SOMERSWORTH CAREER TECHNICAL CENTER

Tri-City Christian Academy students can apply to enroll in the Somersworth High School/Career Technical Center. By combining a CTE program with an appropriate sequence of high school courses, students will prepare themselves for a variety of options after high school, including four-year and two-year college programs, apprenticeships and entry-level positions in their career field.

CTE programs are not simply electives. Most CTE programs are two years in length and are started in a student's junior year. They are designed to develop the technical, academic and employability skills that will help students become successful members of today's workforce. We are looking for students who are genuinely interested in enrolling in a CTE program and willing to make the two-year commitment to complete the program.

Enrollment Information

All students interested in being considered for enrollment in a CTE program must complete an application. Starting in Spring 2016, the Tri-City CTCs will be using an online application called Enroll Track. The link to the online application is available on each CTC's website. To complete the application, students must have an active email address and be able to provide an email address for their parent/guardian. Students who have any questions about the application process should see the CTC's career counselor, CTC Director or their school counselor.

Students should know that completing an application does not guarantee acceptance into the CTE program they are applying for. There are many factors that are considered including each student's grades, discipline record and attendance record. There are also limits on how many students can be enrolled in each CTE program. Students are encouraged to list a second choice in case their first choice is not available.

Students will be enrolled based on the following priorities:

1. Grade in School

Priority 1: Junior – 1st year of the program (Sophomore for Cosmetology students
Senior – 2nd year of the program

Priority 2: Senior – 1st year of the program
Sophomore – 1st year of the program (when available)

2. Student Records

Transcript/Grades
Attendance Record
Discipline Record

Students will be notified by email of their application status. Parents/Guardians will also receive email updates. The high school guidance counselors will also be notified so that they

can work with the student to create a course schedule that can best accommodate the CTE program and the student's required academic coursework.

Additional considerations to keep in mind when choosing to apply to a CTE program:
Students need to demonstrate the willingness to engage in the course content and are expected to adhere to the attendance policy in place at the CTC. Students should be aware that their acceptance into a CTE program can be revoked at any time. Unwillingness to actively participate and/or excessive absences could result in removal from the program.

Because of the nature of many of our programs, students need to be able to demonstrate the ability to adhere to safety rules so as to not endanger themselves or others. Student misconduct will not be tolerated and could be grounds for removal from the program. Students who cannot exhibit safe behavior will be removed from the program.

Students should be aware that the courses that comprise each CTE program are not offered each block; each school runs on its own daily schedule. **Meeting academic requirements for graduation must be the priority when scheduling a student who has been accepted into a CTE program.** Students, parents and guidance counselors need to carefully consider the impact of participating in an off-campus CTE program as they make decisions about the student's yearly course schedule.

Once enrolled, students are expected to stay enrolled in that course until the end of the semester or year (whichever is the case). When extenuating circumstances exist, students may be allowed to drop a full-year course at the end of the first semester, but they will NOT receive credit for partial completion. Students should also be aware that only second semester courses can be added if the student has taken the necessary prerequisite. No students will be allowed to add a full-year course in the second semester.

Program Descriptions. . .

Architecture & Construction

Careers in designing, planning, managing, building and maintaining the built environment.

- **Building Trades**

Building Trades Program

Building Trades Program Course Sequence
Year 1 - Building Trades I (Full year, CTE Program)
Year 2 - Building Trades II (Full year, CTE Program)

BUILDING TRADES I

GRADES 11, 12
2 CREDITS

Students will be introduced to basic skills in construction necessary to identify materials, tools, safety, building codes, blue print reading, and how to safely construct a building. Students will also learn how to obtain a job and be successful at it. Time is divided between lab and classroom. [21st CLE A2, A3]
PREREQUISITE: Acceptance into the Building Trades Program.

BUILDING TRADES II

GRADES 11, 12
2 CREDITS

Students will seek to master their basic skills learned in Building Trades I. They will assume the role of leaders and responsibility for the work done at all phases of the construction process. They will sit for their OSHA 10 hr. safety course, and if passed, receive an OSHA 10 card that is good for life. [21st CLE A2, A3]
PREREQUISITE: Successful completion of Building Trades II.

Arts, A/V Technology & Communications

Designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services.

