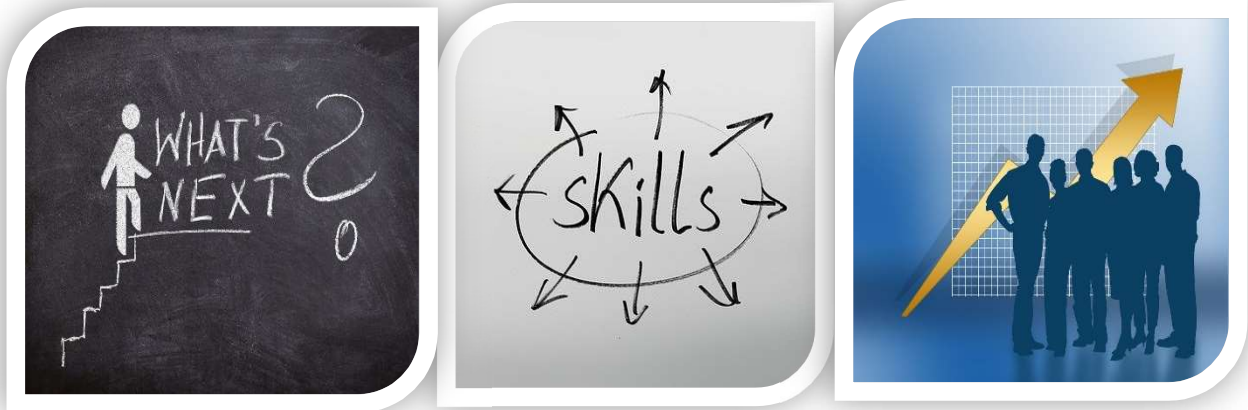


Strategies for a Changing Labor Market: Reskilling and Upskilling for Career Advancement in the Post-COVID-19 Economy

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Executive Summary

The COVID-19 pandemic has triggered a recession and deep changes in Washington's labor market

The arrival of the COVID-19 pandemic in the spring of 2020 has deeply impacted Washington's economy and workforce landscape. Widespread temporary business closures, followed by a slow-paced phased reopening, have caused soaring unemployment rates.

As of September 2020, Washington's statewide employment decline is still 30 percent greater than the lowest point in the Great Recession a decade ago. But separate regions of the state are feeling the effects of the economic downturn in varying degrees, with the more rural areas in Central Washington and Southeast Washington hit hardest by job losses.¹

African American and Latinx workers, young adults, and those without postsecondary education are being hit hardest by the Covid-19 recession

Among the ranks of the unemployed, a few salient characteristics stand out. Workers without postsecondary education were the hardest hit and the slowest to recover.² And young adults, those at the lower end of the education spectrum, and Latinx and African American workers were the most deeply affected by job losses.³

Workers are looking to improve their employability in a rapidly shifting economic landscape by reskilling into industries that offer the potential to upskill later

A recent national survey of American workers found that more than a third (35 percent) of respondents who lost hours or employment thought they needed more skills in their current field to get a similar job. Another 34 percent felt they needed more skills to transition to a new career field. Almost two-thirds of those looking to gain new skills prefer non-degree options, such as short-term certificate programs.

Reskilling and upskilling programs offer critical opportunities for many unemployed or displaced workers to reenter the labor market

A number of recent national reports have emphasized the key role that upskilling and reskilling can play in helping workers reengage with the labor market, as states manage the economic impact of the pandemic and its aftermath.⁴ This report provides an overview of *reskilling and upskilling* options for a range of in-demand occupational fields, highlighting career advancing pathways in an unstable labor market. The two terms sound similar but there is a difference. *Reskilling* refers to learning a new set of skills or obtaining a credential in a separate field, with the goal of transitioning to a new job or different industry. *Upskilling*, on the other hand, refers to learning additional skills, enhancing existing abilities, or acquiring new credentials within the same occupational field, with the goal of advancing to a more responsible position and higher wages in the same line of work.

The Washington College Grant (WCG) is a vital resource to support workers' reskilling and upskilling efforts





The Washington College Grant (formerly the State Need Grant) is one of the most generous and versatile financial aid programs in the country. Recent high school graduates from low- and middle-income families, and working adults who are looking to reskill or upskill and have not received financial aid for prior postsecondary studies, can use grants for a broad range of programs, including those offered by:

- Community and technical colleges
- Public four-year colleges and universities
- Many private two- and four-year colleges and career schools
- Approved apprenticeship programs

For those who meet the income eligibility requirements, Washington College Grant financial aid can be applied toward all the programs highlighted in this report. Beginning in the 2020-21 academic year, eligibility has been broadened to include a wide range of low- and middle-income families. A student from a family of four making around \$50,000 or less per year is eligible for a full award. Partial grants are available for families making up to the state's median family income, around \$97,000 per year. The program has also been expanded to provide support for apprenticeships.

Seamless credential pathways are available to assist jobseekers in reskilling for good jobs that offer later opportunities for upskilling to advance their careers

This report highlights examples of credential pathways for occupations that are in-demand and projected to experience significant growth over the next ten years. In many of these occupational fields, jobseekers can qualify for entry-level jobs by completing a short-term postsecondary certificate program of one year or less. And in most cases, the courses taken in these programs can, in turn, be applied toward an associate or bachelor's degree program. Successive programs within a single institution are presented to demonstrate a key feature of a viable credential pathway: one that is localized so that it is practically accessible within a given location, without involving excessive driving distances or shuttling between institutions.

Occupational Fields	Entry-Level		Next-Step Occupations
Technical and Mechanical Services	Automotive Service Technician/Mechanic		Diesel Mechanic / Heavy Equipment Mechanic
	HVAC Refrigeration Specialist		Heating, Air Conditioning and Refrigerator Mechanics
Business Occupations	Bookkeeping and Accounting Clerk		Payroll Specialist / Accountant
Information Technology	Computer Support Specialist		Network/Systems Support Specialist Network and Computer Systems Administrator
Health Occupations	Medical Records/Health Information Technician		Medical and Health Services Manager
	Dental Assistant		Dental Hygienist

Strategies to Support Reskilling and Upskilling for a Sustained and Equitable Recovery

As the economy emerges from the recession, state strategies could help workers successfully navigate the recovery. The following actions are recommended to help displaced and unemployed workers reenter the workforce in living-wage jobs and incumbent workers advance to the next level in their field.

In the Short-Term:

- Expand communication efforts to improve public awareness about the range of available short-term, non-degree programs that provide qualifications for jobs that pay a living wage.** As surveys have shown, many unemployed and displaced workers feel they need further education and training to obtain a new job or advance in their careers. A large percentage of those workers have indicated an interest in non-degree, short-term certificate programs. Many of these workers have family commitments and circumstances that make attending longer-term degree programs difficult. A broad range of certificate programs are offered in a variety of fields in the state's higher education institutions.

Promoting these programs to increase their visibility among workers should form a crucial part of the state's response to the economic recovery. College & Career Compass⁵ is an online resource designed to connect working-age adults, particularly those without postsecondary education, connect with information about careers, academic programs, and credential pathways. Efforts should continue to broaden awareness of this resource among workers adversely affected by the pandemic.

- **Continue to provide broad access to online courses as higher education institutions return to in-person classes and ensure they are consistently offered on predictable schedules.** Online courses and programs, in general, offer flexibility for workers to more effectively manage work and family commitments as they further their education. This option is especially critical as the state works through the current COVID-19 outbreak. As state residents grapple with safety concerns during the pandemic, the availability of online courses and programs offers vital routes to career advancement. But even after classes return to the brick and mortar campuses, online courses will provide valuable opportunities for critical skills training for many working adults. They also need to be consistently offered on predictable schedules to allow learners to plan their coursework efficiently.
- **Ensure that support services are available for populations that face barriers to attending and persisting in postsecondary education and training programs.** Low-income, first-generation, and marginalized student populations – including students of color, parents, and those formerly in foster care – can face daunting challenges stemming from basic needs insecurity.⁶ The challenges they face have been magnified by the current pandemic. Comprehensive and coordinated supports to assure that vulnerable populations' basic needs are being met, including food and housing, childcare access, and behavioral health assistance, are vital.
- **Continue to expand the application of Academic Credit for Prior Learning to certificate and degree programs.** Academic Credit for Prior Learning (ACPL) allows learners to receive credit for knowledge, skills, or training they have acquired through previous life or work experience. It can make postsecondary education more affordable and reduce the time it takes to complete certificate or degree programs. As Washington residents recover from the COVID-19 recession, ACPL can make upskilling and reskilling easier, particularly for those who are unemployed and looking to quickly obtain credentials to qualify for a new job.

