



**Pioneer Valley Labor Market Blueprint
Blueprint Implementation**

Summary of the Technical Programs Conducted

At The

Community Colleges, Vocational Technical High Schools

and

Westfield State University

The ***Summary Report*** of the technical programs/courses conducted at the regional community colleges and vocational technical high schools, with additional information on specific courses at Westfield State University, was produced by the MassHire Workforce Boards of Franklin-Hampshire and Hampden Counties as part of the implementation of the ***Pioneer Valley Labor Market Blueprint- 2018-2022***.

The preparation of the Summary Report was directed by the **Educator Work Group** that was constituted by the Workforce Boards as a part of the Blueprint implementation process. The Educator Work Group is comprised of the following members:

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October 2019

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


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INTRODUCTION

The MassHire Hampden and Franklin Hampshire County Workforce Boards, in collaboration with the Massachusetts Workforce Skills Cabinet which consists of the MA Secretaries of Housing and Economic Development, Labor and Workforce Development, and Education, are leading a five-year Pioneer Valley Regional Planning process which began in April 2017 and resulted in the June 2018 publication of the ***Pioneer Valley Labor Market Blueprint- 2018-2022***.

As part of implementing the Goals and Strategies in the Blueprint, the workforce boards constituted an **Educator Work Group** that worked with Springfield Technical Community College (STCC), Holyoke Community College (HCC), Greenfield Community College (GCC), and the following vocational technical high schools to identify the current technical programs and courses of study, both credit and non-credit, offered at the community colleges and technical high school, to ascertain their association with the priority and other critical industries and occupational groupings identified in the Pioneer Valley Labor Market Blueprint.

 Westfield Technical Academy (WTA)
 Pathfinder Regional Vocational Technical High School (PRVT)
 Chicopee Comprehensive High School (CC)
 Holyoke High School North (William J. Dean Technical High School) (Dean)
 Roger L. Putnam Vocational Technical Academy (PA)
 Lower Pioneer Valley Educational Collaborative (LPVEC)
 Franklin County Technical School (FCTS)
 Smith Vocational and Agricultural High School (Smith)

Additionally, the Work Group identified the four-year degree or certificate programs and options at **Westfield State University** that intersect with the priority and other critical industries and occupational groupings.

The Report provides strategic guidance to the participating educational institutions in assessing the connectivity of their current and future educational programming and career planning with the talent demands and supply gaps identified in the Blueprint. In addition, the Report contains valuable information and data that can be used by the regions counselors and academic and career advisors in their education and career planning activities with both students and parents.

It is our intention to update this ***Summary Report*** every two years and when available, supplement the Report with data on the following metrics that are currently *not included* in the Report.

1. Program/course capacity
2. Actual student enrollment
3. Employment status of program graduates immediately following degree/program completion
4. Delivery modalities, in particular the use of On-Line instruction

Data from these four categories, in particular post-graduation placement data, is critical to informing future decision-making on regional career pathway development and implementation, and on the short and long-term impact on Blueprint demand vs. supply issues.

The Educator Work Group will direct the collection and analysis of this data during FY 2020, and report its observations and recommendations as an on-going part of the implementation of this phase of the ***Pioneer Valley Labor Market Blueprint***



I. Priority Industry: Healthcare and Social Assistance

Priority Occupations:

Registered Nurse	Physician Assistant	Occupational Therapist	Physical Therapist
Licensed Practical Nurse	Social and Human Service Assistant	Direct Care Worker	Medical Records Technicians
Medical Assistants	Pharmacy Technician		

Priority Occupations	2019 Supply Gap (Ratio)
Registered Nurse SOC: 29-1141	-2,905 (.05)
Licensed Practical Nurse 29-2052	-276 (.52)
Pharmacy Technician SOC: 29-2052	-126 (.16)
Medical Assistant SOC: 31-9092	-3 (.42)
Patient Care Technician SOC: 31-1014	-23 (.99)
Physician Assistant SOC: 29-1071	-206 (.02)
Occupational Therapist SOC: 29-1122	-157 (.09)
Physical Therapist SOC: 29-1123	-547 (.01)
Human Service/Behavioral Health/Social Assistants	N/A

Note: Ratio ≤ 1.0 Indicates Demand Exceeds Supply

Observations:

- The following chart summarizes the vocational technical high schools that conduct a **Health Assisting/Allied Health/Health Technology** program. The program graduates students with a credential as a Certified Nursing Assistant (CNA) - Supply Gap Ratio-1.12- and related technical skills that prepare them to enter the labor market as a CNA or matriculate in a healthcare career pathway program at a community college or four-year college/university.

School
Westfield Technical Academy
Roger L. Putnam Vocational Technical Academy
Holyoke High School North (William J. Dean Technical High School)
Lower Pioneer Valley Educational Collaborative
Pathfinder Regional Vocational Technical High School
Smith Vocational and Agricultural High School
Franklin County Technical School

- The presence of a **Health Assisting/Allied Health/Health Technology** program at the region's vocational technical high schools is a critical point of entry to a myriad of available educational and career pathways in priority occupational classifications in the healthcare industry.

- ✦ Concurrent with employment as a CNA, many recent graduates matriculate part time or full time in a Certificate or Associate Degree program in a selected priority occupational classification conducted at the region's three community colleges.
- ✦ Data on the annual status of program graduates must be collected and analyzed to determine the level to which the programs, in the aggregate, are supplying employees to the healthcare industry directly following graduation.
- ✦ Each community college offers an **Associate Degree-Nursing (ADN)** program with a primary goal of graduates obtaining a full or part time Registered Nurse position in a healthcare organization immediately following graduation and successful completion of the licensing process. Many graduates matriculate part time or full time, concurrent with employment, in a Bachelor's of Science- Nursing (BSN) program at an accredited regional four-year college or university.
- ✦ The presence of an **Associate Degree-Nursing** program at each community college is a positive response to mitigating the current Supply Gap Ratio (.05) in the Registered Nurse occupational classification.
- ✦ The total number of Associate Degree (AD) programs in priority occupational classifications, other than in Nursing (ADN), is limited and may not reflect future regional demand for skilled licensed healthcare technicians and practitioners.
- ✦ STCC and GCC offer an **Associate Degree in Health Science**, where students learn about the multifaceted aspects of healthcare including a broad survey of health care jobs and potential short-term certificate programs, and complete many of the prerequisites for transfer into professional health occupations program at the community college or transfer to a bachelor's degree program. HCC offers similar programming in its **Associate Degree-Foundations of Health** program.
- ✦ There are three (3) **Associate Degree-Transfer Option** programs available for students whose primary goal is direct transfer to a baccalaureate program following attainment of the Associate Degree.
- ✦ The following chart summarizes other **Associate Degree** programs offered at the regional community colleges that are associated with the Blueprint.

