

**DOVER REGIONAL CAREER & TECHNICAL
EDUCATION CENTER**



**CTE Programs
SY 18-19**

The Regional Career Technical Center provides students with an education that combines rigorous academic and technical study, preparing them for the world of work and continued education. Placing an emphasis on project-based learning, the Career Technical Center employs highly qualified instructors who bring years of experience from the industry into the classroom, creating strong connections between theory and practice. Offering 16 career & technical education programs comprised of a sequence of courses, the Regional CTC provides students with the opportunity to gain certifications, licenses, and college credits as they gain skills that last a life time .

CAREER & TECHNICAL EDUCATION STUDENT ORGANIZATIONS

Student organizations are an essential part of a career and technical education program. Participation in a career and technical student organization (CTSO) provides an opportunity to develop leadership potential, decision-making skills, and a strong work ethic as a member of a team. CTSO students can participate at state and national conferences in competitive events and projects. All career and technical education students are encouraged to be members and to take part in CTSO activities. Active career and technical student organizations at DHS are: **DECA ** FBLA ** FCCLA ** FFA ** Skills USA**

TRI-CITY CAREER & TECHNICAL EDUCATIONAL OFFERINGS

In addition to the career & technical programs offered at Dover High School and Regional Career Technical Center, students are eligible to select programs offered at Rochester and Somersworth Regional Centers. If you are interested in selecting a program at Rochester or Somersworth, please see your School Counselor, the Career & Technical Education Career Services, or the Director of the Career Technical Center.

NON-TRADITIONAL CAREER OPPORTUNITIES

All Regional Technical Center classes and programs are open to both female and male students. The CTE staff encourages all students to consider pursuing non-traditional careers to meet the increasing demand for female automotive, engineering, construction, computer technicians, and male cosmetology, floriculture, and early childhood providers. More and more people are discovering non-traditional careers to be rewarding, fulfilling and challenging. All students should be mindful to select their CTC program based on their interests, skills, and personal goals regardless of gender.

CAREER SERVICES

START PLANNING FOR YOUR FUTURE TODAY

Career Services, located in the Dover Regional Career Technical Center, presents a wide range of opportunities for students interested in career exploration and development, providing extended learning activities that prepare students with the skills and technical knowledge needed to be career and college ready.

Would you like help developing a resume, getting connected with a job shadow site or exploring career opportunities through our internship program? Career Services is here to assist. Please see page 118. ***For more information pertaining to these programs and services please contact Career Services at (603) 516-6982.***

CAREER & TECHNICAL EDUCATION ENROLLMENT POLICY

How does a student know if they are eligible to be selected for a CTE program? Here is the enrollment policy.

- A. Based on the year that you begin the program, the order of priority for selection is as follows:**
1. Returning second year students who successfully completed Year 1, and, have the endorsement of the CTC Director.
 2. New 11th graders (juniors). Note: 10th graders [4 credits] for Cosmetology and Pre-Engineering.
 3. Returning students who have requested a different program.
 4. New incoming 10th graders (sophomores).
 5. New incoming 12th graders (seniors).
- B. Programs will review students based upon:**
1. The priority list above
 2. Attendance and discipline records
 3. Academic records
- C. A student who does not gain entry into his/her first choice will be:**
1. Placed on a 'waiting list', and/or
 2. Allowed a second choice when available, and/or
 3. Notified, in order to select alternative programs.
- D. Each sending school is allowed access to CTE programs based on enrollment numbers.** Utilization of allocated enrollments for each sending school will be a factor in admittance to a CTE program.
- F. Exceptions to this policy** may be made for students on a case-by-case basis.
- G. All students must apply for all Career & Technical Education programs online via EnrollTrack. EnrollTrack is accessible via the CTC website under CTE Offerings "How to Apply".**

NONDISCRIMINATION POLICY

It is the policy of Dover High School and Regional Career Technical Center not to discriminate in its education programs, activities or employment practices on the basis of race, color, national origin, language, religion, age, sex or handicap under the provisions of Title VI of the Civil Rights Act of 1964, the Age Discrimination Act of 1967, Title IX of the Education Amendments of 1972, Section 705120 of the Rehabilitation Act of 1973 and the Education for all Handicapped Children Act of 1975. **Sexual harassment** is a form of unlawful discrimination and is against school district policy. Sexual harassment is described as an unpleasant environment caused by an unwelcome verbal or physical conduct of a sexual nature that interferes with an individual's academic performance. **A concern or complaint concerning sexual discrimination should be made to Christine Boston (516-6722).** Any person having inquiries concerning Dover High School's compliance with the regulations implementing these laws may contact the Dover School System (516-6804). Any person may also contact the Assistant Secretary for Civil Rights, U.S. Department of Education or the Director, U.S. Department of Education, Office for Civil Rights, Region I, John W. McCormack Post Office and Court House Square Room 502514 Boston, Massachusetts 02109.

LICENSING, CERTIFICATIONS, AND OTHER CREDENTIALS AVAILABLE THROUGH CTE PROGRAMS

Animal Science Program

- Pet Tech Animal CPR and 1st Aid Certification
- CGC—K-9 Good Citizen Certification (American Kennel Club)
- National Safety and Safe Tractor Operation Certification through Penn State University

Automotive Technology Program

- Accredited by the National Automotive Technicians Education Foundation
- Automotive Service Excellence (ASE)
- S/P2 on-line automotive safety

Building Construction

- OSHA-10 Certification
- CPR & First Aid Certifications
- S/P2 on-line construction safety

Business & Marketing

- MOS (Microsoft Office Specialist) Certification for MS Word, MS PowerPoint, MS Excel

Computer Networking Technology Program

- A+ certification, NET+ certification, CISCO IT Fundamentals, MCP, and IC3 Internet Computing Core

Cosmetology Program (1500-hour program)

- NH Licensed Cosmetology
- SP/2 on-line cosmetology safety

Culinary Arts

- ServeSafe certification, National Restaurant Association Education Foundation.

Electrical Technology Program

- 2-yr program partially fulfills requirements for NH State Electrical Apprenticeship Night School program
- 500-hours work experience toward Journeyman's license
- OSHA-10 certification
- Solar certification
- Variable Frequency Certification

Health Science Technology Program

- NH Board of Nursing, Nursing Assistant License
- American Heart Association Health Care Provider & Automatic External Defibrillator (AED) certification
- Advanced Skills for Health Care providers & Restorative Certificate
- Emergency Medical Technician Basic (EMT)

Naval Science

- Cadets who complete 2 years of NJROTC may enter the Army or Navy as an E-2; those who complete 3 years of NJROTC may enter Army or Navy as an E-3.

Seacoast Firefighting & EMS Academy

- ProBoard Accredited Firefighter I (29 States)
- Professional Rescuer CPR and AED
- NH Wildland Firefighter I
- Nat. Wildfire Coordinating Group: S-103330; S-190; I-100; L-108810
- Hazardous Materials Awareness/Operations
- Standard First Aid and the National Registry of EMT's-EMT Basic Certification

CAREER & TECHNICAL EDUCATION PROGRAM INDEX

Animal Science	8
Automotive Collision Technology.....	32
Automotive Repair Technology.....	33
Biomedical Sciences (Project Lead the Way).....	30
Building Construction Technology.....	10
Business	13
Computer Programming.....	22
Computer Systems Networking	23
Cosmetology	20
Culinary Arts.....	19
Electrical Technology and Renewable Energy	11
Exploratory Courses.....	5
Firefighter and EMS Academy	24
Health Science Technology (LNA).....	16
Marketing and Retail Store Operations.....	27
Naval Science.....	14
Pre-Engineering (Project Lead the Way)	28
Regional (Tri-City) Programs	35
Sports Medicine	18
Welding.....	26

CAREER & TECHNICAL EDUCATION EXPLORATORY COURSES

Students may select from the Exploratory Courses to gain an introduction to and understanding of a variety of career & technical education programs. In each course, students develop their interests and aptitudes and investigate advanced course offerings. These half-credit courses are designed primarily for freshman and sophomores; **however juniors and seniors** may enroll on a space available basis.

990222 INTRODUCTION TO AUTOMOTIVE TECHNOLOGIES

Grades 9-10 (Grades 11-12 on a space available basis)

0.50 Credit/ Semester

Enjoy the hum of an engine? Thinking about more horsepower? Come explore the fundamental skills related to automotive repair and collision technologies. Gain hands-on, practical experience related to the automotive industry in compliance with national standards. Get your hands dirty while investigating the career opportunities available in the automotive field.

990220 INTRODUCTION TO BUILDING/ELECTRICAL TECHNOLOGIES

Grades 9-10 (Grades 11-12 on space available basis)

0.50 Credit/ Semester

Interested in exploring a career in building construction? Considering becoming an electrician? Review the basic skills needed to be successful in both industries. With hands-on experiences, discover how to properly select and safely use tools, identify commonly used materials, explore career opportunities and develop skills useful in everyday life.

990221 INTRODUCTION TO BUSINESS

Grades 9-10 (Grades 11-12 on space available basis)

0.50 Credit/Semester

This introductory course includes an overview of the various aspects of business operations. Students will be introduced to types of business ownership, financial management, entrepreneurship, technology in business, marketing, human resources and social responsibility in the business environment. Individual and group assignments will emphasize practical applications of the above topics. Current business practices and events will also be discussed.

NOTE: Does not fulfill computer credit requirement.

990226 INTRODUCTION TO COMPUTER SYSTEMS NETWORKING

Grades 9-10 (Grades 11-12 on space available basis)

0.50 Credit/ Semester

Interested in getting under the hood of a computer? Explore the basics of computer hardware, software installations and functions, diagnosis compatibility issues and common errors, and assess security risks and prevention. Understand how to utilize preventative maintenance on computers to prolong their life. Assemble a computer from scratch and troubleshoot basic hardware and software issues!

NOTE: Does not fulfill computer credit requirement.

990225 INTRODUCTION TO COMPUTER PROGRAMMING

Grades 9-10 (Grades 11-12 on space available basis)

0.50 Credit/Semester

Interested in creating computer programs? Want to learn how to create basic computer games? Come and explore the fundamentals of creating applications, games, and simple python programs. Learn the basics of computer programming using a variety of programming environments.

NOTE: Does not fulfill computer credit requirement.

990234 INTRODUCTION TO CULINARY

Grades 9-10 (Grades 11-12 on space available basis)

0.50 Credit/Semester

Wondering what to eat? Discover the meaning of nutrition, health and wellness. Develop fundamental kitchen skills that explore the importance of food preparation, sanitation, safety and proper equipment use. Explore a hospitality or business career as you are introduced to food and nutrition.

990216 INTRODUCTION TO ANIMAL SCIENCE

Grades 9-10 (Grades 11-12 on space available basis)

0.50 Credit/ Semester

The Animal Science Exploratory course is designed to give students a basic knowledge of animals and an opportunity to interact with a wide variety of farm animals, horses, and domestic pets. The topics covered are animal behavior, animal handling, equine science, breed identification, diet, basic grooming, farm animals, and barn maintenance. Participation is a significant part of this class, including, but not limited to farm animal handling, stall cleaning, feeding, small animal care, small animal handling and cage cleaning. Students who are successful in the explore program may further pursue their interest by taking advantage of our multiple Animal Science career pathways.