In the Long-Term:

- **Continue to develop and build upon the range of certificate programs that are stackable toward degrees in seamless credential pathways that enable people to reskill quickly and upskill later.** Certificate programs that can be stacked and applied toward degree programs fill two important functions. They provide access to valuable education and training that can be completed in a relatively brief period and offer workers important stepping-stones to the attainment of a degree. In the development of non-degree credential programs, institutions should ensure that they are all stackable.
- **Extend the availability of credential pathways in rural areas of the state that have been hardest hit by the COVID-19 recession.** Credential pathways are currently available in a wide range of fields, but they tend to be inconsistently distributed in the various regions of the state. In the ongoing

efforts to extend their availability, care should be taken to include the rural areas of the state, particularly in Central and Southeastern Washington. The populations in these areas are among the most adversely affected by the pandemic and are experiencing a slow recovery. Extending the availability of short-term certificate programs that can lead to immediate employment and that are stackable toward further education can help drive economic recovery in these hard-hit areas.

Table of Contents

Executive Summary	2
Introduction	7
Credential Pathways: Entry-Level and Next-Step Occupations in High Demand Fields	8
TRANSPORTATION AND MECHANICAL SERVICES OCCUPATIONS	9
Automotive Service Technician /Mechanic	9
Diesel Mechanic	10
Heavy Equipment Mechanic	11
Heating, Air Conditioning, and Refrigerator (HVAC) Mechanics	12
BUSINESS OCCUPATIONS	13
Bookkeeping and Accounting Clerk	13
Payroll Specialist	14
Accountant	15
INFORMATION TECHNOLOGY	16
Computer Support Specialist	16
Network / Systems Support Specialist	17
Network and Computer Systems Administrator	18
HEALTH OCCUPATIONS	19
Medical Records/Health Information Technicians	19
Medical and Health Services Manager	21
Dental Assistant	22
Dental Hygienist	23
Concluding Remarks	25
Further Research	26
REFERENCES	27

Introduction

The COVID-19 pandemic has triggered a recession and deep changes in Washington's labor market

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As of September 2020, Washington's statewide employment decline is still 30 percent greater than the lowest point in the Great Recession a decade ago. But separate regions of the state are feeling the effects of the economic downturn in varying degrees, with the more rural areas in Central Washington and Southeast Washington hit hardest by job losses.⁷

African American and Latinx workers, young adults, and those without postsecondary education are being hit hardest by the Covid-19 recession

Among the ranks of the unemployed, a few salient characteristics stand out. An analysis comparing the current crisis to the economic recovery following the Great Recession of 2007-2009 showed that workers without postsecondary education were the hardest hit and the slowest to recover.⁸ And young adults, those at the lower end of the education spectrum, and Latinx and African American workers were the most deeply affected by job losses.⁹



RESKILLING

Learning a new set of skills or obtaining a credential in a separate field, with the goal of transitioning to a new job or different industry.

Workers are looking to improve their employability in a rapidly shifting economic landscape by reskilling into industries that offer the potential to upskill

A recent national survey of American workers found that more than a third (35 percent) of respondents who lost hours or employment thought they needed more skills in their current field to get a similar job. Another 34 percent felt they needed more skills to transition to a new career field. Almost two-thirds of those looking to gain new skills prefer non-degree options, such as short-term certificate programs.

Reskilling and upskilling programs offer critical opportunities for many unemployed or displaced workers to reenter the labor market



UPSKILLING

Acquiring additional skills or new credentials with the goal of advancing to a more responsible position and higher wages in the same general line of work.

A number of recent national reports have emphasized the key role that reskilling and upskilling can play in helping workers reengage with the labor market, as states manage the economic impact of the pandemic and its aftermath.¹⁰ This report provides an overview of *reskilling and upskilling* options for a range of in-demand occupational fields, highlighting career advancing pathways in an unstable labor market. The two terms sound similar but there is a difference. *Reskilling* refers to learning a new set of skills or obtaining a credential in a separate field, with the goal of transitioning to a new job or different industry. *Upskilling*, on the other hand, refers to learning additional skills, enhancing existing abilities, or acquiring new credentials within the same occupational field, with the goal of advancing to a more responsible position and higher wages in the same line of work.

The Washington College Grant (WCG) is a vital resource to support workers' reskilling and upskilling efforts, for those who have not previously accessed postsecondary education

The Washington College Grant (formerly the State Need Grant) is one of the most generous and versatile financial aid programs in the country. Recent high school graduates from low- and middle-income families, and working adults who are looking to upskill or reskill and have not received financial aid for prior postsecondary studies, can use grants for a broad range of programs, including those offered by:

- Community and technical colleges
- Public four-year colleges and universities
- Many private two- and four-year colleges and career schools
- Approved apprenticeship programs

For those who meet the income eligibility requirements, Washington College Grant financial aid can be applied toward all the programs highlighted in this report. Beginning in the 2020-21 academic year, eligibility has been broadened to include a wide range of low- and middle-income families. A student from a family of four making around \$50,000 or less per year is eligible for a full award. Partial grants are available for families making up to the state's median family income, around \$97,000 per year. The program has also been expanded to provide support for apprenticeships.

Focus of the report: credential pathways for reskilling and upskilling

This report presents overviews of credential pathways in a range of occupations, offering key connections to the labor market for workers impacted by the COVID-19 crisis. These pathways feature short-term certificate programs that can qualify workers for entry level positions and successively more advanced programs that allow learners to continue upgrading their skills. Through completing a series of certificate or degree programs, workers can qualify for progressively higher-paying positions or move into different but related occupational fields, leveraging the skills and training they have acquired through education and on-the-job experience.

Examples of Credential Pathways to Qualify for Entry-Level and Next-Step Occupations in High Demand Fields

The following section highlights examples of credential pathways in a range of occupational fields.¹¹ These occupations were chosen to meet the following criteria:

- They represent reskilling and upskilling opportunities in occupations that are in-demand and projected to experience significant growth over the next ten years.
- Jobseekers can qualify for entry-level jobs in these fields by completing a short-term postsecondary certificate program of one year or less.
- Courses taken in these programs can be applied toward an associate or bachelor's degree program.
- Credential pathways in these fields are available to qualify for next-step occupations, offering higher pay and more responsibility.
- Examples of credential pathways within single institutions are highlighted. They represent pathways that are practically accessible within a given location, without requiring excessive driving distances or shuttling between institutions.

TRANSPORTATION AND MECHANICAL SERVICES OCCUPATIONS

Automotive Service Technician /Mechanic

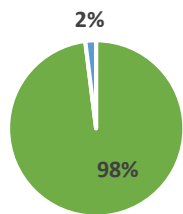
Automotive Service Technicians and Mechanics repair and perform maintenance work on cars and smaller trucks. The required minimum level of education for this position is usually a high school education with a technical certificate in the field.

Short-term certificate programs in this field are available at many community and technical colleges in Washington. The length of these programs run from six to twelve months, or two years for the completion of an associate of applied science degree. Shorter three-month programs for specialized skills and training in topics such as brake, drivetrain, or electrical technology are also available to extend one's expertise.