Program	Community College
Human Services	GCC, HCC, STCC
Radiologic Technology	HCC, STCC
Dental Assistant	STCC
Dental Hygiene	STCC
Health Information Technology	STCC
Medical Assistant	STCC
Medical Coding and Billing	STCC
Medical Laboratory Technician	STCC
Medical Office Administrative Assistant	STCC
Occupational Therapy Assistant	STCC
Physical Therapy Assistant	STCC
Diagnostic Medical Sonography	STCC
Respiratory Care	STCC
Surgical Technology	STCC

- HCC and STCC offer an AD in **Radiologic Technology** that is associated with an in-demand occupational classification supported by regional labor market data.
- HCC, STCC and GCC offer an AD in **Human Services**, with each program characterized as a Transfer Option. This program is associated with the Social and Human Service Assistants priority occupational grouping (Supply Gap Ratio-.24) identified in the Blueprint.
- Associate Degree programs in **Occupational Therapy Assistant** and **Physical Therapy Assistant** offered at STCC are associated with the with the Blueprint **Occupational Therapy** and **Physical Therapy** priority occupational classifications associated with Supply Gap Ratios of .09 and .02 respectively.
- The **Medical Coding and Billing** AD offered by STCC is associated with the Medical Records and Health Information Technician (Supply Gap Ratio .70) occupational classification.
- The following chart summarizes the **One-Year Certificate** programs that are associated with one or more of the priority occupational classifications detailed in the Blueprint:

Program	Community Colleges
Medical Assistant	GCC HCC STCC
Medical Coding and Billing	HCC STCC
Addiction Studies	GCC HCC
Medical Office Administrative Assistant	GCC STCC
Practical Nursing (LPN)	GCC HCC
Direct Care/Community Health	HCC

- The availability of a **Medical Assistant** (Supply Gap Ratio-.99) program at each community college will continue to support employer demand in this important occupational classification.
- The One-Year Certificate program in **Addiction Studies** being offered at GCC and HCC is associated with the Social and Human Service Assistants priority occupational grouping identified in the Blueprint, and may be an important source of qualified individuals for positions in response to the Opioid crisis.
- The One-Year Certificate program in **Addiction Counseling Education** being offered at Westfield State University is associated with the Social and Human Service Assistants priority occupational grouping identified in the Blueprint.
- All three community colleges offer an array of **Non-Credit Certificates/Courses** that are the beginning of educational pathways to a One-Year Certificate and/or Associate Degree programs. The following chart summarizes the pathway programs/courses that are associated to Blueprint priority occupational positions:

Pathway Programs	Blueprint Occupational Classification
Pharmacy Technician	Pharmacy Technician
Direct Care Workers (<u>Assorted Titles</u>)	Personal Care Aides
Phlebotomy	Phlebotomist

- The other Non-Credit Certificates/Courses, in the aggregate, have significant concentration in the following related occupational classifications:

- **Emergency Medical Technicians (EMT)**
- **Certified Nursing Assistants (CNA)**

✚ The following chart summarizes the **Degree Programs** conducted at Westfield State University that are associated with one or more of the priority occupational classifications detailed in the Blueprint:

Program	Bachelors	Masters
Nursing	☒	
Health Sciences	☒	
Nursing (RN→ BSN (STCC and GCC))	☒	
Forensic Mental Health Counseling		☒
Social Work	☒	☒
Applied Behavioral Analysis		☒
Physician Assistant Studies		☒

Recommendations:

1. The chairs of each schools **Health Assisting/Allied Health/Health Technology** program and the appropriate representatives from the regional community colleges should meet on an annual basis to discuss curriculum and pathway alignment.
2. Review the **Health Assisting** programs' clinical/practicum component to ensure the availability of sufficient and appropriate student clinical sites to satisfy requirements for attainment of CNA or other related credentials.
3. Review current articulation agreements, Early College programs and dual enrollment courses that create opportunities for high school students to earn and carry forward college level credits toward a degree or certificate in priority healthcare occupations.
4. Review the number of **Associate Degree-Transfer Option** programs in priority occupational classifications for students whose primary goal is direct transfer to a Bachelor's degree program following attainment of the Associate Degree.
5. Collect and analyze data, if available, from the community colleges to ascertain the educational pathway programs that students graduating with the **Associate Degree-Transfer Option** pursue, and the relationship of the pathway to the Blueprint's priority occupational classifications.
6. Review the **One-Year Certificate** programs to ensure alignment with Blueprint priority occupations, and assess opportunities for adding new programs and/or scaling existing Certificate programs.
7. Review current **Non-Credit Certificates/Courses** to determine if, in addition to the Emergency Medical Technician and Certified Nursing Assistants occupational classifications, additional courses can be developed that create pathways to Certificate or Associate degree programs associated with priority occupations other than Nursing.
8. Assess Associate degree and Certificate programs related to **Social Assistance** to determine potential for development of new programs/courses that are associated with future labor market demand in this segment of the Healthcare industry.

9. Assess the capacity and need to scale programs offered by STCC in **Occupational Therapy Assistant** and **Physical Therapy Assistant** where Supply Gap Ratios of .09 and .02 respectively, currently exist.

Program Innovations

STCC offers Advanced Certificate Programs in Diagnostic Computed Tomography and Magnetic Resonance Imaging to "up-skill" registered radiologic technologists, radiation therapists and nuclear medicine technologists. In many cases, the employers are underwriting the tuition cost for their incumbent employees.

Holyoke Community College and Chicopee High School (CHS) are conducting a Gr.9-14 health sciences pathways program that results in CHS students earning 12 college credits toward acceptance into the Foundations of Health Associate degree program.

STCC has an accredited Health Information Technology (HIT) program embedded in the Medical Billing and Coding Associate Degree program, which offers entry to unique positions such as Registered Health Information Technician.

II. Priority Industry: Advanced Manufacturing

Priority Occupations:

Machinist	CNC Machine Operator	Quality Control Technician	Supervisor	CNC Programmer
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Priority Occupations	2019 Supply Gap (Ratio)
Production Worker Machinist SOC: 51-4041	-131 (.02)
Production Worker CNC Operator SOC: 51-4011	-60 (.81)
Inspectors, Testers, Quality Control SOC: 51-9061	-49 (.42)
Supervisors (Manufacturing-Specific) SOC: 51-1011	-23 (.23)
CNC Programmer SOC: 51-4012	-30 (.06)

Note: Ratio ≤ 1.0 Indicates Demand Exceeds Supply

Observations:

- ✚ **EACH** of the region's vocational technical high schools conducts a Chapter 74 approved **Machine Tool Technology** program with a primary goal of program graduates obtaining a full time entry level position in an advanced manufacturing company with a focus on the **CNC Operator** occupational classification.
- ✚ Roger L. Putnam Vocational Technical Academy offers a Chapter 74 approved **Robotics and Automation Technology** program that has significant alignment to the CNC Operator occupational classification and a tangential relationship to the CNC Programmer occupation.
- ✚ Pathfinder offers an **Electronics/Robotics Technology** program with competencies that have a relationship to manufacturing tasks and processes performed in many of the larger advanced manufacturing companies in the region.

- ✦ The following technical schools conduct Chapter 74 approved programs in **Metal Fabrication and Joining**, which prepare program graduates with competencies that are desired by some of the regional advanced manufacturing companies.

