2021 Technical Vocational Education Program

UNIVERSITY of ALASKA
Many Traditions One Alaska
The Alaska legislature established the Technical Vocational Education Program (TVEP) in 2000 from a portion of the Unemployment Insurance receipts. The program is administered by the Alaska Workforce Investment Board and provides grants to career and technical education providers for training and education that lead to high-demand occupations.

### TVEP Overview

The Technical Vocational Education Program, at the University of Alaska (UA), provides grants across the state for industry-specific, on-the-job, and classroom training, impacting thousands of students.

### UA TVEP Investment Strategies

- The Technical Vocational Education Program (TVEP), at the University of Alaska (UA), provides grants across the state for industry-specific, on-the-job, and classroom training, impacting thousands of students.

- Industry advisory committees guide the university programs to ensure they meet current employer requirements and assist graduates of both credit and non-credit programs to gain employment upon successful completion.

- UA manages its TVEP funds as a single allocation for one-time capital funding to upgrade technology, labs, and equipment, to initiate or expand high-demand workforce programs, and startup of new initiatives. The funding must meet the following criteria:
  - High-demand and or regional workforce needs
  - Increased access and flexibility of training delivery
  - Improved persistence of educational progress
  - Promote collaboration within and outside the UA System by expanding partnerships

### SFY 2020 TVEP Allocations

<table>
<thead>
<tr>
<th>SFY 2020 TVEP Allocations</th>
<th>% of TVEP Allocation</th>
<th>Grant Amount</th>
<th># of Adult Students Served</th>
<th># of High School Students Served</th>
<th>Total # of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alaska Vocational Technical Center (AVTEC)</td>
<td>17%</td>
<td>$2,124,000</td>
<td>1,184</td>
<td>67</td>
<td>1,251</td>
</tr>
<tr>
<td>Alaska Technical Center (ATC)</td>
<td>9%</td>
<td>$1,123,800</td>
<td>307</td>
<td>256</td>
<td>563</td>
</tr>
<tr>
<td>Amundsen Educational Center</td>
<td>2%</td>
<td>$249,700</td>
<td>11</td>
<td>10</td>
<td>21</td>
</tr>
<tr>
<td>Galena Interior Learning Academy</td>
<td>4%</td>
<td>$499,500</td>
<td>0</td>
<td>233</td>
<td>233</td>
</tr>
<tr>
<td>Ilisagvik College</td>
<td>5%</td>
<td>$624,400</td>
<td>821</td>
<td>13</td>
<td>834</td>
</tr>
<tr>
<td>Northwestern Alaska Career and Technical Center (NACTEC)</td>
<td>3%</td>
<td>$374,600</td>
<td>31</td>
<td>107</td>
<td>138</td>
</tr>
<tr>
<td>Partners for Progress in Delta, Inc.</td>
<td>3%</td>
<td>$374,600</td>
<td>604</td>
<td>294</td>
<td>898</td>
</tr>
<tr>
<td>Southwest Alaska Vocational and Education Center (SAVEC)</td>
<td>3%</td>
<td>$374,600</td>
<td>182</td>
<td>2</td>
<td>184</td>
</tr>
<tr>
<td>Yuut Elitnauviat, Inc. (People’s Learning Center)</td>
<td>9%</td>
<td>$1,123,800</td>
<td>740</td>
<td>74</td>
<td>814</td>
</tr>
<tr>
<td>University of Alaska</td>
<td>45%</td>
<td>$5,619,300</td>
<td>3,574</td>
<td>746</td>
<td>4,320</td>
</tr>
<tr>
<td>Totals</td>
<td>100%</td>
<td>$12,488,300</td>
<td>7,454</td>
<td>1,802</td>
<td>9,256</td>
</tr>
</tbody>
</table>
UA TVEP Supports Alaska’s High-Demand Industries

Aviation  
Construction  
Health  
IT

Maritime  
Mining  
Oil & Gas
INDUSTRY OVERVIEW

- Approximately 82% of Alaskan communities are not served by roads and rely heavily on aviation as a primary source of transportation and to access goods and services.¹
- Alaska has an annual gap of 275 available professional pilots and more than 120 aircraft mechanics.²

GRADUATES FROM KEY UA PROGRAMS³

<table>
<thead>
<tr>
<th>Program</th>
<th>Working in AK within a year of graduating</th>
<th>Wage Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aviation Maintenance</td>
<td>74.4%</td>
<td>39.5% wage growth</td>
</tr>
<tr>
<td></td>
<td>$42,583</td>
<td>$59,397</td>
</tr>
<tr>
<td></td>
<td>$42,039</td>
<td>$64,347</td>
</tr>
<tr>
<td>Piloting</td>
<td>66.7%</td>
<td>6.7% wage growth</td>
</tr>
<tr>
<td></td>
<td>$39,111</td>
<td>$41,749</td>
</tr>
<tr>
<td>Aviation Administration</td>
<td>72.1%</td>
<td>53.1% wage growth</td>
</tr>
<tr>
<td></td>
<td>$42,381</td>
<td>$64,035</td>
</tr>
</tbody>
</table>

Note: Data reflects the actual employment and wage data of all graduates, and is not limited to those employed in aviation.