Total Annual Job Postings – 2019 (prior to C-19 Pandemic)	Projected Growth – Next 10 Years	Median Wage
4,431	+ 14.8%	\$39,591

Automotive Service Tech. /Mechanic

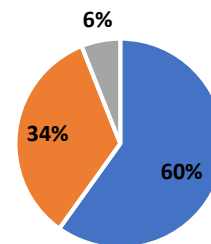
Required Minimum Education Level Listed in Job Postings



■ High School ■ Associate Degree or above

Automotive Service Tech. /Mechanic

Required Experience Listed in Job Postings



■ 0-2 Years ■ 3-5 Years ■ 6 or More Years

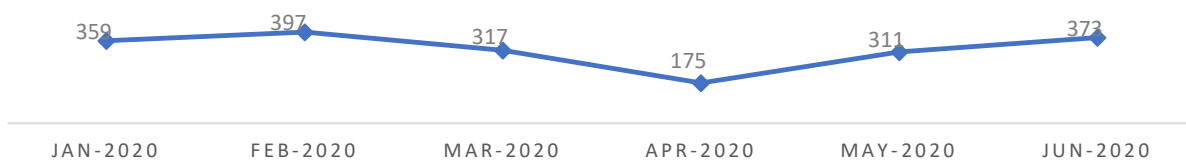
Source: Burning Glass Technologies

The median wage for this occupation is \$39,591, and jobs are expected to grow by nearly 15 percent over the next ten years. Job postings declined considerably during the peak COVID-19 outbreak in the spring of 2020, but since then they have been on the rise.

Automotive Service Technician/Mechanic

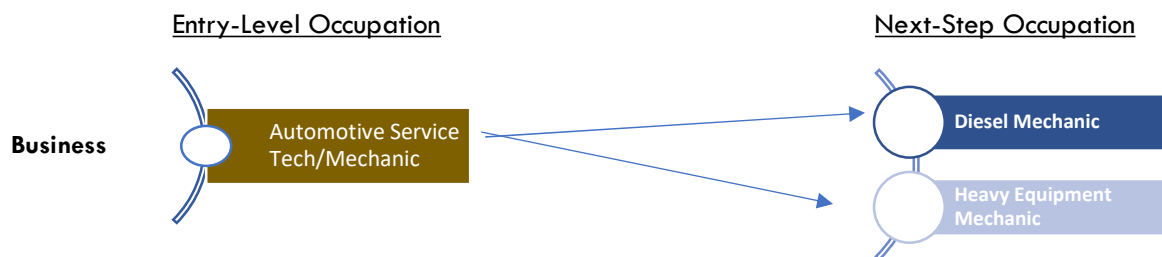
Job Postings during COVID-19 Pandemic

Jan - June, 2020



LEVERAGING RELATED SKILLS AND EDUCATION TO TRANSITION TO DIESEL OR HEAVY EQUIPMENT MECHANIC

An incumbent automotive service technician or mechanic can leverage current skills to train for a higher-paying position as a heavy equipment or diesel mechanic. Diesel and Heavy Equipment Technician certificate students learn how to identify problems and perform maintenance on various vehicle components including fuel, cooling, electrical, hydraulic, brake, suspension, and drive-train systems in the trucking and heavy equipment industry. Community and technical colleges in the state offer short-term certification programs in Diesel and Heavy Equipment Mechanics that can be completed in 12 months to 18 months. Associate degree programs are also available in this specialization.

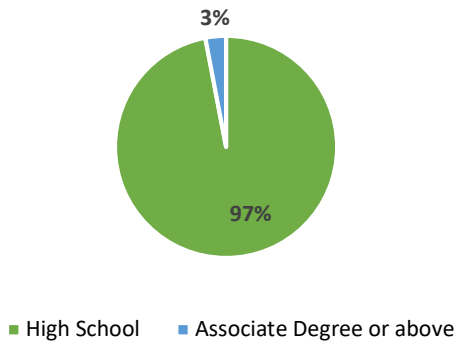


Diesel Mechanic

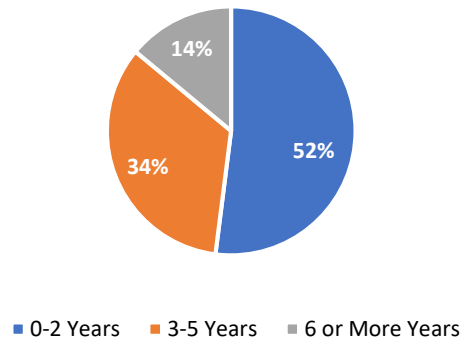
Diesel mechanics repair and rebuild diesel engines for vehicles like trucks, ships, tractors, and buses. The median wage is \$43,555, and job projections show healthy growth in this occupation over the next ten years

Total Annual Job Postings – 2019 (prior to C-19 Pandemic)	Projected Growth – Next 10 Years	Median Wage
1,052	+ 14%	\$43,555

Diesel Mechanic
Required Minimum Education Level
Listed in Job Postings



Diesel Mechanic
Required Experience Listed in Job Postings



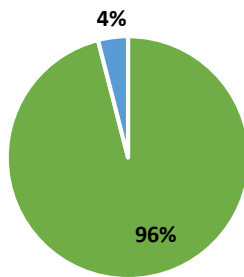
Source: Burning Glass Technologies

Heavy Equipment Mechanic

Heavy Equipment Mechanics maintain and repair major equipment like construction vehicles, mobile cranes, and fire trucks. Common job titles for this occupation include Heavy Equipment Mechanic, Heavy Equipment Technician, Heavy Mobile Equipment Repairer, and Heavy-Duty Mechanic. Annual median wage is \$44,796 and projected long-term job growth is strong.

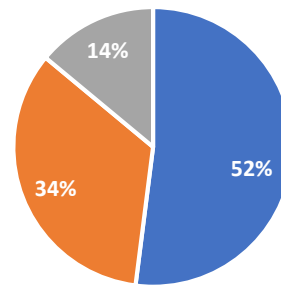
Total Annual Job Postings – 2019 (prior to C-19 Pandemic)	Projected Growth – Next 10 Years	Median Wage
366	+ 8.2%	\$44,796

Heavy Equipment Mechanic
Required Minimum Education Level
Listed in Job Postings



■ High School ■ Associate Degree or above

Heavy Equipment Mechanic
Required Experience Listed in Job Postings



■ 0-2 Years ■ 3-5 Years ■ 6 or More Years

EXAMPLE OF A CREDENTIAL PATHWAY IN TRANSPORTATION TECHNOLOGY

Lake Washington Institute of Technology's School of Transportation Technology offers the following range of certificate and associate degree programs (see <https://www.lwtech.edu/academics/transportation-school/>):

Auto Repair Technician - Certificate of Proficiency (79 credits)

Prepares the completer for an entry level job as an auto service technician



Auto Repair Technician – Associate Degree (100 credits – 21 credits beyond the Certificate)

Prepares the completer for more advanced positions in auto mechanics and technology



Diesel and Heavy Equipment Technician – Certificate of Proficiency (73 credits)

Prepares the completer for a more high-paying job in diesel or heavy equipment mechanics

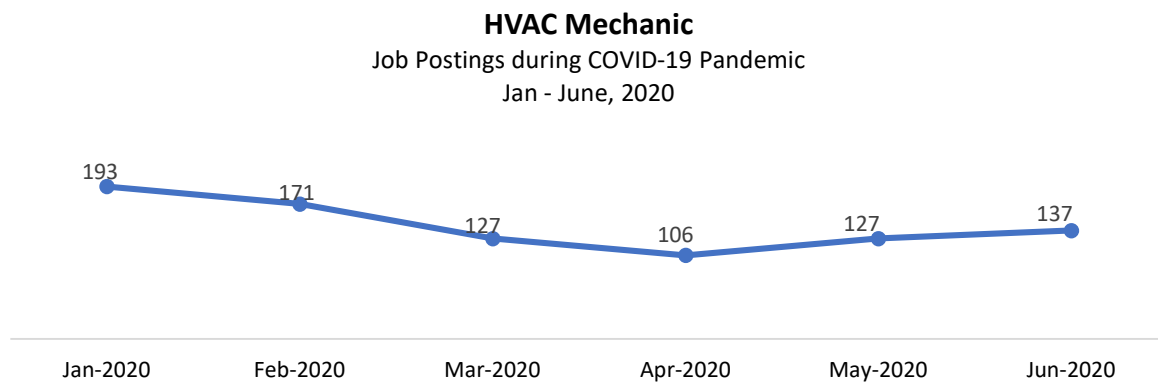
Higher Education and the Labor Market

A student or adult worker returning to education to prepare for employment in this field could begin with a certificate program in Auto Repair, which would qualify for an entry-level job. The acquiring of an additional 21 credits would complete an associate degree or a separate Diesel and Heavy Equipment Technician certificate program would allow a worker to move into this more high-paying field.

