

# Interstate School District

## Curriculum Study: Reimagining High School and Career & Technical Education

### **INTRODUCTION:**

At the request of the Interstate School District Committee, the counselors from the northern most high schools in New Hampshire and Essex County of Vermont collaborated to develop three exemplars of a new Regional North Country 9-12 school. A summary of the exemplars is provided below.

The population for the upcoming 2020-2021 academic year was used as input data; a total high school population of 203 including 49 freshmen, 56 sophomores, 56 juniors and 42 seniors was used. In addition, the Program of Studies from each school and upcoming course registration interest guided conversations and shaped the development of the three exemplars. Research was conducted on labor and employment statistics, and lastly, a review of other area North Country Schools, CTE Centers, and current interstate high schools.

To complete this task, decisions regarding the following were made:

- Development of new course offerings
- Revision of graduation requirements
- 4-year planning and scheduling
- Inclusion of middle school in addressing requirements
- Sequencing of core content
- Effective class sizes for certain content

### **EXEMPLAR #1:**

*Traditional Model with CTE Center on Same Campus (Comprehensive High School)*

#### **I. Academic Programming**

In this model, CTE programs will increase from five to eleven. These programs, or focus areas, align with labor data for the Great North Woods region as well as the states of New Hampshire and Vermont. These programs will be hands-on and offer direct career experience, including in the trades. The following programs will be offered based on student interest and need in our community. Sub pathways, if applicable, are indicated.

- Automotive Technology
- Health Sciences
  - Nursing
  - Emergency Medical Services
  - Therapies (Physical and Occupational)
  - Dental
- Protective Services
  - Fire Fighting
  - Law Enforcement (including Corrections and Border & Customs)
  - Military

- Legal Studies (including Paralegal, Stenographer, and Lawyer)
- Information & Computer Systems Technology
- Industrial Trades
  - Welding
  - Plumbing
  - Electrical
- Hospitality & Tourism
- Human Services
  - Education
  - Elder & Disabled Persons Care
  - Community & Mental Health Services
- Advanced Integrated Manufacturing
- Business Technologies
  - Professional Bookkeeping
  - Medical Transcription
- Construction
- Diversified Agriculture & Natural Resources

Traditional high school courses will be available for all students who choose to enroll in CTE or not. New elective offerings were added to each department's current program of studies. In the staffing tool these are highlighted in yellow.

ENGLISH:	Public Speaking
SCIENCE:	Astronomy, Genetics, Botany, Marine Science, and Ecology
SOCIAL STUDIES:	Philosophy, Political Science, and Religions of the World
TECH:	Exploring Makers-space
STEM:	Computer Science, Mixed Media Arts, Engineering Design, Web Communication & Design
PERFORMANCE ARTS:	Chamber Music, Music Theory, Musical Composition & Production, Performance Band - Rock & Jazz, and Stagecraft
HEALTH:	Leadership, Ethics & Contemporary Issues and Study Strategies
FACS:	Off the Grid

Dual enrollment opportunities are listed in the staffing tool with bold course titles. Those that are new additions, like the new electives, are also highlighted in yellow. Dual enrollment opportunities are available through either the CTE center or the traditional environment include:

ENGLISH:	College Composition
MATH:	Pre-Calculus, Calculus, Statistics, and Quantitative Reasoning
SCIENCE:	Chemistry, Physics, and Human Biology/Anatomy & Physiology and Forensics
SOCIAL STUDIES:	Psychology
CTE:	Intro to Business, Business Law, Business Ethics, Accounting, Marketing, Computer Applications, Auto I, Introduction to Hand & Power Tools,

Careers in Education, Child Development, Medical Terminology, Terrorism, Introduction to Criminal Justice, Emergency Medical Services, Firefighter I, Dendrology and Forestry Resources

Graduation requirements for the Comprehensive High School align to both New Hampshire and Vermont guidelines. They also include essential skills students need to be ready for life after graduation. These new requirements are not currently a part of any graduation plans at the area schools are:

ENGLISH: Technical Writing and Diversity in Literature  
SOCIAL STUDIES: New England/North Country History  
OTHER: Senior Project, Executive Functioning, College & Career Readiness I, and College & Career Readiness II

## **II. Benefits**

In this model, CTE programs will share a common campus with the high school. Each CTE program will now offer short-term introductory courses to students beginning in middle school (these new intro courses were not listed in section I). Each CTE program will also offer academic classes in the subject areas that support its focus. CTE and non-CTE students will be eligible to enroll in these courses. CTE programs will deliver curricula through a half-day program each day throughout the school year to allow for delivery of these academic classes. Because these academic courses will be offered through CTE programs and taught by CTE instructors, they can be approved as “CTE courses”. This will bring in more federal and state CTE funding. This model will also allow non-CTE students to take a variety of courses to explore potential careers.

Schools are responsible for supporting students in obtaining gainful employment so they can earn a livable wage. By expanding CTE programs, and linking them to needs in the Great North Woods communities, this will happen. CTE students will graduate as marketable employees; all programs will offer certifications, endorsements, and/or licensures for marketability.