990210 INTRODUCTION TO BIOMEDICAL SCIENCE

Grades 9-10 (Grades 11-12 on space available basis)

0.50 Credit/Semester

Biotechnology is the use of living organisms to solve problems or make useful products. This course is designed to introduce students to the tools and applications of genetic engineering, as well as the ethical issues that these technologies raise. Students will acquire basic laboratory skills in a variety of tasks that include testing, sampling and analysis of various organisms and materials. Students will have a chance to experiment with techniques such as DNA isolation, gene manipulation, and molecular cloning. Students will also gain an understanding of how the biotechnology industry operates, and will learn about options for future career and education opportunities. Additional topics to be addressed throughout the semester include applications of bioinformatics, analysis of bioethics, the roles of federal regulatory agencies, principles of genetics, concepts in immunology, and techniques of molecular biology. .

990228 INTRODUCTION TO ENGINEERING

Grades 9-10 (Grades 11-12 on space available basis)

0.50 Credit/ Semester

This introductory course will engage students in applying those fundamental skills and basic knowledge related to the diverse and ever-changing fields of engineering. The fundamental skills that engineers use daily will be introduced. Basics concepts of Computer Aided Design (CAD), robotics, the design process, and related skills will be the focus of lab based activities, utilizing problem solving skills.

NOTE: Does not fulfill computer credit requirement as of 2015-2016.

990235 INTRODUCTION TO NAVAL SCIENCE - LEADERSHIP (FORMERLY NAVAL SCIENCE I)

Grades 9-12

1.00 Credit/Year

This course is designed to introduce students to the precepts of citizenship, the elements of leadership, service to others, and the value of scholarship in attaining life goals. The Cultural Studies portion of the course introduces students to world cultures through the study of world affairs, regional studies, and cultural awareness.

NOTE: Fulfills Global Studies requirement. Does not require program application/admission.

**990236 INTRODUCTION TO NAVAL SCIENCE – CORE VALUES
(FORMERLY NAVAL SCIENCE II)**

Grades 10-12

1.00 Credit/Year

This course is designed to engender a sound appreciation for the core values of Honor Courage and Commitment and how to practice these values on a daily basis. The life skills development continues with increased responsibilities within the unit. Practical applications of the core values, life skills learned in Introduction to Life Skills and Leadership, and greater commitment to community service are all part of the second stage development.

NOTE: Fulfills ½ credit science and ½ credit social studies elective. Does not require program application/admission.

REQUIRED: Successful completion of Introduction to Naval Science - Leadership

999010 UNIFIED INTRODUCTION TO ANIMAL SCIENCE – MENTEE

Grades 9-12

999011 UNIFIED INTRODUCTION TO ANIMAL SCIENCE – MENTOR

Grades 10-12

AGRICULTURAL AND NATURAL RESOURCES CLUSTER

The Agriculture and Natural Resources Cluster offer students learning opportunities in a career area that includes urban forestry technology, environmental sciences, animal science, and commercial fish farming. Future Farmers of America (FFA) serves an important role in this area by providing opportunities for students to develop leadership skills and demonstrate technical skills by competing in local, state, and national events.

Animal Science (2-year program requiring admission)

Animal Science Program/Concentration in Canine

Year 1 – Animal Science I

Year 2 – Canine Science

Animal Science Program/Concentration in Veterinary Technician

Year 1 – Animal Science I

Year 2 – Honors Veterinary Science

990216 INTRODUCTION TO ANIMAL SCIENCE

Grades 9-10 (Grades 11-12 on space available basis)

0.50 Credit/Semester

The Animal Science Exploratory course is designed to give students a basic knowledge of animals and an opportunity to interact with a wide variety of farm animals, horses, and domestic pets. The topics covered are animal behavior, animal handling, equine science, breed identification, diet, basic grooming, farm animals, and barn maintenance. Participation is a significant part of this class, including, but not limited to farm animal handling, stall cleaning, feeding, small animal care, small animal handling and cage cleaning. Students who are successful in the explore program may further pursue their interest by taking advantage of our multiple Animal Science career pathways.

NOTE: Does not require program application/admission.

901212 ANIMAL SCIENCE I

Grade 11-12

2.0 Credits/Year

This is the first year of the Animal Science career path. This course will take an in-depth look into various animal types. Classroom pets and the onsite barn animals will be used for hands on experiences in animal handling, restraint, feeding, and maintaining optimal health. Students will operate a dog grooming business one day a week, where they develop first level skills of dog grooming while enhancing customer service skills. Students will also be introduced to equine (horses) history and evolution, equine management, equine veterinary care, riding form and function, and related career opportunities. Students will handle, tack up, groom and work with horses. Animals studied throughout this course include dogs, cats, small pets, reptiles, birds, farm animals, and horses.

REQUIRED: Students must submit a CTC program application.

NOTE: Fulfills 1 science elective credit

Certifications available: National Safety and Safe Tractor Operation Certification through Penn State University

903317 CANINE SCIENCE

Grade 12

2.00 Credits/Year

Are you a canine (dog) enthusiast interested in understanding canine behaviors and training? Investigate dog breeds, ethical ownership, life cycle, common vaccines, diseases, reproduction, nutrition and so much more. Come and work with your own dog or one from the community and prepare for the AKC Canine Good Citizen test. Real world skills are practiced while running the schools onsite dog grooming business.

REQUIRED: Completion of Animal Science I and submission of a CTC program application. Certifications available: Canine Care and Training Program Certification through Continental Kennel Club. Pet First Aid Certification through Pet Tech Co.

Note: This is a course which allows student the opportunity to earn college credits while concurrently earning credits toward their high school diploma. There is no cost associated with this program. See articulation agreement for details.

903310 HONORS VETERINARY SCIENCE

Grade 12

2.00 Credits/Year

Interested in the Veterinary Medicine field? Take an in-depth look at animal anatomy and the common practices that veterinarians experience. Investigate animal genetics, reproduction, vaccinations, veterinary terminology, and medical records. Explore ethical and legal issues in veterinary medicine. Experience what it's like to work in veterinary clinics and humane societies. Analyze various animal diets and the nutritional values of commercial foods available. Design and implement a breeding program for animals. Observe the many causes of diseases. Real world skills are practiced through managing and operating a dog grooming lab and on site school barn.

REQUIRED: Completion of Animal Science I and submission of a CTC program application.

NOTE: Fulfills 1 science elective credit. This is a dual-enrollment course which allows students the opportunity to earn college credits while concurrently earning credits toward their high school diploma. The cost to take advantage of the dual enrollment option is currently \$150.00, which is approximately a \$450 savings.

Certifications available: Pet First Aid Certification through Pet Tech Co.

ARCHITECTURE & CONSTRUCTION CLUSTER

The Architecture and Construction Cluster focuses on careers in designing, planning, managing, building and maintaining the built environment.

Building Construction Technology

(2-year programs requiring admission)

Building Construction Technology Program

Year 1 – Building Construction Technology I

Year 2 – Building Construction Technology II

990220 INTRODUCTION TO BUILDING/ELECTRICAL TECHNOLOGIES

Grades 9-10 (Grades 11-12 on space available basis)

0.50 Credit/Semester

Interested in exploring a career in building construction? Considering becoming an electrician? Review the basic skills needed to be successful in both industries. With hands-on experiences, discover how to properly select and safely use tools, identify commonly used materials, explore career opportunities and develop skills useful in everyday life.

NOTE: Does not require program application/admission.

921220 BUILDING CONSTRUCTION TECHNOLOGY I

Grade 11

2.00 Credits/Year

From hand tools to hard hats, the fundamentals of construction technology will be explored while gaining an appreciation for safety. Design furniture, cabinets and standing structures while becoming familiar with foundations, framing, rafters and roofing. Do you want to stay warm? Install insulation, drywall, trim, flooring, windows and doors. From top to bottom, experience the world of construction using practical skills that can be applied daily.

REQUIRED: Students must submit a CTC program application.

Certifications available: OSHA-10 certification safety and S/P2 on-line safety.

922220 BUILDING CONSTRUCTION TECHNOLOGY II

Grade 12

2.00 Credits/Year

Are you ready for more power tools? Interested in green building? Come expand your knowledge, experience the evolution of a structure from blueprint to rooftop using the latest technology and materials from the field. Want to be a contractor? Gather skills to help you write estimates and budget for community projects while obtaining national accredited certifications, making you more desirable to employers in the industry.

REQUIRED: Successful completion of Building Construction Technology I and submission of a CTC program application.

NOTE: Completion of Building Technology I and II fulfills 0.50 math credit.

NOTE: This is a course which allows students the opportunity to earn college credits while concurrently earning credits toward their high school diploma. There is no cost associated with this program. See articulation agreement for details.

Certifications available: OSHA 10, SP/2 Safety, CPR & First Aid.

Electrical Technology and Renewable Resources

(2-year program requiring admission)

Electrical Technology Program

Year 1 – Electrical Technology and Renewable Energy Systems I

Year 2 – Electrical Technology and Renewable Energy Systems II

990220 INTRODUCTION TO BUILDING/ELECTRICAL TECHNOLOGIES

Grades 9-10 (Grades 11-12 on space available basis)

0.50 Credit/ Semester

Interested in exploring a career in building construction? Considering becoming an electrician? Review the basic skills needed to be successful in both industries. With hands-on experiences, discover how to properly select and safely use tools, identify commonly used materials, explore career opportunities and develop skills useful in everyday life.

NOTE: Does not require program application/admission.

921260 ELECTRICAL TECHNOLOGY AND RENEWABLE ENERGY SYSTEMS I

Grade 11

2.00 Credits/Year

Want to explore the world of electricity and become an apprentice electrician? Study the basic DC/AC theory and Ohms Law as they are applied to various types of circuits. Experience the safe and proper use of all hand and power tools utilized in the electrical/construction trades. Receive 250 hours of hands-on work experience towards your Journeyman's license. Assess the latest edition of the National Electrical Code and experience renewable energy systems. Configure and install solar and wind energy systems discovering how to convert, transmit, and store these renewable energies.

REQUIRED: Students must submit a CTC program application. All students are required to a pay \$75.00 fee for the cost of supplies and the student's own electrical tools kit that they will be able to take with them when they graduate, and NH State Electrical Apprentice License fee (\$30).

Certifications available: NH State Electrical Apprentice License

921360 ELECTRICAL TECHNOLOGY AND RENEWABLE ENERGY SYSTEMS II

Grade 12

2.00 Credits/Year

Electricity got you all wired up? Interested in a career in the Electrical Trades? Explore advanced residential and commercial wiring projects. Discover industrial motors and controls and receive a Telecommunication Cabling Certificate. Complete an OSHA 10 hour safety training program and receive an OSHA 10 card for the construction industry. Receive an additional 250 hours of hands-on work experience towards your Journeyman's license. Upgrade your skills in renewable energy systems and develop the skills required to obtain a Journeyman Electricians License.

REQUIRED: Successful completion of Electrical Technology I and submission of a CTC program application. NH State Electrical Apprentice License fee (\$30).