Heating, Air Conditioning, and Refrigerator (HVAC) Mechanics

HVAC Mechanics install and repair heating, air conditioning, and ventilation units. Training ranges from certification programs that take one year or less to associate degrees. Median wage is \$47,063 and projected job growth over the next ten years is considerable, at over 22 percent. The early impact of the pandemic in the spring of 2020 saw a sharp decline in job postings in this field, but they have been rising again beginning May and June.

Total Annual Job Postings – 2019 (prior to C-19 Pandemic)	Projected Growth – Next 10 Years	Median Wage
1,653	+ 22.3%	\$47,063



EXAMPLE OF A CREDENTIAL PATHWAY IN HVAC TECHNOLOGY

Clover Park Technical College offers the following range of certificate and associate degree programs in HVAC Technology (see <http://www.cptc.edu/programs/hvac>):

Refrigeration Specialist - Certificate of Proficiency (42 Credits, 2 quarters)

Prepares the completer for an entry level job in refrigeration maintenance and repair



Basic HVAC Refrigeration Service Technician – Certificate of Proficiency (87 credits)

Prepares the completer for an entry level job in the broader field of HVAC service & repair



Heating, Air Conditioning, Refrigeration Service Degree – Associate Degree (4 Quarters)

Prepares the completer for more advanced positions as HVAC service technicians, building maintenance technicians, equipment assemblers, and start-up residential and light commercial installers.

Higher Education and the Labor Market

A 42 credit Refrigeration Specialist certificate program allows one to get a foot in the door. Completion of an additional 45 credits to become certified as a Basic HVAC Refrigeration Service Technician gives the worker a grounding in a broader range of skills in this profession. Applying credits from these certificate programs toward the completion of an HVAC Service associate degree provides the opportunity to take the next step.

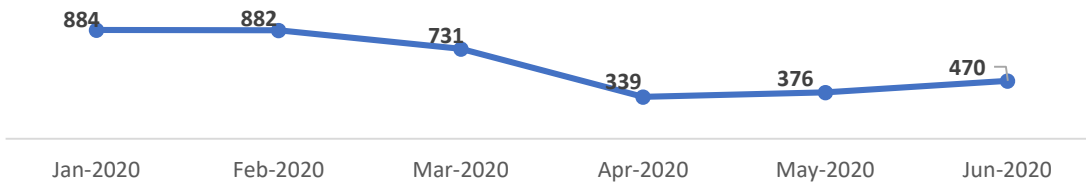
BUSINESS OCCUPATIONS

Bookkeeping and Accounting Clerk

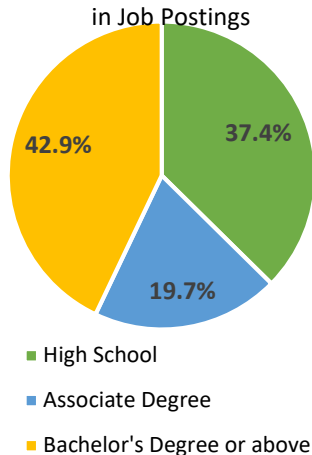
Bookkeeping and Accounting Clerks are responsible for providing financial and administrative support to accounting staff, management and departments. Job duties typically include verifying the accuracy of invoices and other documents, updating and maintaining accounting journals, ledgers and other records detailing financial business transactions, reconciling records, and resolving discrepancies. The annual median wage in this occupation is \$38,051, with a projected ten-year job growth of over 7 percent.

Total Annual Job Postings – 2019 (prior to C-19 Pandemic)	Projected Growth – Next 10 Years	Median Wage
7,830	+ 7.3%	\$38,051

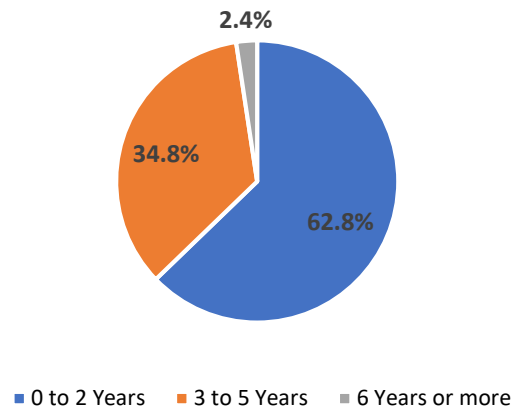
Bookkeeping and Accounting Clerk
Job Postings during COVID-19 Pandemic
Jan - June, 2020



Bookkeeping and Accounting Clerk
Required Minimum Education Level Listed
in Job Postings

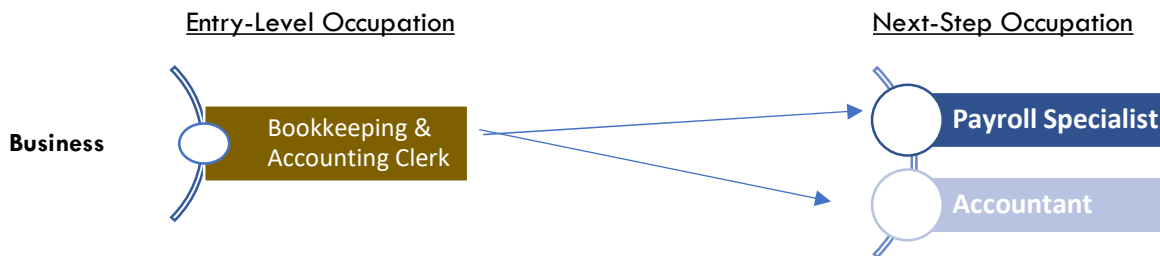


Bookkeeping and Accounting Clerk
Required Experience Listed in Job Postings



LEVERAGING RELATED SKILLS AND EDUCATION TO TRANSITION TO PAYROLL SPECIALIST OR ACCOUNTANT

Bookkeeping is an entry-level job in the Business field. Short-term certificate programs in bookkeeping and accounting are available at many community and technical colleges in Washington. These programs can usually be completed in one year or less. All credits can be applied toward further study toward an associate or bachelor's degree. An incumbent worker in this occupation can leverage the skills she has developed to take the next career step by obtaining additional skills and training to become a Payroll Specialist, Purchasing Assistant, or an Accountant.

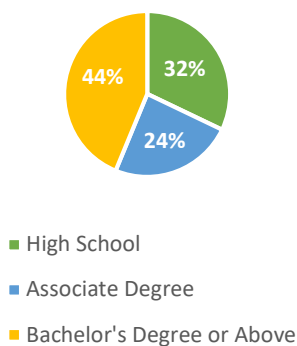


Payroll Specialist

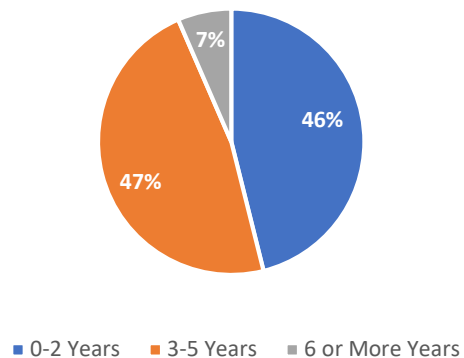
Payroll Specialists manage the financial and accounting work involved in processing payroll for a company or organization. Responsibilities may include managing employee benefits programs and payroll deductions and assisting with evaluating compensation levels for different job categories and titles. Common job titles for this position include Payroll Specialist, Payroll Clerk, Payroll Administrator, Payroll Coordinator, and Payroll Analyst. The annual median wage, at \$41,936, is a bit higher than that for a bookkeeping clerk, and projected job growth is nearly 11 percent.