This Comprehensive High School will offer dual employment opportunities through both the CTE Center and traditional program of studies. This course work prepares students for post-secondary success. Dual-enrollment courses save students and families money on college tuition. Grades earned become part of their permanent college transcript and credits can be transferred to most four-year institutions. In addition, students (and the school itself) will be able to take advantage of college library and resources.

A comprehensive high school improves professional development and collegiality. Instructors from diverse disciplines will collaborate. Because CTE programs will offer core courses, there will be teaming and professional learning conversations taking place. Flip classrooms, flexible seating, and co-teaching are likely outcomes of this comprehensive model.

The inclusion of more elective offerings is critical for student success and engagement. In addition to empowering practical skills, electives can help students find hidden talents or passions. In fact, several studies show that students are more likely to get a degree or major in a course they took as an elective. In addition, electives reveal the skill sets of some students that might not be obvious in their other classes, helping them see their strengths and affording them opportunities to be successful and feel valued.

### **III. Staffing Needs**

This Comprehensive High School model demands a minimum of 39 instructors. Several of these could/would teach multiple grade levels and/or within departments, including the CTE Center. Staffing needs are:

- English Language Arts - 3 full-time; 1 shared with middle school
- Math - 3 full time; 1 shared with middle school
- Social Studies - 4 full time; 1 shared with middle school
- Science - 4 full time; one shared with middle school
- World Languages - 3 full time
- CTE - 13 full time
  - Diversified Agriculture - 1 full time; shared with Science
  - Protective Services - 2 full time; 1 shared as a School Resource Officer
  - Business - 2 full time
  - Hospitality - 1 full time; shared with FACS
  - Automotive - 1 full time; shared with Tech
  - Health Services - 1 full time; shared with Science
  - Human Services - 1 full time; shared with FACS
  - Industrial Trades - 1 full time; shared with Tech
  - ICT (Information Communication Technology) - 1 full time; shared with STEM
  - AIM (Advanced Integrated Manufacturing) - 1 full time; shared with Tech
  - Construction - 1 full time; shared with Tech
- PE - 2 full time; 1 shared with middle school
- Health - 2 full time; 1 shared with FACS and middle school
- Performance Arts - 1 full time; shared with middle school
- Visual Arts - 2 full time; 1 shared with middle school and STEM
- STEM - 1 full time; shared with middle school
- FACS (Family and Consumer Science) - 1 full time; shared with middle school

### **IV. Other**

The Comprehensive High School's ability to offer such a robust dual enrollment program as described above is dependent upon hiring qualified instructors who have master's degrees and/or college credits in specific coursework to be approved by Academic Affairs at the institution issuing the college credits. There are many factors that could contribute to the school's ability to hire such people, or not.

## **EXEMPLAR #2:**

### *Academy Pathways with a CTE Center on Same Campus*

#### **I. Academic Programming**

This model looks at redesigning the high school experience to engage students and prepare them for success in college and the workforce. As a comprehensive high school serving all area students, this model will utilize small learning academies and a proficiency-based system of teaching and learning. Sometimes referred to as a “school within a school”, the emphasis on these smaller communities will support students in developing stronger connections with their instructors and peers.

Sequencing from the New Hampshire Scholars Program, a college and career readiness program, provided guidance as the four Academy Pathways were chosen. They are described in more detail below and will be titled:

- Career
- Arts
- STEM
- Early College

#### **II. Benefits**

This exemplar allows all students to focus their educational interests, much like college. They can choose the following pathways: Career, in which they can select any program in the CTE center; STEM, concentrating on the math and sciences; Arts, with an emphasis on fine or performing arts; or Early College, where a student can earn a liberal arts associate degree (60 credits) by the time they graduate from high school. Each pathway would involve exposure to technological integration, project-based learning, community engagement, work-based experiences, dual enrollment opportunities, personal reflection, flexible work and learning spaces, smaller and collaborative class sizes, and comprehensive, cross curricular instruction.

This exemplar would do away with “credit requirements” and be a completely proficiency-based grading system. An additional benefit would be to the teachers, as this would provide more collaboration among them, providing additional support as they work together in meeting these cross-content proficiencies.

Having the CTE Center on the same campus allows for the fluidity of student participation in other programs on campus.

#### **III. Staffing Needs**

When looking at the staffing tool, the calculation for FTE by content area is misrepresented as this exemplar is proficiency-based whereas one teacher can meet the proficiencies in several content areas in the curriculum. For clarification, the following staffing needs have been identified:

- Career pathway:  
3 full time, with 1 being shared for CTE programming  
**Would still require the 13 full time CTE staff as listed above.**
- STEM pathway:  
4\* full time, with 1 being shared for CTE programming  
\* The Running Start (RS) course teachers would be “housed” within the Early College pathway due to the specific staffing credentials and approval of academic affairs at the institution of higher learning issuing the college credits. The STEM students would take the RS course with the EC pathway teachers, thus reducing the FTE needed for the STEM pathway by 1 as indicated on the staffing tool.
- Art pathway:  
3 full time, with 1 being shared with MS
- Early College pathway:  
9 full time, plus 1 providing supervision for those students attending programming on the college campus

20 (**Academies only.** It is likely that less staff for the traditional option would be needed as more and more students took advantage of the pathways.)

