concepts and standards outlined in Sciences, Technology, Engineering and Math (STEM) education.
  Text: Housing and Interior Design, 10th Edition By Evelyn L Lewis, Ed. D and Carolyn Turner Smith, Ph. D.
  Once the .5 requirement in Career & Technical Education has been met, credit earned in this course may be applied toward the Humanities distribution requirement.

- Interior Design II –
  Grade: 10 - 12 or second semester 9th grader
  Duration: 1 semester
  Prerequisite: Interior Design I (9th grade exceptions for full year enrolment in I and II)
  Credit: 0.5 credits
  This semester course will provide students who enjoyed and excelled in the Interior Design I course to continue to develop their knowledge and skill set. It will be a more advanced course where students will work on large scale design projects, get exposure to building materials and design tools. Current industry CAD software will be used to design digital floor plans and 3D models. Students will complete a series of floor plans and mood boards to compliment each design.
  Text: Housing and Interior Design, 10th Edition By Evelyn L Lewis, Ed. D and Carolyn Turner Smith, Ph. D.
  Once the .5 requirement in Career & Technical Education has been met, credit earned in this course may be applied toward the Humanities distribution requirement.

- Fashion Merchandising & Design I –
  Grade: 9-12
  Duration: 1 semester
  Prerequisite: None
  Credit: 0.5 credits
  This semester-long course will engage students in a hands-on environment that supports both personal and educational growth. This course will allow students to explore the design process, textiles, and ever growing fashion industry. Students will investigate the business side of the fashion industry, learning about careers in fashion merchandising, buying, marketing and more. Students will explore the history of apparel design and its transformation from function to style. Also, this course will invite students to demonstrate their knowledge in multiple creative outlets including drawing, computer aided design and garment construction. Fashion Merchandising & Design will develop fundamental life skills while introducing students to creative and dynamic professions.
  Once the .5 requirement in Career & Technical Education has been met, credit earned in this course may be applied toward the Humanities distribution requirement.

- Fashion Merchandising & Design II –
  Grade: 10-12 or second semester 9th grader
  Duration: 1 semester
  Prerequisite: Fashion Merchandising & Design I (9th grade exceptions for full year enrolment in I and II)
  Credit: 0.5 credits
  This semester-long course will allow students to further their studies in the exciting and ever advancing Fashion Industry. Students will focus heavily on the design side of the industry in Fashion Merchandising & Design II, learning advanced design skills including draping, pattern making and custom fit garment design. Students will design a fashion collection and construct multiple pieces of clothing from this collection over the semester. Fashion Merchandising & Design will develop fundamental life skills while introducing students to creative and dynamic professions.
  Once the .5 requirement in Career & Technical Education has been met, credit earned in this course may be applied toward the Humanities distribution requirement.

Technology Education Offerings for Freshmen

- Honors Introduction to Engineering Design/PLTW (Pre-Engineering Program) -
  Grade: 9 - 12
  Duration: 2 Semesters
  Prerequisite: None
  Credit: 1.0
  IED is an introductory course that develops student problem solving skills, with emphasis placed on the development of three-dimensional solid models, students will work from sketching simple geometric shapes to applying a solid modeling computer software package. They will learn an engineering problem solving design process and how it is used in industry to manufacture any product. A Computer Aided Design System (CAD) will also be used to analyze and evaluate the product design. The techniques learned, and equipment used, are state-of-the-art and currently being used by engineers throughout the United States. Students will complete a series of drawings which will include but not be limited to: isometric, orthographic, oblique, section, and perspective drawings. Other components of the course will include sketches, prototypes, 3-D modeling, research, and class presentations.

- Woodworking I –
  Grade: 9 - 12
  Duration: 1 Semester
  Prerequisite: None
  Credit: 0.5 per Semester
  Woodworking is an introductory course designed to help first time woodworkers learn the basics. Safety of course is the first lab "basic" that all students will learn. Students will become familiar with woodworking hand tools and power equipment as they learn how to use them correctly. Their first project will be made using only hand tools, no power equipment. On their second project, students start learning some of the power tools available in the lab. The third project has students using all the tools and equipment in the lab to create a cutting board or set of coasters. After successful completion of their third project students will have demonstrated their knowledge and understanding of "woodworking" and may design and build their final
  project within the specified constraints and their skill level.