NOTE: This is a course which allows students the opportunity to earn college credits while concurrently earning credits toward their high school diploma. There is no cost associated with this program. See articulation agreement for details.

Certifications available: OSHA-10 certification safety and NH State Electrical Apprentice License

921460 ELECTRICAL TECHNOLOGY III - INTRODUCTION TO SOLAR TECHNOLOGY

This course is designed as a general introduction to Solar Photovoltaic (PV) technology and will prepare students to achieve a basic knowledge of the applications, design, installation and operation of solar PV systems. Students will learn the fundamental concepts and skills involved with becoming a solar PV installer. The course content is consistent with the North American Board of Certified Energy Practitioners (NABCEP) Solar PV Entry Level Learning Objectives. Percentage of time spent on course topics, and the weight placed on assessment questions match the learning priority levels established by NABCEP's course and test specifications. After successful completion of this course, students are eligible to register for the optional NABCEP Solar PV Entry Level Exam. Students that successfully pass the exam will be eligible for a job right out of high school in the field of Alternative/Renewable Energies.

Continued on next page.

REQUIRED: Successful completion of Electrical Technology II or concurrently taking Electrical Technology II and submission of a CTC program application. NH State Electrical Apprentice License fee (\$30).

Certifications available: NABCEP Entry Level Installer Certification and NH state electrical apprentice license

BUSINESS MANAGEMENT AND ADMINISTRATION CLUSTER

The Business Management and Administration Cluster focuses on careers that plan, organize, direct, and evaluate all or part of a business organization through the allocation and use of financial, human, and material resources.

An asterisk () identifies courses that satisfy the computer graduation requirement. An (M) identifies courses that are recommended for the Microsoft Office Specialist Certification.*

Business (2-year program requiring admission)

Business Program

Year 1 – Business I

Year 2 – Business II

990221 INTRODUCTION TO BUSINESS

Grades 9-10

0.50 Credit/Semester

This introductory course includes an overview of the various aspects of business operations. Students will be introduced to types of business ownership, financial management, entrepreneurship, technology in business, marketing, human resources and social responsibility in the business environment. Individual and group assignments will emphasize practical applications of the above topics. Current business practices and events will also be discussed.

NOTE: Does not fulfill computer credit requirement. Does not require program application/admission.

911240 BUSINESS I

Grades 11-12

2.00 Credit/year

Curious about what it takes to successfully manage a business? This course introduces students to the concepts of business management, including the functions of planning, organizing, leadership, staffing, decision-making, marketing, communicating and motivating. Additionally, the impact of technology will be examined, providing an awareness of social and ethical responsibility as it relates to the environment, consumers, employees, and investors. This course meets the requirements of Introduction to Business at Great Bay Community College.

REQUIRED: Students must submit a CTC program application.

NOTE: This is a concurrent enrollment course which allows students the opportunity to earn college credits while earning credits toward their high school diploma. The cost of earning college credits through this course is currently \$150.00, which is approximately a \$450 savings.

912240 BUSINESS II

Grade 12

2.00 Credits/Year

Are you dreaming about starting your own business? This course examines key concepts and skills critical to successfully launching, developing and managing a small business. From start to finish, students will also develop the tools needed to write a comprehensive business plan for a company of their creation/design. Effective communication is the lifeblood of any organization; it is also the foundation of a successful business career. Focus on understanding communication strategies, creating logical presentations, and developing critical skills in listening, speaking, and writing. This course meets the requirements of Small Business Management and Organizational Communication at Great Bay Community College.

REQUIRED: Successful completion of Business I and submission of a CTC program application.

NOTE: This is a concurrent enrollment course which allows students the opportunity to earn college credits while earning credits toward their high school diploma. The cost of earning college credits through this course is currently \$150.00, which is approximately a \$450 savings.

GOVERNMENT & PUBLIC ADMINISTRATION CLUSTER

The Government and Public Administration Cluster focuses on careers that plan and perform government functions at the local, state and federal levels, including governance, national security, foreign service, planning, revenue and taxation, and regulations.

Navy Junior Reserve Officers Training Corps (2-year program requiring admission)

NJROTC Program

Year 1 – Naval Science I (Formerly Naval Science III)

Year 2 – Naval Science II (Formerly Naval Science IV)

990300 INTRODUCTION TO NAVAL SCIENCE - LEADERSHIP

Grades 9-12

1.00 Credit/Year

This course is designed to introduce students to the precepts of citizenship, the elements of leadership, service to others, and the value of scholarship in attaining life goals. The Cultural Studies portion of the course introduces students to world cultures through the study of world affairs, regional studies, and cultural awareness.

NOTE: Fulfills Global Studies requirement. Does not require program application/admission.

990310 INTRODUCTION TO NAVAL SCIENCE – CORE VALUES

Grades 10-12

1.00 Credit/Year

This course is designed to engender a sound appreciation for the core values of Honor Courage and Commitment and how to practice these values on a daily basis. The life skills development continues with increased responsibilities within the unit. Practical applications of the core values, life skills learned in Introduction to Life Skills and Leadership, and greater commitment to community service are all part of the second stage development.

NOTE: Fulfills ½ credit science and ½ credit social studies elective. Does not require program application/admission.

REQUIRED: Successful completion of Introduction Naval Science - Leadership.

931270 NAVAL SCIENCE I (FORMERLY NAVAL SCIENCE III)

Grades 11

2.00 Credits/Year

This course is to further develop the understanding and demonstrate knowledge of the challenge of leadership, the qualities of an effective leader, how to evaluate performance and give instruction. Increased responsibilities and practical applications of managing the operations, administration, public affairs, and supply departments of the NJROTC unit.

REQUIRED: Students must submit a CTC program application.

NOTE: Fulfills American Government requirement and ½ credit math elective.

932270 NAVAL SCIENCE II (FORMERLY NAVAL SCIENCE IV)

Grade 12

2.00 Credits/Year

Leadership III/IV is a leadership practicum designed to give students supervised practical application of previously studied leadership theories and be afforded the opportunities to apply those traits and principals in a leadership situation. The introduction of ethics becomes an added layer to the leadership continuum and allows for a focused engagement and practicing ethical leadership techniques and implementation. The intent is to assist seniors in understanding leadership and improving their leadership skills by putting them in positions of leadership, under supervision, then helping them analyze the reasons for their varying degrees of success throughout the year. Classroom activities include seminars, reading assignments, classroom presentations, and practical work with younger cadets. Seniors are mentored/guided in their preparation for life after high school to include college preparation, scholarship applications, and the variety of choices that are available to them.

REQUIRED: Successful completion of Naval Science I and submission of a CTC program application.

HEALTH SCIENCE CLUSTER

The Health Science Cluster focuses on planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.

Health Science Technology (2-year program requiring admission)

Licensed Nursing Assistants (LNAs) work under the direction of RNs and LPNs and provide basic patient care and assist with nursing procedures. LNAs care for elderly, newborns, and children with special needs as well as those recovering from illness, injury or surgery, or individuals with disabilities in their own homes. LNAs typically have a great deal of patient contact as they are responsible for monitoring patient vital signs such as temperature, pulse, respirations and blood pressure. The duties of a LNA often include helping with activities of daily living, including personal hygiene, meal service, and restorative activities. The Health Science I (LNA) program year includes the basic curriculum for a nursing assistant. Focused clinical experience in long-term care to obtain competency in all skills required by NH State Board of Nursing.

Health Science Technology (HST) students involved in this career cluster will also have the opportunity to view and research the many opportunities associated with a career in the Health Sciences. Career strands include but are not limited to: Health Information Technology, Nutrition, Nursing, Medical Laboratory Science, Optometry, Pathology, Pharmacology, Surgical Technology, Emergency Medical Services, Exercise and Sports Medicine, Holistic Healthcare, Medical Imaging, etc. The program emphasizes professional behavior in the workplace, ethics, and accountability in the health care fields as per industry expectations/standards. Certificates for Job Shadows/Internships opportunities for specific healthcare career interest.

Health Science Technology Program– with General Health concentration

Year 1 – Health Science Technology I
Year 2 – Health Science Technology II

Health Science Technology Program–with Medical concentration

Year 1 – Health Science Technology I
Year 2 – Firefighter/EMT II

Required: Entrance requirements for Firefighter II and successful completion of Health Science I with a grade of 80%.

931260 HEALTH SCIENCE TECHNOLOGY I (LNA)

Grade 11 (Grade 12 on space available basis)

2.00 Credits/Year

The course will reveal various healthcare occupations and will provide the basic skills needed to practice in a healthcare setting. Instruction includes medical terminology, anatomy and physiology with an emphasis on body systems, disease process, and disorders. The HST I program utilizes the New Hampshire Board of Nursing-Nursing Assistant program approved curriculum providing 160 hours of theory instruction and 60 clinical hours in Assisted Living and Long Term Care facilities. Successful completion of this program and the NH State License written & skills exam will allow the student to apply for a NH Board of Nursing License to practice as a Licensed Nurse Assistant. Students will also complete an American Heart Association Health Care Provider & Automatic External Defibrillator (AED) certification. Students accumulate clinical hours, evenings, weekends and after-school. They are expected to arrange for their own transportation.

REQUIRED: Students must submit a CTC program application. HST I students must be at least 16 years of age by course completion. Each year all HST I students must agree to a criminal background check, a physical examination, TB test, annual flu shot and provide a copy of their

current immunization record. Uniform, duty shoes and watch with a second hand are required. Fees are as follows: State LNA written and skills licensure exam, \$100; on-line license, \$35; Live-Scan fingerprinting, \$55; Uniforms, \$25; and other health care equipment, \$25. Requirements and Fees are subject to change.

NOTE: Fulfills a science credit.

932260 HEALTH SCIENCE TECHNOLOGY II

Grade 12

2.00 Credits/Year

Continue the study of medical terminology, body systems and the associated disease processes. Emphasis is placed on critical thinking skills and analyzing professional/ethical characteristics required of healthcare professions. Continue to practice and enhance skills and obtain an Advanced Skills for Healthcare Providers & Restorative Certificate. Instruction includes advanced skills for healthcare providers that include classroom theory and lab, as well as observation of advanced clinical skills at area healthcare facilities including Wentworth Douglass Hospital. The course provides students with a strong foundation of knowledge and skills to successfully transition into post-secondary health care education.

REQUIRED: HS II students that participate in off-site-clinical experiences are required to take a drug screening urinalysis. Additional drug screening may be administered randomly. At the start of the semester students are required to have their LNA licenses. In addition, students must have documentation for the following: TB test, recent physical, annual flu shot, criminal background check and full uniform. Students cannot go off site for clinical experience without these requirements being met. Students who have not met these requirements at the start of class will not be able to attend clinical until these requirements are satisfied. Successful completion of Health Science I and a submission of a CTC program application.

NOTE: Fulfills a science credit.

NOTE: This is a concurrent enrollment course which allows students the opportunity to earn college credits while earning credits toward their high school diploma. The cost of earning college credits through this course is currently \$150.00, which is approximately a \$450 savings.