#### IV. Other

The courses listed in the staffing tool are the specific ones required for that pathway. Academy pathways students will still need to engage in the following content areas, however their pathway can determine how best to address it: Physical Education, Health, Fine Arts, Personal Finance, New England History, US History, Civics, Economics and World History.

Each pathway will develop a system to monitor engagement in standards/learning/competencies. Every student will work with a team of educators, professionals, community members and others who will provide support and mentorship. This team will meet regularly to assess progress, revise the learning plan, and guide learning objectives.

Introductory courses would be offered to all students in middle school to help them know whether or not CTE and/or an Academy Pathway would be right for them. An introductory course should be offered for every CTE program. In addition, middle school students who believe they will choose the Early College pathway will be encouraged to take Algebra I and Geometry in order to have time to complete the college credits.

Specific to the Early College academy, we would enter into an agreement with a local college/university for senior year for students to be on a college campus taking coursework as much as possible. We anticipate negotiating different tuition rates for our students, less than the early college rate. During the senior year, students would be bussed to WMCC in Berlin, CCV in Newport or NVU-Lyndon in Lyndonville so they could take a more hands-on course (if desired) to address their liberal arts and open electives.

Those students involved in CTE and/or the “Career” Academy Pathway would also be encouraged to take courses at WMCC, CCV and/or NVU during their senior year. We envision this being especially popular at WMCC where Auto, Welding, Culinary Arts, CDL, etc. could be taken.

**EXEMPLAR #3:**

*Traditional Model with Separate CTE Center*

**I. Academic Programming**

This model expands on the current course offerings at the three area high schools. More elective courses in the core content areas have been added (see exemplar #1). These courses were chosen based on a review of Programs of Studies at various high schools in the area, recent graduation data, and 4-year planning conversations with current students.

Advanced Placement courses are added to the course curriculum. These courses primarily coincide with dual enrollment courses and include:

ENGLISH:	English Language & Literature
MATH:	Calculus BC and Statistics
SCIENCE:	Chemistry and Physics - Algebra based
SOCIAL STUDIES:	Psychology
VISUAL ARTS:	2D Art & Design

**II. Staffing Needs**

To fully staff this traditional school, and not share instructors with the CTE Center, a minimum of 38 instructors would be required.

- English Language Arts - 3 full-time
- Math - 2 full time, 1 part-time
- Social Studies - 3 full time, 1 part-time
- Science - 5 full time
- World Languages - 3 full time, 1 part-time
- PE - 2 full time; 1 part-time
- Health - 1 part-time
- Performance Arts - 1 full time; 1 part-time
- Visual Arts - 1 full time; 1 part-time
- STEM - 2 full time
- Tech - 2 full time; 1 part-time
- FACS (Family and Consumer Science) - 1 full time; 1 part-time
- Other - 2 full time
- Business - 2 full-time

### III. Other

CTE programs would be available, but they would not be on site; rather, the center would be located somewhere other than the high school. Because of this, additional staffing would be needed to offer all CTE Programs and courses at both locations. Funding for transportation would be a factor as well, and if it was determined that certain course work would only be offered at one of the locations, even greater transportation would likely be required.

A further drawback involves introductory course work, pre-tech, options for younger students who are typically less inclined to travel.

### **Alternative Recommendation (EXEMPLAR #4) - SCHOOL COUNSELORS' PREFERENCE**

#### *Combination of Exemplar #1 and #2*

Comprehensive CTE programs, as well as opportunities to take college courses for credit, are foundational elements to a redesign strategy. It is essential that the two be integrated into the high school and shape the learning experience. But CTE and opportunities to earn college credit are only part of the equation. A new high school should successfully redesign its curricula while retaining some elements of a traditional high school experience.

Efforts must drive toward key learning goals to help students gain robust knowledge and skills; become independent, lifelong learners who are critical and creative thinkers; develop a sense of self-agency; and grow to be civically and socially engaged citizens. High-quality college and career-ready experiences should also support students to identify their individual interests and create a plan for after high school. The flexibility of the Academy Pathways will accomplish this through a collaborative, equitable, and personalized learning environment where every student has the opportunity to be actively involved in the learning process.

With this in mind, the area school counselors tasked with developing three exemplars of redesign models feel a high school best suited to support the current and future needs of students in Northern Coos County in New Hampshire and Essex County in Vermont should provide traditional courses, career-focused academic pathways and an on-site CTE center. Staffing for these three learning environments are summarized above. Though an onsite CTE center located within or on the same campus of the high school is their recommendation, the counselors did not, however, address building use in their work. This needs to be reviewed because none of the available four buildings has the physical capacity nor are suitable for a high school, four Academy Pathways and an eleven program CTE Center.