School
Franklyn County Technical School
Roger L. Putnam Vocational Technical Academy
Chicopee Comprehensive High School

- ✦ The presence of a **Machine Tool Technology** program in each of the region’s vocational technical high schools is critical to providing the companies with entry-level employees at the production operator’s level.
- ✦ Data on **actual** program enrollment versus program capacity, and an analysis of the annual status of program graduates, must be collected and analyzed to determine the level to which the Machine Tool Technology programs, in the **aggregate**, are supplying entry-level employees to industry on an annual basis.
- ✦ STCC offers an **Associate Degree-Mechanical Engineering Technology** with a primary goal of program graduates obtaining a full time position in an advanced manufacturing company with a focus on the design and manufacturing of quality products and parts.
- ✦ STCC offers an **Associate Degree-Mechanical Engineering Technology Transfer Option** with a primary goal of program graduates transferring to a Bachelor’s Degree program. STCC has partnered with Northeastern University’s College for Professional Studies to offer a Bachelor’s degree pathway program that is conducted at STCC.
- ✦ HCC and STCC offer the following additional **Associate Degree** programs that have a relationship to advanced technologies:

Associate Degree Program	Community Colleges
Biotechnology	HCC
Optics and Photonics	STCC
Biomedical Equipment Technology	STCC
Biomedical Manufacturing Technology	STCC

- ✦ The **Associate Degree-Mechanical Engineering Technology** program at STCC has an intentional concentration on parts and product engineering design and application and program graduates secure employment primarily in **design** related positions in an advanced manufacturing setting.
- ✦ The **Optics and Photonics Associate** degree program prepares engineering technicians with the knowledge and skills of lasers, optics, and electronics needed to design, test and maintain complex optics and photonics systems. Program graduates secure employment in companies with a specialization in photonics.
- ✦ The **Biomedical Equipment Technology Associate** degree program graduates students who will be employed as Biomedical Equipment Technicians in hospitals and medical research centers. The technicians install, calibrate and maintain sophisticated medical devices and equipment used in the health care industry.

- ✦ The **Biomedical Manufacturing Technology** Associate degree program graduates' students who will be employed as Biomedical Device Manufacturing Technicians and work in the areas of quality control, design, drafting, inspection, CNC, and Research and Development of biomedical related equipment and instrumentation.
- ✦ The **Optics and Photonics** and the two **Biomedical Technology** Associate degree programs provide companies doing business in optics and photonics and medical device manufacturing and instrumentation with a source of middle skills level employees. Further analysis is required to determine the impact of the programs in mitigating the Supply Gap Ratios in the priority occupations identified in the Blueprint. These Associate degree programs may also have a career pathway relationship in the Other Critical Industry-Professional Technical and Scientific Services category.
- ✦ The following chart summarizes the **One-Year Certificate** programs that are associated with one or more priority occupational classifications detailed in the Blueprint:

Program	Community Colleges
Engineering Technology	GCC
CAD/CAM	STCC
CNC Operations	STCC
Optics and Photonics	STCC

- ✦ Each community college offers an array of **Non-Credit Certificates/Courses/Modules** related to advanced manufacturing with a specific focus on preparing students with foundational skills that will prepare them for entry-level production positions with a focus on the **CNC Operator** occupational classification.
- ✦ Training and Workforce Options (TWO), a joint effort of HCC and STCC, offers a menu of **Non-Credit "Short Courses"** designed primarily as skills enhancement courses for incumbent employees of advanced manufacturing companies.
- ✦ There appears to be a limited number of courses or curriculum modules that focus on competencies required for the **Quality Control Technician** (Skills Gap Ratio- .47) occupational classification.

Recommendations:

1. The **Machine Tool Technology** programs at the technical high schools should continue to ensure that their Chapter 74 Program Advisory Committees are properly constituted, meet on a regular basis, incorporate the feedback of employers representing broad segments of the advanced manufacturing industry, and focus meeting agendas on strategic planning as well as current program operational needs.
2. The chairs of each **Machine Tool Technology** program and the appropriate representatives from the region's community colleges should meet annually to discuss pathway alignment and collaborative approaches that will inform future program direction.
3. The schools should share promising practices focused on **marketing** the Machine Tool Technology program as a viable educational and career pathway for young adults, and utilize the Program Advisory Committees to provide direction to support this marketing initiative.

4. The school districts should continue to collaborate with the region's two MassHire workforce boards in conducting after-regular-school day training programs for unemployed/underemployed individuals and incumbent employees.
5. The Mechanical Engineering Technology Associate Degree program should consider offering a **Quality Control Technician Option** to the present Design focus that would increase the number of graduates prepared for entry-level Quality Control Technician positions.
6. The **connectivity** between the current four Associate Degree programs should be analyzed to determine potential collaboration and scale in relation to mitigating broad demand gaps in selected occupational classifications.
7. **Capacity vs. Actual Enrollment** in all current **One Year Certificate** programs should be analyzed to assess projected supply of applicants for new pipeline positions, particularly in the CNC Operator occupational classification.
8. STCC and/or GCC should consider developing a **One -Year Certificate** program in **CNC Programming** with an Internship requirement as a pre-requisite to Certificate attainment, if sufficient employer demand can be validated along with capacity and willingness to provide Internships.
9. Curriculum in all current **One Year Certificate** programs should include content on quality control techniques and basic CNC programming.
10. Pathway courses/programs related to **Quality Control Technician** and **CNC Programmer** occupational classifications should be developed, implemented, and conducted on flexible schedules, with a primary focus on incumbent employees.
11. On-Line courses/modules focused on **Quality Control Technician** and **CNC Programmer** job classifications should be explored and, if feasible, implemented for incumbent employees of advanced manufacturing companies.

III. Priority Industry: Educational Services

Priority Occupations:

K- 12 Teacher	Early Childhood Teacher	Paraprofessionals/Teacher Assistant
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Priority Occupations	2019 Supply Gap (Ratio)
K-12 Teachers (Incl. Special Education/Bilingual) SOC: 25-2021	-460 (.38)
Paraprofessional/Techer Assistant SOC: 25-9041	-325 (.22)

Note: Ratio \leq 1.0 Indicates Demand Exceeds Supply

Observations:

- ✚ The following chart summarizes the **Educational Services** programs offered at the regional vocational technical high schools:

Program	Technical High Schools
Early Education and Care	Roger L. Putnam Vocational Technical Academy Lower Pioneer Valley Educational Collaborative

- The number of programs being offered in the Educational Services industry at the region's vocational technical high schools is limited, and may be a barrier to exposing students to possible pathway migration within the Blueprints priority occupational classifications.
- The following chart summarizes the **Associate Degree** programs offered at the regional community colleges.

Program	Community College
Early Childhood Education (Includes Child Development Associate plus Certificate)	STCC
Early Education and Care	HCC

- The following chart summarizes the Associate Degree-Transfer Option programs offered at the regional community colleges.

Program	Community College
Early Childhood Education	GCC HCC STCC
Elementary Education	GCC HCC, STCC
Secondary Education	GCC HCC, STCC
Science- Mathematics	GCC

- The number and fields of study of the **Associate Degree-Transfer Option** programs offered at the regional community courses are clearly associated with the Blueprint Priority **K-12 Teachers** and **Early Childhood Teachers** occupational classifications.
- HCC offers a One-Year Certificate program in **Infant/Toddler and/or Pre-School**, and **Children's Behavioral Health**. There are no other One-Year Certificate programs currently being offered at the three community colleges.
- HCC offers **Non-Credit Certificate/Courses** in the area of **Early Childhood Worker**. There are no other Non-Credit Certificate/Courses currently being offered at the three community colleges.
- The number of **One-Year Certificate** programs and **Non-Credit Certificate/Courses** may be a barrier to pathway migration within the industry in general and in particular in selected priority occupational classifications other than licensed teaching positions.
- Westfield State University has a **Bachelor of Science- Education** major with licensure and licensure only programs designed to prepare graduates at the Massachusetts initial licensure level. Degree programs include the following:

Program
Early Childhood Education (Grades Pre-K-2),
Elementary Education (Grades 1-6),
Special Education: Moderate Disabilities (Grades PreK-8)
Moderate Disabilities (Grades 5-12).