- Advanced Woodworking II –
  Grade: 10 - 12 or second semester 9th grader
  Duration: 2 Semesters
  Prerequisite: Woodworking I
  Credit: 1.0
  (Students can take this course for consecutive semesters as advanced-level credit.)
  This is a continuation of the Woodworking course and focuses on the advanced uses of hand tools, power tools, and materials. Students will research wood and lumber types for their various characteristics along with various assembly and finishing techniques. Projects will require students to utilize a range of joinery. Design, layout, safety, and conservation of materials continue to be stressed. Students may take this course repeatedly for advanced study.

- Graphic Design and Multimedia –
  Grade: 9 - 12
  Duration: 1 Semester
  Prerequisite: None
  Credit: 0.5
  (Students interested in taking Journalism or Yearbook Design in the future are strongly encouraged to take this course.)
  Every day you are surrounded by graphics - while playing video games, on social media, using apps, surfing the web, watching TV or reading magazines. But who designs all these graphics and how are they made? This course explores how designers and content producers create fun, interesting graphics that grab viewer's attention while also communicating information. Students learn how to design and create graphics from scratch using the same computer programs the professionals use – Adobe InDesign and Photoshop. After learning the principles of design and typography, students use their creativity on a variety of projects including personal avatars, custom t-shirts, buttons and logos. 'Graphics' is a hands-on, project-based course
  where students take initial ideas, sketch them on paper, then design them on the computer. Afterwards, students print them out and assemble them. Throughout the course students maintain a portfolio, showcasing their work from initial sketches all the way to their final design. This is a great course to take for students interested in TV Broadcasting, Journalism, or Yearbook.
  Software: Adobe InDesign & Photoshop
  Once the .5 requirement in Career & Technical Education has been met, credit earned in this course may be applied toward the Humanities distribution requirement.

- Yearbook Design and Publication I –
  Grade: 9 - 12
  Duration: 2 Semesters
  Prerequisite: None
  Credit: 1.0
  (Students can take this course for consecutive years as advanced-level credit.)
  Just by taking this course you will earn a Free Yearbook and Senior Ad. You'll learn InDesign and
  Photoshop. You'll create page layouts, and be a part of the creative process to come up with a theme. The book's theme deals with general appearance, colors, fonts, visual elements and written stories. First year students will work closely with second year student editors, second- and third-year students will manage this ten-month long 400 plus page project. In this course students learn about journalistic responsibilities, copyright, organization of workflow, as well as the financial and marketing components in creating the New Canaan High School Yearbook, "Per Annos." Students will learn about the ethical guidelines of being a journalist and the power of the press. Each student will learn how to use Adobe InDesign (a layout software), and be involved in the planning and creation of specific sections of the yearbook. Photojournalism will be covered and students will be required to take digital photographs of school events and activities. Each student will learn how to properly interview and write for a wide variety of subjects pertaining to separate aspects/sections of the yearbook. Students will be responsible to layout specific pages as well as create advertising. This will all be done under the guidance and direction of the student editors as well as the teacher and advisor. As a class, students will create the overall design based on a specific unifying theme. This course includes additional hours after school at certain times of the year in order to meet deadlines.
  Software: Adobe InDesign, Adobe Photoshop, Adobe Illustrator, All things Google, Microsoft Excel, and Microsoft Word.
  All students who successfully complete this course with a passing grade will receive a FREE YEARBOOK.
  Once the .5 requirement in Career & Technical Education has been met, credit earned in this course may be applied toward the Humanities distribution requirement.