Total Annual Job Postings – 2019 (prior to C-19 Pandemic)	Projected Growth – Next 10 Years	Median Wage
1,344	+ 10.7%	\$41,936

Payroll Specialist
Required Minimum Education Level Listed in Job Postings



Payroll Specialist
Required Experience Listed in Job Postings



Source: Burning Glass Technologies

Higher Education and the Labor Market

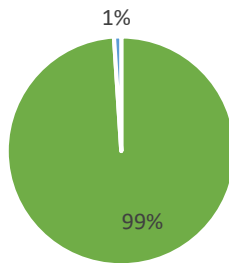
Accountant

Accountants analyze financial information and prepare financial reports to determine or maintain records of assets, liabilities, profit and loss, tax liability, or other financial activities within an organization. Common job titles for this occupation are Staff Accountant, Senior Accountant, Accountant, Junior Accountant, and Cost Accountant. The annual median wage is considerably higher for accountants, at \$58,700, and the projected job growth rate is almost 18 percent.

A bachelor's degree or higher is typically required for accountant positions. Coursework completed in short-term certificate programs or associate degree programs are often applicable to course requirements for bachelor's degree programs.

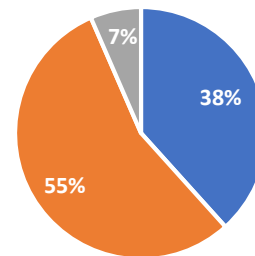
Total Annual Job Postings – 2019 (prior to C-19 Pandemic)	Projected Growth – Next 10 Years	Median Wage
5,842	+ 17.9%	\$58,700

Accountant
Required Minimum Education Level Listed in Job Postings



■ Bachelor's Degree ■ Master's Degree or above

Accountant
Required Experience Listed in Job Postings



■ 0-2 Years ■ 3-5 Years ■ 6 or More Years

EXAMPLE OF A CREDENTIAL PATHWAY IN ACCOUNTING TECHNOLOGY

Olympic College offers the following range of certificate and associate degree programs in Accounting Technology (see <https://www.olympic.edu/accounting-technology>):

Accounting Clerk - Certificate of Proficiency (49 Credits, 1 year)

Prepares the completer for an entry level job as a bookkeeping or accounting clerk



Payroll Clerk – Certificate of Proficiency (19 credits)

Prepares the completer for positions as a payroll specialist or payroll administrator



Accounting Technology – Associate Degree in Technical Arts or Associate in Applied Sciences

Prepares the completer for positions in accounting, accounting support, or tax preparation.

In this field, a 49-credit certificate program can be completed to qualify for an entry-level position as an accounting clerk. An additional 19 credits could qualify one as a payroll clerk. Applying these credits toward an associate degree in Accounting Technology would allow an individual to transfer to a bachelor's program.

INFORMATION TECHNOLOGY

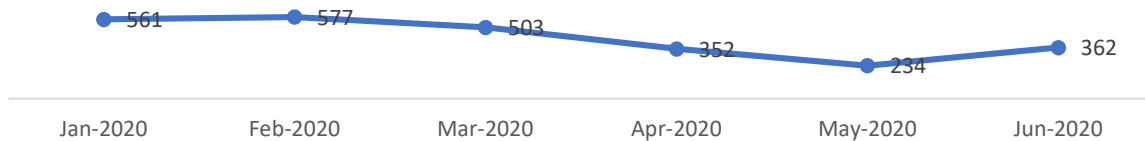
Computer Support Specialist

Workers in this position provide technical support to computer users, either as a part of an organization's information technology department, or to individual users in person or via telephone or other communication. Helps to maintain computer networks and fix problems as they arise, or helps clients diagnose and solve computer problems. Common job titles: Desktop Support Technician, Help Desk Technician, Desktop Support, It Support Specialist, Technical Support Specialist

Projected job growth over the next ten years is over 35 percent. The annual median wage is \$43,779. As seen in other occupations in this report, job openings in this field declined sharply in the spring of 2020, followed by a gradual recovery.

Total Annual Job Postings – 2019 (prior to C-19 Pandemic)	Projected Growth – Next 10 Years	Median Wage
4,855	+ 35.1%	\$43,779

Computer Support Specialist
Job Postings during COVID-19 Pandemic
Jan - June, 2020

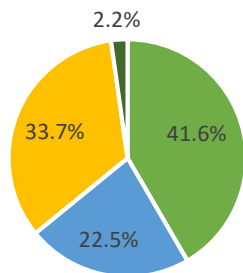


Source: Burning Glass Technologies

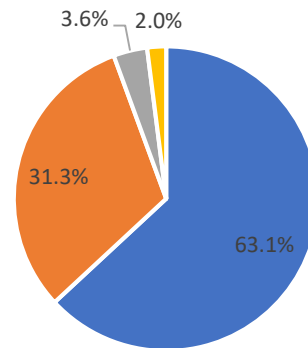
LEVERAGING RELATED SKILLS AND EDUCATION TO TRANSITION TO NETWORK OR SYSTEMS ADMINISTRATOR

Computer Support Specialist is an entry-level job in the field of Information Technology. An incumbent worker in this occupation can leverage the skills she has developed to take the next career step by obtaining the skills and training to become a Network Support Specialist or Network and Computer Systems Administrator.

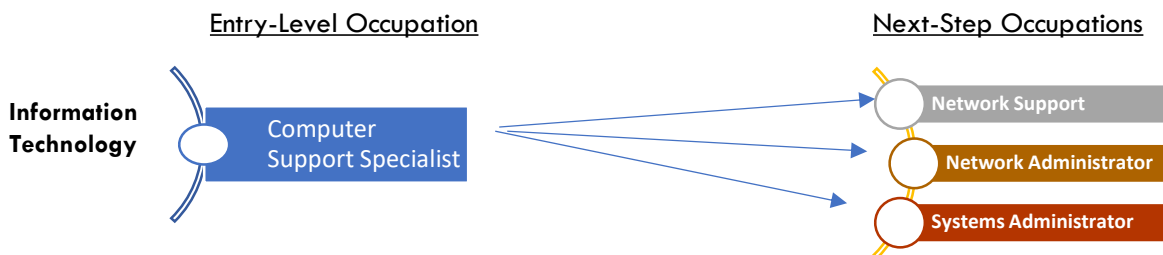
Computer Support Specialist
Required Minimum Education Level Listed in Job Postings



Computer Support Specialist
Required Experience Listed in Job Postings



- High School
- Associate Degree
- Bachelor's Degree
- Master's Degree or Above
- 0 to 2 Years
- 3 to 5 Years
- 6 to 8 Years
- 9+ Years



Network / Systems Support Specialist

A network or systems support specialist evaluates, troubleshoots, and maintains computer and network systems, usually as part of an organization's information technology team. Typical responsibilities include testing and evaluating network systems, performing regular maintenance to ensure that networks operate correctly, and troubleshooting local area networks (LANs), wide area networks (WANs), and Internet systems. An associate or bachelor's degree is typically preferred for a position as a Network and Computer Systems Administrator but not necessary if the applicant has the specialized skills needed for the job. Annual median wage for this occupation is \$60,684, and the projected ten-year job growth rate is nearly 29 percent.

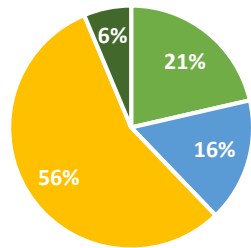
Higher Education and the Labor Market

Many community and technical colleges offer 9-month, 12-month, or 18-month certificate programs leading to a credential in network and systems support.