- ✦ The following chart summarizes additional **Master Degree** programs conducted at Westfield State University that are associated with one or more of the priority occupational classifications detailed in the Blueprint:

Program
School Counselor (Grades Pre-K-8, 5-12)
School Adjustment Counselor (Grades 5-12)

- ✦ **Westfield State University** has a number of licensure programs such as Elementary education, Special Education, Early Childhood Education, Physical Education, Music Education, Vocational Education and Reading, as well as secondary education subject areas that support teacher professional development and degree pathways.

Recommendations:

1. Assess historical impact and examine graduation data of the two existing Early Education and Care programs to determine potential for replication at other regional vocational technical high schools.
2. Develop **Associate Degree-Transfer Option** program with a concentration in **Special Education** to mitigate Supply Gaps ranging from .16 → 24, depending on the grade levels within the K-12 continuum.
3. Review regional capacity and need to increase the current number (1) of **One-Year Certificate** programs particularly at the early childhood/pre-school level. Supply Gap Ratio of .22 in the broader **Teacher Assistants** job classification appears to justify this review.
4. Review regional capacity and need to increase number of **Non-Credit Certificates/Courses** that would provide a starting point for career exploration and educational pathway development in the Educational Services industry.
5. Develop options to earn degrees and credentials in Early Childhood Education that do not lead to licensure and which open the possibility of working in the field of early childhood or other administrative positions in this priority area.

Program Innovations

The Franklin Hampshire Career Center and four Pioneer Valley school districts are partners in the Five College Consortium Diverse Teacher Pathways Project to increase the number of working para-educators of color moving to attainment of teacher licensure. Training/Pathway Development as supported by the Community Foundation of Western MA, the Irene A. and George E. Davis Foundation, and the Beveridge Family Foundation has already led to five Teacher Aides obtaining their teaching licenses, with another 11 on their way and 15 additional para-educators starting the program in summer 2019. This may be a promising model for addressing skill gaps in the Education Services and other industries.

IV. Cross-Industry Priority Occupations and Other Critical Industry: Professional, Technical and Scientific Services

Cross-Sector Priority and Other Critical Occupations:

Customer Service Representative	Computer/IT Use Support Technician	Web Developer
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Priority Occupations	2019 Supply Gap (Ratio)
Customer Service Representative SOC: 43-4051	-140 (.79)
Computer/IT Use Support Technician SOC: 15-1151	-116 (.13)
Web Developer SOC: 15-1134	-3 (.42)

Note: Ratio ≤ 1.0 Indicates Demand Exceeds Supply

Observations:

- The following chart summarizes the Chapter 74 programs conducted at selected vocational technical high schools that are associated with the occupational groupings identified in both the cross-industry priority occupations section, as well as Other Critical Industries - **Professional, Technical and Scientifics Services** section of the Blueprint, and have pathways to Associate degree and One-Year Certificate programs at the region's three community colleges:

Program	Technical Schools	Community College Program		Community College	
		Associate	Cert.	Associate	Cert.
Computer Programming Web Design/Development	FCTS, DEAN, PRVT, WTA	Web Design and Development	Web Design and Development	HCC STCC	GCC
Information Support Services and Networking/IT	CC,WTA, LPVEC, PA	Computer Systems, IT, Network Development	Computer Science, Computer Systems, Network Development	GCC HCC STCC	GCC HCC STCC

- The pathway Diploma programs within the Professional, Technical, and Scientific Services industry are very broad, have good connectivity to regional labor market demand, and present individuals with a diversified array of education and career pathways at the regional community colleges that are associated with the cross-industry priority and other critical occupational classifications.
- The following chart summarizes the **Associate Degree** programs offered at the regional community colleges that are associated with the cross-industry priority, and other critical, occupational groupings identified in the Professional, Technical and Scientifics Services section of the Blueprint:

Program	Community College
Environmental Science	GCC HCC
Web Design and Development	HCC STCC
Computer Systems, IT, Network Development	GCC HCC STCC
Electrical Engineering Technology	STCC
Cybersecurity & Digital Forensics	HCC

- The following chart summarizes the **Associate Degree-Transfer Option** programs offered at the regional community colleges that are associated with the cross-industry

priority, and other critical, occupational groupings identified in Professional, Technical and Scientific Services section of the Blueprint.

Program	Community College
Clean/ Renewable Energy	GCC HCC
Engineering	GCC HCC, STCC
Computer Science	GCC STCC

- ✚ The following chart summarizes the **One-Year Certificate** programs that are associated with one or more cross-industry priority, and other critical, occupational classifications detailed in the Blueprint:

Program	Community College
Computer Science	GCC STCC
Computer Systems, Network Development	GCC, HCC STCC
Web Design and Development	GCC
Cybersecurity	HCC
Electrical Robotics Technology	STCC

- ✚ There are four (4) of Non-Credit Certificate/Courses being offered at the regional community colleges. All four (4) course offerings are computer/IT related. One Year Certificate programs appear to be the preferred initial pathway point of entry.
- ✚ The pathway programs within the Professional, Technical, and Scientific Services industry have good connectivity to regional labor market demand beyond the cross-industry priority, and other critical, occupations, and present individuals with a diversified array of education and career pathways.
- ✚ Westfield State University has the following Bachelor’s Degree programs that are associated with the cross-industry priority, and other critical, occupational groupings identified within Professional, Technical and Scientific Services.

Program
Computer Information Systems
Computer Science
Environmental Science
Regional Planning, Environmental Planning

Recommendations:

1. The region’s vocational technical high schools should work closely with the region’s community colleges to ensure continued curriculum alignment and potential for collaborative project development.
2. Review current articulation agreements and dual enrollment courses that create opportunities for high school students to earn college level credits toward a degree or certificate program in the cross-industry priority, and other critical, professional and technical services occupations.
3. The community colleges should continue to connect with the four-year colleges and universities to ensure continued curriculum alignment and credit acceptance with the

Bachelor's degree programs offered in the respective academic/technical schools/ departments.

4. The community colleges should recruit new adjunct faculty to ensure institutional capacity to continue to deliver a broad array of technical courses associated with future labor market demand.

Program Innovations

Graduates of the Energy Systems AS program at STCC are given the opportunity to earn additional awards by taking the Oil Burner Technician and Stationary Fireman's license examinations as directed by the Massachusetts Department of Public Safety, and the EPA Technician Certification.