- Broadcast Technology
  - Digital Media
- Theater Design & Technology

Broadcast Technology Program

Broadcast Technology Program Course Sequence
Year 1 – Broadcast Technology I (One full-year course)
Year 2 – Broadcast Technology II (One full-year course)

BROADCAST TECHNOLOGY I

GRADES 11, 12
2 CREDITS

In this introductory course, students will explore photography, television, video production, and graphic communication. Students will work on projects and learn to use digital cameras and video broadcasting equipment with photo and video editing software to create slideshows, short movies and even broadcast live events from the school and within the community. Students will work with Final Cut Pro X to edit and add effects to projects. Emphasis will be placed on post-production skills, planning and

organizational skills. Students will also learn the importance of planning ahead and meeting deadlines. This course will require self-motivation, creativity and the ability to work collaboratively with others as well as independently.
PREREQUISITE: Acceptance into the Broadcast Technology program.

BROADCAST TECHNOLOGY II
GRADES 11, 12
2 CREDITS
In this more advanced course, students will delve more deeply into the capabilities of video broadcasting equipment and video editing software. Students will go in depth in learning Adobe Premiere pro, LiveText, Final Cut Pro X, and Virtual Set Editor software to create more sophisticated graphics to include in video projects and live broadcasts. Students will often fill the roles of producer and/or director, discovering what it takes to create independent films and run a successful live broadcast. Students in this course will be expected to take creative initiative with content for local cable television. This will include brainstorming ways to involve a wide variety of content including student work, sporting events, club information, upcoming events, etc. Students in this course will also be working with students in Broadcast Technology II on projects and taking the lead on school and community projects.
PREREQUISITE: Successful completion of Broadcast Technology I

Digital Media Program

Digital Media Program Course Sequence
Year 1 – Digital Media I and Digital Media II (Two semester-long courses)
Year 2 – Digital Media III and Digital Media IV (Two semester-long courses)

DIGITAL MEDIA I: COMPUTER GRAPHICS
GRADES 11, 12
1 CREDIT
Using a foundation of fine arts, students will explore and identify the principles and elements of design to develop their skills in the design planning process and design thinking. Students will utilize industry standard software – Adobe Photoshop, Illustrator, and InDesign – to execute their ideas. These projects will range from logos to movie posters, and brochures to portrait illustrations.
PREREQUISITE: Acceptance into the Digital Media program.

DIGITAL MEDIA II: WEB DESIGN
GRADES 11, 12
1 CREDIT
Students will begin to familiarize themselves with the languages of web design by hand coding HTML5 and CSS3. After understanding the basic structure of these languages, students will use Adobe Dreamweaver as a design interface for web design. The second half of the course will cover JavaScript, to help add animations, sophisticated navigation, forms, blogs, quizzes, and more to student's term projects- creating a website on a topic of their choice.
PREREQUISITE: Successful completion of Digital Media I

DIGITAL MEDIA III – MOTION GRAPHICS
GRADES 11, 12
1 CREDIT
In this course students will continue to expand their knowledge of art and design while adding a new variable to the mix – time. Through 2D and 3D animation students will work on a number of short animations to develop their skills in creating art as a story, complete with a beginning, middle and end. After creating a 30 second animation and developing realistic 3D worlds, students will move into the

world of video. The course continues to focus on time-based media, as students use Adobe Premiere Pro, to learn the ins and outs of the video production process including, pre-production(planning), production (filming), and post-production (editing and effects).
PREREQUISITE: Successful completion of Digital Media I and II

DIGITAL MEDIA IV: ADVANCED MEDIA

GRADES 11, 12

1 CREDIT

This is the final course in a two-year sequence of the Digital Media program. Students will demonstrate increased proficiency in multimedia skills and the application of design principles. At this level, students will plan and develop independent projects, from the ground up. This process will expand upon our knowledge of the design process by adding student proposals, class critiques, and client input. Students will work on individual and group projects that will include multiple parts using the many forms of digital media. For example – a brand identity may include a logo design, website design/update, and marketing materials, while a short film may include a movie trailer, posters, advertising materials, and the film itself.
PREREQUISITE: Successful completion of Digital Media I, II, and III

Theater Design and Technology

Theater Design and Technology ***Program Course Sequence***
Year 1 – *Theater Design and Technology* ***I*** *(Full year, CTE Program)*
Year 2 – *Theater Design and Technology* ***II*** *(Full year, CTE Program)*

THEATER DESIGN AND TECHNOLOGY I

GRADES 11, 12

2 CREDITS

The Theater Design and Technology program prepares students to participate in the technical and management areas of the performing arts industry. Industry professionals in the field of technical theater will instruct students in two week modules that include theoretical as well as hands-on work. During this two-year program students will learn about set design and construction, lighting design and implementation, sound design and reinforcement, theatrical make-up, set painting and scenic art, costume design and construction, properties management, front of the house management as well as back of the house management which covers marketing, publicity as well as creating programs and advertising of the upcoming productions. In addition, students will possess the foundation skills needed for postsecondary studies in technical theatre. The students who are accepted into the Performance Arts program are encouraged to be active members of local and school theatre productions. Students accepted into the program may be required to attend performance events and practices outside the normal school day.
PREREQUISITE: Acceptance into the Theater Design and Technology program.