Total Annual Job Postings – 2019 (prior to C-19 Pandemic)	Projected Growth – Next 10 Years	Median Wage
617	+ 28.8%	\$60,684

Network/Systems Support Specialist

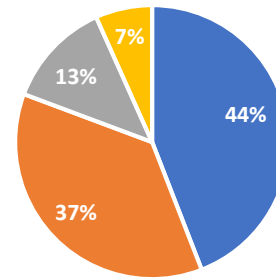
Required Minimum Education Level Listed in Job Postings



- High school
- Associate degree
- Bachelor's degree
- Master's degree or above

Network/Systems Support Specialist

Required Experience Listed in Job Postings



- 0 to 2 Years
- 3 to 5 Years
- 6 to 8 Years
- 9+ Years

Source: Burning Glass Technologies

Network and Computer Systems Administrator

Network and computer systems administrators are responsible for the day-to-day operation of networks. They organize, install, and support an organization's computer systems, including local area networks (LANs), wide area networks (WANs), network segments, intranets, and other data communication systems. Responsibilities may include network modeling, analysis, planning, and coordination between network and data communications hardware and software, and supervising computer user support specialists and computer network support specialists. The median annual wage for this occupation is \$74,839 and the projected ten-year job growth rate is high (nearly 28 percent).

Employers typically prefer that candidates for a position as Network and Systems Administrator have a bachelor's degree, but it is not required in all cases. Postsecondary certificate programs in Networking and Systems Administration, ranging from 9-month to 18 months in length, are offered by many public and private colleges throughout the state, as well as associate degree and bachelor's degree programs.

Total Annual Job Postings – 2019 (prior to C-19 Pandemic)	Projected Growth – Next 10 Years	Median Wage
2,860	+ 27.8%	\$74,839

EXAMPLE OF A CREDENTIAL PATHWAY IN INFORMATION TECHNOLOGY

Big Bend Community College offers the following range of certificate and associate degree programs in Information Technology (see <https://www.bigbend.edu/academics/programs/computer-science/certificates/>):

Computer Support Specialist - Certificate of Accomplishment (24 Credits)

Prepares the completer for an entry level job as a computer support specialist or helpdesk technician



Network Support Specialist – Certificate of Accomplishment (29 credits)

Prepares the completer for positions in IT network support



Systems Administration – Certificate of Accomplishment (47-51 credits)

Prepares the completer for an entry level job as a computer systems technician or administrator



Systems Administration – Associate in Applied Science – Transfer

Prepares the completer for a career in network systems and administration



Computer Science – Associate in Arts & Science- DTA (Direct Transfer Agreement)

Prepares the completer for a range of career fields in information technology


There are short-term certificate programs in Computer Support, Network Support, and Systems Administration to start a career at the entry level and begin an upward trajectory from support roles to systems administration. Associate degree programs with transfer agreements to transition to a bachelor's program are also available, to which the certificate program credits acquired could be applied.

HEALTH OCCUPATIONS

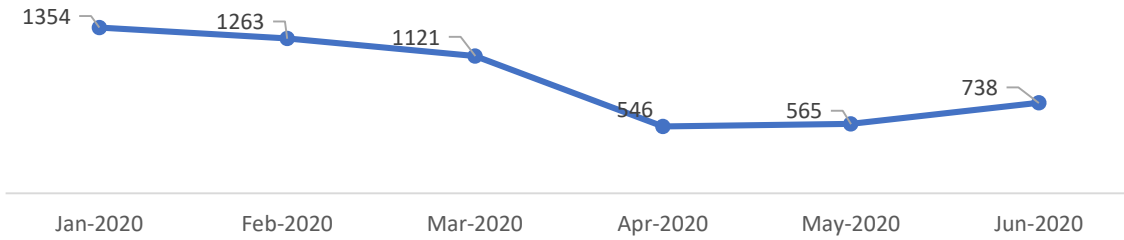
Medical Records/Health Information Technicians

Medical records and health information technicians organize and manage health information data. They compile, process, and maintain medical records of hospital and clinic patients consistent with all medical, administrative, ethical, legal, and regulatory requirements. The median annual wage is \$42,134, and job growth is projected to be over 18 percent over the next ten years. After a decline in job openings when the COVID-19 pandemic initially hit in the spring of 2020, they are now gradually rising.

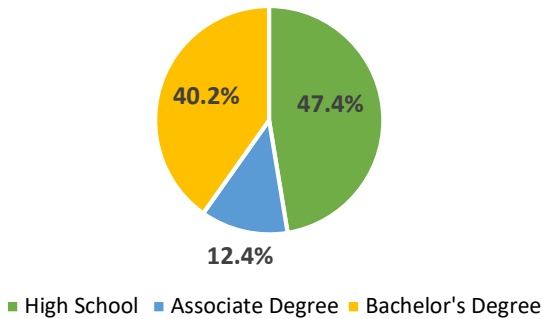
Postsecondary certificate programs of nine-months or one year in length are offered by many public and private colleges throughout the state, as well as 2-Year associate degree programs.

Total Annual Job Postings – 2019 (prior to C-19 Pandemic)	Projected Growth – Next 10 Years	Median Wage
3,683	+ 18.2% 	\$42,134

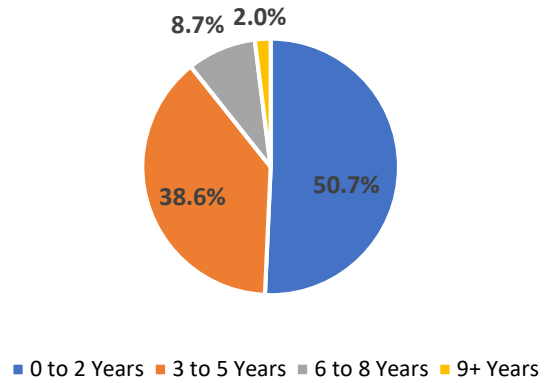
Medical Records/Health Information Technician
 Job Postings during COVID-19 Pandemic
 Jan - June, 2020



Medical Records/Health Information Technician
 Required Minimum Education Level Listed in Job Postings



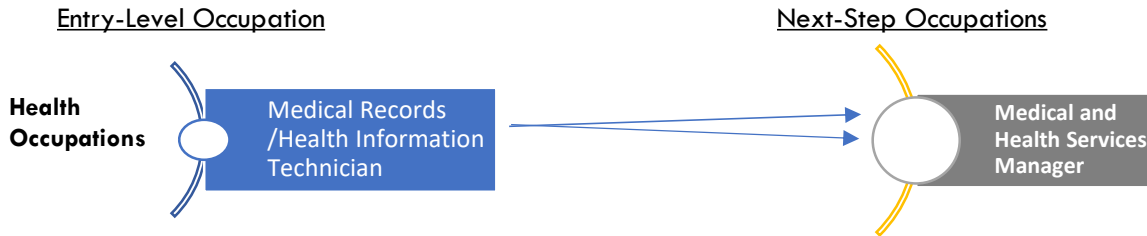
Medical Records/Health Information Technician
 Required Experience Listed in Job Postings



Source: Burning Glass Technologies

LEVERAGING RELATED SKILLS AND EDUCATION TO TRANSITION TO MEDICAL AND HEALTH SERVICES MANAGER

Medical Records/Health Information Technician is an entry-level job in the Health field. An incumbent worker in this occupation can leverage the skills she has developed to take the next career step by obtaining additional skills and training to become a Medical and Health Services Manager.



Medical and Health Services Manager

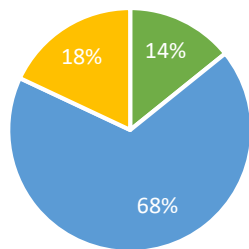
Medical and Health Services Managers plan, direct, or coordinate medical and health services in hospitals, clinics, managed care organizations, public health agencies, or similar organizations.

Postsecondary certificate programs of 9-month or 1-Year in length are offered by many public and private colleges throughout the state, as well as 2-Year associate degree programs.