V. *Other Critical Industry: Accommodation and Food Services*

Other Critical Occupations:

Cooks, Restaurant	Supervisors of Food Preparation	Wait Staff	Food Prep and Serving Worker
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Priority Occupations	2019 Supply Gap (Ratio)
Cooks, Restaurant SOC: 35-2014	-70 (.71)
Supervisors of Food Preparation SOC: 35-1012	-308 (.35)
Wait Staff SOC: 35-3031	-148 (.53)
Food Prep and Serving Worker SOC: 35-3021	-251 (.49)

Note: Ratio ≤ 1.0 Indicates Demand Exceeds Supply

Observations:

- ✚ **EACH** of the vocational technical high schools conducts a Chapter 74 approved **Culinary Arts** program with a primary goal of program graduates obtaining a full time entry position in the accommodation and food services industry with a broad focus on the Cook, Restaurant and Food Prep, and Serving Worker occupational classifications.
- ✚ The presence of a **Culinary Arts** program in each of the region's vocational technical high schools is critical to providing area companies with entry-level employees, while also creating integrated pathways to the **Associate Degree-Culinary Arts** offered at Holyoke Community College.
- ✚ HCC offers an **Associate Degree- Hospitality Management** and **Associate Degree-Food Service Management** with a primary goal of program graduates obtaining a management position in the hospitality and food service industry.
- ✚ GCC and HCC offer the following **Associate Degree Transfer Option** programs with a primary goal of program graduates transferring to a Bachelor's Degree program with concentrations in hospitality management or nutrition and food science.

Program	Community College
Hospitality and Tourism	GCC
Hospitality Management	HCC
Nutrition and Food	HCC

- ✦ The following chart summarizes the **One-Year Certificate** programs that are clearly associated with one or more of the Blueprint other critical occupational classifications:

Program	Community Colleges
Hospitality and Tourism	GCC
Hospitality Management	HCC
Culinary Arts	HCC

- ✦ Each community college offers an array of **Non-Credit Certificates/Courses** that are the beginning of educational pathways to One Year Certificate and/or Associate Degree/Transfer Option programs that will result in employment in selected other critical occupations. The following chart **summarizes** the pathway programs/courses that associated to Blueprint other critical occupational positions:

Pathways Programs	Blueprint Occupational Classification
Non-Gaming Related	Casino Related Occupations (NEW)
Food Services, Line Cooks (Assorted Titles)	Cooks, Restaurants Food Prep and Serving Workers

- ✦ The community colleges currently have educational pathways that associated with the Blueprint other critical occupational classifications, and should positively impact Supply Gap Ratios in those positions during the life of the Blueprint.
- ✦ Westfield State University offers an interdisciplinary minor in Commercial Recreation and Tourism which is aligned with the growth of careers in the tourism industry particularly in Franklin Hampshire County.

Recommendations:

1. The chairs of each technical high schools **Culinary Arts** program should continue to ensure that their Chapter 74 Program Advisory Committees are properly constituted, include employers representing broad segments of the accommodation and food services industry, meet on a regular basis, and focus agendas on strategic planning as well as current program operational needs.
2. Review current articulation agreements and dual enrollment courses that create opportunities for high school students to earn and carry forward college level credits, in particular to the Culinary and Hospitality programs at Greenfield Community College and Holyoke Community College.
3. The community colleges should continue to work closely with a cross-section of diversified companies to ensure that current and proposed pathway programs are reflective of the needs of companies within the broad Accommodation and Food Services industry.
4. The community colleges should continue to build program pathway enrollment capacity by developing articulation agreements, early college programs, and pre-apprenticeship

program models with the region’s vocational technical high schools, all of which are conducting culinary and/or hospitality pathway programs.

VI. **Other Critical Industry: Agriculture and Sustainable Food Systems**

Other Critical Occupations:

Farmers, Ranchers, Agricultural Manager	Farmworkers, Crop, Nursery	Food Batchmaker
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Priority Occupations	2019 Supply Gap (Ratio)
Farmers, Ranchers, Agricultural Manager SOC:11- 9013	79 (4.29)
Farmworkers, Crop, Nursery SOC: 45-2092	35 (1.76)
Food Batchmaker SOC: 51-3092	-4 (.64)

Note: Ratio ≤ 1.0 Indicates Demand Exceeds Supply

Observations:

- ✚ **Smith Vocational and Agricultural High School** offers programs in **Agricultural Mechanics** and **Animal Science**. Program competencies are associated with the other critical occupational classifications in the Agriculture and Sustainable Food Systems industry.
- ✚ Graduates pursue careers in sustainable farming, food system planning, food-related enterprises, and food science, and have transfer options to either the Associate degree or Certificate programs related to Agriculture and Sustainable Food Systems that are offered at Greenfield Community Colleges, or a transfer option to a four-year colleges’ agriculture program.
- ✚ HCC offers an **Associate Degree- Sustainable Agriculture** with a primary goal of program graduates pursuing careers in sustainable farming, food system planning, food-related enterprises, and food science, as well as a transfer option to a four-year colleges’ agriculture program.
- ✚ HCC offers an **Associate Degree- Veterinary and Animal Science** with an Articulation Agreement with Smith Agricultural and Vocational Technical High School.
- ✚ GCC offers an **Associate Degree Transfer Option in Food and Farm Systems** with graduates having an understanding of the ecological, economic, political, and social systems as they relate to food and farming, as well as transfer to a four-year colleges’ program.
- ✚ GCC offers a **One Year Certificate in Food and Farm Systems** with graduates acquiring skills in food cultivation, design of annual and perennial production systems, season-extension technologies, food preservation, and awareness of food safety rules. The certificate can also transfer into the Associate’s degree program in Farm and Food Systems.
- ✚ The current programs associated with one or more of the other critical occupational classifications detailed in the Blueprint, and provide graduates with entrepreneurial opportunities in selected industry sub-sectors.

Recommendations:

1. The colleges should continue to work closely with a cross-section of diversified companies related to agriculture, farming, and sustainable food systems to ensure that current and proposed courses and programs reflect the needs of companies within the sector.

Program Innovations

In combination with Smith Vocational and Agriculture High School's Agricultural Mechanics and Animal Science programs, Franklin County Technical School's Horticulture program, and UMASS's Sustainable Food and Farming programs, there is a good mix of educational pathways that are associated with Blueprint other critical occupational classifications, and are positioned to positively impact Supply Gap Ratios in those positions during the life of the Blueprint.

Holyoke Community College's Freight Farms initiative is an urban agriculture project that includes the city of Holyoke and the community nonprofit Nuestras Raices in a joint to accelerate economic growth in a Gateway Cities' community.

Other Critical Industry: Finance and Insurance

Other Critical Occupation:

Bookkeeping, Accounting, & Auditing Clerks

Priority Occupations	2019 Supply Gap (Ratio)
Bookkeeping, Accounting, & Auditing Clerks SOC: 43-3031	-221 (.04)

Note: Ratio ≤ 1.0 Indicates Demand Exceeds Supply

Observations:

- ✚ The following chart summarizes the Chapter 74 programs conducted at selected vocational technical high schools that focus on **Business** related pathways, and have pathways to the **Associate Degree-Transfer Option** programs in **Business Administration (GCC)** and **Business (HCC, STCC)**.

Program	Vocational Technical High School
Business Technology	WTA, FCTS, PRVT, PA, CC

- ✚ The presence of a **Business Technology** program in five of the region's vocational technical high schools creates potential connectivity to programs offered at the region's community colleges and four-year colleges/universities.
- ✚ HCC and GCC offer an **Associate Degree-Accounting**.
- ✚ The region's community colleges have **Associate Degree-Transfer Option** programs in **Business Administration (GCC)** and **Business (HCC, STCC)** that are associated with Bachelor degree programs at the region's four-year public and private colleges/universities.
- ✚ Westfield State University offers a **Bachelor's Degree- Business Management** that is associated with the other critical occupation.