Sports Medicine (2-year program requiring admission)

Sports Medicine Program

Year 1 – Sports Medicine I (NEW in SY 2018-2019)

Year 2 – Sports Medicine II (COMING in SY 2019-2020)

XXXXXX SPORTS MEDICINE I (New in SY 2018-2019)

Grade 11

2.00 Credits/Year

Interested in fields such as athletic training, physical therapy, medicine, fitness, physiology of exercise, kinesiology, nutrition, and other sports medicine related fields? The first year includes class work and practical hands-on application in the following areas: prevention, treatment, and rehabilitation of sports injuries, taping and wrapping of injuries, first aid/CPR, and emergency procedures. This course is intended to help students gain an understanding of sports medicine, various associated disciplines and the role they play in the physically active community.

REQUIRED: Submission of a CTC program application.

XXXXXX SPORTS MEDICINE II (Coming in SY 2019-2020)

Grade 12

2.00 Credits/Year

Continue to expand on the areas covered in Sports Medicine I and also explore nutrition, sports psychology, rehabilitation, therapeutic modalities, and fitness/conditioning/ strength programs. You will be introduced to the science of human anatomy and physiology, various injuries of the body, and ways to care for these injuries. This course is intended to help students gain a deeper understanding of sports medicine and sports medicine careers.

REQUIRED: Successful completion of Sports Medicine I and submission of a CTC program application.

HOSPITALITY & TOURISM CLUSTER

The Hospitality & Tourism Cluster focuses on the management, marketing and operations of restaurants and other food services, lodging, attractions, recreation events and travel related services.

Culinary Arts (2-year program requiring admission)

Culinary Arts Program

Year 1 – Culinary Arts I

Year 2 – Culinary Arts II

935232 INTRODUCTION TO CULINARY

Grades 9-10 (Grades 11-12 on space available basis)

0.50 Credit/Semester

Want to explore the culinary profession? Learn all about food, including food culture, food history, food safety, and current food trends. Explore the food service industry, career options, and prepare some basic culinary dishes. Through hands-on activities you will investigate food safety and sanitation, explore culinary preparation foundations, practice basic culinary skills, explore diverse cuisines and service styles, investigate nutrition and menu development and examine the economics of food.

931240 CULINARY ARTS I

Grade 11

2.00 Credits/Year

This innovative, creative adventure into the world of food service exposes you to culinary and pastry arts. You'll work on the same industry equipment used by chefs throughout the world. First-year students will learn about sanitation, food fundamentals, knife skills, stocks, sauces, basic cooking techniques, basic baking, food presentation, guest relations, and dining room procedures.

REQUIRED: Submission of a CTC program application and uniform and shoe cost of \$125.00 (subject to change).

932240 CULINARY ARTS II

Grade 12

4.00 Credits/2 Blocks/Year

Second-year students will focus on advanced cooking techniques and presentation, food and labor costs, purchasing procedures, food service management, catering, menu creation and design, and advanced cooking techniques and customer service. All students will assist in the operation of the CTC'S restaurant, "Gourmet Table". Students will have the opportunity to participate in leadership development and culinary competitions through SkillsUSA.

REQUIRED: Successful completion of Culinary Arts I and submission of a CTC program application. Uniform and shoe cost of \$125.00 (subject to change).

Certifications available: ServeSafe certification for sanitation--food service sanitation examination offered through the National Restaurant Association.

NOTE: This is a concurrent enrollment course which allows students the opportunity to earn college credits while earning credits toward their high school diploma. The cost of earning college credits through this course is currently \$150.00, which is approximately a \$450 savings.

HUMAN SERVICES CLUSTER

The Human Services Cluster prepares individuals for employment in career pathways that relate to families and human needs such as counseling and mental health services, family and community services, personal care, and consumer services.

Cosmetology (3-year program requiring admission)

Never out of style, a career in cosmetology offers outstanding creativity and glamour. The cosmetology industry is an exciting, adventurous and creative field full of color, fashion, and diversity. We take pride in ourselves in helping students acquire the knowledge and necessary skills to enter the field of hair design, nail technology, skin care, and makeup. Students will work on both mannequins and live models throughout the three-year program. Acquire the skills and knowledge necessary for entry-level employment and to pass the NH State Board of Cosmetology Exam. This is NH's only 1,500 hour Cosmetology Licensing program at the High School level. So, come join us and become one of the few high school students to earn their cosmetology license!!

NOTE: All Cosmetology students have the opportunity to complete additional lab hours through this program. See the Cosmetology teachers for more details.

Cosmetology Program

Year 1 – Cosmetology I

Year 2 – Cosmetology II

Year 3 – Cosmetology III

931250 COSMETOLOGY I

Grade 10

2.00 Credits/Year

Begin with basic theory and learn practical skills in the classroom. Explore hands-on laboratory work consisting of hair sculpting, hair design, haircutting, manicuring, pedicuring, skin care and make-up application. After basic training hours are met you will move into a higher level as the program and the curriculum become more diverse and comprehensive. Professional ethics are a vital component to the process.

REQUIRED: Students must submit a CTC program application. Intro kit \$50, uniform \$20, and NH Cosmetology registration fees \$100.00 (subject to change).

932250 COSMETOLOGY II

Grade 11

4.00 Credits/2 Blocks/Year

Build on the development of clinic and lab practices continuing in the classroom and the clinic/salon floor working on school clients and mannequins. Theory instruction related to chemical texture and smoothing, hair coloring, diseases and disorders, and anatomy & physiology. After basic training and hours are met you will enter into a higher level as the program and curriculum become more diverse and comprehensive. Junior and senior students are placed in the school salon after basic skills training and the required training hours are met for that level. Our training program encompasses a powerful, all-inclusive cosmetology curriculum delivered through strong step by step hands on approach.

REQUIRED: Successful completion of Cosmetology I with a minimum of 250 hours accumulated and submission of a CTC program application. Students are required to purchase an additional manikin head \$50, Milady online program \$150, and advanced student kit \$250. Students are required to complete 125 hours with the Milady's online program prior to the completion of the school year. These hours are to be completed outside of the school day. Completion of Cosmetology II fulfills .50 science credit.

933250 COSMETOLOGY III

Grade 12

4.00 Credits/2 Blocks/Year

Knowledge of hair services are continued with attention to refining skills, speed and accuracy and working with salon clients which is designed to show new techniques while developing each individual's special interest within the cosmetology field. You will complete project based salon management allowing you to explore all aspects of spa and salon operations, including physical design, inventory and financial operations. The final phase ends with the preparation for the final exam required for licensure in the cosmetology industry.

REQUIRED: Successful completion of Cosmetology II with a minimum of 750 hours accumulated in the lab with an additional 125 hours online and submission of a CTC program application.

Purchase 2 additional manikin heads \$100. Students must complete an additional 125 hours with the Milady's online program prior to completion of the program. (Fees subject to change)

NOTE: All licensing fees and equipment is the responsibility of the graduate. Completion of Cosmetology I, II, and III fulfills 0.50 math credit.

INFORMATION TECHNOLOGY CLUSTER

The Information Technology Cluster focuses on building linkages in IT occupations for entry level, technical and professional careers related to the design, development, support and management of hardware, software, multimedia and systems integration services.

Computer Programming (2-year program requiring admission)

Computer Programming Program

Year 1 – Computer Programming I

Year 2 – Computer Programming II

990225 INTRODUCTION TO COMPUTER PROGRAMMING

Grades 9-10 (Grades 11-12 on space available basis)

0.50 Credit/Semester

Interested in creating computer programs? Want to learn how to create basic computer games? Come and explore the fundamentals of creating applications, games, and simple python programs. Learn the basics of computer programming using a variety of programming environments.

NOTE: Does not require program application/admission.

915240 *COMPUTER PROGRAMMING I

Grades 11

2.00 Credits/Year

This course will provide an introduction to programming using App Inventor and Python for highly motivated students with little or no prior experience in programming. Students will create apps for mobile devices, automate tasks in both languages, find patterns in data, and interpret simulations. Students will collaborate to create and present solutions that can improve people's lives. Programming theory (Both structural and object oriented) will be presented with hands-on practice in model environments, while students are provided with essential problem-solving methods, techniques and disciplines. Control flow, data manipulation and planning methods will be emphasized. Students will develop confidence in applying programming solutions, will be exposed to pertinent terminology, and will learn the effective use of reference materials. This course meets the requirements of Introduction to Object Oriented Programming and Introduction to Python Programming Logic Using Python at Great Bay Community College.

REQUIRED: Students must submit a CTC program application.

NOTE: This is a concurrent enrollment course which allows students the opportunity to earn college credits while earning credits toward their high school diploma. The cost of earning college credits through this course is currently \$150.00, which is approximately a \$450 savings.

925240 *COMPUTER PROGRAMMING II

Grade 12

2.00 Credits/Year

The purpose of this course is to provide a solid foundation in the Java programming language. Program planning, object oriented design, and Java language syntax will be emphasized. This course will prepare students for advanced study of the Java language as well as introduce students in other fields of computer study to general object programming. Students will study the theory behind relational databases, relational nomenclature, and relational concepts. The course will include sections studying MS Access & Structured Query Language (SQL) and optimizing databases through normalization. Students will apply their knowledge with hands-on exercises designed to teach the intricacies of database design methodology. This course meets the requirements of Introduction to Advanced Programming Database Design and Management at Great Bay Community College.

REQUIRED: Successful completion of Computer Programming I and submission of a CTC program application.

NOTE: This is a concurrent enrollment course which allows students the opportunity to earn college credits while earning credits toward their high school diploma. The cost of earning college credits through this course is currently \$150.00, which is approximately a \$450 savings.

Computer Systems Networking

(2-year program requiring admission)

Computer Systems Networking Program

Year 1 – Computer Systems Networking I

Year 2 – Computer Systems Networking II

990226 INTRODUCTION TO COMPUTER TECHNOLOGY

Grades 9-10 (Grades 11-12 on space available basis)

0.50 Credit/Semester

Interested in getting under the hood of a computer? Explore the basics of computer hardware, software installations and functions, diagnosis compatibility issues and common errors, and assess security risks and prevention. Understand how to utilize preventative maintenance on computers to prolong their life. Assemble a computer from scratch and troubleshoot basic hardware and software issues!

NOTE: Does not fulfill computer credit requirement as of 2015-2016. Does not require program application/admission.

921240 *COMPUTER NETWORKING TECHNOLOGY I

Grades 11

2.00 Credits/Year

Expand your knowledge of personal computing hardware and operating systems. Focus on identifying, installing, configuring, and troubleshooting field replaceable information technology components. Explore safety, electro static discharge, The Visible PC, Path to a PC Technician, microprocessors, memory, BIOS and CMOS, expansion bus, motherboards, power supplies, floppy drives, hard drives, SCSI devices, CD and DVD media, video, sound, portable PC's, printers, networks, the Internet, and Windows operating systems.

REQUIRED: Students must submit a CTC program application.

Certifications available: A+ Certification, Test Out PC Pro, and CompTIA Strata.

NOTE: This is a dual-enrollment course which allows students the opportunity to earn college credits while concurrently earning credits toward their high school diploma. The cost to take advantage of the dual enrollment option is currently \$150.00, which is approximately a \$450 savings.