THEATER DESIGN AND TECHNOLOGY II

GRADES 11, 12

2 CREDITS

In the second year, students will continue working in each area at a more advanced level including design and implementation as well as internships in area theater programs. The students who are accepted into the Performance Arts program are encouraged to be active members of local and school theatre productions. Students accepted into the program may be required to attend performance events and practices outside the normal school day.
PREREQUISITE: Successful completion of Theater Design and Technology I

Business Management & Administration

Careers in planning, organizing, directing and evaluating business functions essential to efficient and productive business operations.

- **Marketing**

Marketing Program

Marketing Program Course Sequence
Year 1 – Marketing I (Full year, CTE Program)
Year 2 –Marketing II (Full year, CTE Program)

MARKETING I

GRADES 11, 12
2 CREDIT
This course fulfills the Economics graduation requirement
#Topper Shoppe, #Social Media, #Marketing, #Economics, #Management & #Retail Skills
This full-year course is part of a 2-year program of instruction in marketing. Topics covered include basic marketing and economic concepts, the free enterprise system, legal and ethical issues concerning marketers, selling, advertising and promotion. In addition, students have the opportunity to develop career goals and occupational skills related to marketing which are relevant in today's global economy. Students will be encouraged to participate in DECA (An association for marketing students) and the Marketing Lab/Topper Shoppe for practical internship experience. **.** Completing Marketing 1 will give you the opportunity to earn 3 dual enrollment credits for *Understanding Business* through Central Maine Community College.
[21st CLE: A.1, A.3, A.7 & A.8]
PREREQUISITE: Acceptance into the Marketing program.

MARKETING II

GRADES 11, 12
2 CREDIT
#Topper Shoppe, #Promotions, #Social Media, #Personal Finance, #Accounting & #Employability Skills
Looking to build on your existing marketing skills? This course is designed for those who have already completed Marketing Level 1 course or an equivalent. Focus on a deeper understanding of the key marketing tools of advertising, PR, promotions and digital marketing. We consider effective use of marketing funds (including profitability, return on marketing investment and financials from a marketing perspective), as well as explore the latest marketing trends – from changes in consumer marketing to social media marketing. Students will be required participate in DECA . Students will obtain their skills and knowledge in these functions through classroom instruction, group and individual projects, the operation of the Topper Shoppe, and partnerships with local businesses.Completing Marketing 2 will give you the opportunity to earn 3 dual enrollment credits for *Principles of Marketing* through Central Maine Community College.
[21st CLE A8.1, A8.2, A8.6]
PREREQUISITE: Successful completion of Marketing I

Education & Training

Planning, managing and providing education and training services, and related learning support services.

- **Teaching Multiple Levels (Somersworth)**

Teaching Multiple Levels Program
Teaching Multiple Levels Program Course Sequence
Year 1 – Teaching Multiple Levels I *(Full year, CTE Program)*
Year 2 – Teaching Multiple Levels II *(Full year, CTE Program)*
TEACHING MULTIPLE LEVELS I
GRADES 11, 12
2 CREDITS
This hands-on course will allow students to take what they have learned in Intro. to Teacher Education to the next level. This teacher-training program will blend classroom time with internship work at local public schools. You will observe children to learn about their growth and development. You will also learn about all aspects of public education from curriculum and lesson planning to the running of a school. You will be asked to think critically about the classroom environment and how children learn best. Students will also develop a professional portfolio that will benefit them as they move towards college acceptance.
PREREQUISITE: Acceptance into the Teaching Multiple Levels program.
TEACHING MULTIPLE LEVELS II
GRADES 11, 12
2 CREDITS
This hands-on course is for those who have successfully completed Teaching of Multiple Levels I. Students are given greater responsibility and are in schools 3 days per week. Students will dive deeply into planning and delivering instruction. In addition, students will look more closely at the special education laws and meeting differently abled students' needs. The hands on experience provides great opportunity and advantages for students pursuing a career in teaching
PREREQUISITE: Successful completion of Teaching Multiple Levels I

Health Science

Planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.