- Journalism & Digital Media I –
  Grade: 9-12
  Duration: 1 semester or 2 Semesters
  Prerequisite: None, but Graphic Design & Multimedia is encouraged
  Credit: .5 (.25 English and .25 C.T.E)
  Blogs, digital graphics, social media - journalism has evolved from reporting and taking photos to a discipline that involves technology, visual design and social media. In Journalism 1, students use state of the art equipment - for photography, video, graphic design and web production - to learn the basics of digital communication. Students will report, write and produce articles, blogs, podcasts and video stories for the school newspaper and nchscourant.com, and will also learn responsible social media usage to publicize their stories and develop their audience.
  Once the .5 requirement in Career & Technical Education has been met, credit earned in this course may be applied toward the Humanities distribution requirement.

- TV Broadcasting I –
  Grade: 9 - 12
  Duration: 1 Semester
  Prerequisite: None
  Credit: 0.5
  Do you watch TV and wonder how all the shows are made? Do you take videos on your phone and want to learn how to make them look and sound better? If so, then this is the class for you! TV Broadcasting is a hands-on, media-driven course that focuses on the two main parts of broadcasting- field and studio production. The first part of the course teaches students how to turn their smartphone into a powerful video camera using stabilizers and small microphones. Afterwards, students learn how to use basic TV equipment such as video cameras, tripods and microphones to produce their own commercials. Concepts such as scripts, storyboards, camera angles, framing and sound are also covered. The second part of the course focuses on studio work. Students work together in production teams to write, edit and produce their own TV show. Studio equipment and concepts are covered, including being an on-air host, using teleprompters, studio cameras, live switching, audio mixing and graphics. Throughout the course, students learn how to edit video using Apple Final Cut Pro, producing their own videos with music, titles, transitions and effects. Students also watch popular TV shows to become familiar with professional production techniques.
  Software: Apple Final Cut Pro, Adobe Photoshop, Newtek Tricaster, Compix Gen CG

- Honors TV Broadcasting II -
  Grade: 10 - 12 or second semester 9th grader
  Duration: 1 or 2 Semesters
  Prerequisite: Television Broadcasting I
  Credit: 1.0
  * Students may earn 3 college-level credits from CSCC
  Designed as a continuation of the first year of TV Broadcasting, students learn to produce original programming for both NCTV 78's YouTube and cable channel. This is done with a continued focus on the two main aspects of TV- field and studio production. Students develop their technological and writing skills while helping produce The Morning Announcements, NCTV's award-winning news show, which airs live every other Friday. Students act as reporters, producing both news and sports stories as well as fun, original videos. Students learn how to interview sources, write for TV, shoot b-roll and edit everything together. In the field, students focus on live productions and utilize advanced production skills to broadcast school events such as concerts, sports games, school assemblies and theater productions. Students use professional production equipment and develop more advanced editing skills in Final Cut Pro. Students can also produce original content and podcast shows and also get paid to broadcast events for NTCV!
  Software: Apple Final Cut Pro, Adobe Photoshop, Newtek Tricaster, NewBlue Titler

- Game Design –
  Grade: 9 -12
  Duration: 1 Semester
  Prerequisite: none
  Credit: 0.5
  This course is for anyone who loves gaming and wants to design and build original games from scratch. Students learn how to develop games both physical and virtual. After learning about game genres, students learn about all aspects of the game-design process. From there, it's on to a series of increasingly challenging hands-on projects that teach all the elements of successful game development. Use of popular game-development software to create engaging, interactive games in a variety of styles. This course provides a basic foundation in the essentials of game design.
  Once the .5 requirement in Career & Technical Education has been met, credit earned in this course may be applied toward the Humanities distribution requirement.

- 3-D Animation –
  Grade: 9 -12
  Duration: 1 Semester
  Prerequisite: none
  Credit: 0.5
  This course will provide students with the opportunity to explore the world of 3D Animation. Work in this field can be readily seen in both video games and films, and this

is your chance to breathe life into creations of your own! The first half of the class is spent learning how to manipulate shapes, materials, and lighting to create 3D models. These models become more complex as we learn about different tools and skills, starting with a basic snowman and working our way up to a complex creature of the student's design. In the second half of the class we then take those models and bring them to life through animations. If done well, viewers should be able to feel distinct personalities from each of the creatures that are created.

Once the .5 requirement in Career & Technical Education has been met, credit earned in this course may be applied toward the Humanities distribution requirement.