922240 *COMPUTER NETWORKING TECHNOLOGY II

Grade 12

2.00 Credits/Year

Just can't get enough of that computer hardware? Advance your proven hardware skills utilizing industry recognized Cisco Systems Network Academy Information Technology Essentials program. Prepare for the CompTIA A+ Certification and receive a certificate of completion from Cisco. Focus on advanced PC repair and obtain industry recognized certifications that is sure to improve your ability to obtain a job in the IT industry. This course meets the requirements of Routing and Switching Essentials and Introduction to Information Assurance at Great Bay Community College.

REQUIRED: Successful completion of Computer Systems Networking I and submission of a CTC program application.

Certifications available: Microsoft Technical Associate (Network Fundamentals and Windows Operating System Fundamentals), CompTIA (Linux, Security+, Servers, IT Healthcare), and IC3 Certifications.

LAW, PUBLIC SAFETY, CORRECTIONS & SECURITY CLUSTER

The Law, Public Safety, Corrections and Security cluster focuses on careers in planning, managing, and providing legal, public safety, protective services and homeland security, including professional and technical support services.

Seacoast Firefighting and EMS Academy

(2-year program requiring admission)

Firefighter/EMS Program

Year 1 – Firefighter I

Year 2 – Firefighter/EMT II

931210 FIREFIGHTER I

Grade 11

2.00 Credits/Year

Students in our Fire Science I course will have the opportunity to earn their Firefighter I Certificates. This first year follows the NH Fire Standards and Training Commission Firefighter I Certification which is a public safety core where you gain experience and knowledge of a firefighter's responsibilities. The program will be offered in partnership with the Dover Fire Department, the State Fire Academy, and other regional town fire departments. Instruction will be offered by NH State certified Instructors, involving instruction and hands on experiences on campus, at local fire stations, and at the State Academy. Students seeking to enroll must be physically able to perform requirements associated with Firefighter I Certificate and must have medical permission.

REQUIRED: Students must submit a CTC program application. Students must have a current medical examination comparable to the National Fire Protection Association Standard #1582. Students are evaluated for heights phobia and claustrophobia; they should not be considered obese and they must have the stamina and physical ability to work in untenable conditions for several consecutive 30-minute durations.

Student costs and responsibilities: A \$75 testing fee is required in order for the student to take the National Registry Emergency Medical examination. In addition, students are required to purchase two sets of midnight blue trousers, one pair of black oxford shoes, a 1½ inch black belt, and two short-sleeved shirts. A parent or guardian must comply and sign the completed application and agree to comply with all rules and regulations cited on the special application prior to acceptance into the Academy.

NOTE: This is a competitive entry program limited to 15 students per course. Firefighter I Certificate transfers to any postsecondary institution that offers Firefighter I and/or EMT in their program.

Certifications available: Pro Board Firefighter I, Wildland Firefighter I, Hazardous Materials Awareness/Operations.

932210 FIREFIGHTER/EMT II

Grade 12 only

2.00 Credits/Year

This course trains students to handle emergency situations where assessing and treating victims of sudden illness and injury is required. This is a particularly demanding course requiring strong study skills. The primary focus of the Emergency Medical Technician (EMT) is to provide basic emergency medical care and transportation for critical and emergent patients who access the emergency medical system.

Emergency Medical Technicians perform interventions with the basic equipment typically found on an ambulance. This course is offered in collaboration with the New Hampshire Bureau of EMS, and follows a national curriculum that provides students with experience and knowledge of the skills and responsibilities of an EMT. Student Medical Release required by New Hampshire Department of Safety Division of Fire Standards and Training and Emergency Medical Services. Upon successful completion of this course, students who are 18 years of age will be eligible to take the EMT certification exam through the National Registry of EMTs.

REQUIRED: Successful completion of Firefighter I or Health Science I, and current Certification in First Aid and CPR and submission of a CTC program application.

STUDENT COSTS AND RESPONSIBILITIES: A \$75 testing fee is required in order for the student to take the National Registry Emergency Medical examination. A parent or guardian must comply and sign the completed application and agree to comply with all rules and regulations cited on the special application prior to acceptance into the Academy.

Certifications available: EMT Basic exam (must be 18 years of age).

MANUFACTURING CLUSTER

The Manufacturing Cluster prepares individuals for employment in career pathways that relate to Planning, managing and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing/process engineering.

Welding Technology (2-year program requiring admission)

Welding Program

Year 1 – Welding I (NEW in SY 2018-2019)

Year 2 – Welding II (COMING in SY 2019-2020)

XXXXXX WELDING TECHNOLOGY I (New in SY 2018-2019)

Grade 11

2.00 Credits/Year

Are you interested in learning how to weld? Learn the basics of shielded metal arc, oxyacetylene welding and flame cutting with blueprint reading, mathematics and operation of metal fabrication machinery are covered extensively. Introduction to plasma cutting is demonstrated and practiced. You will receive instruction and hands-on practice in the welding of "T" joints, butt joints, lap joints, corner joints, and edge joints in the flat, vertical, horizontal and over-head positions through a variety of welding processes. You will also learn the safe operation of metal working equipment used to shear, bend, roll, cut and drill various metals. Emphasis is also placed on shop safety and the development of good work habits such as: punctuality, dependability and responsible behavior.

REQUIRED: Students must submit a CTC program application

XXXXX WELDING TECHNOLOGY II (COMING in SY 2019-2020)

Grade 11

2.00 Credits/Year

Continue to improve and refine their welding skills while working towards mastery. Focus will be on skill levels commensurate with American Welding Society standards. Goals will include passing competency tests. Fundamental fabrication techniques will be explored with the opportunity for students to design and build individual projects. Students will continue to hone their skills in welding including horizontal and vertical welds. Gas Metal Arc Welding (GMAW), Gas Tungsten Arc Welding (GTAW) and Flux Core Arc Welding (FCAW) will be introduced and practiced in fillets and groove welds both in and out of position. Greater clarity about roles in the workplace will be part of the entire program. Students completing this program will be prepared to enter an apprenticeship program or to enter post-secondary study.

REQUIRED: Successful completion of Welding Technology I and submission of a CTC program application.

MARKETING CLUSTER

The Marketing Cluster focuses on the planning, managing and performing of marketing activities to reach organizational objectives.

Marketing (2-year program requiring admission)

Marketing Program

Year 1 – Marketing & Retail Store Operations I

Year 2 – Marketing & Retail Store Operations II

911250 MARKETING AND RETAIL STORE OPERATIONS I

Grades 11-12

2.00 Credits/Year

Have you ever wondered how companies identify, select, and develop a product or a service, or how they determine its price, then develop and implement a promotional strategy? The answer is marketing. This field is rapidly changing and social media has added new methods of customer communication that are quickly expanding. Explore the varied aspects of marketing and apply them within the School Store.

REQUIRED: Students must submit a CTC program application.

912250 MARKETING AND RETAIL STORE OPERATIONS II

Grades 12

2.00 Credits/Year

Expand upon the concepts from Marketing I, while building management, supervision and leadership skills in the operation of the Student Store. Order product, meet with sales reps, develop pricing strategies and manage finances. Apply these strategies in the marketing of various school and community events.

REQUIRED: Successful completion of Marketing and Retail Store Operations I and submission of a CTC program application.

NOTE: This is a course which allows students the opportunity to earn college credits while concurrently earning credits toward their high school diploma. There is no cost associated with this program. See articulation agreement for details.

SCIENCE, TECHNOLOGY, ENGINEERING, & MATHEMATICS CLUSTER

The Engineering, Scientific, Industrial Technology Cluster offers theory and in-depth practical application to all students. The programs are designed to assist students in attaining realistic career goals and to prepare students for further education.

Pre-Engineering Academy (2-3 year program requiring admission)

Project Lead the Way (PLTW) utilizes a six-course sequence. The sequence is designed to help students explore “high tech” related careers in the engineering field and to prepare students for entry level engineering-technology jobs (advanced manufacturing) as well as associate’s and bachelor’s degree programs. Each class is taught in a laboratory setting using state-of-the art technology equipment and software. Instruction is approximately one-third theory and two-thirds application, sometimes involving mentors from industry and colleges. Class activities focus on problem solving through project-based learning, which requires students to work in teams to generate solutions.



Students who participate and/or complete the first four courses of the sequence as outlined below beginning with Honors Engineering Design will have the option to earn college credit, when possible, through articulation agreements, offering a seamless link between high school and college.

An asterisk identifies courses that satisfy the computer graduation requirement ()*

Pre-Engineering Program

Year 1 – Honors Pre-Engineering I

Year 2 – Honors Pre-Engineering II

Year 3 – Honors Pre-Engineering III

990228 INTRODUCTION TO ENGINEERING

Grades 9-10 (Grades 11-12 on space available basis)

0.5 Credit/ Semester

This introductory course will engage students in applying those fundamental skills and basic knowledge related to the diverse and ever-changing fields of engineering. The fundamental skills that engineers use on a daily basis will be introduced. Basics concepts of Computer Aided Design (CAD), robotics, the design process and related skills will be the focus of lab based activities, utilizing problem solving skills.

NOTE: Does not fulfill computer credit requirement as of 2015-2016. Does not require program application/admission.

921392 *HONORS PRE-ENGINEERING I

Grade 10

2.00 Credits/Year

Dig deep into the engineering design process, applying math, science, and engineering standards to hands-on projects. Work both individually and in teams to design solutions to a variety of problems using 3D modeling software, and use an engineering notebook to document their work. Through problems that engage and challenge, explore a broad range of engineering topics, including mechanisms, the strength of structures and materials, and automation. Develop skills in problem solving, research, and design while learning strategies for design process documentation, collaboration, and presentation. This course meets the requirements of Introduction to Engineering Design and Principles of Engineering through Project Lead the Way.

REQUIRED: Students must successfully complete CP or Honors Geometry or concurrently enrolled and submission of a CTC program application.

NOTE: Fulfills ½ computer and ½ visual art credit requirements upon successful completion of this year of the pre-engineering program and presentation of a portfolio to an approved representative of the respective department.

NOTE: This is a concurrent enrollment course which allows students the opportunity to earn college credits while earning credits toward their high school diploma. The cost of earning college credits through this course is currently \$150.00, which is approximately a \$450 savings

922350 HONORS PRE-ENGINEERING II

Grade 11

2.00 Credits/Year

From smart phones to appliances, digital circuits are all around us. Through the use of cutting edge technologies students will design, build, and troubleshoot digital circuits. Students will apply the fundamental theories of digital logic and explore how digital devices are used to control automated equipment and robotic systems. Manufactured items are part of everyday life, yet most students have not been introduced to the high-tech, innovative nature of modern manufacturing. Discover opportunities related to understanding manufacturing and engage in the manufacturing processes, product design, robotics, and automation. Students can earn a virtual manufacturing badge recognized by the National Manufacturing Badge system. This course meets the requirements of Computer Integrated Manufacturing and Digital Electronics through Project Lead the Way.

REQUIRED: Successful completion of Honors Pre-Engineering I and submission of a CTC program application.