Total Annual Job Postings – 2019 (prior to C-19 Pandemic)	Projected Growth – Next 10 Years	Median Wage
11,000	+ 24.7%	\$74,345

Medical and Health Services Manager

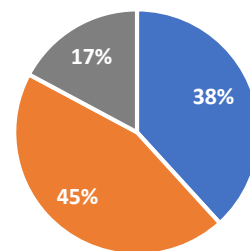
Required Minimum Education Level Listed in Job Postings



- Associate's degree
- Bachelor's degree
- Master's degree or above

Medical and Health Services Manager

Required Experience Listed in Job Postings



- 0 to 2 Years
- 3 to 5 Years
- 6 or more years

Source: Burning Glass Technologies

EXAMPLE OF A CREDENTIAL PATHWAY IN MEDICAL BILLING & CODING TO HEALTH INFORMATION MANAGEMENT

Clark College offers the following range of certificate and associate degree programs in Medical Billing & Coding and Health Information Management (see <http://www.clark.edu/academics/programs/health-care-and-biosciences/med-information/index.php>):

Medical Billing/Coding Specialist - Certificate of Proficiency (58 Credits)

Prepares the completer for an entry level job in medical billing and coding



Medical Billing/Coding Professional – Associate of Applied Technology

Prepares the completer for a variety of positions in medical insurance, physician's office coding, inpatient hospital coding, and health care claims processing



Health Information Management – Associate Degree Program


Prepares the completer for more advanced and higher-paying positions in health information systems management, health finance and billing services, or health information standards and policy development. T

One can qualify for an entry-level position in this field by completing a 58-credit certificate program in medical billing and coding. Credits acquired in the program can be applied toward the completion of an associate degree in medical billing or in Health Information Management, for a broader skill set and career advancement.

Dental Assistant

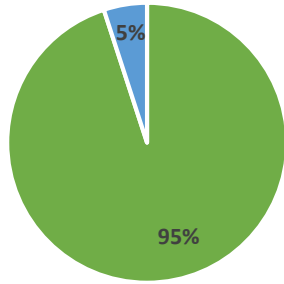
Dental Assistants support dentists in caring for patient's teeth. They help patients get ready for treatment, prepare equipment and supplies, and perform some basic dental procedures under the direction of a dentist, such as fluoride application. The median annual wage is \$36,277, and projected job growth rate is nearly 19 percent. Job openings in this field are on the rise, after a sharp decline in job openings during the early period of the pandemic.

Postsecondary certificate programs are offered by many public and private colleges throughout the state. Most take less than a year to complete. Associate of Applied Science degree programs are also available, with lengths that range from 15 to 18 months.

Total Annual Job Postings – 2019 (prior to C-19 Pandemic)	Projected Growth – Next 10 Years	Median Wage
1,736	+ 18.9% 	\$36,277

Dental Assistant

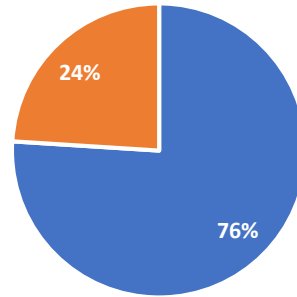
Required Minimum Education Level Listed in Job Postings



■ High School ■ Associate Degree or above

Dental Assistant

Required Experience Listed in Job Postings



■ 0-2 Years ■ 3-5 Years

Source: Burning Glass Technologies

LEVERAGING RELATED SKILLS AND EDUCATION TO TRANSITION TO DENTAL HYGIENIST

Dental Hygienist

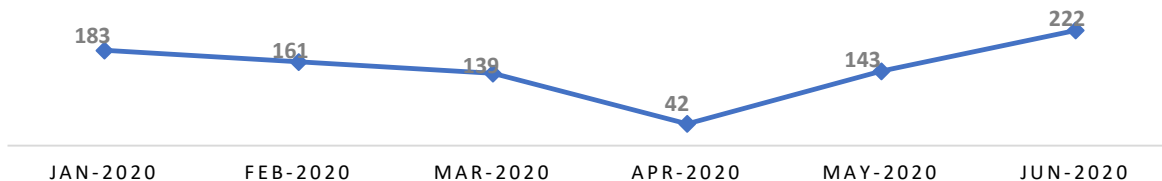
In this field, Dental Assistant is the entry level position. Dental Hygienist is the next-step occupation in the career pathway, which offers substantially higher pay (\$70,775) and expanded responsibilities. Dental Hygienists perform a range of routine dental care procedures, including cleaning teeth and examining patients for signs of oral disease, educating patients about good oral health practices, and assisting dentists in more complex dental work.

Dental Hygiene programs usually take two to three years to complete for an associate and four years for a bachelor's degree.

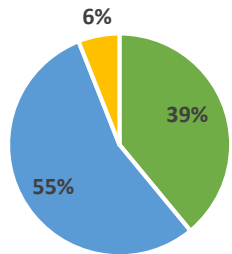
Total Annual Job Postings – 2019 (prior to C-19 Pandemic)	Projected Growth – Next 10 Years	Median Wage
659	+ 20%	\$70,775

Dental Assistant

Job Postings during COVID-19 Pandemic
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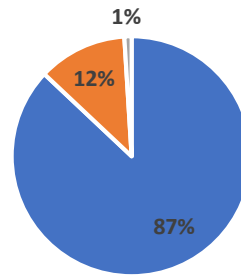


Dental Hygienist
Required Minimum Education Level Listed in Job Postings



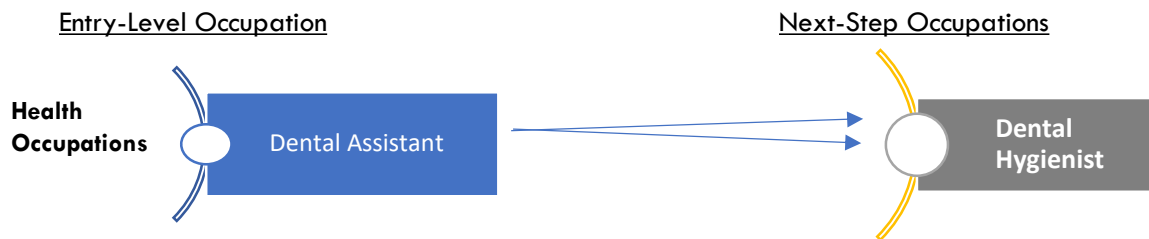
■ Associate Degree or above ■ Bachelor's Degree
■ Master's Degree

Dental Hygienist
Required Experience Listed in Job Postings



■ 0-2 Years ■ 3-5 Years ■ 6 or More Years

Source: Burning Glass Technologies



EXAMPLE OF A CREDENTIAL PATHWAY IN DENTAL ASSISTING AND HYGIENE

Bellingham Technical College offers the following range of certificate and associate degree programs in Dental Assisting and Hygiene (<https://www.btc.edu/DegreesClasses/Programs/ProgramDetails.aspx?ID=19&tab=tab2>)

Dental Assisting - Certificate Program (86 Credits)

Prepares the completer for an entry level job in dental assisting



Dental Assisting – Associate of Applied Science- Transfer Degree

Prepares the completer with more advanced training to qualify for higher-paying positions



Dental Hygiene – Associate of Applied Science- Transfer Degree

Prepares the completer for a position as a dental hygienist

For an entry-level position in dental assisting, an 86-credit certificate program is available. For career advancement, associate degree programs in dental assisting and dental hygiene, are also available with transfer options, to begin working toward a bachelor's degree.

Concluding Remarks

Strategies to Support Reskilling and Upskilling for a Sustained and Equitable Recovery

As the economy emerges from the recession, state strategies could help workers successfully navigate the recovery. The following actions are recommended to help displaced and unemployed workers reenter the workforce in living-wage jobs and incumbent workers advance to the next level in their field.

In the Short-Term:

- **Expand communication efforts to improve public awareness about the range of available short-term, non-degree programs that provide qualifications for jobs that pay a living wage.** As surveys have shown, many unemployed and displaced workers feel they need further education and training to obtain a new job or advance in their careers. A large percentage of those workers have indicated an interest in non-degree, short-term certificate programs. Many of these workers have family commitments and circumstances that make attending longer-term degree programs difficult. A broad range of certificate programs are offered in a variety of fields in the state's higher education institutions.