- **Medical Assisting (Somersworth)**

Medical Assisting Program

Medical Assisting Program Course Sequence
Year 1 – Medical Assisting I (Full year, CTE Program)
Year 2 Medical Assisting II (Full year, CTE Program)

MEDICAL ASSISTING I
GRADES 11, 12
Credits: 2
This course is designed to train medical assistants to work in doctor's offices, hospitals and other ambulatory care settings. MA I focus' on tasks such managing the medical practitioner's appointments, scheduling patient appointments, bookkeeping, billing, updating medical and patient records, taking patient history, managing medical supplies, checking patient's vital signs, and running laboratory tests.
PREREQUISITE: Acceptance into the Medical Assisting program.

MEDICAL ASSISTING II
GRADES 11, 12
Credits: 2
This course is designed to train Medical Assistants to work in doctor's offices, hospitals and other ambulatory care settings. Medical Assisting II focuses on clinical tasks such as taking medical histories and recording vital signs, explaining treatment procedures to patients, preparing patients for examination, assisting the physician during the examination, sterilizing medical instruments and phlebotomy.
PREREQUISITE: Successful completion of Medical Assisting I

Hospitality & Tourism

The management, marketing and operations of restaurants and other foodservices, lodging, attractions, recreation events and travel related services.

- **Culinary Arts (Somersworth)**

Culinary Arts Program

Culinary Arts Program Course Sequence
Culinary Arts, Blue Year (Full year, CTE Program)
Culinary Arts, White Year (Full year, CTE Program)
Each student must successfully pass each year – White & Blue

CULINARY ARTS, BLUE YEAR (2018-2019)
GRADES 11, 12
Credits: 2 Credits
This course is designed to educate students to meet the ever-increasing demands of the food service industry. Culinary Arts provides realistic, hands-on experience in the principles of working in and operating a kitchen/dining room through the operation of our own Mulligan's Grill Restaurant, Restaurant, various competitions and field trips. The course covers safety, sanitation, equipment basics and quantity preparation techniques for both the hot food and baking areas of the kitchen.
In addition, the Blue Year covers the following topics: Stocks, Sauces & Soups, Fruits & Vegetables, Service, Potatoes & Grains, Culinary Math and Operations Management. The ProStart Curriculum, sponsored by the National Restaurant Association is used in this program.
PREREQUISITE: Acceptance into the Culinary Arts program.

CULINARY ARTS, WHITE YEAR (2019-2020)
GRADES 11, 12
Credits: 2 Credits
This course is designed to educate students to meet the ever-increasing demands of the food service industry. Culinary Arts provides realistic, hands-on experience in the principles of working in and

operating a kitchen/dining room through the operation of our own Mulligan's Grill Restaurant, various competitions and field trips. The course covers safety, sanitation, equipment basics and quantity preparation techniques for both the hot food and baking areas of the kitchen.
In addition, the White Year also covers the following topics: Breakfast Food & Sandwiches, Nutrition, Salads & Garnishing, Meat, Poultry & Seafood, Marketing, Desserts, Sustainability and Global Cuisine & Business Operations (Cost Control, Inventory, Purchasing and Marketing). The ProStart Curriculum, sponsored by the National Restaurant Association is used in this program.
PREREQUISITE: Acceptance into the Culinary Arts program.

Science, Technology, Engineering & Mathematics

Planning, managing and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and testing services, and research and development services.

- **Engineering (Somersworth)**

Engineering Program

Engineering Program Course Sequences
Engineering 1—Foundations (Full year, CTE Program)
Engineering 2A—Manufacturing (Full year, CTE Program)
Engineering 2B—Civil/Architecture (Full year, CTE Program)
Program Description: The Engineering Program at Somersworth CTC utilizes the nationally recognized "Project Lead the Way (PLTW)" program as the basis of its curriculum. The program is designed to help students explore "high tech"-related careers in different types of engineering to prepare them to enter postsecondary education programs. Additionally, the Engineering Program helps prepare students for entry level engineering-technology jobs such as in many of the local advanced manufacturing companies in the seacoast area.
ENGINEERING 1—FOUNDATIONS
GRADES 11, 12
2 CREDIT
Engineering 1 is an introductory course which develops students' problem-solving skills, with emphasis placed on the concept of developing a 3D model or solid rendering of an object. Students focus on the application of visualization processes and tools provided by modern state of the art computer hardware and software titled, "Key Creator". This modern computer-based process replaces the traditional hand drawing methods. The course will emphasize the design and development process of a product and how a model of that product is produced, analyzed, and evaluated using a computer-aided design system. Various design applications will be explored with discussion of possible career opportunities. Students will explore various engineering systems and manufacturing processes. They will also learn how engineers address concerns about social and political consequences of technological change. The main purpose of this course is to answer the question Is a career in engineering or engineering technology for me? Note: This course meets the computer education graduation requirement. [21st CLE A8.43 A8.4 A8.6, S1.1]
PREREQUISITE: Acceptance into the Engineering program.; concurrent enrollment in college prep mathematics