NOTE: This is a concurrent enrollment course which allows students the opportunity to earn college credits while earning credits toward their high school diploma. The cost of earning college credits through this course is currently \$150.00, which is approximately a \$450 savings.

923350 HONORS PRE-ENGINEERING III

Grade 12

2.00 Credits/Year

Propel your knowledge in the fundamentals of atmospheric and space flight as you explore the physics of flight. Bring the concepts to life by designing an airfoil, propulsion system, and rockets. Apply basic orbital mechanics using industry-standard software while exploring robot systems through projects such as remotely operated vehicles. Apply engineering principles and practices of the preceding courses to real-world problems. Design and construct the engineering solution to an engineering problem in teams of two to four. Teams will identify an issue and then research, design, and test a solution, ultimately presenting their project to a panel of engineers. Utilize professional skills developed to document the design process to standards.

This course meets the requirements of Aerospace Engineering and Engineering Design and Development through Project Lead the Way.

REQUIRED: Successful completion of Honors Pre-Engineering II and submission of a CTC program application.

Biomedical Sciences Academy

(2-year program requiring admission)

The PLTW Biomedical Sciences (BMS) Program is a sequence of four courses that use a hands-on, real-world problem-solving approach to learning. Students explore the concepts of human medicine and are introduced to topics such as physiology, genetics, microbiology and public health.. They also explore the prevention, diagnosis and treatment of disease, working collaboratively to investigate and design innovative solutions to the health challenges of the 21st century. The program is designed to prepare students to pursue a post-secondary education and careers in the biomedical sciences.



Biomedical Sciences Program

Year 1 – Honors Biomedical Science I

Year 2 – Honors Biomedical Science II

990210 INTRODUCTION TO BIOMEDICAL SCIENCE

Grades 9-10 (Grades 11-12 on space available basis)

0.50 Credit/Semester

Biotechnology is the use of living organisms to solve problems or make useful products. This course is designed to introduce students to the tools and applications of genetic engineering, as well as the ethical issues that these technologies raise. Students will acquire basic laboratory skills in a variety of tasks that include testing, sampling and analysis of various organisms and materials. Students will have a chance to experiment with techniques such as DNA isolation, gene manipulation, and molecular cloning. Students will also gain an understanding of how the biotechnology industry operates, and will learn about options for future career and education opportunities. Additional topics to be addressed throughout the semester include applications of bioinformatics, analysis of bioethics, the roles of federal regulatory agencies, principles of genetics, concepts in immunology, and techniques of molecular biology.

NOTE: Does not require program application/admission

931280 HONORS BIOMEDICAL SCIENCE I

Grades 11

2.00 Credits/Year

Students investigate various health conditions including heart disease, diabetes, sickle-cell disease, hypercholesterolemia, and infectious diseases. The activities and projects introduce students to human physiology, medicine, and research processes. Students will also examine the interactions of human body systems as they explore identity, power, movement, protection, and homeostasis. Students design experiments, investigate the structures and functions of the human body, and use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary action, and respiration. This course meets the requirements of Honors Principles of Biomedical Science and Human Body Systems through Project Lead the Way.

REQUIRED: Students must successfully complete CP or Honors Biology or equivalent and submission of a CTC program application.

932280 HONORS BIOMEDICAL SCIENCE II

Grade 12

2.00 Credits/Year

Students investigate a variety of interventions involved in the prevention, diagnosis and treatment of disease as they follow the life of a fictitious family. Explore how to prevent and fight infection; screen and evaluate the code in human DNA; prevent, diagnose and treat cancer; and prevail when the organs of the body begin to fail. Students design innovative solutions for the health challenges of the 21st century. They work through progressively challenging open-ended problems, addressing topics such as clinical medicine, physiology, biomedical engineering, and public health. They have the opportunity to work on an independent project with a mentor or advisor from a university, hospital, research institution, or the biomedical industry. Throughout the course, students are expected to present their work to an audience of STEM professionals. This course meets the requirements of Medical Interventions and Biomedical Innovation through Project Lead the Way.

REQUIRED: Successful completion of Honors Biomedical Science I and submission of a CTC program application

TRANSPORTATION, DISTRIBUTION & LOGISTICS CLUSTER

The Transportation, Distribution & Logistics Cluster focuses on the 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 Collision Technology

(2-year program requiring admission)

Automotive Collision Technology Program

Year 1 – Automotive Collision Technology I

Year 2 – Automotive Collision Technology II

990222 INTRODUCTION TO AUTOMOTIVE TECHNOLOGIES

Grades 9-10 (Grades 11-12 on space available basis)

0.50 Credit/Semester

Enjoy the hum of an engine? Thinking about more horsepower? Come explore the fundamental skills related to automotive repair and collision technologies. Gain hands-on, practical experience related to the automotive industry in compliance with national standards. Get your hands dirty while investigating the career opportunities available in the automotive field.

NOTE: Does not require program application/admission.

921230 AUTOMOTIVE COLLISION TECHNOLOGY I

Grade 11

2.00 Credits/Year

Dings and dents got you down? From frame to finish, explore hand and power tools required to transform your weathered wagon. Experience what it's like working with sheet metal, body fillers and plastics. Utilize materials and fasteners. Explore panel and glass repair, vehicle surface preparation and masking. Concerned about money? Practice and perfect the skill of estimates. All this and more as you discover what it is like to work in the automotive collision industry. Accredited by the National Automotive Technicians Educational Foundation (NATEF).

REQUIRED: Students must submit a CTC program application. A lab fee of \$40.00 will be required for a personal student respirator.

922230 AUTOMOTIVE COLLISION TECHNOLOGY II

Grade 12

3.00 Credits/1 Block/Fall Semester AND 2 Blocks/Spring

Semester

Accidents happen! Why not advance your skills in the art of vehicle restoration and custom fabrication. Examine frame damage measurement, replacement and realignment. Work on electrical systems, restraints and chassis. Want to make it shine? Enhance skills in the art of airbrushing, pin striping, detailing, color matching and custom painting. Come explore careers in the automotive industry as you gain skills that will last a lifetime. Accredited by the national Automotive Technicians Educational Foundation (NATEF).

REQUIRED: Successful completion of Automotive Collision Technology I and submission of a CTC program application. A lab fee of \$40.00 will be required for a personal student respirator.

NOTE: This is a course which allows students the opportunity to earn college credits while concurrently earning credits toward their high school diploma. There is no cost associated with this program. See articulation agreement for details.

Automotive Repair Technology

(2-year program requiring admission)

Automotive Repair Technology Program

Year 1 – Automotive Repair Technology I

Year 2 – Automotive Repair Technology II

990222 INTRODUCTION TO AUTOMOTIVE TECHNOLOGIES

Grades 9-10 (Grades 11-12 on space available basis)

0.50 Credit/Semester

Enjoy the hum of an engine? Thinking about more horsepower? Come explore the fundamental skills related to automotive repair and collision technologies. Gain hands-on, practical experience related to the automotive industry in compliance with national standards. Get your hands dirty while investigating the career opportunities available in the automotive field.

NOTE: Does not require program application/admission.

921290 AUTOMOTIVE REPAIR TECHNOLOGY I

Grade 11

2.00 Credits/Year

Can't stop thinking about cars and trucks? Here is your chance to discover how to diagnose and repair today's automobiles. With safety in mind, explore what it means to work in the automotive repair industry as you prepare to enter the workforce. Get real-world experience while working on vehicles, from steering and suspension to brake-systems and engines. Change your oil, change your wipers and change your life. It is a ride you will never forget. Accredited by the National Automotive Technicians Educational Foundation (NATEF).

REQUIRED: Students must submit a CTC program application.

Certification available: NATEF, ASE, and S/P2 on-line safety

922290 AUTOMOTIVE REPAIR TECHNOLOGY II

Grade 12

3.00 Credits/1 Block/Fall Semester AND 2 Blocks/Spring

Semester

Are you ready for eight cylinders? Seriously thinking about a career in the automotive field? Come expand your knowledge and technical skills in the areas of steering, suspension, brake systems, engine performance, and engine repair. Want customers? Sharpen your communication skills while exploring the importance of work ethic. Keep up with the rapid changes in technology, utilizing the most current standards in the industry as you apply the skills needed to excel in a field that is ever changing.

Accredited by the National Automotive Technicians Educational Foundation (NATEF).

REQUIRED: Successful completion of Automotive Repair Technology I and submission of a CTC program application.

NOTE: This is a concurrent enrollment course which allows students the opportunity to earn college credits while concurrently earning credits toward their high school diploma. The cost to take advantage of the concurrent enrollment option is currently \$150.00, which is approximately a \$450 savings

WORK-BASED LEARNING OPPORTUNITIES

Job Shadow Program:

Grades 10-12

Certificate of Completion

The Job Shadow Program is designed to provide students with the opportunity to explore their career interests while gaining valuable information pertaining to the world of work. Through day long observations, students spend time with a mentor, discovering what it is like to work in a particular industry/business. Please see the Career Services Coordinator for more information.

Work Experience Program

Grades 11-12

0.25 credits for 120 hours

worked

throughout the school year

The Work Experience Program is designed to provide students with employability and job seeking skills while earning school credit. This program helps students apply knowledge and skills in real-world settings while gaining professional experiences that can be placed on a resume.

REQUIRED: Submission of a work-based learning application through Career Services Office

NOTE: Students must successfully complete 120 working hours in order to earn .25 credits.

Students cannot earn more than .50 credits per academic year.

Work Experience program for Career and Technical Education Students

Grades 11-12

0.25 credits for 90 hours worked

throughout the school year

The Work Experience Program for Career and Technical education Students combines career technical coursework with part-time paid work-experiences that provide additional training in a specific career technical field. Students must be enrolled in an approved career technical program and the worksite must relate to the career technical program the student is enrolled in. Arrangements must be made in advance with the Career Services Coordinator.

REQUIRED: Submission of a work-based learning application through Career Services

NOTE: Students must successfully complete 90 working hours in order to earn .25 credits.

Students cannot earn more than .50 credits per academic year .

The Internship Program:

Grades 11-12

1,0 credits for 135 hours on-site

Semester long or summer

The Internship Program is designed to offer a supervised learning experience that is related to a student's career or college plan. These experiences provide students with the opportunity to develop on-site occupational skills and apply formal classroom learning to the world of work. All internships are tied to learning outcomes and involve extensive reflection and assessment. Arrangements must be made in advance with the Career Services Coordinator.

REQUIRED: Submission of an internship application through Career Services

NOTE: Students must successfully complete 135 hours on-site in order to earn 1 credit. Students cannot earn more than 2 credits per academic year.

Other Career Services and Planning Opportunities

In addition, students are afforded the opportunity to experience industry tours, field trips and guest presentations, conduct informational interviews, develop resumes, write cover letters and acquire interview skills. *For more information pertaining to these programs and services please contact the Career Services Office at (603) 516-6982.*

REGIONAL CAREER & TECHNICAL EDUCATION PROGRAMS

ACCOUNTING PROGRAM - ROCHESTER

999019 ACCOUNTING 1/ACCOUNTING II

Grades 11-12 (Rochester)

1.00 Credit/Fall Semester

This course is an introduction to accountings as the language of business and the purpose of accounting in business. Students will develop an understanding of the concepts and use of the classification of assets, liabilities, equity, revenue, and expense accounts. The student will be introduced to accounting procedures necessary to prepare financial statements utilizing current concepts and accounting principles. This includes journalizing transactions, preparation of journals, payroll, cash receipts, disbursements, and banking procedures.