TVEP FY20 HIGHLIGHTS

- Upgraded radar simulator and related equipment to meet FAA standards and better prepare students for air traffic control employment
- Upgraded aircraft avionics equipment to improve multi-engine flight training and to comply with FAA requirements
- Developed an online Aviation Maintenance Technology program in response to Alaska Air Carriers Association

$256.5K*  

WHERE UA’S AVIATION GRADS WORK

¹Alaska Department of Transportation and Public Facilities: http://dot.alaska.gov/stwdav/
²Labor Market Information provided by Emsi: https://www.economicmodeling.com/
³Employment data provided by the Alaska Department of Labor and Workforce Development’s Research and Analysis Section
*TVEP is one of several funding sources that supports UA aviation programs
INDUSTRY OVERVIEW

- In 2018, Alaska’s construction industry directly employed 23,600 workers who earned a total of $2.2 billion in labor income. Including multiplier effects, statewide construction industry-related employment totaled 41,300 jobs, representing 9% of Alaska’s employment.\(^1\)
- In the long-term, the Dept. of Labor and Workforce Development projects construction employment will end up slightly above its pre-recession levels, with the industry adding 616 jobs (21.7 percent).\(^2\)

GRADUATES FROM KEY UA PROGRAMS\(^3\)

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<th>Program</th>
<th>Working in AK within a year of graduating</th>
<th>Wage Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carpentry</td>
<td>83.7%</td>
<td>40.6%</td>
</tr>
<tr>
<td>YR 1</td>
<td>$30,899</td>
<td>$43,453</td>
</tr>
<tr>
<td>YR 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civil Engineering</td>
<td>84.8%</td>
<td>42.6%</td>
</tr>
<tr>
<td>YR 1</td>
<td>$59,311</td>
<td>$84,607</td>
</tr>
<tr>
<td>YR 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction Management</td>
<td>86.4%</td>
<td>26.5%</td>
</tr>
<tr>
<td>YR 1</td>
<td>$61,860</td>
<td>$78,275</td>
</tr>
<tr>
<td>YR 5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Data reflects the actual employment and wage data of all graduates, and is not limited to those employed in construction.

TVEP FY20 HIGHLIGHTS

- Equipment and technology upgrades for state-of-the-art training
- Updated the UAA AAS in Apprenticeship Technology to be available online, increasing access across the state and created a pathway into the BS in Applied Technologies Leadership
- Support for the UAS Construction Technology program to provide hands-on residential construction training to secondary and postsecondary students in partnership with the Juneau School District and Housing Trust

WHERE UA’S CONSTRUCTION GRADS WORK

- Northern: 6.0%
- Interior: 19.8%
- Anchorage/Mat-Su: 57.6%
- Southwest: 5.6%
- Gulf Coast: 2.8%
- Southeast: 8.2%

\(^1\) The Economic Benefits of Alaska’s Construction Industry prepared by McDowell Group
\(^2\) Alaska Economic Trends – October 2020, Alaska Department of Labor and Workforce Development Research and Analysis
\(^3\) Employment data provided by the Alaska Department of Labor and Workforce Development’s Research and Analysis Section

*TVEP is one of several funding sources that supports UA construction programs*
INDUSTRY OVERVIEW

- Health care is set to grow at twice the rate of the economy overall and strong growth is projected through 2028 with the addition of 5,049 jobs.\(^1\)
- Fifteen of the 25 occupations with the highest projected percent growth in Alaska are health care practitioners or technicians, and five are in health care support.\(^2\)

GRADUATES FROM KEY UA PROGRAMS\(^3\)

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<th>Certified Nurse Aide</th>
<th>Dental Assistant</th>
<th>Nursing</th>
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<td>93.5% working in AK within a year of graduating</td>
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<td>88.7% working in AK within a year of graduating</td>
</tr>
<tr>
<td>$32,991</td>
<td>$28,360</td>
<td>$53,998</td>
</tr>
<tr>
<td>$37,968</td>
<td>$38,650</td>
<td>$69,643</td>
</tr>
<tr>
<td>15.1% wage growth</td>
<td>36.3% wage growth</td>
<td>29.0% wage growth</td>
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</table>