- ✚ Westfield State University offers a **Master's Degree- Accounting** and an Accounting concentration within the Bachelor's Degree in Business Management.

Recommendations:

1. The region's vocational technical high schools should maintain connectivity with the region's community colleges to ensure continued curriculum alignment.
2. Review current articulation agreements, Early College and dual enrollment courses that create opportunities for high school students to earn college level credits toward a degree or certificate program in finance and insurance related occupations.

October 2019

Appendix

Region	School	CTE Program	Priority Industry	Other Critical Industry	Industry Credential	Industry Credential	Industry Credential	Industry Credential	Industry Credential
REBHC	PVTHS	ELECTRONICS/ ROBOTICS TECHNOLOGY	Advanced Manufacturing		IPC Certifications				
FHREB	FCTS	MACHINE TOOL TECHNOLOGY	Advanced Manufacturing		MACWIC Level 1	MACWIC Level 2			
REBHC	Dean	MACHINE TOOL TECHNOLOGY	Advanced Manufacturing						
REBHC	LPVEC	MACHINE TOOL TECHNOLOGY	Advanced Manufacturing		AED-BLS- CPR				
REBHC	Putnam	MACHINE TOOL TECHNOLOGY	Advanced Manufacturing						
REBHC	PVTHS	MACHINE TOOL TECHNOLOGY	Advanced Manufacturing		NIMS Certs.	MACWIC Level 1&2			
FHREB	Smith	MANUFACTURING TECHNOLOGY	Advanced Manufacturing		MACWIC 1	MACWIC 2	NIMS		
REBHC	WTA	MANUFACTURING TECHNOLOGY	Advanced Manufacturing						
FHREB	FCTS	METAL FABRICATION & JOINING TECHNOLOGIES	Advanced Manufacturing		AWS Sense Level 1	ASME, Section IX, Pipe Welding Cert	AWS D1.1 Structural Steel Cert	Sheet Metal Union Apprentice Cards	
REBHC	Putnam	METAL FABRICATION & JOINING TECHNOLOGIES	Advanced Manufacturing						
REBHC	Putnam	ROBOTICS & AUTOMATION TECHNOLOGY	Advanced Manufacturing						
REBHC	Putnam	SHEET METALWORKING	Advanced Manufacturing						
REBHC	LPVEC	EARLY EDUCATION & CARE	Educational Services		AED-BLS- CPR	CPR infant & Children			
REBHC	Putnam	EARLY EDUCATION & CARE	Educational Services						
REBHC	WTA	ALLIED HEALTH	Healthcare/Soc. Asst.		Aide Training Competency	Paid Feeding Assistant Competency	Home Health Aide Competency	"Caring for People with Alzheimer's Disease" Cert	Babysitter Cert
REBHC	Dean	HEALTH ASSISTING	Healthcare/Soc. Asst.		CAN	EKG	CPR	First Aid	
REBHC	LPVEC	HEALTH ASSISTING	Healthcare/Soc. Asst.		AED-BLS- CPR	Feeding Certificate	Home Health Aid	Alzheimers Care	Transitional Care
REBHC	Putnam	HEALTH ASSISTING	Healthcare/Soc. Asst.						
REBHC	PVTHS	HEALTH ASSISTING	Healthcare/Soc. Asst.		Cert. Nurse Assistant	Cert. Home Health Aide	Basic Life Support CPR	Alzeheimer Dimentia Cert.	
FHREB	FCTS	HEALTH TECHNOLOGY	Healthcare/Soc. Asst.		Feeding Certificate	Home Health Aide	Alzheimer's Care		
FHREB	Smith	HEALTH TECHNOLOGY	Healthcare/Soc. Asst.		Alzheimer's				

Alignment of Regional Community College Programs with Blueprint Priority and Other Critical Industries (7.1)

Program	Priority Industry	Critical Industry	GCC	HCC	STCC	Associates Degree	Associates (Transfer)	Certificate	Non-Credit Certificates/Courses
Early Childhood Education	Educational Services		X				X		
Education	Educational Services		X				X		
Science-Math Education	Educational Services		X				X		
Early Childhood Transfer Option	Educational Services			X			X		
Early Education and Care Option	Educational Services			X		X			
Gen. Integrated Studies Option - WSU	Educational Services			X			X		
Education-Elementary Education Option	Educational Services			X			X		
Education-Secondary Education Option	Educational Services			X			X		
Infant/Toddler and/or Preschool Certificate	Educational Services			X				X	
Early Childhood Worker	Educational Services			X					X
Child Development Associate Plus	Educational Services				X	X		X	
Early Childhood Education Transfer	Educational Services				X		X		
Teacher Education Transfer Elementary	Educational Services				X		X		
Teacher Education Transfer Secondary	Educational Services				X		X		
Early Childhood Education	Educational Services				X	X			
Medical Interpreting Certificate Program (instructor led)	Healthcare/Soc. Asst.				X				X
Medical Interpreting Program - Spanish or Portuguese Online	Healthcare/Soc. Asst.				X				X
Addiction Studies	Healthcare/Soc. Asst.		X					X	
Health Science	Healthcare/Soc. Asst.		X				X		
Human Services	Healthcare/Soc. Asst.		X				X		
Medical Assistant	Healthcare/Soc. Asst.		X					X	
Medical Office Management	Healthcare/Soc. Asst.		X					X	
Paramedic	Healthcare/Soc. Asst.		X					X	
EMT Basic	Healthcare/Soc. Asst.		X						X
Practical Nursing	Healthcare/Soc. Asst.		X					X	
Nursing	Healthcare/Soc. Asst.		X			X			
Healthcare Certificates/Courses (CNA, HHA, PCHM, SHCA)	Healthcare/Soc. Asst.		X						X
Medical Coding and Billing	Healthcare/Soc. Asst.		X						X
Medical Transcription & Editing	Healthcare/Soc. Asst.		X						X
Pharmacy Technician	Healthcare/Soc. Asst.		X						X
Veterinary Assistant	Healthcare/Soc. Asst.		X						X
Children's Behavioral Health Certificate	Healthcare/Soc. Asst.			X				X	
Addiction Studies Certificate	Healthcare/Soc. Asst.			X				X	
Community Health Worker Certificate	Healthcare/Soc. Asst.			X				X	
Deaf Studies Certificate	Healthcare/Soc. Asst.			X				X	
Developmental Disabilities Direct Support Certificate	Healthcare/Soc. Asst.			X				X	
Direct Care Worker Certificate	Healthcare/Soc. Asst.			X				X	
Personal Care Attendant	Healthcare/Soc. Asst.			X					X
Foundations of Health Career	Healthcare/Soc. Asst.			X		X			

Alignment of Regional Community College Programs with Blueprint Priority and Other Critical Industries (7.1)