Note: Students taking this course will have the option of earning three college credits. There would be a fee associated with this option.

REQUIRED: Acceptance into the Accounting program.

ACCOUNTING II

Grades 11-12 (Rochester)

1.00 Credit/Spring Semester

This course consists of a more in-depth study of accounting procedures and concepts. An emphasis is placed on accounts from the balance sheet such as accounts and notes receivable; plant, property and equipment; and current and long-term liabilities. This course will also involve comparing and contrasting sole proprietorships, partnerships and corporations, as well as capital stock and stock transactions. The student will learn to use financial ratios to measure financial strength, profitability and liquidity.

Note: Students taking this course will have the option of earning three college credits. There would be a fee associated with this option. The successful completion of Accounting I, HNR AND Accounting 2, HNR will transfer to the Peter T. Paul College at UNH and replace ADMIN 502: Introduction to Financial Accounting, a requirement of various business majors.

REQUIRED: Successful completion of Accounting I.

ARCHITECTURAL/MECHANICAL ENGINEERING PROGRAM – ROCHESTER

Architectural/Mechanical Engineering Program Course Sequence

Year 1 - Architectural/Mechanical Engineering (Full year, CTE Program)

Year 2 - Architectural/Mechanical Engineering II (Full year, CTE Program)

999023 ARCHITECTURAL/MECHANICAL ENGINEERING I

Grade 11 (Rochester)

2.00 Credits/year

During the first-year students learn basic drafting techniques as they apply to industry. Hands on approach to computer aided drafting (CAD) are emphasized. Students will explore all aspects of engineering including Mechanical, Architectural, Environmental, and others to understand how engineers can solve real world problems and better our society. Topics include: Safety, computer programming, STEM, drafting, physics, manufacturing skills.

Note: This program has articulation agreements with Southern Maine Community College.

REQUIRED: Acceptance into the Architectural/Mechanical Engineering program.

999123 ARCHITECTURAL/MECHANICAL ENGINEERING II

Grade 12 (Rochester)

2.00 Credits/Year

During the second year students expand upon their experience in CAD and specialize in a field of engineering (Mechanical, Architectural, Environmental, Aerospace, etc.) This course is designed to be

very individualized to meet the student's interests within engineering. Students will continue to utilize technology such as the 3-D Printer, Laser engraver, and CNC machinery to take ideas into real life objects. Students will develop a website portfolio to showcase all of their engineering success and market themselves to compete in today's exciting, rewarding engineering field. Topics include: Safety, computer programing, STEM, drafting, physics, manufacturing skills.

**Note: This program has articulation agreements with Southern Maine Community College.
REQUIRED: Successful completion of Architectural/Mechanical Engineering I.**

BANKING AND FINANCIAL SERVICES PROGRAM - ROCHESTER

Banking Program Course Sequence

Year 1 – Banking and Financial Services (Full year, CTE Program)

999010 BANKING AND FINANCIAL SERVICES 1

Grades 11-12 (Rochester)

2.00 Credits/year

The HRCU Branch is opened to the school as well as the public providing an excellent opportunity for “hands-on” learning and exposure to all aspects of banking. Students will be trained as professional HRCU tellers. They will learn how to handle different transactions types, maintain and balance cash drawers, be familiar with HRCU's products and services, Federal Regulations, credit union structure and history, negotiable instruments, professionalism, and gain personal financial knowledge. There will be job shadow days to the Brock Street Branch and other departments. Professional dress and appearance will be required. Opportunities for community services and marketing HRCU's youth programs may also occur.

REQUIRED: Acceptance into the Banking and Financial Services program. Students are required to submit with the application: two teacher recommendations and their resume. An interview with the instructor is also required. Students must have a minimum GPA of 2.25.

BROADCAST TECHNOLOGY PROGRAM - SOMERSWORTH

Broadcast Technology Program Course Sequence

Year 1 – Broadcast Technology I (Full year, CTE Program)

Year 2 – Broadcast Technology II (Full year, CTE Program)

999012 BROADCAST TECHNOLOGY I

Grades 11 - 12 (Somersworth)

2.00 Credits/Year

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. **REQUIRED: Acceptance into the Broadcast Technology program.**

999112 BROADCAST TECHNOLOGY II

Grades 11 - 12 (Somersworth)

2.00 Credits/Year

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.

REQUIRED: Successful completion of Broadcast Technology I

CRIMINAL JUSTICE & HOMELAND SECURITY PROGRAM -ROCHESTER

Criminal Justice Program Course Sequence

Criminal Justice I – Intro to Criminal Justice and Criminal Procedures (Two semester-long courses)

Criminal Justice II – Criminal Law & Procedures and Juvenile Justice (Two semester-long courses)

999029 INTRO TO CRIMINAL JUSTICE

Grades 11-12 (Rochester)

1.00 Credit/Fall Semester

This course covers the components of the justice system in American society. Although civil law will be discussed, the emphasis will be on the criminal justice system. The influence and pressures of changing social, political, technological, and economic factors on the agencies of justice will be studied. Much of the focus will compare ideals with realities of the system. Law enforcement, the courts, and correctional aspects will be examined.

Note: Students taking this course will have the option of earning three college credits. There would be a fee associated with this option.

CRIMINOLOGY

Grades 11 – 12 (Rochester)

1.00 Credit/Spring Semester

This course explores the question of crime causation from a number of theoretical perspectives in the social sciences. The nature and extent of crime in American society, theories of factors and influences that are related to criminal behavior, and the impact of crime on society. . Note: This is a Running Start course and students are eligible to receive college credit. There is a fee associated with this option.

PREREQUISITE: Intro to Criminal Justice

999129 CRIMINAL LAW & PROCEDURE

Grades 11 – 12 (Rochester)

1.00 Credit/Fall Semester

This course provides an in-depth review of substantive criminal law in the federal and state systems including analysis of the essential elements of all major crimes, the concepts of constitutional review and judicial scrutiny and the principles governing legal challenges to the constitutionality of laws. This course will also analyze the constitutional issues in the United States which have direct bearing on the role and policies of criminal justice agencies. Application of these issues as they relate to investigation, arrest, pretrial and appeal will be emphasized. Note: This may be a Running Start course and students are eligible to receive college credit. There is a fee associated with this option.

PREREQUISITE: Intro to Criminal Justice

JUVENILE JUSTICE

Grades 11 – 12 (Rochester)

1.00 Credit/Spring Semester

An examination of causative factors in the development of youthful offenders and the development and philosophy behind treatment and rehabilitative practices are covered. The course also covers legal,

procedural, and substantive issues pertaining to the juvenile justice system. Note: This may be a Running Start course and students are eligible to receive college credit. There is a fee associated with this option.

PREREQUISITE: Intro to Criminal Justice

DIGITAL MEDIA PROGRAM - SOMERSWORTH

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)

999007 DIGITAL MEDIA I – COMPUTER GRAPHICS

Grades 10-12 (Somersworth)

1.00 Credit/Fall Semester

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.

REQUIRED: Acceptance into the Digital Media program

DIGITAL MEDIA II – WEB DESIGN

Grades 10-12 (Somersworth)

1.00 Credit/Spring Semester

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.

REQUIRED: Successful completion of Digital Media I

999107 DIGITAL MEDIA III – MOTION GRAPHICS

Grades 10-12 (Somersworth)
Semester

1.00 Credit/Fall

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).

REQUIRED: Successful completion of Digital Media I and II.

DIGITAL MEDIA IV – ADVANCED MEDIA

Grade 10-12 (Somersworth)
Semester

1.00 Credit/Spring

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.

REQUIRED: Successful completion of Digital Media I, II and III .

ENVIRONMENTAL SCIENCE & SUSTAINABLE STUDIES PROGRAM - ROCHESTER

Environmental Science Program Course Sequence

Year 1 – Environmental Science I and Environmental Science II (Two semester-long courses)

999033 ENVIRONMENTAL SCIENCE I

Grades 11 – 12 (Rochester)

1.00 Credit/Fall Semester

This course will focus on the biogeochemical cycles, climate change, human population, sustainability and food production as well as stream and watershed ecology. Class projects involving a carbon study of the local forest, water quality of the Cocheco River as well as aquaculture will be conducted.

Longitudinal experiments/projects will also be proposed and researched.

REQUIRED: Must pass Biology and be accepted into the Environmental Science & Sustainable Studies program.

ENVIRONMENTAL SCIENCE II

Grades 11 – 12 (Rochester)

1.00 Credit/Spring Semester

This course will focus on winter ecology, air quality, environmental health and pollution, marine ecosystems, natural resources and alternative energy sources. Spatial data will be collected, mapped and analyzed using ArcGIS software. Aquaculture and hydroponic systems will be studied and longitudinal experiments/projects will be researched and presented.

REQUIRED: Successful completion of Environmental Science & Sustainable Studies I.

FOUNDATIONS OF EDUCATION PROGRAM – ROCHESTER

Foundations of Education Program Course Sequence

Year 1 – Foundations of Education I (Full year, CTE Program)

Year 2 – Foundations of Education II (Full year, CTE Program)

999001 FOUNDATIONS OF EDUCATION I

Grade 11 (Rochester)

2.00 Credits/Year

This course is designed for students interested in pursuing a career in education or other field associated with working with children. Foundation of Education I introduce students to basic teaching skills, such as classroom management, lesson planning, guidance and discipline techniques. Students divide their time between classroom instruction and student-teaching in the laboratory school, Small Wonders Preschool or other Field site placement. Classroom instruction includes lectures, notes, handouts, projects, hands-on activities, and unit tests. Foundation of Education I units include: Differentiated Instruction, Instructional Practices, Curriculum Planning, Classroom Management, Educational Psychology, and Growth and Development. As part of Foundations of Education you will be part of a leadership organization, Educators Rising, which offers many opportunities for community service, leadership, trips and conferences. There is a \$30 course fee to take this program; this fee covers membership dues and course shirt (scholarship available upon request). Students will be required to undergo a criminal background check at the N.H. Department of Safety in order to participate in the internship component of the program.

Note: Students taking this course will have the option of earning three college credits. There would be a fee associated with this option.

REQUIRED: Acceptance into the Foundations of Education program

999101 FOUNDATIONS OF EDUCATION II

Grade 12 (Rochester)

2.00 Credits/Year

Students entering Foundation of Education 2 are expected to have mastered or be proficient in the basic teaching skills learned in Foundation of Education I. Students divide their time between classroom instructions, student teaching in the laboratory preschool, Small Wonders Preschool and participation in internships. Classroom instruction includes lectures, notes, handouts, projects, hands-on activities, and unit tests. Foundation of Education 2 units include: Curriculum Planning using Understanding by Design, Special Education, Advanced Instructional Practices, and Observation Skills. At the conclusion of Foundation of Education 2, students will create a professional portfolio to demonstrate the competencies they have achieved. As part of Foundations of Education 2 you will be part of a leadership organization, Educators Rising, which offers many opportunities for community service, leadership, trips and conferences. There is a \$30 course fee to take this program; this fee covers membership dues and course shirt (scholarship available upon request). Students will be required to undergo a criminal background check at the N.H. Department of Safety in order to participate in the internship component of the program. For those furthering their education, articulation credits are available with some of the two-year colleges in NH. Running Start opportunity is able through Great Bay Community College.