TVEP FY20 HIGHLIGHTS

- State-of-the-art simulators and instructional technology that is shared across health programs
- High-demand health program development and/or expansion in both urban and rural communities
- Student-centered advising, tutoring, and summer bridge programs focused on promoting student success and increasing diversity in order to meet the growing demand for health care providers

WHERE UA’S HEALTH GRADS WORK

- Northern: 2.6%
- Interior: 16.7%
- Anchorage/Mat-Su: 59.4%
- Southwest: 2.2%
- Gulf Coast: 9.4%
- Southeast: 9.7%

\(^1\)Alaska Economic Trends – October 2020, Alaska Department of Labor and Workforce Development Research and Analysis
\(^2\)Occupation Projections: Most High-Growth Jobs will be in Health Care for 2016-2026 By Paul Martz, Alaska Economic Trends October 2018
\(^3\)Employment data provided by the Alaska Department of Labor and Workforce Development’s Research and Analysis Section
*TVEP is one of several funding sources that supports UA health programs
**INDUSTRY OVERVIEW**

- Software developers and related IT applications are projected to grow by fourteen percent by 2028 and are among the top twenty-five highest growth occupations in the state.¹
- Alaska has an annual workforce gap of 101 software developers, 67 computer systems analysts and managers, 82 network and computer systems administrators, and 59 computers support specialists.²

**GRADUATES FROM KEY UA PROGRAMS³**

<table>
<thead>
<tr>
<th>Program</th>
<th>Graduating Year 1</th>
<th>Graduating Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Technology</td>
<td>$45,153</td>
<td>$57,151</td>
</tr>
<tr>
<td>Computer &amp; Networking Tech</td>
<td>$37,586</td>
<td>$55,611</td>
</tr>
<tr>
<td>Computer Science &amp; Engineering</td>
<td>$42,282</td>
<td>$62,035</td>
</tr>
</tbody>
</table>

Wage growth:
- **Information Technology**: 26.6%
- **Computer & Networking Tech**: 48.0%
- **Computer Science & Engineering**: 46.7%

**TVEP FY20 HIGHLIGHTS**

- Computer lab upgrades to provide 48 Mat-Su College students 24/7 remote access to complete their computer systems technology requirements, gain experience, and expedite their transition to employment
- Development of new curriculum in IT security and cloud computer – two of in-demand IT skillsets
- Online and face-to-face delivery of cybersecurity and advanced networking classes

**WHERE UA’S IT GRADS WORK**

- Anchorage/Mat-Su: 71.6%
- Interior: 22.1%
- Southeast: 3.2%
- Gulf Coast: 1.3%
- Southwest: 0.7%
- Northern: 1.1%

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¹ Alaska Economic Trends – October 2020, Alaska Department of Labor and Workforce Development Research and Analysis
² Labor Market Information provided by Emsi: https://www.economicmodeling.com/
³ Employment data provided by the Alaska Department of Labor and Workforce Development’s Research and Analysis Section

*TVEP is one of several funding sources that supports UA information technology programs*
INDUSTRY OVERVIEW
Alaska’s maritime sector is the largest employer in the state with over 70,000 jobs. The waters surrounding Alaska produce over 60% of the nation’s seafood harvest at over $5.9B in wholesale value. Our state is highly dependent on shipping for food and other goods, and exports of oil, seafood and minerals. Alaska welcomes over a million visitors on cruise ships, supports fishing charters, provides travel on the Alaska Marine Highway System, and its waters support a vibrant subsistence economy.¹

GRADUATES FROM KEY UA PROGRAMS²

<table>
<thead>
<tr>
<th></th>
<th>Fish Tech</th>
<th>Fisheries</th>
<th>Marine Biology</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>72.2%</td>
<td>67.8%</td>
<td>76.7%</td>
</tr>
<tr>
<td>$YR_1$</td>
<td>$35,675</td>
<td>$39,993</td>
<td>$37,083</td>
</tr>
<tr>
<td>$YR_5$</td>
<td></td>
<td>$53,394</td>
<td>$50,206</td>
</tr>
<tr>
<td>33.5% wage growth</td>
<td></td>
<td></td>
<td>35.4% wage growth</td>
</tr>
</tbody>
</table>

Note: Employment and wage data not limited to graduates who work in fisheries and marine science

TVEP FY20 HIGHLIGHTS
$676K*
- Delivered seafood processing training to more than 100 students who obtained employment with Alaska’s largest private-sector employers
- Developed and expanded maritime programs to align industry recognized standards in Ketchikan, Dillingham, Kodiak, Valdez, and Homer to address the workforce needs in coastal communities
- Equipment and technology upgrades at the UAS Ketchikan Maritime Center enhanced delivery of U.S. Coast Guard recognized training to more than 200 students