Program	Priority Industry	Critical Industry	GCC	HCC	STCC	Associates Degree	Associates (Transfer)	Certificate	Non-Credit Certificates/Courses
Foundations of Health Transfer	Healthcare/Soc. Asst.			X			X		
Medical Assistant Certificate	Healthcare/Soc. Asst.			X				X	
Medical Billing & Coding Certificate	Healthcare/Soc. Asst.			X				X	
Nursing	Healthcare/Soc. Asst.			X		X			
Practical Nursing Certificate	Healthcare/Soc. Asst.			X				X	
Radiologic Technology	Healthcare/Soc. Asst.			X		X			
Supervision and Leadership in the Helping Professions	Healthcare/Soc. Asst.			X				X	
Healthcare Certificates/Courses, e.g. Patient Care Technician	Healthcare/Soc. Asst.			X					X
Nursing Assistant	Healthcare/Soc. Asst.			X					X
ESOL Contextualized Nursing Asst.	Healthcare/Soc. Asst.			X					X
Pharmacy Technician	Healthcare/Soc. Asst.			X					X
EMT	Healthcare/Soc. Asst.			X					X
Chemistry Option	Healthcare/Soc. Asst.			X			X		
Human Services	Healthcare/Soc. Asst.			X		X			
Human Services	Healthcare/Soc. Asst.			X			X		
Human Services Certificate	Healthcare/Soc. Asst.			X				X	
Dental Assistant	Healthcare/Soc. Asst.				X			X	
Dental Hygiene	Healthcare/Soc. Asst.				X	X			
Diagnostic Computed Tomography, Post AD Certificate	Healthcare/Soc. Asst.				X			X	
Diagnostic Medical Sonography	Healthcare/Soc. Asst.				X	X			
Health Information Technology	Healthcare/Soc. Asst.				X	X			
Health Science	Healthcare/Soc. Asst.				X	X			
Human Services/Social Work	Healthcare/Soc. Asst.				X		X		
Magnetic Resonance Imaging, Post AD Certificate	Healthcare/Soc. Asst.				X			X	
Medical Assistant	Healthcare/Soc. Asst.				X	X			
Medical Assistant	Healthcare/Soc. Asst.				X			X	
Medical Coding and Billing Specialist	Healthcare/Soc. Asst.				X	X			
Medical Coding and Billing Specialist	Healthcare/Soc. Asst.				X			X	
Medical Laboratory Technician	Healthcare/Soc. Asst.				X	X			
Medical Office Administrative Assistant	Healthcare/Soc. Asst.				X	X			
Medical Office Administrative Assistant	Healthcare/Soc. Asst.				X			X	
Nursing	Healthcare/Soc. Asst.				X	X			
Nursing	Healthcare/Soc. Asst.				X		X		
Occupational Therapy Assistant	Healthcare/Soc. Asst.				X	X			
Phlebotomy	Healthcare/Soc. Asst.				X				X
Physical Therapist Assistant	Healthcare/Soc. Asst.				X	X			
Radiologic Technology	Healthcare/Soc. Asst.				X	X			
Respiratory Care	Healthcare/Soc. Asst.				X	X			
Surgical Technology	Healthcare/Soc. Asst.				X	X			
Healthcare Certificates/Courses	Healthcare/Soc. Asst.				X				X
Certified Nurse Aide (CNA) Plus Program	Healthcare/Soc. Asst.				X				X

Alignment of Regional Community College Programs with Blueprint Priority and Other Critical Industries (7.1)

Program	Priority Industry	Critical Industry	GCC	HCC	STCC	Associates Degree	Associates (Transfer)	Certificate	Non-Credit Certificates/Courses
Certified Nurse Aide and CPR Certificate Program	Healthcare/Soc. Asst.				x				x
CPR - Basic Life Support for Healthcare Providers	Healthcare/Soc. Asst.				x				x
CPR - Basic Life Support Refresher	Healthcare/Soc. Asst.				x				x
Emergency Medical Technician Training Program (EMT)	Healthcare/Soc. Asst.				x				x
Heartsaver First Aid	Healthcare/Soc. Asst.				x				x
Home Health Aid	Healthcare/Soc. Asst.				x				x

Alignment of Regional Community College Programs with Blueprint Priority and Other Critical Industries (7.1)

Program	Priority Industry	Critical Industry	GCC	HCC	STCC	Associates Degree	Associates (Transfer)	Certificate	Non-Credit Certificates/Courses
Hospitality & Tourism		Accom./Food Services	x				x		
Hospitality & Tourism		Accom./Food Services	x					x	
ServeSafe, Hospitality Courses		Accom./Food Services	x						x
Culinary Arts		Accom./Food Services		x		x			
Culinary Arts Certificate		Accom./Food Services		x				x	
Foodservice Management Option		Accom./Food Services		x		x			
Hospitality Management Certificate		Accom./Food Services		x				x	
Hospitality Management-Transfer Option		Accom./Food Services		x			x		
Nutrition and Food Transfer Option		Accom./Food Services		x			x		
Hospitality Related Courses		Accom./Food Services		x					x
Gaming/Non-Gaming Certificates		Accom./Food Services		x					x
Food Services		Accom./Food Services			x				x
Gaming/Non-Gaming Certificates		Accom./Food Services			x				x
Hospitality Management		Accom./Food Services		x		x			
Line Cook Training		Accom./Food Services		x					x
ESOL Contextualized Culinary		Accom./Food Services		x					x
Sustainable Agriculture		Agri./Food Systems		x		x			
Farm & Food Systems		Agri./Food Systems	x					x	
Farm & Food Systems		Agri./Food Systems	x				x		
Sustainable Agriculture Courses		Agri./Food Systems	x						x
Accounting		Finance and Insurance	x			x			
Business Administration Transfer		Finance and Insurance	x				x		
Computer Assisted Bookkeeping		Finance and Insurance	x					x	
Business Management Courses		Finance and Insurance	x						x
Accounting		Finance and Insurance		x		x			
Business Related Courses		Finance and Insurance		x					x
Business		Finance and Insurance			x	x			
Business Transfer		Finance and Insurance		x			x		
Business Transfer		Finance and Insurance			x		x		
Athletic Facility Administration		Professional/Scientific	x					x	
Biology		Professional/Scientific	x			x			
Biology Transfer		Professional/Scientific	x				x		
Chemistry		Professional/Scientific	x			x			
Chemistry Transfer		Professional/Scientific	x				x		
Computer Information Systems		Professional/Scientific	x			x			
Computer Information Systems-Office Management		Professional/Scientific	x			x			
Computer Information Systems-General Office		Professional/Scientific	x					x	
Computer Science		Professional/Scientific	x			x			
Computer Science		Professional/Scientific	x				x		
Computer Science		Professional/Scientific	x					x	
Criminal Justice		Professional/Scientific	x			x			
Criminal Justice Transfer		Professional/Scientific	x				x		

Alignment of Regional Community College Programs with Blueprint Priority and Other Critical Industries (7.1)