Note: Students taking this course will have the option of earning three college credits. There would be a fee associated with this option.

REQUIRED: Successful completion of Foundations of Education I and recommendation from program instructor.

GRAPHIC DESIGN PROGRAM - ROCHESTER

Graphic Design Program Course Sequence

Year 1 – Graphic Design/Printing Technology I (Full year, CTE Program)

Year 2 – Graphic Design/Printing Technology II (Full year, CTE Program)

999021 GRAPHIC DESIGN/ PRINTING TECHNOLOGY I

Grade 11 (Rochester)

2.00 Credits/Year

If you like to draw, design on computers, be creative, scan images, use digital cameras and produce your creations through print technology, then this course is for you. You will use the latest software (Adobe Photoshop and InDesign) to layout and design your projects. The Graphic Arts industry offers a wide range of career opportunities that employs both men and woman. Job titles include graphic designers, page-layout artist, camera operators, pre-press technicians, computer operators, plate makers, press operators, bindery workers, computer programmers, chemists and estimator. This hands-on course acquaints students with the latest cutting edge technology, digital color imaging and conventional offset technology. Students will design and print business cards, tickets, letterhead, CD covers, posters and various other items. Note: This course will fulfill the fine arts requirement for graduation.

REQUIRED: Acceptance into the Graphic Design program.

999121 GRAPHIC DESIGN/ PRINTING TECHNOLOGY II

Grade 12 (Rochester)

2.00 Credits/Year

Never has the demand been greater for graphic designers and print technicians. This advanced hands-on course acquaints students with the latest computer technology, digital color imaging (Adobe Photoshop, Illustrator, and InDesign), digital and conventional print technology and introduction to animation software. Students in this advanced program will learn to think like a designer and technician for their own personal expression as well as gain real-world experience by working with actual customers and learn to develop their skills in more detail. The students in this course will use research, critical thinking, creativity, and a range of problem-solving principles to complete their assignments. Projects include photo-composites, posters, publications, invitations, and various other items.

Note: Students taking this course will have the option of earning three college credits. There would be a fee associated with this option.

REQUIRED: Successful completion of Graphic Design/Printing Technology I

HEATING, VENTILATION, AIR CONDITIONING, AND REFRIGERATION HVACR - ROCHESTER

HVACR Program Course Sequence

Year 1 – HVACR Technology I (Full year, CTE Program)

Year 2 – HVACR Technology II (Full year, CTE Program)

999025 HVACR TECHNOLOGY I

Grade 11 (Rochester)

2.00 Credits/Year

The students will receive instruction in safety requirements and demonstrate sound safety practices. Students will demonstrate electrical fundamentals including electrical circuits, Ohm's law and meter use. Students will identify heating fuels (natural gas, propane and heating oil), and explain how they burn and how to safely control the burn. Laboratory skills practiced include servicing and testing heating equipment and basic electrical circuits including identifying electrical motors and system schematics. Students will demonstrate their ability to use code books and apply code requirements at apprentice entry level. Technology related reading, writing, vocabulary, mathematics, blueprint reading, and science are integrated throughout the curriculum.

REQUIRED: Acceptance into the HVACR Technology program.

999125 HVACR TECHNOLOGY II

Grade 12 (Rochester)

2.00 Credits/Year

Students continue to receive instruction in safety requirements and demonstrate sound safety practices. Students will demonstrate theoretical competency in HVAC/R electrical controls, refrigeration systems, such as air conditioning, and refrigeration, both domestic and commercial. The students will have an understanding of Environmental Protection Agency (EPA) certification requirements with refrigeration systems and the proper handling of refrigerants, including recovery, recycling and reclaiming are studied and practiced. Students will be able to calculate building heating and cooling loads. Laboratory skills practiced include servicing and testing refrigeration equipment and basic electrical circuits including reading and writing electrical schematics. Students will demonstrate the skills needed for installation of HVAC systems. Students will demonstrate the ability to complete a job application, resume, interview, and to perform entry level job readiness and trade skills. Technology related reading, writing, vocabulary, mathematics, blueprint reading and science are integrated throughout the curriculum.

REQUIRED: Successful completion of HVACR Technology I

MEDICAL ASSISTING PROGRAM - SOMERSWORTH

Medical Assisting Program Course Sequence

Year 1 – Medical Assisting I (Full year, CTE Program)

Year 2 Medical Assisting II (Full year, CTE Program)

999035 MEDICAL ASSISTING I

Grades 11-12 (Somersworth)

2.00 Credits/Year

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. **REQUIRED:** Acceptance into the Medical Assisting program.

999135 MEDICAL ASSISTING II

Grades 11-12 (Somersworth)

2.00 Credits/Year

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.

REQUIRED: Successful completion of Medical Assisting I

PRECISION MACHINING PROGRAM - ROCHESTER

Precision Machining Program Course Sequence

Year 1 – Precision Machining I (Full year, CTE Program)

Year 2 – Precision Machining II (Full year, CTE Program)

999013 PRECISION MACHINING I

Grades 11 (Rochester)

2.00 Credits/Year

Students enrolled in the first year of this two-year program will demonstrate technical ability on machine tool equipment and hand tools related to the machine tool. Attention to detail, precise measurement and focus are highly recommended skills that will be developed and expanded through this course. Students will gain a complete understanding of the CNC machine tool's operation, metal working industry and requirements expected from a production machinist. Students will develop knowledge and understand of CNC machine tool operation and G-Code and M-Code terminology. Students will learn advanced machining competencies requiring lab hands on participation to meet and complete lab assigned projects. Student safety is held at the highest level of priority.

REQUIRED: Acceptance into the Precision Machining Program

999113 PRECISION MACHINING II

Grade 12 (Rochester)

2.00 Credits/Year

Students continuing their enrollment in this two year program will gain understanding of industry standard CNC machine tool's operation, and a full understanding of G-Code and M-Code terminology and application. Students will understand the metal working industry and requirements expected from a production machinist. Students will meet advanced machining competencies requiring 97% shop hands on participation consisting of real time machining on a production level for both manual and CNC machining. Following all safety procedures will be continually enforced. Students will demonstrate personal growth / student professionalism through applied knowledge and skills in resume writing, job application writing, and job interviewing.

REQUIRED: Successful completion of Precision Machining I.

RESTAURANT MANAGEMENT PROGRAM - ROCHESTER

Restaurant Management Program Course Sequence
Year 1 – Restaurant Management I (*Full year, CTE Program*)
Year 2 – Restaurant Management II (*Full year, CTE Program*)

999040 RESTAURANT MANAGEMENT I

Grade 11 (Rochester)

2.00 Credits/Year

This course offers students the chance to work in a restaurant atmosphere while learning the different tasks of various professionals in the food and restaurant industry. Students will learn about safety and sanitation, professional cooking, the duties and responsibilities of the chef, prep cook, baker, host, server, and manager, as well as industry job seeking and keeping skills. Students will be responsible for the successful management of the Raider House Restaurant. Careers related to food service will be presented from a management perspective. This program has articulation agreements with Lakes Region Community College, CIA and New Hampshire Culinary Institute.

Note: Students taking this course will have the option of earning three college credits. There would be a fee associated with this option.

REQUIRED: Acceptance into the Restaurant Management program.

999140 RESTAURANT MANAGEMENT II HNR

Grade 12 (Rochester)

2.00 Credits/Year

This course continues students' experience to work in a restaurant atmosphere while learning the different tasks of various professionals in the food and restaurant industry. Students will learn about safety and sanitation, professional cooking, the duties and responsibilities of the chef, prep cook, baker, host, server, and manager, as well as industry job seeking and keeping skills. Students will be responsible for the successful management of the Raider House Restaurant. Careers related to food service will be presented from a management perspective. This program has articulation agreements with Lakes Region Community College, CIA and New Hampshire Culinary Institute.

REQUIRED: Successful completion of Restaurant Management I

TEACHING MULTIPLE LEVELS PROGRAM – SOMERSWORTH

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*)

999027 TEACHING MULTIPLE LEVELS I

Grades 11-12 (Somersworth)

2.00 Credits/Year

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.

REQUIRED: Acceptance into the Teaching Multiple Levels program.

999127 TEACHING MULTIPLE LEVELS II

Grades 11-12 (Somersworth)

2.00 Credits/Year

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

REQUIRED: Successful completion of Teaching Multiple Levels I

THEATER DESIGN AND TECHNOLOGY – SOMERSWORTH

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)

999045 THEATER DESIGN AND TECHNOLOGY I

Grades 11-12 (Somersworth)

2.00 Credits/Year

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.

REQUIRED: Acceptance into the Theater Design and Technology program.

999145 THEATER DESIGN AND TECHNOLOGY II

Grades 11-12 (Somersworth)

2.00 Credits/Year

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.

REQUIRED: Successful completion of Theater Design and Technology I

VIDEO & PHOTOGRAPHIC ARTS - ROCHESTER

Video & Photographic Arts Program Course Sequence

Year 1 – Digital Photography & Video Production Technology I (*Full year, CTE Program*)

Year 2 – Digital Photography & Video Production Technology II (*Full year, CTE Program*)

999031 DIGITAL PHOTOGRAPHY & VIDEO PRODUCTION TECHNOLOGY I

Grade 11 (Rochester)

2.00 Credits/Year

During the first year students will be introduced to the Photography and Video field. It is a hands on/project based class. Students will complete a series of activities, utilizing the basic techniques necessary for the production of photographs and videos. Topics to be covered are treatment development, storyboarding, scripting, proper camera technique, composition, lighting and editing. Class time will focus on working with a variety of photographic and video equipment. Classes will run very independently and the goal is to provide each student with the opportunity to learn at his/her own pace and in his/her own style. Students, who choose this course, will be responsible for creating digital print artwork, slide presentations and motion graphics. Students will develop their own style in photography

and video while building a portfolio of images and short videos demonstrating what they are learning and how their style is evolving.

NOTE: This is a Running Start course and students are eligible to receive college credit. There is a fee associated with this option.

REQUIRED: Acceptance into the Digital Photography & Video Production program.

999131 DIGITAL PHOTOGRAPHY & VIDEO PRODUCTION TECHNOLOGY II

Grade 12 (Rochester)

2.00 Credits/Year

Students in the second year will be immersing themselves into various fields of photography and video. Students will be involved in more complex projects using advanced lighting, editing techniques, macro, time lapse, multi-camera shoots are just some of the areas to explore. Focus on visual workflow, exploring what they see and how best to record it. Emphasis will be on composition and telling a story with their images. Students will be working on individual self-designed projects and building a complete portfolio of their work.

NOTE: This is a Running Start course and students are eligible to receive college credit. There is a fee associated with this option.

REQUIRED: Successful completion of Digital Photography & Video Production I