WHERE UA’S FISHERIES & MARINE SCIENCE GRADS WORK

¹Developing Alaska’s Maritime Workforce – http://labor.alaska.gov/maritimeplan/
²Employment data provided by the Alaska Department of Labor and Workforce Development’s Research and Analysis Section
*TVEP is one of several funding sources that supports UA maritime programs
INDUSTRY OVERVIEW

- The mining sector is projected to grow by 28 percent, adding 784 jobs by 2028.¹
- In 2020, Alaska’s mining industry provided: 4,700 direct mining jobs in Alaska (9,600 including indirect jobs); $890 million in total direct and indirect payroll; $175 million in payments to Alaska Native corporations; $117 million in state government-related revenues; $49 million in local government revenue; jobs for residents in more than 90 communities throughout Alaska and in rural areas where few jobs are available; and some of Alaska’s highest paying jobs with an estimated annual wage of $115K.²

GRADUATES FROM KEY UA PROGRAMS³

<table>
<thead>
<tr>
<th>Program</th>
<th>Percentage working in AK within a year of graduating</th>
<th>Wage Growth</th>
<th>Average Salary YR 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mining Operator</td>
<td>86.8%</td>
<td>60.6%</td>
<td>$50,592</td>
</tr>
<tr>
<td>Power Technology</td>
<td>89.6%</td>
<td>54.7%</td>
<td>$45,183</td>
</tr>
<tr>
<td>Geological Sciences</td>
<td>63.4%</td>
<td></td>
<td>$44,516</td>
</tr>
</tbody>
</table>

WHERE UA’S MINING GRADS WORK

TVEP FY20 HIGHLIGHTS

- UAF Mining and Petroleum Training Service (MAPTS) delivery of hard skills mine training camps to over 50 students annually at the only all-encompassing underground and surface mine training camp in the world
- Equipment and technology upgrades to provide state-of-the-art training
- Alignment of welding programs across campuses to enhance delivery, increase flexibility, and provide skills for employment

¹Alaska Economic Trends – October 2020, Alaska Department of Labor and Workforce Development Research and Analysis
³Employment data provided by the Alaska Department of Labor and Workforce Development’s Research and Analysis Section
*TVEP is one of several funding sources that supports UA mining programs
INDUSTRY OVERVIEW
Following the state recession, oil and gas employment improved slightly in 2019 and while the pandemic has slowed some of that progress the industry is projected to rebound in the long run with nine percent growth for oil and gas support activities and 35.8 percent for drilling oil and gas wells by 2028.1

GRADUATES FROM KEY UA PROGRAMS2

<table>
<thead>
<tr>
<th>Program</th>
<th>Working in AK within a year of graduating</th>
<th>Wage Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering</td>
<td>67%</td>
<td>52.6%</td>
</tr>
<tr>
<td>Process Tech</td>
<td>89%</td>
<td>78.3%</td>
</tr>
<tr>
<td>Welding</td>
<td>82%</td>
<td>53.0%</td>
</tr>
</tbody>
</table>

Note: Employment and wage data not limited to graduates who work in the oil and gas industry

TVEP FY20 HIGHLIGHTS
- Expanded access to quality fabrication, manufacturing, and 3D printing to more than 50 engineering students
- Leased space at the Fairbanks Pipeline Training Center to provide students hands-on experience on full-scale industrial process equipment
- Delivered well control training to over 300 participants to meet international mandates that prevent blowouts during drilling and promote safe drilling practices

WHERE UA’S OIL & GAS GRADS WORK

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1Alaska Economic Trends – October 2020, Alaska Department of Labor and Workforce Development Research and Analysis
2Employment data provided by the Alaska Department of Labor and Workforce Development’s Research and Analysis Section
*TVEP is one of several funding sources that supports UA oil and gas programs
UA TVEP Supports
High Priority Industries
FY 2020

- Fisheries, Seafood, & Maritime: 14%
- Resources & Energy: 18%
- Health: 38%
- Transportation: 8%
- Service Industries: 13%
- Information Technology: 2%
- Education: 3%
- Green Jobs: 2%
- Construction: 2%

UA TVEP Supports
Alaska Economic Regions
FY 2020

- Anchorage/MatSu Region: $2,154,200
- Southwest Region: $283,900
- Southeast Region: $573,600
- Interior Region: $1,041,300
- Northern Region: $89,300
- Gulf Coast Region: $335,000
- Statewide: $259,000

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http://www.alaska.edu/research/wd/