ENGINEERING 2M—MANUFACTURING

GRADES 11, 12

2 CREDIT

Engineering 2A—Manufacturing is patterned after the first semester course in digital electronics taught in two- or four-year colleges. Students will study the application of electronic logic circuits and devices and apply Boolean logic to the solution of problems. Such circuits are found in watches, calculators, video games, computers, and thousands of other devices. The use of smart circuits is present in virtually all aspects of our lives and its use is increasing, rapidly making digital electronics an important course of study for a student exploring a career in engineering or engineering technology. Using Electronic Workbench, the industry standard, students will test and analyze simple and complex digital circuitry. Students will design circuits using electronics workbench, export their designs to a printed circuit auto routing program that generates printed circuit boards, and construct the design using chips and other components. This course builds upon the computer solid modeling design skills developed in Engineering 1. Students will be presented with design problems that require the use of "Key Creator" to develop solutions to the problems. They will evaluate the solutions using mass property analysis (study of the relationship among the design, function and material used), and make appropriate modifications and use prototyping equipment to produce three-dimensional models of the solution. Students will be expected to communicate the process and results of their work through oral and written reports. [21st CLE A8.3, A8.5]

PREREQUISITE: Successful completion of Engineering I

ENGINEERING 2A—ARCHITECTURE/CIVIL

GRADES 11, 12

2 CREDIT (Full year, CTE Program)

The Engineering Design: Architecture course will investigate the use of Cadsoft Envisioneer, a 3D Architectural/Interior/Landscape design software application in residential design. Students will create a 2D Floor Plan and 3D Model along with elevations, foundation and plot plan. Students will also generate virtual tours of their enhanced interior design. Engineering applications, problem solving, and passive solar and active solar along with building green will be examined. This capstone course involves engineering research in which students work in teams to research, design, and construct a solution to an open-ended engineering problem. Students apply principles developed in the four preceding courses and are guided by a mentor. They must present progress reports, submit a final written report and defend their solutions to a panel at the end of the school year. [21st CLE A3.1, A7.1, A7.3, A8.1, A8.4, A8.6, A9.4]

PREREQUISITE: Successful completion of Engineering I

Transportation, Distribution & Logistics

Planning, management, and movement of people, materials, and goods by road, pipeline, air, rail and water and related professional support services such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance.

- **Automotive Technology (Somersworth)**

Automotive Technology

Automotive Technology Course Sequence
Year 1 – Automotive Technology I (Full year, CTE Program)
Year 2 – Automotive Technology II (Full year, CTE Program)

AUTOMOTIVE TECHNOLOGY I

GRADES 11, 12
2 CREDITS

This course will give students hands-on training in the repair and diagnosis of automotive systems. Time will be spent in the classroom learning the procedures and in the shop practicing the skills learned. Major areas of study include brakes, steering and suspension systems, and engine performance. Students will be introduced to the computer systems in automobiles and how to diagnose and repair problems with the computer systems. Students will learn how to do a wheel alignment, repair brakes, and diagnose problems. [21st CLE A2.1, A2.2, A3.2, A7.1-7.3, A8.2-A8.4, A9.3, S1.1, S1.2]
PREREQUISITE: Acceptance into the Automotive Technology program.

AUTOMOTIVE TECHNOLOGY II

GRADES 11, 12
2 CREDITS

In the second year students will receive advanced training in the repair and diagnosis of modern automobiles. More emphasis will be placed on engine performance and computer systems. Students will learn the complex workings of the electrical systems. Areas covered are wiring, lights, battery, starters, and alternators, along with the use of multimeters. Students will also learn the state inspection laws and will be able to perform a state safety inspection on a car. Students will be exposed to the business side of the automotive trades and will gain experience as service writers and in ordering repair parts. At the conclusion of the second year, students should be able to pass the ASE test in brakes, electrical, and front ends. [21st CLE A2.1, A2.2, A3.2, A7.1-7.3, A8.2-A8.4, A9.3, S1.1, S1.2]
PREREQUISITE: Successful completion of Automotive Technology I