Promoting these programs to increase their visibility among workers should form a crucial part of the state's response to the economic recovery. College & Career Compass¹² is an online resource designed to connect working-age adults, particularly those without postsecondary education, connect with information about careers, academic programs, and credential pathways. Efforts should continue to broaden awareness of this resource among workers adversely affected by the pandemic.

- **Continue to provide broad access to online courses as higher education institutions return to in-person classes and ensure they are consistently offered on predictable schedules.** Online courses and programs, in general, offer flexibility for workers to more effectively manage work and family commitments as they further their education. This option is especially critical as the state works through the current COVID-19 outbreak. As state residents grapple with safety concerns during the pandemic, the availability of online courses and programs offers vital routes to career advancement. But even after classes return to the brick and mortar campuses, online courses will provide valuable opportunities for critical skills training for many working adults. They also need to be consistently offered on predictable schedules to allow learners to plan their coursework efficiently.
- **Ensure that support services are available for populations that face barriers to attending and persisting in postsecondary education and training programs.** Low-income, first-generation, and marginalized student populations – including students of color, parents, and those formerly in foster care – can face daunting challenges stemming from basic needs insecurity.¹³ The challenges they face have been magnified by the current pandemic. Comprehensive and coordinated supports to assure that vulnerable populations' basic needs are being met, including food and housing, childcare access, and behavioral health assistance, are vital.
- **Continue to expand the application of Academic Credit for Prior Learning to certificate and degree programs.** Academic Credit for Prior Learning (ACPL) allows learners to receive credit for knowledge, skills, or training they have acquired through previous life or work experience. It can make postsecondary education more affordable and reduce the time it takes to complete certificate or degree programs. As Washington residents recover from the COVID-19 recession,

ACPL can make upskilling and reskilling easier, particularly for those who are unemployed and looking to quickly obtain credentials to qualify for a new job.

In the Long-Term:

- ***Continue to develop and build upon the range of certificate programs that are stackable toward degrees in seamless credential pathways that enable people to reskill quickly and upskill later.*** Certificate programs that can be stacked and applied toward degree programs fill two important functions. They provide access to valuable education and training that can be completed in a relatively brief period and offer workers important stepping-stones to the attainment of a degree. In the development of non-degree credential programs, institutions should ensure that they are all stackable.
- ***Extend the availability of credential pathways in rural areas of the state that have been hardest hit by the COVID-19 recession.*** Credential pathways are currently available in a wide range of fields, but they tend to be inconsistently distributed in the various regions of the state. In the ongoing efforts to extend their availability, care should be taken to include the rural areas of the state, particularly in Central and Southeastern Washington. The populations in these areas are among the most adversely affected by the pandemic and are experiencing a slow recovery. Extending the availability of short-term certificate programs that can lead to immediate employment and that are stackable toward further education can help drive economic recovery in these hard-hit areas.

Further Research

To extend this analysis, a regionalized report covering the COVID-19 pandemic's impact on the workforce environment, along with reskilling and upskilling program availability and employment opportunities, could provide a deeper perspective on how the changing landscape is affecting different areas of the state.

REFERENCES

- ¹ See Washington State Department of Commerce. News Release, Sep. 21, 2020 <https://content.govdelivery.com/accounts/WADOC/bulletins/2a1bf8a>. Economic Recovery Dashboard: <https://www.commerce.wa.gov/datadashboard/>.
- ² Carnevale, Anthony P. (May 2020) Education, Race, and Jobs in the COVID-19 Crisis. Accessed July 27, 2020 from <https://medium.com/georgetown-cew/education-race-and-jobs-in-the-covid-19-crisis-c927be2c2487>.
- ³ Carnevale, Anthony P. (May 2020) Education, Race, and Jobs in the COVID-19 Crisis. Ibid. Kwakye, Isaac and Kibort-Crocker, Emma. (2020) Lessons on Recovery: The Value and Potential of Higher Education in Response to the COVID-19 Crisis. Accessed Sep. 1, 2020 from <https://wsac.wa.gov/sites/default/files/2020.08.20.Lessons.on.Recovery.Report.pdf>.
- ⁴ See, for example, Education Commission of the States (June 2020) The Need for Upskilling and Reskilling in a Time of Crisis. Accessed September 9, 2020 from <https://ednote.ecs.org/the-need-for-upskilling-and-reskilling-in-a-time-of-crisis/>; Committee for Economic Development of the Conference Board (2020) Meeting the Upskilling Challenge: Training in the Time of COVID-19. Accessed September 17 from <https://www.ced.org/2020-solutions-briefs/meeting-the-upskilling-challenge-training-in-the-time-of-covid-19>; Education Strategy Group (June 2020) Accelerate Recovery: Expand Access to Shorter-Term Credentials that Lead to Good Jobs. Accessed September 4, 2020 from <http://edstrategy.org/accelerate-recovery-expand-access-to-shorter-term-credentials-that-lead-to-good-jobs/>.
- ⁵ Information on the College & Career Compass Washington program can be found at compass.wa.gov.
- ⁶ The Hope Center for College, Community, and Justice. (2019) Washington State Community and Technical Colleges #RealCollege Survey. Accessed August 28, 2020 from <https://hope4college.com/wp-content/uploads/2020/02/2019-WashingtonState-Report.pdf>.
- ⁷ See Washington State Department of Commerce. News Release, Sep. 21, 2020 <https://content.govdelivery.com/accounts/WADOC/bulletins/2a1bf8a>. Economic Recovery Dashboard: <https://www.commerce.wa.gov/datadashboard/>.
- ⁸ Carnevale, Anthony P. (May 2020) Education, Race, and Jobs in the COVID-19 Crisis. Accessed July 27, 2020 from <https://medium.com/georgetown-cew/education-race-and-jobs-in-the-covid-19-crisis-c927be2c2487>.
- ⁹ Carnevale, Anthony P. (May 2020) Education, Race, and Jobs in the COVID-19 Crisis. Ibid. Kwakye, Isaac and Kibort-Crocker, Emma. (2020) Lessons on Recovery: The Value and Potential of Higher Education in Response to the COVID-19 Crisis. Accessed Sep. 1, 2020 from <https://wsac.wa.gov/sites/default/files/2020.08.20.Lessons.on.Recovery.Report.pdf>.
- ¹⁰ See, for example, Education Commission of the States (June 2020) The Need for Upskilling and Reskilling in a Time of Crisis. Accessed September 9, 2020 from <https://ednote.ecs.org/the-need-for-upskilling-and-reskilling-in-a-time-of-crisis/>; Committee for Economic Development of the Conference Board (2020) Meeting the Upskilling Challenge: Training in the Time of COVID-19. Accessed September 17 from <https://www.ced.org/2020-solutions-briefs/meeting-the-upskilling-challenge-training-in-the-time-of-covid-19>; Education Strategy Group (June 2020) Accelerate Recovery: Expand Access to Shorter-Term Credentials that Lead to Good Jobs. Accessed September 4, 2020 from <http://edstrategy.org/accelerate-recovery-expand-access-to-shorter-term-credentials-that-lead-to-good-jobs/>.
- ¹¹ Links to certificate and degree programs related to these occupations can be found at the web sites for community and technical colleges or at the College & Career COMPASS Washington web site: compass.wa.gov and the Washington Career Bridge site: http://www.careerbridge.wa.gov/Search_Program.aspx?cmd=txt&adv=true&txt=.
- ¹² Information on the College & Career Compass Washington program can be found at compass.wa.gov.
- ¹³ The Hope Center for College, Community, and Justice. (2019) Washington State Community and Technical Colleges #RealCollege Survey. Accessed August 28, 2020 from <https://hope4college.com/wp-content/uploads/2020/02/2019-WashingtonState-Report.pdf>.