Program	Priority Industry	Critical Industry	GCC	HCC	STCC	Associates Degree	Associates (Transfer)	Certificate	Non-Credit Certificates/Courses
Digital Media		Professional/Scientific	x					x	
Earth & Environmental Science		Professional/Scientific	x			x			
Engineering Science		Professional/Scientific	x			x			
Entrepreneurship		Professional/Scientific	x					x	
Environmental Conservation		Professional/Scientific	x				x		
Environmental Science		Professional/Scientific	x			x			
Fire Science Technology		Professional/Scientific	x			x			
Food Science		Professional/Scientific	x				x		
Management		Professional/Scientific	x			x			
Management		Professional/Scientific	x					x	
Network Administration		Professional/Scientific	x					x	
Plant & Soil Science		Professional/Scientific	x				x		
Renewable Energy/Efficiency		Professional/Scientific	x				x		
Renewable Energy/Efficiency		Professional/Scientific	x					x	
Web Development & Design		Professional/Scientific	x					x	
Marketing		Professional/Scientific	x				x		
Computer-Tech Certs/Courses		Professional/Scientific	x						x
Biotechnology Option *Also Cleanroom classes		Professional/Scientific		x			x		
Clean Energy Option		Professional/Scientific		x			x		
Computer Networking Certificate		Professional/Scientific		x				x	
Computer User Support Option		Professional/Scientific		x		x			
Computer Related Courses		Professional/Scientific		x					x
Cybersecurity		Professional/Scientific		x				x	
Engineering Option		Professional/Scientific		x			x		
Engineering Science Option		Professional/Scientific		x			x		
Environmental Science Field Technician Option		Professional/Scientific		x		x			
Forensic Science/Cybersecurity		Professional/Scientific		x		x			
Information Technology Management Option		Professional/Scientific		x		x			
Information Technology Courses		Professional/Scientific		x					x
Mathematics General Transfer Option		Professional/Scientific		x			x		
Programming Option		Professional/Scientific		x		x			
Web Development		Professional/Scientific		x		x			
Computer-Tech Certs/Courses		Professional/Scientific		x					x
Architecture and Building Technology		Professional/Scientific			x		x		
Architectural		Professional/Scientific			x			x	
Automotive Technology		Professional/Scientific			x	x			
Automotive Technology		Professional/Scientific			x			x	
Biology Transfer		Professional/Scientific			x		x		
Biotechnology		Professional/Scientific			x			x	
Biotechnology		Professional/Scientific			x	x			
Building Construction Management		Professional/Scientific			x		x		
Building Construction Management		Professional/Scientific			x			x	

Alignment of Regional Community College Programs with Blueprint Priority and Other Critical Industries (7.1)

Program	Priority Industry	Critical Industry	GCC	HCC	STCC	Associates Degree	Associates (Transfer)	Certificate	Non-Credit Certificates/Courses
Civil Construction Management		Professional/Scientific			X	X			
Civil Construction Management		Professional/Scientific			X			X	
Civil Engineering Technology		Professional/Scientific			X			X	
Civil Engineering Technology		Professional/Scientific			X	X			
Clerical Office Assistant		Professional/Scientific			X			X	
Communication and Digital Media Transfer		Professional/Scientific			X		X		
Computer & IT Security		Professional/Scientific			X	X			
Computer and IT Security		Professional/Scientific			X			X	
Computer Science Transfer		Professional/Scientific			X		X		
Computer Systems Engineering Tech		Professional/Scientific			X	X			
Computer Systems Engineering Tech		Professional/Scientific			X			X	
Customer Service Essentials		Professional/Scientific			X			X	
Digital Audio Broadcasting		Professional/Scientific			X	X			
Digital Photography		Professional/Scientific			X	X			
Digital Photography		Professional/Scientific			X			X	
Digital Publishing		Professional/Scientific			X			X	
Electrical Engineering Technology		Professional/Scientific			X	X			
Electrical/Robotics Technology		Professional/Scientific			X			X	
Electronic Systems Engineering Technology		Professional/Scientific			X	X			
Electronics Systems Technology		Professional/Scientific			X			X	
Energy Systems Technology		Professional/Scientific			X	X			
Engineering Transfer		Professional/Scientific			X		X		
Entrepreneurship		Professional/Scientific			X	X			
Fire Science Technology		Professional/Scientific			X			X	
Fire Protection and Safety Technology		Professional/Scientific			X	X			
Graphic Arts Entrepreneurial		Professional/Scientific			X			X	
Graphic Design		Professional/Scientific			X	X			
HVAC/Energy Systems		Professional/Scientific			X			X	
Interactive Media and Animation Design Technology		Professional/Scientific			X	X			
Landscape Design and Management Technology		Professional/Scientific			X	X			
Landscape Design and Management Technology		Professional/Scientific			X			X	
Marketing		Professional/Scientific			X	X			
Mathematics Transfer		Professional/Scientific			X		X		
Microcomputer Specialist		Professional/Scientific			X			X	
Multimedia Technology		Professional/Scientific			X			X	
Physics Transfer		Professional/Scientific			X		X		
Professional Office Administrative Assistant		Professional/Scientific			X	X			
Programmer		Professional/Scientific			X	X			
Programmer		Professional/Scientific			X			X	
Technical Engineering Transfer		Professional/Scientific			X		X		
TV Production Technology		Professional/Scientific			X	X			
Web and Advertising Design		Professional/Scientific			X	X			

Alignment of Regional Community College Programs with Blueprint Priority and Other Critical Industries (7.1)

Program	Priority Industry	Critical Industry	GCC	HCC	STCC	Associates Degree	Associates (Transfer)	Certificate	Non-Credit Certificates/Courses
Computer-Tech Certs/Courses		Professional/Scientific			X				X
Auto Damage Appraiser License Exam Preparation		Professional/Scientific			X				X
MA Oil Burner Technician License Exam Preparation		Professional/Scientific			X				X
Professional Beer Brewing & Pre-Apprenticeship		Professional/Scientific			X				X
Professional Drone Flying Training for FAA Exam &		Professional/Scientific			X				X
Professional Fitness Training Certificate Training		Professional/Scientific			X				X
Real Estate Broker Exam Preparation		Professional/Scientific			X				X
Real Estate Sales Exam Preparation		Professional/Scientific			X				X
PC/Network Technician Certification		Professional/Scientific			X				X
Master PC/Help Desk Technician Certification		Professional/Scientific			X				X
Essentials for CompTIA Network Certification		Professional/Scientific			X				X
Microsoft MTA Networking Fundamentals Certification		Professional/Scientific			X				X
Microsoft MTA Windows 10 Certification		Professional/Scientific			X				X
Certified Wireless Technology Specialist Certification		Professional/Scientific			X				X
Essentials for Cisco CCENT Certification		Professional/Scientific			X				X
Microsoft MTA Windows Server 2016		Professional/Scientific			X				X
TCP/IP Networking Essentials Starts		Professional/Scientific			X				X
Introduction to Local Area Networks		Professional/Scientific			X				X
Microsoft Office Word 2016 Core		Professional/Scientific			X				X
Microsoft Office Excel 2016 Core		Professional/Scientific			X				X
Microsoft Office PowerPoint		Professional/Scientific			X				X
Microsoft Office Word 2016		Professional/Scientific			X				X
Microsoft Office Excel 2016		Professional/Scientific			X				X
English as a Second Language ESL Level 1		Professional/Scientific			X				X
English as a Second Language ESL Level 2		Professional/Scientific			X				X
English as a Second Language ESL Level 3		Professional/Scientific			X				X
Electrical 1		Professional/Scientific			X				X
Electrical 2		Professional/Scientific			X				X
Electrical 3		Professional/Scientific			X				X
Electrical 4 (Code Review)		Professional/Scientific			X				X
Masters Electrician Class		Professional/Scientific			X				X
MA Construction Supervisor's License (XCSL) Exam		Professional/Scientific			X				X
Hot Mix Asphalt Plant Technician Certification		Professional/Scientific			X				X
Hot Mix Asphalt Paving Inspector Certification		Professional/Scientific			X				X
Soils & Aggregate Inspector Certification		Professional/Scientific			X				X

